

**2004 NATIONAL LONG TERM CARE SURVEY**

**SAMPLING RESULTS – REVISION**

**JUNE 29, 2006**

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This paper documents the actual sample selected for the 2004 National Long Term Care Survey (NLTCS). The instructions for selecting the sample are given in Tupek (2004). We ask that the Attachment of this memorandum not be distributed widely given that it contains PSU sample totals that could be used to disclose sample individuals.

This revision replaces Ash (2005) and includes corrected counts in Tables 1 and A1.

Table 1 summarizes the size of the longitudinal sample by cohort.

*Table 1: Size of the Longitudinal Sample*

Sample	Cohort		OMB	# of SPs	# w/ phone
Longitudinal	1	1999 Community Interview	3,600	3,488	2,011
	4	1999 Institutional Interview	250	176	40
	5	Sub-sample of 1999 Screen-outs aged under 75	2,300	2,300	1,435
	7	1999 Screen-outs aged 75+	6,000	5,705	3,352
	8	Not selected for Cohort 5 in 1999	1,200	1,217	798
Aged-in	6	Aged-in	5,600	5,603	3,279
	9	95 + Supplement	1,000	1,570	542
Total			19,950	20,059 <sup>1</sup>	11,547

For the complete definition of each cohort see U.S. Census (2006). The column labeled OMB in Table 1 refers to counts in U.S. Census (2004). The column labeled “# of SPs” refers to the count of people sent for interviewing and the last column labeled “# w/ phone” refers to the count of people sent for interview who also had a telephone number.

The Attachment includes the universe and sample totals for cohorts 6 and 9. It also includes the totals for the selection of the healthy supplement for cohorts 6 and 9. Within Table A1 the universe sample totals are represented as *N* and *n*, respectively.

<sup>1</sup>A total of 20,474 cases were initially selected for the 2004 NLTCS sample. Information from the Centers for Medicare and Medicaid Services identified 415 of these cases as deceased and were excluded from interviewing. The numbers in Table 1 do not include these 415 cases.

The totals in Table 1 are the number of sample people (SPs) we know to be alive. For cohort 6 and 9 we selected more than the planned sample size to account for people who died after April 1, 2004. This is discussed in Tupek (2004) and accounts for the sample sizes not being round numbers. For cohort 6 we selected a total of 5,627 SPs that were alive as of April 1, 2004 and 5,603 are known to be alive today, i.e., when we selected the sample. Similarly with cohort 9 we selected 1,700 SPs that were alive as of April 1, 2004 and 1,584 are known to be alive today.

After sampling we also found 14 SPs in cohort 9 which were duplicates of other longitudinal SPs. Since these SPs were already on the file that was sent for interviewing, we instructed Field Division to make them ineligible. On the base weight file, we identify the 14 duplicates with a final code of 198. The count of 1,570 in Table 1 reflects that the 14 cases were removed from the 1,584 of cohort 9 that were identified as still being alive after sampling.

Within Table 1 there is a change in what we planned for with the Office and Management Budget (OMB) estimates we used for planning and what we actually sampled for cohorts 7 and 9. When we updated the vital statistics of cohort 7 with the files from Center for Medicare and Medicaid Services (CMS) we found that more SPs than expected were deceased. We therefore increased the cohort 9 totals to keep the overall sample size at the original level.

Table 2 summarizes the number of SPs excluded from the longitudinal sample.

*Table 2: Exclusions from the Longitudinal Sample*

	Description	2004 Outcome	Number of SPs
Ineligible	Deceased Prior to April 1, 2004	150	6,319
	Reported Deceased in 1994 and 1999 NLTCS, but no CMS DOD (date of death)	150	7
	Moved out of the country	151	14
Non-Interview	Deceased After April 1, 2004	150	272
	Removal from Sample Requested by SP	118	4
Not Interviewed	Not Selected for Cohort 5	199	1,864

The second group of SPs of Table 2, which we refer to as “reported deceased in 1994 and 1999, but no CMS DOD (date of death)” was not anticipated by Tupek (2004). All of the SPs of this new category are ineligible because their DOD was prior to April 1, 2004.

Table 3 summarizes the sample sizes and sampling fractions for the cohorts that involve sampling.

*Table 3: Sampling Rates for Samples*

Sample	Specific Sample	Sampling Rate ( $f^{-1} = N / n$ )
6	Cohort 6	1,617.3365 [= 9,100,752.7106 / 5,627 ]
6H	Healthy Supplement	5.6030 [= 5,603 / 1,000 ]
9	Cohort 9	242.0218 [= 411,437.018452 / 1,700]
9H	Healthy Supplement	5.2800 [= 1,584 / 300 ]
5	Cohort 5	1.81 [= 4,163 / 2,300 ]

Table 4 presents the totals of moved out of the country SPs by the country where they presently reside.

*Table 4: Totals by Country Presently Residing*

Country	Number of SPs	Country	Number of SPs
Canada	2	Ireland	1
Columbia	1	Mexico	3
Czech Republic	1	Portugal	1
Greece	1	Puerto Rico	2
France	1	Spain	1

Table 5 provides percentages of longitudinal SPs in sample PSUs.

*Table 5: Percent of Longitudinal Sample by Sample PSU Status*

Sampled and Current PSU the same?	Current PSU a different NLTCS PSU?	Percent of Sample

Yes		46.06 %
No	No	50.07 %
No	Yes	3.87 %

SPs who moved out of the county they were originally selected are still considered eligible. SPs only become ineligible if they move out of the U.S.

#### *Additional Post-Sample Selection Processing*

After sample selection we sent a file of SPs to CMS to get the most up-to-date vital statistics information available. Our plan was to remove from the sample file all SPs found to be deceased since we selected the sample. We did not get the vital statistics file back in time, but we did forward this information to Field Division and the regional offices got the information in time to remove these SPs prior to making interviewing assignments. Table 6 summarizes the counts of the additional deceased SPs by cohort.

*Table 6: Additional Deceased SPs by Cohort*

Sample	Cohort		
Longitudinal	1	1999 Community Interview	85
	4	1999 Institutional Interview	8
	5	Sub-sample of 1999 Screen-outs aged under 75	9
	7	1999 Screen-outs aged 75+	79
	8	Not selected for Cohort 5 in 1999	7
Aged-in	6	Aged-in	16
	9	95 + Supplement	0
Total			204

We do not understand why CMS did not update the DOD for any SPs of cohort 9.

#### *Determining Mortality*

One item which generated discussion while finalizing the sample was the DOD. We have DOD from two sources – CMS and the previous wave of NLTCS. As with any two sets of administrative records, the two sources have points of discordance. CDS decided that a blank DOD from CMS takes precedence over a reported DOD from a previous wave. An exception is when we have two previous reports of DOD from NLTCS, where we will assume the SP is deceased and exclude them from the sample.

*Suggestion for possible use of the National Death Index (NDI)*

It was suggested that the NDI may be an additional source that could be used to resolve the discrepancies between the CMS and NLTCS DODs. We could send all the SPs with questionable DODs to NDI and have them provide their recorded DOD. Additionally we could send some SPs for which we know are alive or deceased and compare the NDI status with our DOD. After examining this control data we could make an informed decision on how to use the NDI DOD with respect to the questionable SPs.

If we do choose to use the NDI, it should be done prior to sample weighting, since if it was done after weighting the results could only be incorporated by redoing the weighting.

*SPs That Have Never Completed an Interview*

It has been the practice that we attempt to get an interview from all non-deceased longitudinal SPs, including SPs that have never completed an interview. Although we decided to continue this practice in 2004, we agreed that we should consider not attempting an interview for some of these SPs and applying some type of non-interview adjustment in the future.

**References**

- Ash, S. (2005). "2004 National Long-Term Care Survey: Sampling Results," U.S. Bureau of the Census Memorandum from Stephen Ash for Documentation, dated June 1, 2005.
- Manton, K.G. (2002). Grant Application for "Functional and Health Changes of the Elderly," to the Department of Health and Human Services, Public Health Services, dated June 17, 2002.
- Tupek, A. R. (2004). Census Bureau Memorandum, 2004 National Long-Term Care Survey: Sampling Specifications," from Alan R. Tupek to Chester E. Bowie, August 27, 2004.
- U.S. Bureau of the Census (2004). Office of Management and Budget Clearance Package for the 2004 National Long Term Care Survey, dated September 21, 2004

U.S. Bureau of the Census. (2006). "2004 National Long Term Care Survey: Revised Documentation of the Control Number and the Healthy Supplement Date," July 12, 2006.

Recommended reference: U.S. Bureau of the Census (2006). "2004 National Long Term Care Survey: Sampling Results -- Revision," June 29, 2006.