

February 9, 2015

Dear Dr. Schwab:

The staff of the National Center for Health Statistics (NCHS) Division of Health Interview Statistics (DHIS), the Office Research and Methodology (ORM), and the Questionnaire Design Research Laboratory (QDRL), in collaboration with their colleagues at the U.S. Census Bureau, are planning the sample redesign for the National Health Interview Survey (NHIS), to be implemented in 2016. One of the goals of the sample redesign is to move from a field-enumerated sampling frame (the method currently in use) to an address file from an information reseller. This commercial address frame may not have college housing addresses at all, however, and those available will not be distinguishable from regular housing units. In order to maintain the same level of survey coverage post-redesign, the NCHS wants to ensure continued inclusion of respondents who reside in college housing. To this end, a frame of college housing units must be developed in advance of the redesign's implementation in 2016. This proposal is to evaluate the method to be used to develop the frame.

To establish a frame of college housing units, up to 300 universities within the selected Primary Sampling Units (PSUs) will be subsampled. The Census Bureau will call the selected universities to obtain the addresses and number of their housing units. All colleges in sample will be identified and contacted in the summer of 2015.

The 2016 sample redesign marks the first time in the 57-year history of the NHIS that a commercial address frame will be used in combination with a separate frame of college housing units. Due to the novelty of this approach, it is necessary to closely evaluate the frame as it is developed and then to continue to monitor and evaluate its implementation in the first years post-redesign.

Proposed Methodology

Group Quarters (GQs) account for approximately 1% of the in-scope population of the NHIS (Nguyen and Gerstein, 2011), and college housing makes up 72% of the total GQ population (Moore, 2013). Therefore, the population living in college housing is estimated to be approximately 0.72% of the total in-scope population. This small population is important due to its unique sociodemographic qualities. To ensure coverage of this important population, a college housing frame will be established. It will be similar to the GQ Frame used for the 2010 Design for Current Surveys, and built using results from the Integrated Post-Secondary Education Data System (IPEDS), a free publicly-available source of college housing information.

IPEDS collects information annually from every college, university, and technical and vocational institution that participates in federal student financial aid programs (Knapp et al, 2012). In order for colleges/universities to participate in the Free Application for Federal Student Aid (FAFSA) program, they must provide the information collected by IPEDS, making this a reliable source of information. IPEDS data contains college name, location, telephone number, and number of students housed on campus – all information vital to building the College Housing Frame. Furthermore, IPEDS data can easily be filtered to include only those colleges that offer student housing, making this an efficient frame. IPEDS is conducted annually with results released publicly the following year, thus providing accurate information that will be used when constructing the College Housing Frame.

Frame Creation and Within-PSU Sampling

Colleges offering student housing in sample PSUs are identified from the IPEDS website and information about each college is collected, including contact information for the school and the total possible number

of students able to live in on-campus housing provided by the school. The total on-campus population for each school is converted into measures, with each measure representing two housing unit equivalents. Measures within a PSU are grouped together and sampled. Each of the measures sampled within each PSU is associated with a college (multiple measures could reside in the same college); this is how, ultimately, the colleges that fall into the sample are identified. Within each state, we will adjust the sampling rate to the college population in the PSUs in sample as if the college dorm frame in the state was a cluster of non-self-representing (NSR) PSUs, and the restriction of the college dorm frame to the PSUs in sample was the NSR PSU chosen from that cluster.

Telephone Listing Operation

As the IPEDS website does not provide specific college dormitory information but rather the total college housing the school offers, all colleges selected during Within-PSU sampling are then called by the Census Bureau's National Processing Center (NPC) to collect information about the dormitories located on campus (Attachment 1). This information will include the name, number of units, address information, and contact information for each dormitory. In addition, the telephone lister will ask whether the dormitory contains a register or not (an up-to-date list of all rooms/beds in the dormitory); this will be used to determine the final units in the next stage of sampling. (In the pilot test for a similar operation (College Housing Growth Survey, Moore 2013), 90% of colleges responded.)

The listing results from calling each of the colleges are used to update dorm-level and unit-level database tables. The unit-level database table is updated to reflect the number of units at each dormitory (if the dormitory has X number of units in the dormitory, X number of records are then created on the unit-level table for the dormitory). Using the listing results from the steps just described, all units within a college are grouped together and sampled. This results in selecting the final units sent out for interview.

Interview Protocol and Length

To conduct the telephone listing operation, a survey will be developed by colleagues at the Census Bureau and utilized by the NPC to collect information from colleges that were selected during Within-PSU Sampling. A similarly designed questionnaire was created a couple of years ago for a separate Census Bureau operation, the College Housing Growth Survey (CHGS), and will provide a base for designing the questionnaire. It is anticipated that each interview will last on average 10 minutes.

Management of Duplicate Listings

It is possible that a college dormitory could be selected for sample in both the commercial address frame and the college housing frame. To ensure that units only receive one chance of selection, a sample unit in the commercial address frame that is found to be a college dormitory will be assigned a Type C non-interview because that unit would have been given a chance of selection in the College Housing Frame.

Evaluation

This is the first time NCHS will employ a list of college housing created by the National Center for Education Statistics, enhanced by supplemental calls and field listings by Census Bureau staff. This work is considered developmental and needs to be evaluated for accuracy and efficacy in the NHIS sample PSUs that contain college dormitories.

As stated previously, IPEDS collects information annually from every college, university, and technical and vocational institution that participates in federal student financial aid programs. Thus, the IPEDS database should contain a complete list of colleges with dormitories.

College housing information provided during the telephone interviews will be compared to the college housing capacity on the IPEDS database. The Census Bureau will provide tables to NCHS comparing the IPEDS counts for the college dormitories selected for sample with the counts for those colleges obtained through the telephone interviews. Some discrepancies can be expected, due to the IPEDS information being from the 2011-2012 data collection cycle.

As noted in the introductory paragraph, the commercial address frame that will be our primary sampling frame may not have college housing addresses at all, however, and those available will not be distinguishable from regular housing units. A logical standard of comparison for the college dormitory frame would be the level of college housing coverage that would be achievable in its absence. To make this comparison, the Census Bureau will produce two numbers:

- 1) The Census Bureau will compare the 2009-2010 academic year IPEDS counts with the 2010 Census college population to determine the level of apparent IPEDS coverage at the time of the 2010 Census (April 1, 2010). (This assumes that IPEDS quality in 2011-2012 is not greatly different from that of 2009-2010.)
- 2) The Census Bureau will match the commercial address frame to the Census Bureau’s Master Address File to determine the coverage level of the college housing universe provided by the commercial frame.

The difference between these two coverage levels will be the approximate gain in coverage of the college housing universe as a result of having the college dormitory frame summarized above.

NCHS and the Census Bureau will assess the various steps in the college housing sampling process periodically once the process is implemented, and determine if improvements are warranted.

Remuneration

Respondents will not be remunerated for participation.

Burden Statement

In total, the maximum public burden will be 50 hours (this assumes the average 10 minute interview length (by telephone and/or email) with 300 university representatives). Based on NPC estimates, a conservative approximation of the maximum cost is \$4,000 to conduct the telephone listing operation. This represents a one-time cost that may provide three years’ worth of sample in this frame. A burden table for this project is shown below:

Projects	Number of Participants	Number of Responses/ Participant	Average hours per response	Response burden
Other Questionnaire Testing	300	1	10/60	50

Attachments (1)

cc:
V. Buie
T. Richardson
DHHS RCO

References

Knapp, L.G., Kelly-Reid, J.E., and Ginder, S.A., 2012. *2011-12 Integrated Postsecondary Education Data System (IPEDS) Methodology Report (NCES 2012-293)*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved August 27, 2013 from <http://nces.ed.gov/pubsearch>.

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Nguyen, T. and A. Gerstein, 2011. Sample Design Research in the 2010 Sample Redesign. In *JSM Proceedings*, Section on Survey Research Methods. Alexandria, VA: American Statistical Association. 4359-4372.