

Improving Coverage of New College Housing in the Group Quarters Frame for the Household Surveys

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Abstract

Household surveys conducted by the U.S. Census Bureau sample group quarters (GQs) separately from housing units. GQs, which include college housing, homeless shelters, and monasteries, are in a separate sampling frame. Address canvassing captures existing group quarters during the decennial census.

The largest source of frame updates outside the decennial census is the United States Postal Service (USPS) Delivery Sequence File (DSF). The DSF is a national address file of mail delivery points serviced by the USPS. The DSF does not provide good coverage of new college housing because residents often collect their mail at P.O. Boxes, where mailing addresses are not associated with the physical location of the GQs. Physical locations are required when adding units to the GQ frame. The American Community Survey has similar undercoverage in their GQ frame.

Administrative records are used to correct general undercoverage, but none target college housing. College housing residents comprise 66.7 percent of the household surveys GQ target population. We will discuss a pilot telephone survey to improve coverage of new college housing in the GQ frame, including plans for implementation.

Key Words: frame undercoverage, group quarters, sampling frame

1. Introduction

The Group Quarters (GQ) sample makes up about one percent of the total sample for the household surveys (Nguyen and Gerstein, 2011). The household surveys with GQ sample include the Survey of Income and Program Participation (SIPP), the Current Population Survey (CPS), the Children's Health Insurance Program (CHIP), the National Crime and Victimization Survey (NCVS), and the Consumer Expenditures Survey (CE).

The GQ frame includes the following non-institutional non-military types of GQs: college/university student housing; emergency and transitional shelters (with sleeping facilities) for people experiencing homelessness; group homes intended for adults (non-correctional); residential treatment centers for adults (non-correctional); workers' group living quarters and job corps centers; and religious group quarters. The records on the GQ frame fall into these categories as shown in Figure 1.

¹ Any views expressed are those of the author and not necessarily those of the U.S. Census Bureau.

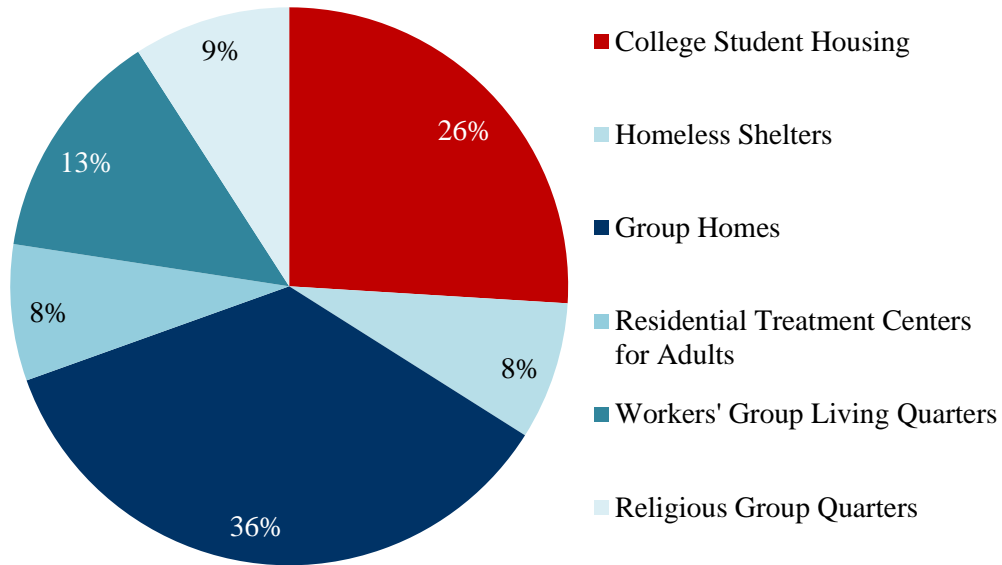


Figure 1: GQ Frame Records by GQ Type

Group homes comprise the largest number of records in the GQ frame, with 36%. College student housing is the second largest percentage of records, with 26%.

However, college student housing tends to house larger populations than any other GQ type. Figure 2 shows the breakdown of the GQ frame by population.

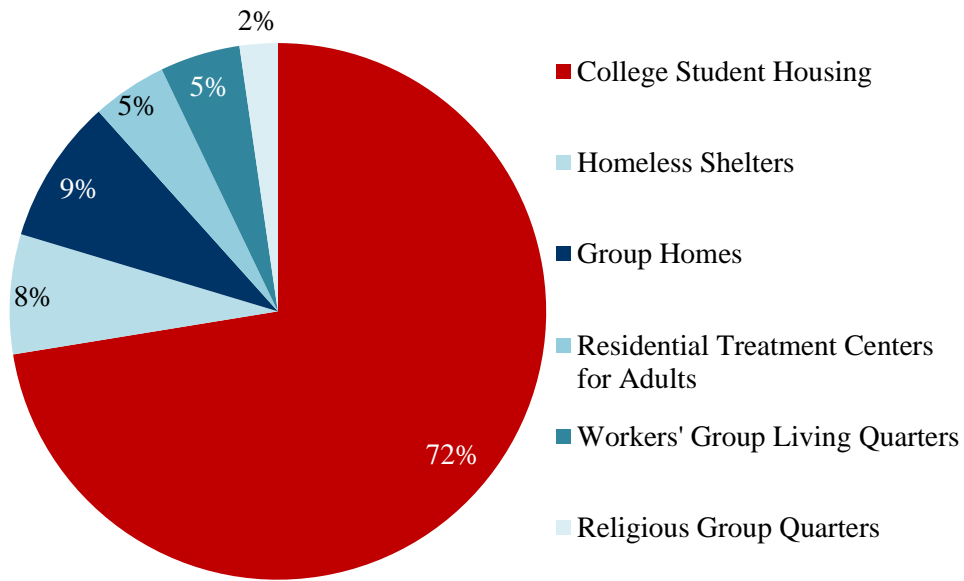


Figure 2: GQ Frame Population by GQ Type

Even though only 26% of GQ frame records are college student housing, 72% of the GQ frame population lives in college student housing (based on counts from the 2012 Census Bureau Master Address File). If the goal is to improve coverage of the GQ frame, a good place to start is with College Student Housing.

The other two frames used for the household surveys are the Unit frame and the Coverage Improvement (CI) frame, which are able to capture new growth over time through Delivery Sequence Files (DSFs) the Census Bureau obtains from the United States Postal Service (USPS) and through listing in the field (Nguyen and Gerstein, 2011). However, new growth found in the DSFs cannot be added to the GQ frame because there is not enough information to classify units as GQs. The USPS does not differentiate between HU and GQ addresses, and does not collect or maintain information that would be necessary for us to differentiate. Furthermore, many GQ units, especially those in college housing, are not on the DSF at all. This is because residents often collect their mail from a P.O. box at a central location such as a student union, and not at their physical address. If a new dorm is built, there may be additional post office boxes at the central location, but we have no information about the address of a new dormitory on a college campus. The only time the Census Bureau picks up new GQs is during the decennial operations such as address canvassing operations conducted in preparation for the Decennial Census – historically, once every ten years.

The Master Address File (MAF) is built from DSFs, decennial address canvassing operations, and many other sources. Sampling frames are simply subsets of the MAF. The GQ frame is a subset of the MAF that includes address with characteristics identifying the unit as a GQ.

After the 2010 address canvassing operations, the MAF increased by 5,663 college housing GQs with a total population count of 597,531; an increase of 25% and 31%, respectively. These increases represent the amount of undercoverage present just before address canvassing. Under the new methodology used for the 2010 Design for Household Surveys, the population not included on the MAF has zero probability of selection for the household surveys.

Although the GQ population is overall a small portion of the overall target population of the current surveys (about 1%), it is nevertheless an important portion. The population living in GQs can have quite different characteristics than the population of the Unit frame. For a quick example, consider the employment characteristics of a person living in college housing, a monastery, or a shelter, versus the employment characteristics of a person residing in a unit typical of the Unit frame.

In an effort to capture new college housing in a timely manner, we conducted the College Housing Growth Survey (CHGS) feasibility pilot study. CHGS is a telephone survey where colleges and universities are contacted and asked a series of questions about new college housing on their campus. If the name, location, and size of a new GQ can be collected, the new GQ can be added to the MAF and sampled in the future.

2. Pilot Study

A pilot study was conducted to assess the feasibility of the CHGS.

The frame for the pilot study was a list of accredited institutions found on the Department of Education website. Colleges were not selected at random; rather they were selected to include a handful of community colleges and trade schools but predominately four-year institutions. Phone numbers were retrieved from each college's website. The phone number for the housing office was used if it was available, otherwise, the main phone number for the school was used.

We attempted to contact 210 schools. From their names, it was clear that seven were trade schools and 21 were community colleges, leaving 182 to be either four-year colleges or unknown-type.

Calls were made from Census Headquarters by staff in the Demographic Statistical Methods Division. The person administering the survey began all calls by explaining who they are and why they are calling.

The first questions in the questionnaire were screening questions to ensure there was a knowledgeable respondent answering the questions. If the call had to be transferred, the introductory statement and screening questions were given again.

The remainder of the questionnaire had three sections: new construction, conversions, and Greek housing. Each section asked about new housing opened since January 2005, dorm name, number of beds or rooms in dorm, and where students collect their mail. January 2005 was chosen to give a period of about 6 to 7 years of new growth. This coincides with the time we estimate to have passed between decennial address canvassing and the first time CHGS would be implemented in production, if found feasible in this pilot study.

3. Results

We were unable to get responses from 21 of the 210 colleges we attempted to contact. Five of these were due to bad phone numbers, nine because we were unable to get a knowledgeable respondent on the phone, one was a refusal, and six required a written request to be submitted.

None of the 28 trade schools and community colleges reported new college housing. Although it was not a question in the survey, many respondents volunteered the information that they did not offer college housing at all.

Of the 182 four-year and unknown-type colleges, 50 reported new college housing for a total of 110 new dorms. Most colleges with new dorms reported a few new dorms, but some had as many as eight or nine new dorms.

Figure 3 provides information on the number of new dorms reported by a college.

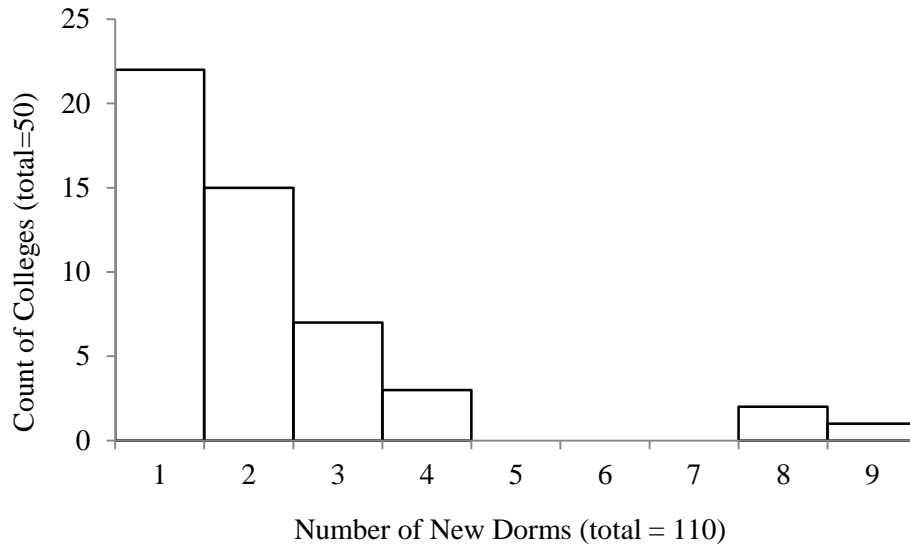


Figure 3: Number of New Dorms Reported by Colleges

Ten new dorms were found through the question on conversions. The buildings had previously been used as office space, hotels, or student housing. Breakdowns are tabulated in Figure 4.

Previous Use	# of instances (total = 10)
Office Space	4
Hotel	3
Remodel	2
Addition	1

Figure 4: Previous Function of Converted Dorms

No college housing was found through the questions on Greek (sorority and fraternity) housing.

Call length varied from ten seconds to 17:41 minutes. The average call length for trade schools was 59 seconds. Calls to community colleges averaged 1:27, and calls to four-year and unknown-type colleges averages 3:55. Because no college housing was found at any trade schools or community colleges, and thus a number of questions could be skipped, these calls were much shorter than those of four-year or unknown-type colleges.

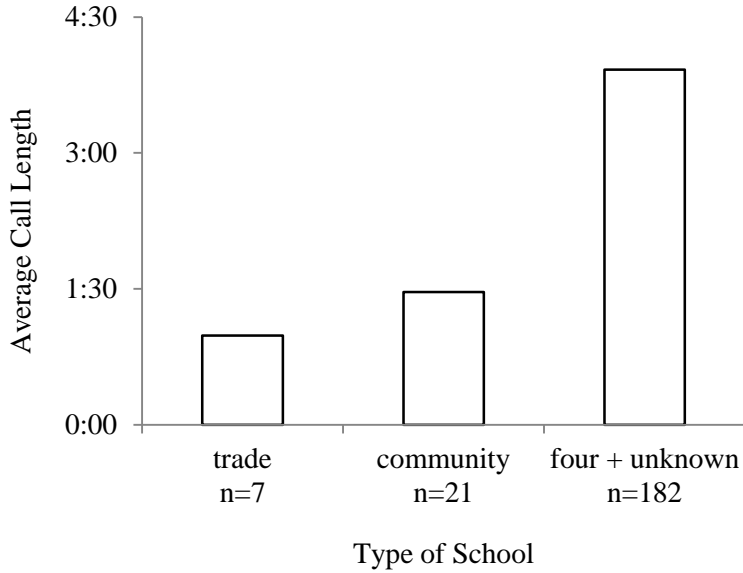


Figure 5: Average Call Length vs. Type of School

The average call length for schools reporting no new dorms was 2:50, and for schools reporting one or more new dorms was 5:58. Additional questions were asked for each new dorm reported, so it makes sense that these calls would take more time.

Every college with new growth was able to report the name and capacity of each new dorm.

The average number of beds per new dorm was 308, with a minimum of 20 and a maximum of 850. This is higher than the average size of 89 for college housing already on the MAF.

Figure 6 presents information on the number of new beds housed in each new dorm discovered through the CHGS.

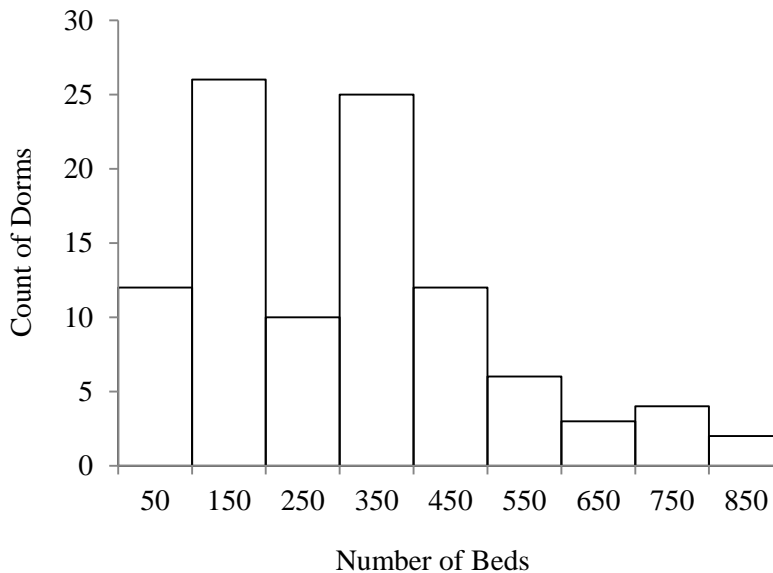


Figure 6: Number of beds per dorm

For the 110 new dorms that were found, students were reported to collect their mail as follows: 22% from the building they live in, 39% from a central location elsewhere on campus, and 39% unknown location. If a student collects their mail outside their building, there is no way for the mail delivery point that could possibly appear on the DSF to be associated with the physical address of the student.

4. Conclusions

In conclusion, we found that the CHGS was able to collect information on new college housing. This information would allow new college housing to be added to the MAF and ultimately to the GQ frame for sampling, and improve coverage of college dorms in the sampling frame. The majority of the GQ population lives in college dorms, and improving coverage of this housing type contributes to improving overall coverage.

No new housing was found at community colleges and trade schools. Therefore, I recommend these types of colleges be removed from the CHGS frame.

The CHGS was unable to collect information on new Greek housing. This may have occurred for several reasons. First, Greek housing is not always situated on the college campus – it may be a house rented or owned in a nearby neighborhood, and CHGS would not capture this (nor should it; in this case the house should be added to the Unit frame). Second, Greek housing offices are distinct from university housing offices. University housing offices were easier to contact and gain information from, but often Greek housing offices were wary of providing the information requested by the survey. Third, many colleges simply do not offer Greek life.

Calls were relatively short, averaging less than four minutes each. This would allow the CHGS to be conducted in a timely manner, with little respondent burden, and hopefully at a low cost.

Response Rates were high at 90%. This tells us that respondent burden is low, and that we will be able to collect information from the majority of colleges we contact.

Furthermore, respondents were very knowledgeable about the new dorms on their campus. All colleges reporting new growth were able to tell us the name and capacity of all new dorms. This is important to note because this information is crucial for the new dorms to be added to MAF and ultimately sampled.

5. Future Work

Future work for the CHGS includes revision of the survey based on pilot results, determining a suitable frame for the CHGS, submission to the Office of Management and Budget for approval, and gaining funding.

5.1 Modifying the Questionnaire

The three sections of the survey will be combined into one. Rather than asking about new construction, conversions, and Greek housing separately, the survey will ask whether there is any new housing on the campus, which may include new construction, conversions, or new Greek housing.

To prevent confusion, the interviewer will let the respondent know the order the questions will be asked. For instance, “For each new dorm, I will ask for the name of the dorm, the address, and the number of beds”.

Questions about the location of new dorms will be added to the survey. Collecting this information is vital for adding new dorms to the MAF.

The pilot survey did not have a way to capture refusals or colleges that could not respond without a request in writing. It also did not have a way to capture that a college did not offer college housing at all. If a respondent tells the interviewer that the college does not offer student housing, it would be helpful for the skip pattern to pass over all questions pertaining to student housing. Along that same idea, it would be helpful to have a question early in the survey that asks whether the college offers student housing at all.

There were six spaces in the pilot questionnaire in which to record new college housing. There were three colleges in the pilot survey that reported more than six new dorms, so the number of spaces needs to be increased. We recommend space for at least ten new dorms.

The questionnaire needs a question at the beginning where the interviewer checks to make sure they have contacted the correct college.

In MS Access, the questionnaite did not have a way to indicate whether the case was still open or had been closed. We recommend adding a method to be able to close a case once the interview has been completed.

We will remove the question concerning where the residents collect their mail from the survey, as it will not be useful for improving coverage in the GQ frame. It was used purely as research in the pilot study.

5.2 Frame for CHGS

We are considering using the Integrated Post-Secondary Education Data System (IPEDS) as a frame for the CHGS. IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs (Knapp et al, 2012). IPEDS data contains college name, location, telephone number, and number of students housed on campus – all information that could be used to build a more efficient frame for the CHGS.

Acknowledgements

Vena Archibald, Kathlene Garland, Arielle Gerstein, Scott Harclerode, Jeffrey Hayes, Matthew Herbstritt, Christopher Kuwik, Clifford Loudermilk, Matthew Neiman, Trang Nguyen, Monique Rhames, Andy Zbikowski.

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