



UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001

02/25/2014

2013 AMERICAN COMMUNITY SURVEY RESEARCH AND EVALUATION REPORT
MEMORANDUM SERIES #ACS13-RER-15

MEMORANDUM FOR ACS Research and Evaluation Advisory Group

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Subject: Daily Self-Response Check-in Rates and Daily Internet Usage
Rates for the January and February 2013 Panels

Attached is the final American Community Survey Research and Evaluation report for the Daily Self-Response Check-in Rates and Daily Internet Usage Rates for the January and February 2013 Panels. This evaluation examines the rate at which we received self-responses in 2013 and compares it to the inflow of 2012 self-responses. This study also investigates daily Internet usage rates to aid in understanding Internet respondent behavior.

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Daily Self-Response Check-in Rates and Daily Internet Usage Rates for the January and February 2013 Panels

FINAL REPORT

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Daily Self-Response Check-in Rates and Daily Internet Usage Rates for the January and February 2013 Panels

I. Introduction

Beginning in January 2013, the American Community Survey (ACS) introduced an Internet option for respondents along with a new mailing strategy. Each month, all sample addresses with a complete mailing address receive information on how to access the Internet instrument to provide their response to the ACS. If we do not receive an Internet or telephone questionnaire assistance (TQA) response from the address after about two weeks, the address receives another mailing that includes a paper questionnaire. Respondents then have the choice to either access the Internet to provide a response, complete the paper questionnaire and mail it to the National Processing Center (NPC) for data capture, or provide a response via TQA. Addresses that respond by Internet, mail, or TQA constitute self-response in 2013, which is comparable to mail or TQA response in 2012 and earlier. The term ‘self-response’ indicates that the respondent took the initiative to provide a response as opposed to interview-administered responses from non-responding addresses. This evaluation will examine the rate at which we receive self-responses in 2013 and compare it to the inflow of 2012 self-responses. This study will also investigate daily Internet usage rates to aid in understanding Internet respondent behavior.

II. Background

The ACS divides an annual sample into 12 monthly sample panels. The data collection for each panel takes place over three months. In the first month, the only option for addresses to respond is through the Internet, mail, or TQA. These are all methods of self-response. For non-responding addresses, the Computer-Assisted Telephone Interview (CATI) operation attempts to conduct an interview in the second month of data collection for the panel. If CATI is unsuccessful in conducting an interview or if we do not have a complete address or a valid phone number for the address, we select a sample of the non-responding addresses for the Computer-Assisted Personal Interview (CAPI) operation in the third month. While the CATI and CAPI operations attempt to conduct interviews in the second and third month, we continue to receive self-responses during that time.

Prior to 2013, sample addresses with a valid mailing address received an initial package that included a paper questionnaire. A few days later, these same addresses received a reminder

postcard. After about three weeks, non-responding addresses received a second package with a second paper questionnaire. If still non-responding after an additional two weeks, addresses for which we had no telephone number on file, and therefore were not eligible for the CATI operation, received a final postcard to encourage self-response.

Internet Tests conducted in April 2011 and November 2011 tested not only an Internet instrument but also different strategies in which respondents were informed of their options to self-respond to the ACS. The strategy ultimately implemented for the 2013 ACS removes the paper questionnaire from the initial package and provides instructions to access the Internet instrument. The 2013 strategy follows up with a reminder card a few days later and sends a second package that includes a paper questionnaire for non-responding addresses after about two weeks (previously there was a three week lag between the initial and second packages). The new strategy also includes a new reminder postcard for addresses sent the second package and, like the strategy used previously, sends a final postcard to non-responding addresses without phone numbers. Therefore, differences observed between 2013 self-response data and self-response data from previous years reflect the addition of the Internet mode to the survey and changes to the mailing strategy.

III. Methodology

This report answers the following research questions regarding check-in rates:

- How do the January 2013 daily check-in rates for the combination of the two self-response modes (mail - includes TQA responses, Internet) compare to similar rates based on the Push Accelerated with New Postcard treatment from the November 2011 Internet test?
- How do the January 2013 daily check-in rates for the combination of the self-response modes (mail/TQA and Internet) compare to the January 2012 daily mail only check-in rates?

The daily self-response check-in rates computed for this evaluation are weighted estimates of the percentage of all sample addresses with a complete mailing address that responded by Internet, mail, or TQA. These rates are imperfect measures of public cooperation as they do not adjust for sample addresses that might not have been able to respond, for example those that were vacant, nonexistent, or addresses where the postal service had trouble delivering the mail. For comparison, we computed daily self-response check-in rates for the Push Accelerated with New Postcard treatment in the November 2011 Internet Test (the recommended strategy from the test that was implemented in 2013), and the January 2012, February 2012, January 2013, and February 2013 production panels. We did not compute standard errors for these rates and thus, did not perform formal statistical testing. Response

rates that adjust for addresses that might not have been able to respond cannot be compared with check-in rates. A separate report will document the 2013 response rates.

We display the cumulative daily self-response check-in rates by days after the mailing of the initial package. For the 2012 panels, the initial package refers to the mailing of the first questionnaire. For the November 2011 test and the 2013 panels, the initial package refers to the first mailing with instructions on how to respond via the Internet. There are several limitations associated with the comparisons based on minor differences in methodologies and timing. For the January 2013 panel, the mailing package was mailed on December 20, 2012 (compared to December 27, 2011 for the January 2012 panel), and there was an effect of the holiday period on response patterns. The effect of this lessens through the panel. Also, the November 2011 Internet test did not include telephone or personal visit follow-up, which we know boosts self-response by serving as a reminder to respondents to complete the self-response questionnaire.

In addition to the daily self-response check-in rates, this evaluation studies daily Internet usage rates and answers the following research question:

How do the February 2013 daily Internet instrument usage rates vary over time? How does the February 2013 Internet usage rate compare to similar rates computed for the November 2011 Internet test?

These Internet usage rates show how Internet responders interact with the Internet instrument by day and provide information on respondent behavior throughout the entire data collection period. Usage rates will be higher than Internet check-in rates as they include interactions that do not constitute a response. The types of interaction these usage rates display are ‘insufficient partial/out of scope’, ‘sufficient partial’, and ‘complete’, defined as:

- ‘Insufficient Partial/Out of Scope’ – Internet status is ‘case accessed, no names rostered’, ‘coded as wrong address’, ‘insufficient partial’, or ‘coded as business’;
- ‘Sufficient partial’ – Internet status is ‘sufficient partial’ or ‘potential vacant’;
- ‘Complete’ – Internet status is ‘potential vacant, final submit’, ‘complete, no final submit’, or ‘complete, final submit’.

The check-in rates described earlier include only interactions considered a ‘sufficient partial’ or ‘complete’. Like the check-in rates, we show the usage rates as a percent of all sample addresses with a complete mailing address cumulatively and for each individual day.

IV. Results

A. Daily Self-Response Check-in Rates

The following charts summarize the January 2013 and February 2013 daily weighted ACS self-response check-in rates at the national level. We provide separate summaries for each monthly ACS panel.

In Figure 1 and Figure 3, we include two benchmarks – the 2012 self-response rates and the November 2011 Internet test self-response rates. The comparison of the 2012 and 2013 self-response check-in rates provides insight into the impact that the new mailing strategy and introduction of the Internet mode may be having on the flow of incoming response data and the potential effects on telephone and personal visit workloads. We also compare the 2013 self-response check-in rates to the November 2011 Internet test check-in rates to provide feedback on how well our projections, based on methods panel testing, align with production.

Figure 2 and Figure 5 show the 2013 self-response check-in rate by mode of response. The darker shade of purple designates the Internet responses while the lighter lavender shade represents the combination of mail and TQA responses. Prior to, and immediately following the mail out of the replacement package, this lavender shading represents only TQA completed interviews. This second graph highlights the percentage of the total self-response received by Internet.

January 2013 Self-Response Check-in Rates

We mailed the initial package to sample addresses in the January 2013 panel on December 20, 2012. This was about a week earlier than we mailed the initial package for the January 2012 panel (December 27, 2011). The earlier mailing for the January 2013 panel was necessary due to the introduction of the Internet option. However, this mailing occurred just before a holiday period, which we believe is the cause for the slower uptick of check-in rates for the January 2013 panel as compared to the November 2011 test treatment (see Figure 1). By the time that we mailed the 2013 replacement (second) mailing, the January 2013 rates and the November 2011 test treatment rates trends are similar.

The CATI and CAPI operations were not included in the November 2011 Internet Test. Because these operations can serve as reminders to non-respondents to self-respond, we see a flattening of the November 2011 test check-in rates around the start of CATI while the January 2012 and January 2013 rates continue to increase. We do not see any major differences in the 2012 and 2013 patterns of response after 60 days after the mail out of the

initial package. This indicates that the CAPI operation had similar effects in January 2012 and January 2013 and that the seeming increase in the January 2013 rates occurs prior to day 60 after the initial mail out.

Figure 1. Self-Response Check-in Rates - January 2013

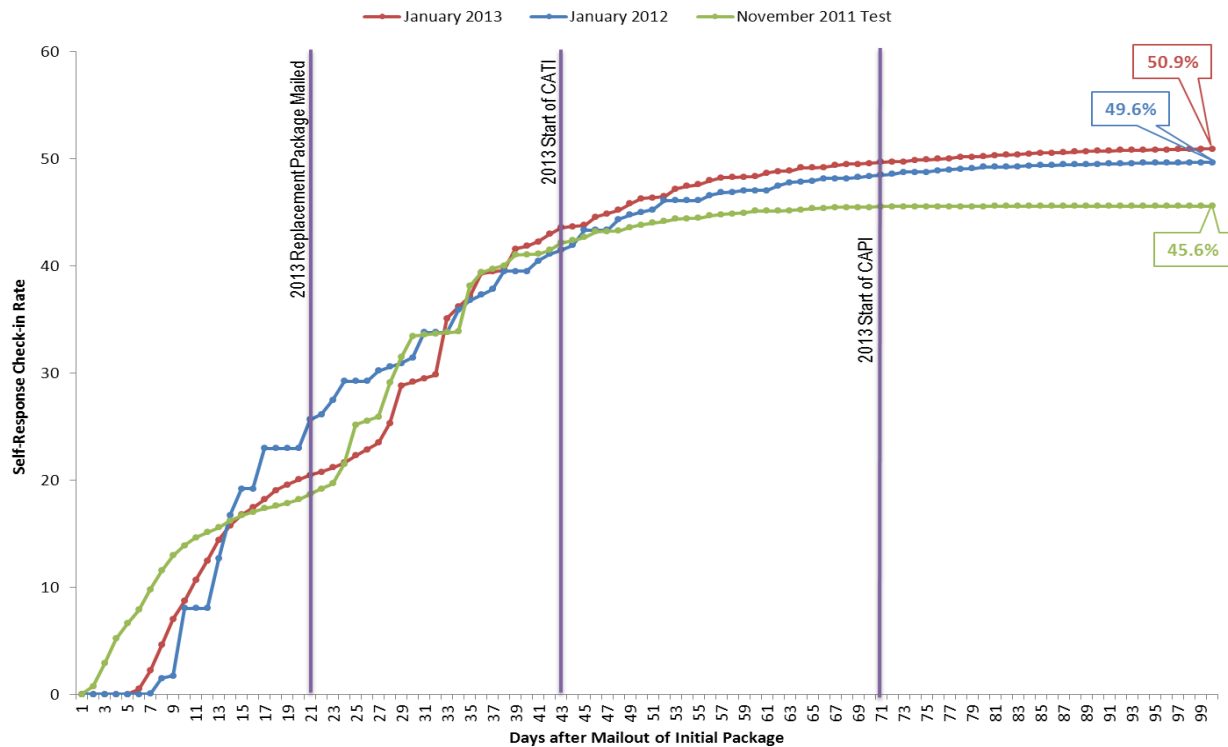
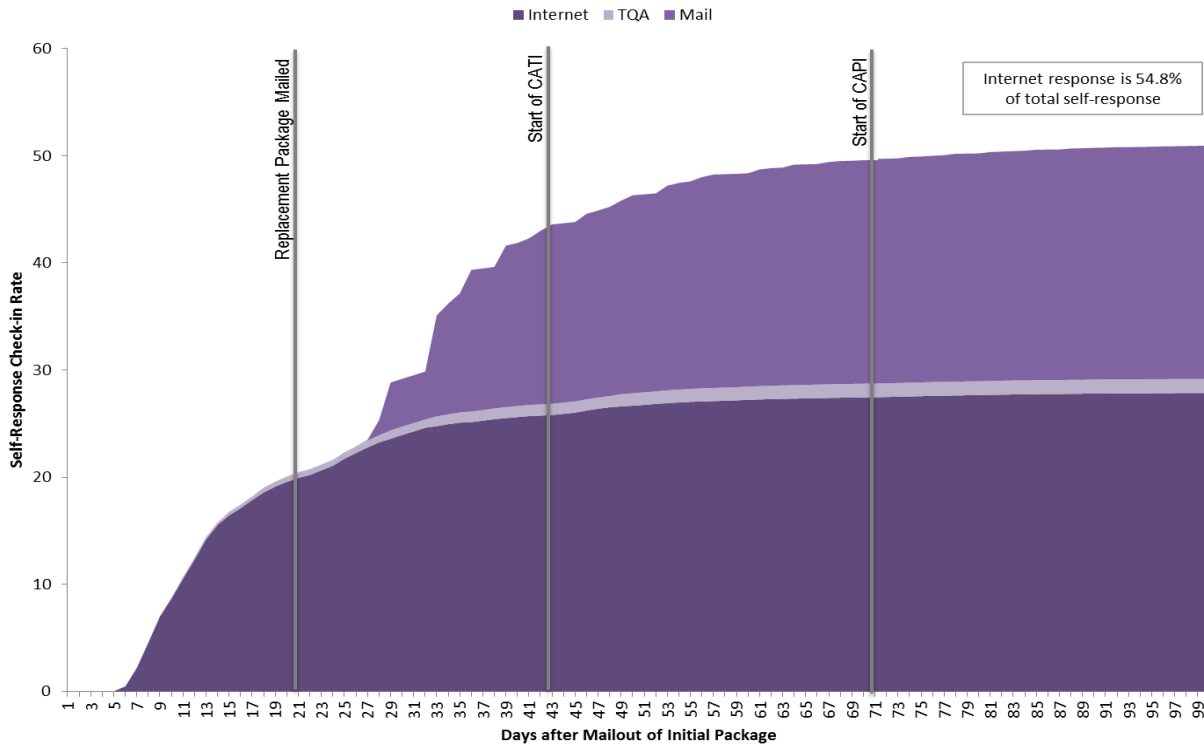


Figure 2 shows the January 2013 self-response check-in rate by mode. It is evident from the chart that we received a large influx of Internet responses between days 7 and 15 after the initial package mail out. Prior to the replacement (second) package mailing, the non-Internet response is exclusively TQA interviews. About a week after we mailed the second package, we see an increase in total self-response as NPC begins to process mail-returned paper forms. From about day 33 after the initial mail out, the daily Internet response increases are very small. At this point, the processing of paper forms has a bigger effect on total self-response, which due to operational constraints (timing of postal service mail delivery, data capture of paper forms not performed on weekends and holidays, etc.) does not exhibit the same smooth inflow of Internet responses. From about the start of CAPI, the total self-response rate makes modest daily gains of one-tenth of a percentage point or less.

Figure 2. Self-Response Check-in Rate by Mode - January 2013



February 2013 Self-Response Check-in Rates

Unlike the January 2013 panel, we did not mail the initial package for the February 2013 panel early as compared to previous years. In addition, a holiday period did not immediately follow the mailing of the initial package. For these reasons, the early self-response check-in rates for the February 2013 panel increase more quickly than what we observed in the January 2013 rates. From the start, the data suggest that the February 2013 check-in rates surpass the November test check-in rates and this trend continues throughout the data collection period. Immediately prior to the mailing of the replacement package, we observe higher 2012 rates as compared to the 2013 rates. About a week after the replacement package, the 2013 self-response rates increase rapidly and by the start of the CATI operation, we observe higher 2013 rates as compared to the February 2012 and November test check-in rates. We do not see any major differences in the 2012 and 2013 patterns of response after 60 days after mail out.

Figure 3. Self-Response Check-in Rates - February 2013

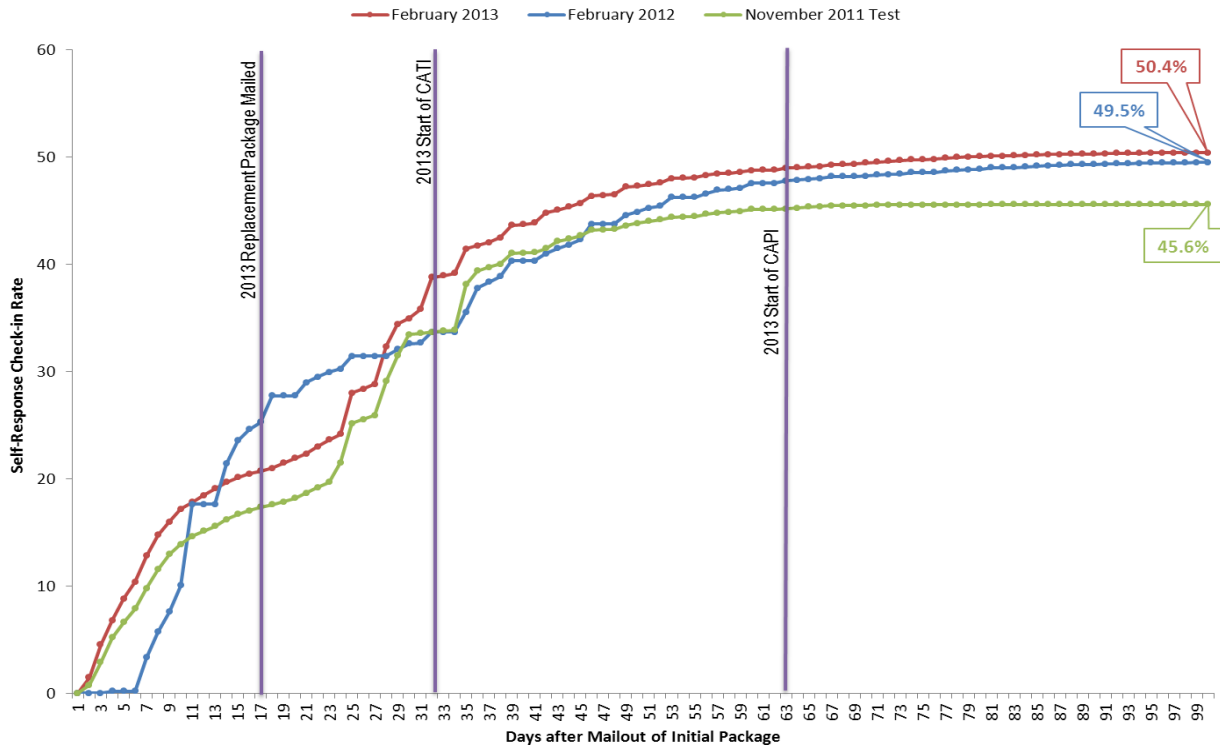


Figure 4 more clearly shows the difference in the January 2013 and February 2013 self-response check-in rates. The trend of self-response is the same for both panels with a delay for January due to the timing of the mail out of the initial package (right before a holiday period). However, by about 60 days after mail out of the initial package, the rates for both panels appear to be nearly identical.

Figure 4. Self-Response Check-in Rates - January and February 2013

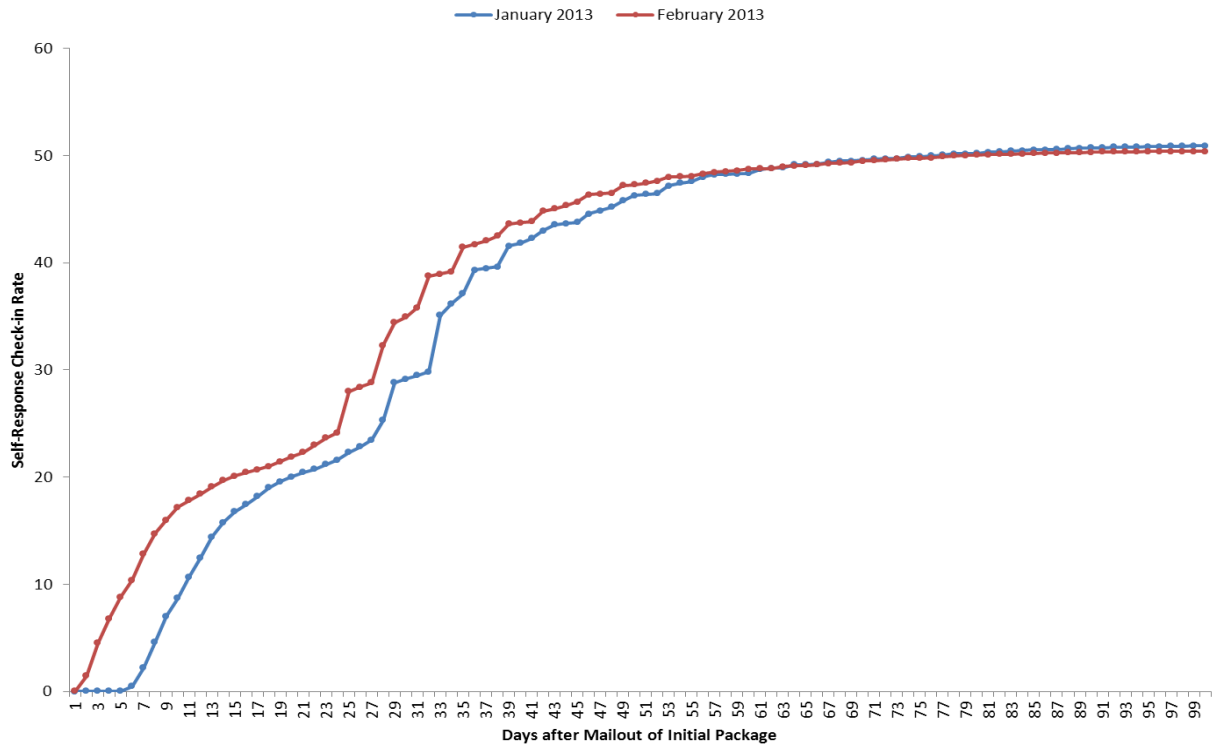
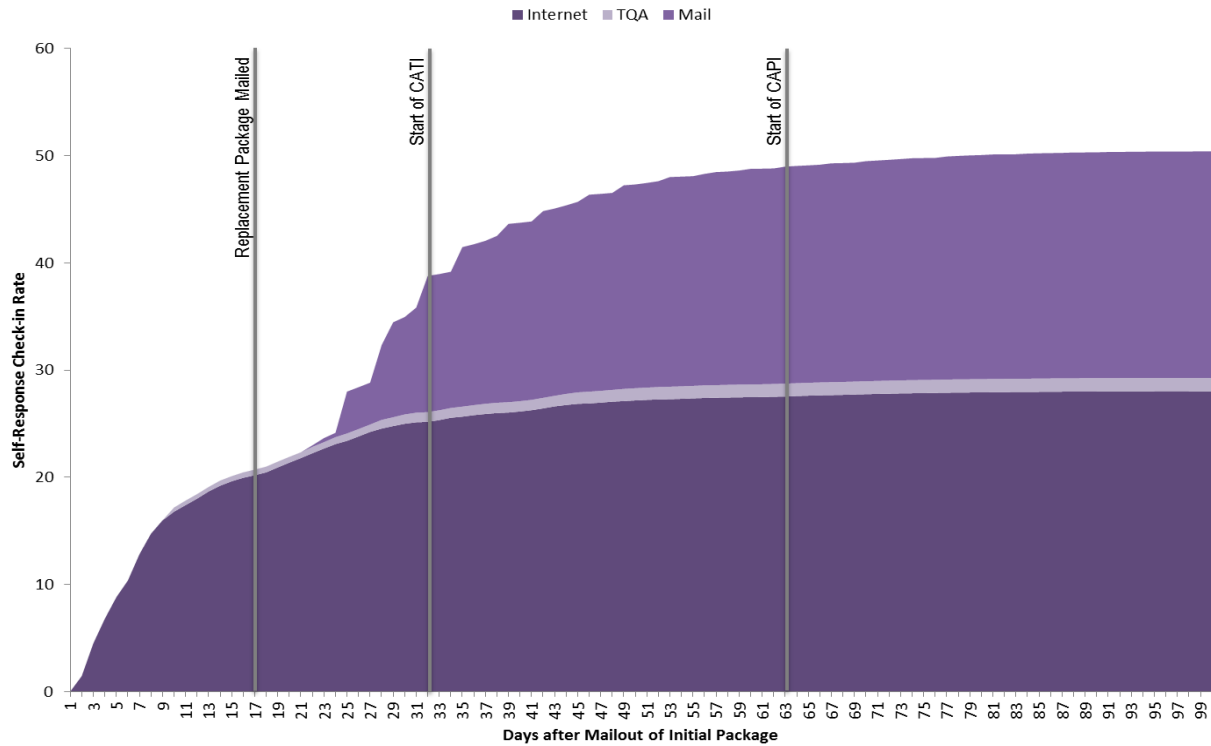


Figure 5 shows the February 2013 self-response check-in rates by mode. Aside from the differences due to the timing of mail out materials, we see the same trend regarding the receipt of Internet and paper responses that we saw for the January 2013 panel.

Figure 5. Self-Response Check-in Rate by Mode - February 2013



B. Internet Usage Rates

We examined Internet usage rates to gain insight into how respondents are interacting with the Internet instrument. We know from the daily self-response check-in rates that we generally receive most of the Internet responses for a panel in the first 20 days after mail out of the initial package. For a response to be ‘checked-in’, it must be a complete or sufficient partial response. The Internet usage rates show the proportion of completes and sufficient partials (the ‘checked-in’ responses) and also the proportion of insufficient partial/out of scope outcomes (respondents access the Internet instrument but fail to give us enough data to be considered a sufficient partial or are otherwise out of scope (wrong address, business)). We show these rates cumulatively and for each individual day. Due to the effect of the earlier mailing on the January panel, we show Internet usage rates for the February panel only as this panel is more indicative of normal production.

Figure 6 shows the cumulative Internet usage rates and Figure 7 shows the Internet usage rates by day for the February 2013 panel. These rates display for all sample addresses with a complete mailing address, respondent types of Internet interaction categorized as

‘insufficient partial/out of scope’, ‘sufficient partial’, and ‘complete’ outcomes (see definitions in the Methodology section).

Figure 6 shows that the vast majority of respondents who access the Internet instrument provide a complete response. Figure 7 indicates that insufficient partial or out of scope responses generally occur early in the data collection period. These insufficient partial or out of scope responses make up about six percent of all Internet interactions in the first ten days after mail out of the initial package. From about 40 days after the mail out of the initial package and throughout the rest of the data collection period, insufficient partial or out of scope responses comprise about four percent of Internet interactions. Like the insufficient partial and out of scope responses, most sufficient partial responses occur in the first ten days after the mail out of the initial package. Sufficient partial responses make up about 14 percent of all Internet interactions early in the data collection period but the proportion of Internet interactions that are sufficient partials falls off to about nine percent from about 40 days after the mail out of the initial package and remains somewhat steady for the rest of the data collection period. The Internet usage rates by day chart in Figure 7 shows clearly the impact of the replacement mailing, the start of CATI, and the start of CAPI on internet respondents. Immediately after the replacement mailing and the start of CATI, we observe an apparent increase in the Internet usage rate as compared to previous days. There is no such effect from the start of CAPI operations. By the end of the data collection period, about 30 percent of sample addresses with a valid mailing address used the Internet instrument in some manner.

Figure 6. Cumulative Internet Usage Rate - February 2013

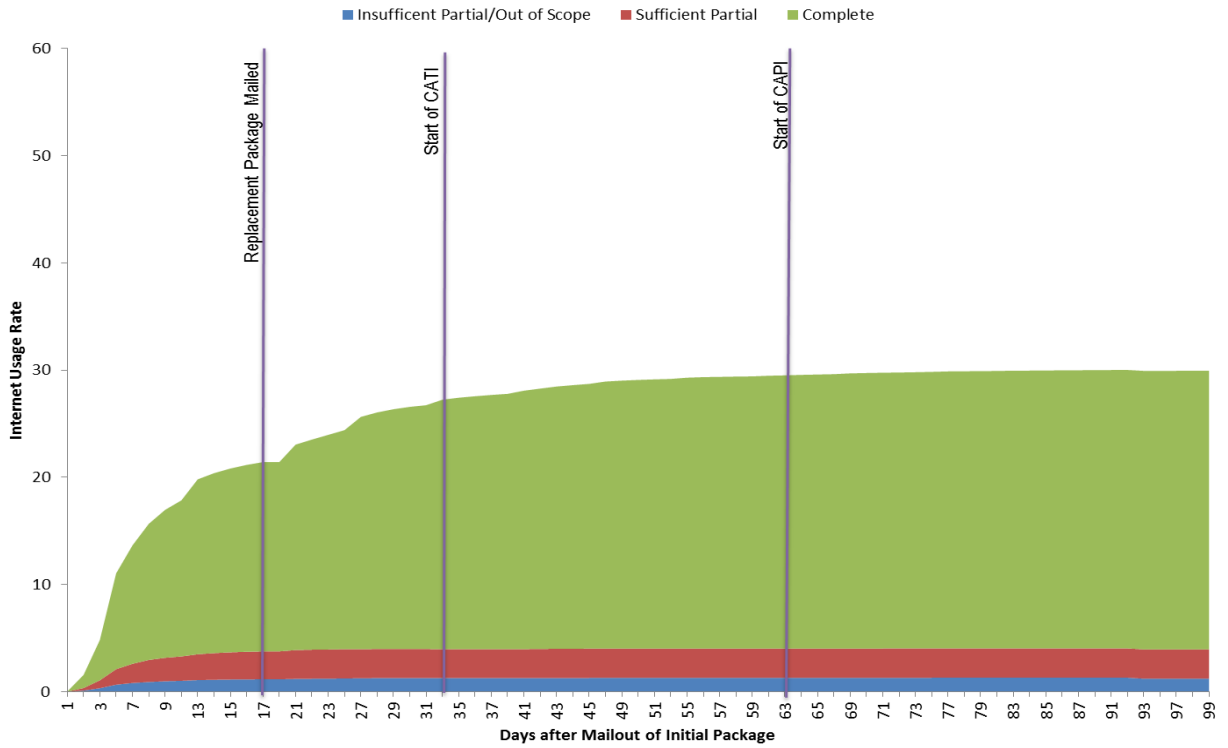
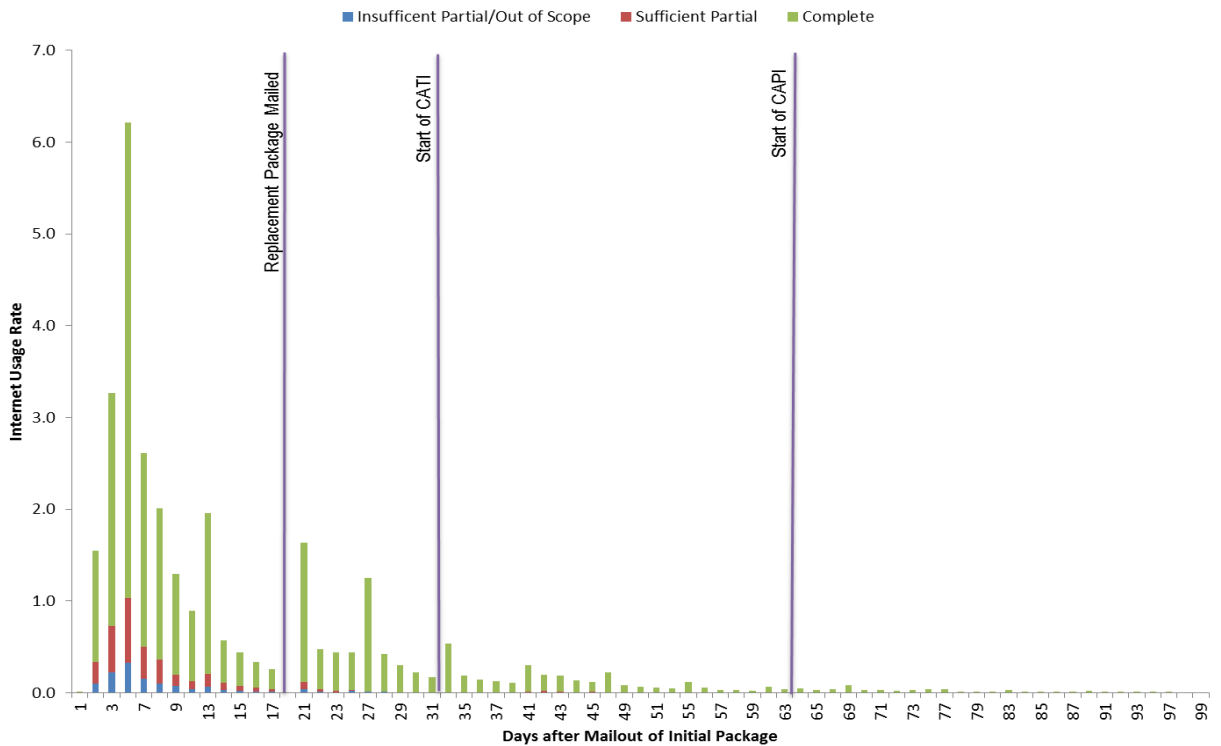


Figure 7. Internet Usage Rates by Day - February 2013



V. Conclusions

The introduction of the Internet mode and a new mailing strategy in January 2013 had an impact on the receipt of self-responses in the ACS. The Internet allows respondents to provide their responses more quickly to the ACS program. Previously, all self-responses were on paper forms and mailed to the NPC for data capture. Mail responses naturally take longer to be checked-in due to the transit in the mail system and are subject to postal service delays. For this reason, we now see a rapid gain in the 2013 self-response check-in rates in the first ten days after the mail out of the initial package. However, after this point, the 2013 self-response check-in rates level out somewhat and are generally lower than 2012 self-response check-in rates leading up to the mailing of the replacement (second) package. This indicates that sample addresses that use the Internet to respond will generally do so early in the data collection period. Once sample addresses receive the replacement mailing, we observe a small uptake in Internet responses while the bulk of self-responses received after this point is on paper forms. This pattern of response aligns closely to what we observed in the November 2011 Internet Test. By the time that the CATI operation begins, the 2013 self-response check-in rate appears to be higher than the 2012 rate, which translates to smaller workloads for the CATI operation. The CAPI operation does not appear to have a different effect on the 2013 self-response check-in rates as compared to the 2012 rates. For the first two panels of 2013, the 2013 self-response check-in rates appear to be slightly higher than the 2012 rates by the end of the data collection period, likely due to both the new Internet mode and the new mailing strategy implemented for 2013.

Internet usage rates show that the majority of people who access the Internet instrument provide a response that we consider complete. The usage rates also show that insufficient partial, out of scope, and sufficient partial responses are more likely to occur early in the data collection period. However, these types of Internet interactions do not account for a large proportion of all Internet interactions. These data inform us that the current Internet instrument does not cause a large proportion of respondents to exit the instrument in the early stages of providing a response. Only about four percent of people who access the Internet instrument never provide a sufficient partial or complete response.