

Comparing FedEx to Traditional Postage in a Survey of Substance Abuse and Mental Health Treatment Facilities

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Motivation

The Behavioral Health Services Information System (BHSIS) is a congressionally mandated data collection on substance abuse and mental health treatment services, sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The BHSIS consists of numerous interrelated components, including the National Survey of Substance Abuse Treatment Services (N-SSATS) and the National Mental Health Services Survey (N-MHSS). Mathematica conducts these annual, voluntary surveys of about 20,000 substance abuse treatment facilities and 16,000 specialty mental health treatment facilities. The surveys collect data about behavioral health treatment services in the United States, including the number of people receiving services, patterns of treatment service use, and other important treatment- and policy-related information. The data are used in SAMHSA reports, program administration, decision making, planning, and policy analysis. Survey data are also used to compile and update the online Behavioral Health Treatment Services Locator. This resource is widely used by people seeking behavioral treatment in their area as well as for locating appropriate facilities for client referrals by industry professionals.

To provide the most up-to-date and comprehensive information to the public in the Behavioral Health Treatment Services Locator, the data collected must be high quality and

include as many facilities as possible. SAMHSA has set the survey response rate threshold at 90 percent as the minimum requirement. In the past decade, there has been a steady decline in response rates, leading the study team to continually review and modify the data collection strategies on the N-SSATS and N-MHSS to meet the response rate requirements. Some of these enhancements included initially pre-filling question data based on facility responses from the prior round and asking the respondent to verify the data, increasing the number of nonresponse follow-up mailings and notifications, creating a worksheet to help facilities respond and reduce respondent burden, and extending the surveys' field periods. In 2017 and early 2018, there was a decrease in the response rate for the N-SSATS, and another strategy was needed to mitigate this decline. It was hypothesized that if the survey packet was more salient to the facility directors, they would be more likely to respond. To test this theory, a FedEx experiment was added to the 2018 data collection cycle.

Experiment Design

Table 1 presents the major data collection activities and schedule for the 2018 N-SSATS. As shown, the only difference between the treatment and control groups was that the second packet was mailed to the treatment group via FedEx 2Day shipping instead of United States Postal Service (USPS)

Table 1. Major data collection activities and schedule

<i>Activity</i>	<i>Schedule</i>	<i>Control group</i>	<i>Treatment group</i>
Advance letter mailed USPS First Class	February 15, 2018	X	X
First N-SSATS packet mailed USPS First Class	March 30, 2018	X	X
Web went live	March 30, 2018	X	X
Reminder letter mailed USPS First Class	April 20, 2018	X	X
Second N-SSATS packet mailed - USPS First Class	May 30, 2018	X	
Second N-SSATS packet mailed - FedEx 2 day shipping	May 30, 2018		X
Telephone follow-up began	July 2, 2018	X	X
Third N-SSATS packet with questionnaire mailed USPS First Class	July 27, 2018	X	X
Targeted reminder letters mailed - FedEx 2 day shipping	October 5, 2018	X	X
Data collection ended	November 2, 2018	X	X

N-SSATS = National Survey of Substance Abuse Treatment Services; USPS = United States Postal Service.

First-Class Mail. FedEx shipping was used to highlight the perception of the packet's importance and increase the likelihood of it reaching the facility director. Because FedEx has a standard practice of requiring a signature for delivery, a test was designed to determine whether the use of FedEx shipping would yield a positive impact on facility response. Prior to the second packet, facilities had already received three mailings via USPS First-Class Mail. Traditionally, the second reminder mailing was sent in the fielding process via USPS First-Class Mail, and it included a cover letter, web login instructions, and 2017 N-SSATS state profiles, which provided a snapshot of national and state estimates of treatment and services.

On May 22, 2018, the nonresponding facilities were evenly divided into two samples: a treatment group (N = 5,013) and a control group (N = 5,017). The facilities were evenly distributed between the groups by state and network size. In the survey terminology, a network is a group of administratively connected facilities. Facilities within the same network were allocated to the same experimental group. The contents of the second reminder mailing were identical in the two groups. The packets were sent via FedEx 2 day shipping to the treatment group and via USPS First-Class Mail to the control group. The packets went out on May 30, 2018—nine weeks after data collection began. Other than the method of mailing, the procedures for the treatment and control groups did not differ throughout the field period.

For the purpose of analysis, all facilities that completed the survey before June 2—the date the mailings would have begun arriving at the facilities—were excluded. Facilities that closed or otherwise were ineligible to complete the 2018 N-SSATS were also excluded. The final analysis sample included 4,312 treatment facilities and 4,314 control facilities.

Results

To account for multiple comparisons during the analysis process, the desired alpha for significance was set at 0.01 and the Bonferroni correction was applied. The adjusted alpha used for determining significance was 0.0005. The rate at which facilities responded to the 2018 N-SSATS after receiving the second reminder was examined. As Figure 1 shows, facilities that received the FedEx mailing (the treatment group) responded faster than those that received the first-class mailing (the control group). The average time to complete the survey was significantly lower for the treatment group (58 days) than for the control group (68 days). About 30 days after the experimental mailing, the methods to improve response among nonresponding facilities increased in intensity, starting with telephone follow up. A third reminder mailing, which included a hardcopy questionnaire, was sent 58 days after the experimental mailing, and a final reminder was sent 70 days after the third reminder—both via FedEx. Although no difference between the two groups was noted in the number of completed surveys at the end of data collection, fewer high-intensity resources were allocated to the treatment group during nonresponse follow-up. This is because about nine percent (N = 397) more facilities in the treatment group completed their survey prior to the onset of the high-intensity follow-up.

Facilities completed the survey via three modes: web, telephone, and hardcopy. As indicated in Figure 2, facilities in the treatment group completed the survey faster by web and overall, at higher numbers. The control group completed more telephone surveys than the treatment group. The number of facilities that mailed back a completed hardcopy survey was comparable between the two groups.

Figure 1. Survey completion rates for 2018 treatment and control groups

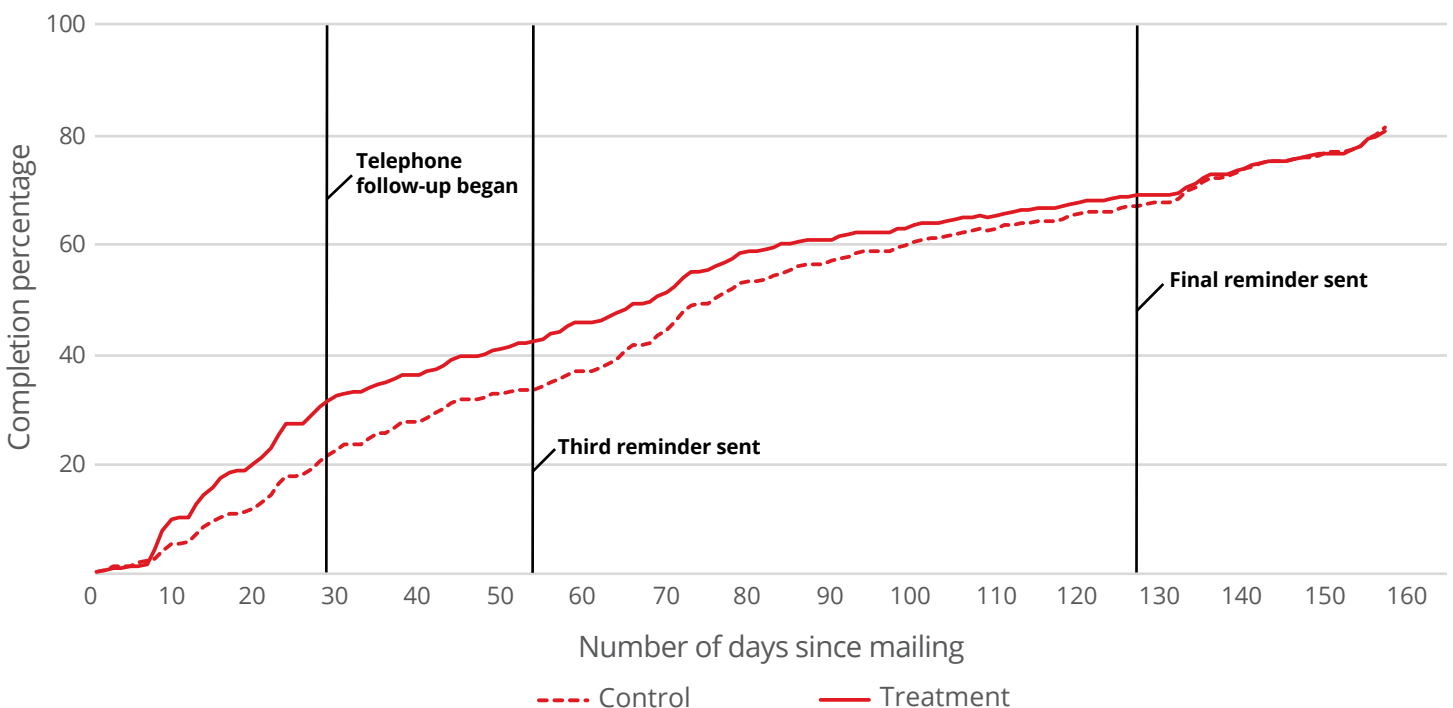
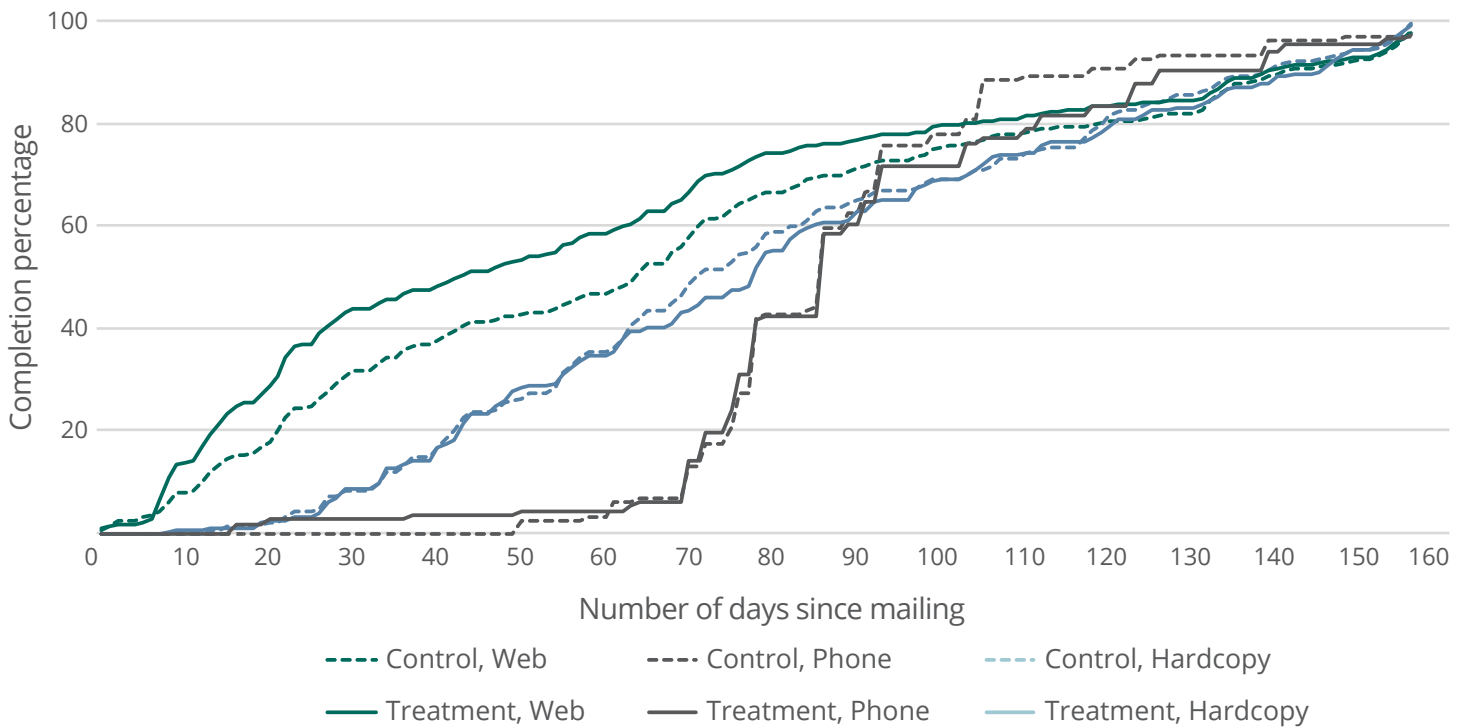


Figure 2. Survey completions over time by mode and experimental group



Various characteristics of facilities that completed the 2018 N-SSATS in the experimental groups were examined to see if any type of facility was more impacted by the FedEx change than others. No significant difference in characteristics was noted in the response outcomes between groups. The facility characteristics included the following:

- The substance abuse treatment setting (inpatient, residential, outpatient, or a mix of any of those three)
- The facility's treatment focus (substance abuse, mental health, a mix of those two, or general health care)
- The number of associated facilities in the sample (network size: stand-alone, 2 to 4, 5 to 9, or 10 or more)

Table 2 shows the average days to complete the survey for only the facilities in the treatment group, by the noted facility characteristics. Inpatient facilities, facilities with a general health care focus, and facilities in a medium-size network responded at a slightly slower rate. For each of these comparisons, none of these differences were significant.

Although the difference was not significant, stand-alone facilities and large networks (those with 10 or more facilities) had a lower average number of days to complete the survey than small-size (two to four) and medium-size (five to nine) networks. As Figure 3 shows, the impact of the FedEx mailing was similar for networks of all sizes. Given that there are more stand-alone facilities in the sample, the effect is more pronounced.

Table 2. Average days to complete the survey for treatment group by facility characteristics

	<i>Substance abuse treatment setting</i>				<i>Overall</i>
	<i>Inpatient</i>	<i>Residential</i>	<i>Outpatient</i>	<i>Mix</i>	
Average days	62.4	59.5	58.0	60.7	58.5
	<i>Treatment focus</i>				<i>Overall</i>
	<i>Substance abuse</i>	<i>Mental health</i>	<i>Mix</i>	<i>General health care</i>	
Average days	57.7	59.2	59.5	65.3	58.5
	<i>Network size</i>				<i>Overall</i>
	<i>Stand-alone</i>	<i>2 to 4</i>	<i>5 to 9</i>	<i>10 or more</i>	
Average days	56.0	61.3	64.2	54.1	58.5

The next analysis was whether the facility was part of the 2017 N-SSATS sample and, if so, whether the facility completed the survey that year. As Figure 4 shows, the FedEx mailing had no impact on facilities that did not complete the N-SSATS in 2017. The FedEx mailing significantly decreased the average number of days to complete the survey for facilities that completed

it in 2017, as well as those that were new to the sample in 2018. Facilities that completed the survey in prior rounds responded at a higher rate than either those that were new to the sample or did not complete it in the previous round. This corroborates findings that past behavior is an important predictor of response.

Figure 3. Survey completion over time by network size and experimental group

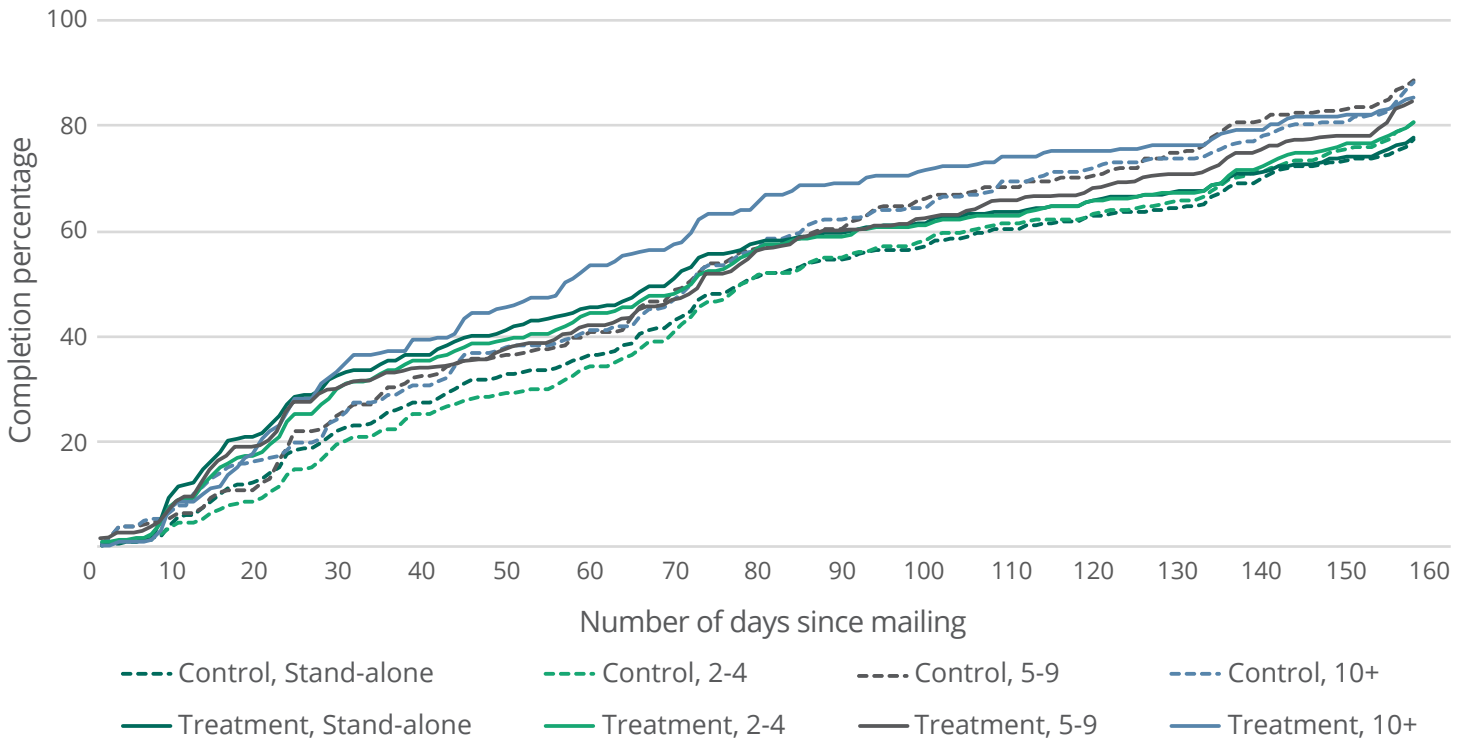
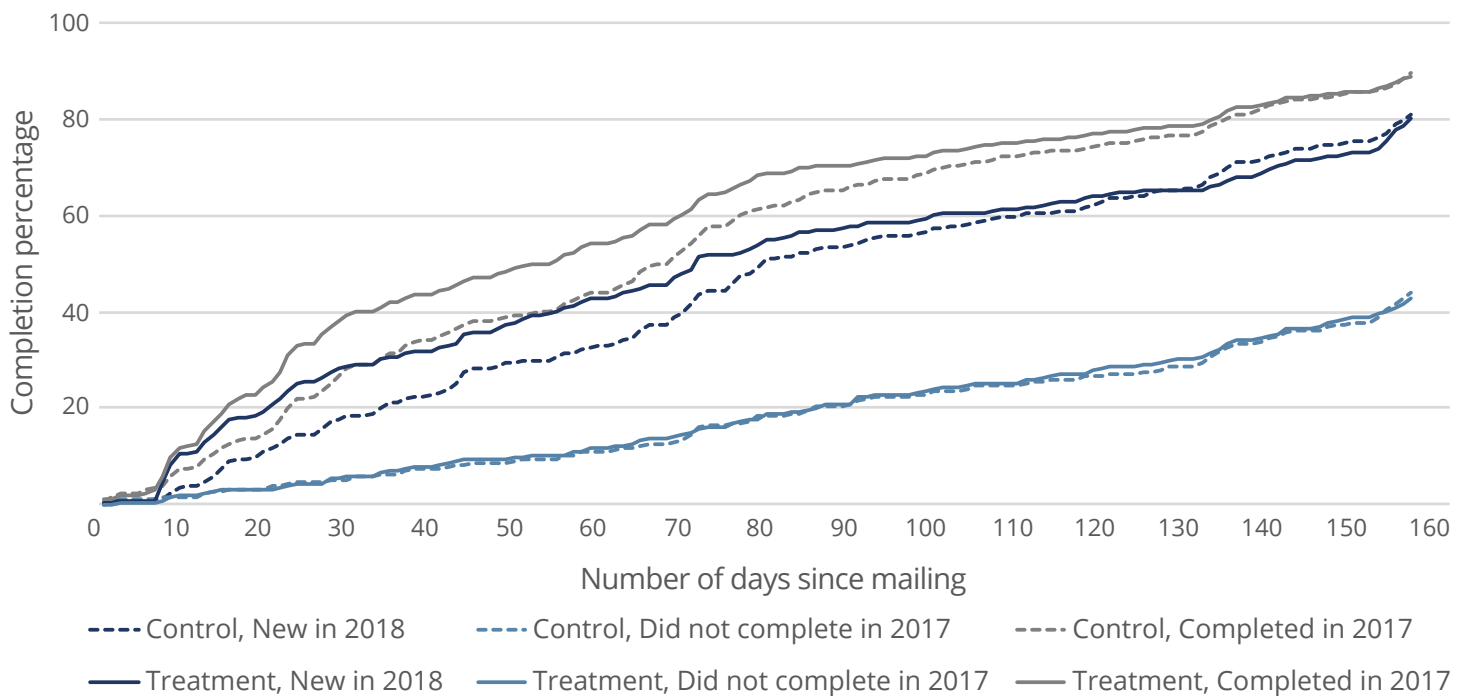


Figure 4. Survey completion rates by sample type and experimental group



Because the results of the FedEx experiment indicated a positive increase to the rate of response to the N-SSATS, the second packet mailing was sent via FedEx to all nonresponding facilities in 2019. Figure 5 shows the completion rate for N-SSATS for 2017 (the year that the second packet mailing was sent via USPS First-Class Mail) and the treatment and control groups for 2018 and 2019. An important difference between the 2018 N-SSATS and the 2017 and 2019 N-SSATS

was that client count data were not collected in the 2018 fielding process, as it is collected every other year and requires increased burden on the participants. Comparing the average number of days to complete the survey, a significant change between 2017 and 2019 was noted: it decreased from 69 to 66 days. The early response by the treatment group in 2018 mirrored the response in 2019. Similarly, the 2017 response was comparable to the control group in 2018.

Figure 5. Survey completion rates for 2018 treatment and control groups compared with other years

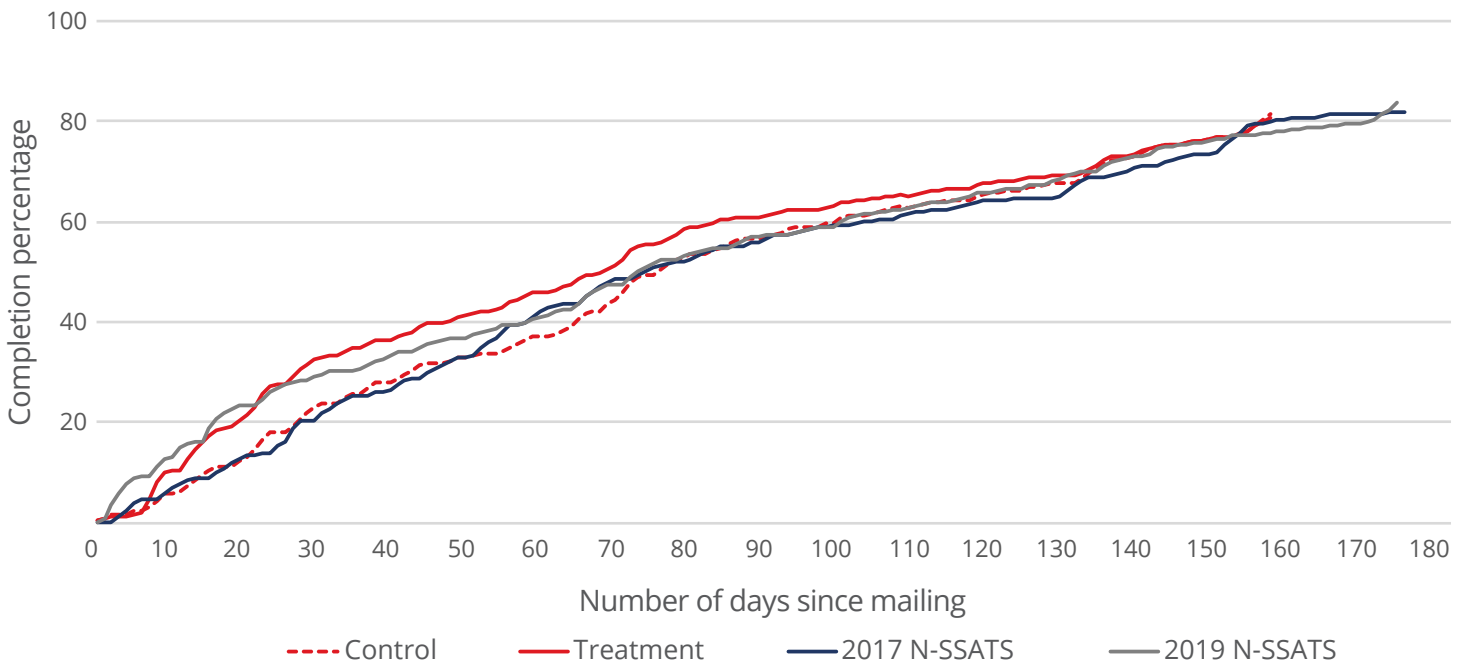
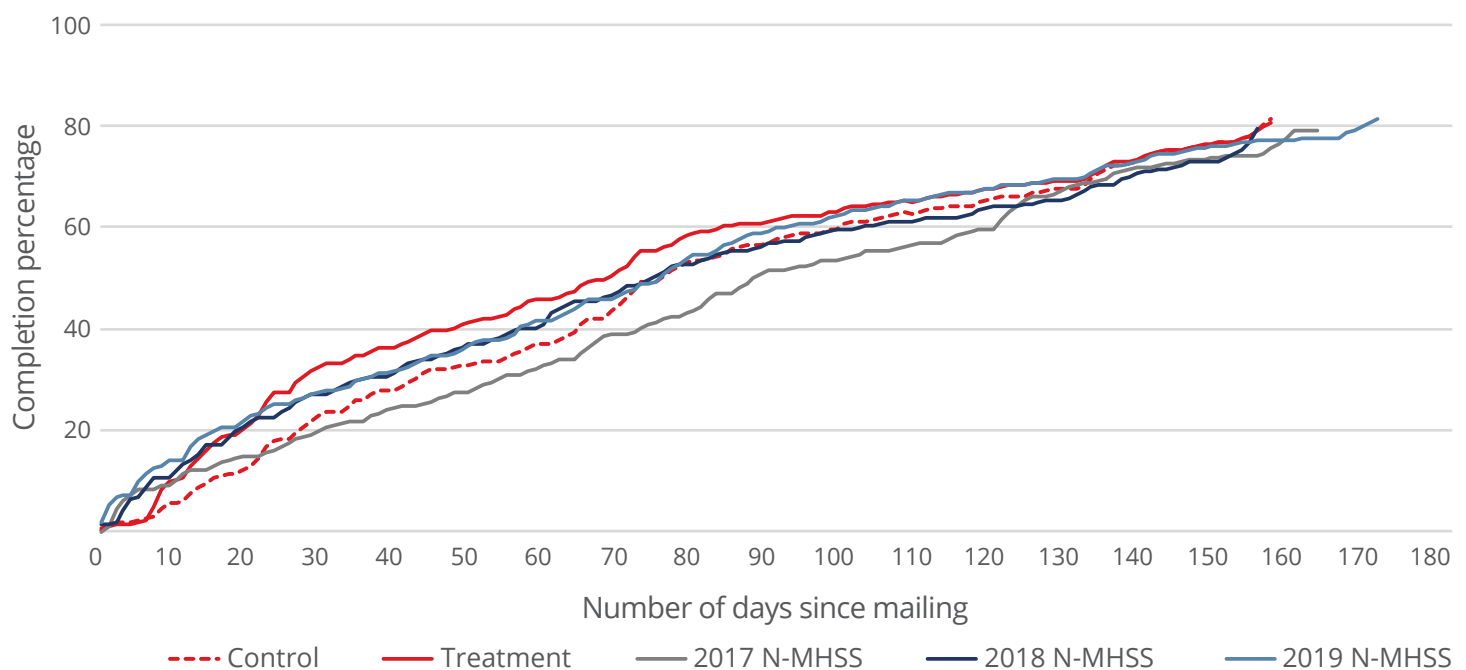


Figure 6. Survey completion rates for 2018 treatment and control groups compared with N-MHSS years



As noted, the N-MHSS is the mental health equivalent to the N-SSATS. The N-MHSS is fielded one month after N-SSATS begins. The N-MHSS uses similar strategies as the N-SSATS for reducing nonresponse, following the same protocol for fielding reminder mailings, telephone follow-up, and so on. Based on the early positive impact of the FedEx experiment, the second reminder mailing of N-MHSS in 2018 was sent via FedEx to all nonrespondents. Similar to Figure 5, Figure 6 shows the completion rates for N-MHSS in 2017, 2018, and 2019 (2017 was the year the second reminder was sent via USPS First-Class Mail.). As with N-SSATS, client count information is collected every other year; for N-MHSS, the 2018 survey collected client count data. Comparing the average number of days to complete the survey between 2017 and 2018, a significant change was also noted: it decreased from 73 to 63 days. The average number of days to complete the survey remained at 63 days for the 2019 fielding round when FedEx was also used.

Discussion

Mailing the second reminder via FedEx rather than USPS appeared to be an effective tool to facilitate faster survey response. The impact was generalized across two different samples of facilities: those providing substance abuse treatment and those providing mental health treatment. Encouraging facilities to respond earlier enabled more high-intensity resources to be focused on a smaller set of nonresponding facilities.

Changing the second reminder to FedEx also proved to be successful in improving the response rate for these surveys; the goal of attaining response rates at or above 90 percent was achieved. The final response rate for N-SSATS increased from 90.2 percent in 2017 to 92.4 percent in 2018 and remained consistent at 92.3 percent in 2019. The N-MHSS final response rates followed a consistent pattern: 88.2 percent in 2017, 90.8 percent in 2018, and 91.3 percent in 2019.

Given the common usage of FedEx as an expedited delivery service of high-priority materials, the suggested urgency of a FedEx envelope may have helped to increase its implied importance. This approach helped get the reminder past the facility's gatekeeper and into the hands of the respondent, leading to faster and higher completion rates.

Suggested Citation:

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