

# Supporting survey response through tokens of appreciation

White paper from the Assessing the Implementation and Cost of High-Quality Early Care and Education project



EARLY CARE & EDUCATION



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## Supporting survey response through tokens of appreciation

White paper from the Assessing the Implementation and Cost of High-Quality Early Care and Education project

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## Overview

The COVID-19 pandemic abruptly stopped in-person data collection in child care and early education (CCEE) centers. We know from early phases of the Assessing the Implementation and Cost of High-Quality Early Care and Education (ICHQ) project and other surveys of CCEE staff impacted by the pandemic that, without an in-person site visit from study representatives, response rates can be substantially lower. Beyond a general preference for higher response rates, the 2021 ICHQ field test had a fixed and limited sample frame. If the project team could not achieve a high response, it would not meet the analytic goals. In 2021, the ICHQ project team carried out a random assignment experiment to test the impact of prepaid tokens of appreciation to improve survey response and reduce the number of days it takes for a survey respondent to complete a survey after they receive an invitation to complete it (days to complete) when study representatives could not visit CCEE centers in person.

In this white paper, we present results from two rounds of an experiment of tokens of appreciation. In the spring 2021 round of the experiment, we tested the use of prepaid tokens of appreciation by randomly assigning centers to one of two treatment groups for staff (including select center administrators and all teaching staff) to complete a 15-minute time-use survey. In one group, survey respondents received a prepaid amount of \$10 and a postpaid amount of \$10; in the second group, respondents received a postpaid amount of \$20, and no prepaid token of appreciation. The prepaid token of appreciation resulted in a 20-point statistically significant increase in the response rate (81 percent compared with 61 percent) over the postpaid token of appreciation alone.

In fall 2021, we administered a second round of the experiment to test different prepaid amounts for a 45-minute teaching staff survey. We tested a prepaid amount of \$10 and a postpaid amount of \$40, versus a prepaid amount of \$25 and a postpaid amount of \$25. The response rate for the lower prepaid and higher postpaid amounts was significantly higher than the response rate when the prepaid and postpaid amounts were even (93 percent compared with 87 percent).

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## I. Introduction

The Office of Planning, Research, and Evaluation (OPRE) in the Administration for Children and Families contracted with Mathematica to conduct the Assessing the Implementation and Cost of High-Quality Early Care and Education (ICHQ) project to develop two sets of center-level measures. The measures capture (1) implementation of activities that can support quality in child care and early education (CCEE) centers serving children from birth to age 5 (not yet in kindergarten) and (2) the costs to provide care and services (Kirby et al. 2022). By summarizing how services are provided, how center resources are used, and the associated costs of care and services, the combined ICHQ implementation and cost measures can help policymakers, administrators, and program and center directors connect decisions about day-to-day operations to the larger question of how to allocate limited resources to provide high-quality CCEE.

A phased approach to data collection in the ICHQ project provided opportunities to refine the measurement constructs and data collection tools and processes, to develop draft measures, and test the measures. The study began with an exploratory pilot study with three centers in fall 2015. We then recruited 15 centers to participate in a comprehensive formative Phase 1 of data collection in fall 2016. Phase 2 consisted of early testing of the new measures with 30 centers. Using the Phase 2 data, we created draft measures for testing in a field test with 80 centers.

We launched recruitment and data collection for the ICHQ field test with 80 centers in March 2021. Data collection for the field test included (1) conducting semistructured interviews about the intentionality, structure, and consistency of implementation of key functions of a center that can support quality; (2) collecting cost data through Excel workbooks to assess center-level costs by key function and how resources are used across functions; (3) administering staff surveys about time use—essential information for allocating costs to key functions, since labor is a large driver of costs in CCEE centers; and (4) administering staff surveys about center operations and work environment. The staff surveys gave us the opportunity to conduct the experiments on the impact of the tokens of appreciation.

Before the COVID-19 pandemic, in Phase 1 of the time-use data collection for ICHQ, our response rate was 48 percent. In Phase 2 of ICHQ data collection, still before the pandemic, our response rate was 89 percent (OMB #0970-0499). We achieved this improvement by having study representatives visit the centers to distribute physical gift cards in person immediately after center staff completed their surveys.

In 2020, we saw the impact of the pandemic on another Mathematica study that continued to administer staff surveys even when study representatives could not visit centers. In the spring 2017 round of the Head Start Family and Child Experiences Survey (FACES), study representatives visited centers to distribute survey invitation packets to eligible teachers and to remind center directors to complete their surveys on the web. The response rate for the 30-minute teacher survey was 91 percent (OMB #0970-0151). The response rate for the 25-minute center director survey was also 91 percent. In spring 2020,

### Key terms

**Respondent.** A person that participates in a survey.

**Tokens of appreciation.** Gift cards given to respondents or potential respondents in recognition of the time they spend participating in a survey.

**Prepaid.** Used to describe a token of appreciation offered to respondents with survey invitation materials.

**Postpaid.** Used to describe a token of appreciation offered to respondents after they complete a survey.

**Days to complete.** The number of days it takes a respondent to complete a survey after receiving an invitation to complete it. ▲

FACES site visits were canceled due to the pandemic, and teachers and center directors received invitation packets through the U.S. Postal Service. The response rate for the 30-minute teacher survey in spring 2020 was 62 percent. The response rate for the 30-minute center director survey in spring 2020 was 59 percent.

These results raised our concerns about the impact closing centers to visitors would have on response rates for the ICHQ survey. The goal of the experiment of tokens of appreciation was to test the impact of prepaid tokens of appreciation to improve survey response and reduce the number of days it takes for a survey respondent to complete a survey after they receive an invitation to complete it (days to complete) when study representatives could not visit sites in person. Research has shown that offering a potential respondent a small token of appreciation with survey invitation materials (“prepaid”) and an additional token of appreciation after completing the survey (“postpaid”) can be more effective in improving response rates compared to only offering a token of appreciation after completing the survey (Singer and Ye 2013; Mercer et al. 2015). Prepaid tokens of appreciation are particularly well suited for high-response, small sample surveys like the one included in the 2021 ICHQ field test because the cost of providing prepaid tokens of appreciation to people who do not ultimately complete the survey is low.

## II. Experiment Design

### Spring 2021 experiment: Prepaid or no prepaid token of appreciation

In spring 2021, we planned to administer a 15-minute web-based time-use survey (TUS)—asking about how much time staff spend on various tasks, including instruction and caregiving, working with families, staff development, communication activities, and management tasks—to the following participants:

- Teaching staff who provide direct instruction or care in the classroom to children from birth to age 5 (not yet in kindergarten), including teachers and assistant teachers but not substitutes or floaters
- Administrators who oversee the center’s operations and the educational program, including center directors and education specialists

Before recruitment, centers were randomly assigned to one of two groups.<sup>1</sup> Assignment took place at the center level to ensure all staff in a particular center received the same type of token of appreciation. A total of 26 centers participated in the experiment across two groups with 11 centers in Group A and 15 centers in Group B. Both groups received the same \$20 overall amount for completing the survey, but the timing of the distribution was different for each group:

- Staff in 11 Group A centers received a \$10 physical gift card as a prepaid token of appreciation with their survey invitation and a \$10 electronic gift card as a postpaid token of appreciation upon completing the survey.
- Staff in 15 Group B centers received a \$20 electronic gift card as a postpaid token of appreciation upon completing the survey.

For Group A, center directors distributed invitation letters to complete the survey, including the prepaid gift card, to staff in sealed envelopes. We also sent staff in Group B invitation letters, but first they received an invitation email. Across both groups, we asked center directors to follow up with staff to encourage survey completion. All postpaid gift cards (for both Group A and Group B) were distributed electronically immediately upon completion through the web survey and by email.

### Fall 2021 experiment: Dosage of prepaid token of appreciation

In fall 2021, we planned to expand on the experiment of prepaid tokens of appreciation through a dosage experiment during the administration of the 30-minute web-based Supportive Environment Quality Underlying Adult Learning (SEQUAL) survey.<sup>2</sup> The SEQUAL survey asked lead and assistant teachers about their center’s practices and work environment. SEQUAL respondents would receive a total of \$30 in gift cards upon survey completion. We planned to have two experiment groups:

- Group A would receive a \$5 prepaid physical gift card with their survey invitation and a \$25 postpaid electronic gift card upon survey completion.
- Group B would receive a \$15 prepaid physical gift card with their survey invitation and a \$15 postpaid electronic gift card upon completion.

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<sup>1</sup> Thirteen centers that participated in a prior round of ICHQ data collection were excluded from the spring experiment. Respondents in these centers were eligible to receive a \$10 gift card after completing the survey.

<sup>2</sup> Although we presented the fall survey to center staff as a two-part survey, it includes two distinct instruments—the TUS and the SEQUAL survey.

### **Spring 2021 TUS problem and adjustment to dosage design**

During the spring survey, we discovered issues with the quality of data from the TUS that prompted us to stop data collection, revise the survey, and relaunch with a revised TUS in fall 2021. When we stopped data collection, 34 centers were participating in the spring 2021 survey; however, in some of these centers the surveys had only very recently been released to staff.

We decided to revise the TUS survey and combine it with the SEQUAL survey in fall 2021. We had enough data from the experiment in the spring to confirm that the prepaid token of appreciation improved response rates, so we adjusted and continued with the fall dosage experiment, using a total value of \$50 since the combined TUS and SEQUAL survey for teachers had an estimated length of 45 minutes.

A total of 57 centers participated in the experiment across two groups with 31 centers in Group A and 26 centers in Group B. We adjusted the amounts for the two experiment groups as follows:

- Staff in 31 Group A centers received a \$10 physical gift card as a prepaid token of appreciation with their survey invitation and a \$40 electronic gift card as a postpaid token of appreciation upon completing the survey.
- Staff in 26 Group B centers received a \$25 physical gift card as a prepaid token of appreciation with their survey invitation and a \$25 electronic gift card as a postpaid token of appreciation upon completion.

Administrators who were not eligible for the teaching staff SEQUAL survey were asked to complete only the 15-minute TUS and were excluded from the experiment.<sup>3</sup>

### **Impact of COVID-19 on fall 2021 survey participation**

The ongoing COVID-19 pandemic and surge in cases that occurred in the fall affected the survey administration for ICHQ, beyond the need to administer surveys remotely. Because of these effects, some centers did not participate in the fall survey, and some that participated struggled to complete surveys because of closures, staffing shortages, and illness. Of the 80 centers recruited for the ICHQ sample, 57 centers (71 percent) participated in the fall survey data collection. These 57 centers constitute the sample for our analysis of the experiment results.

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<sup>3</sup> Administrators at all centers participating in the fall TUS received a \$10 prepaid token of appreciation and then a \$10 postpaid token of appreciation, mirroring the prepaid and postpaid amounts that were found effective in spring 2021. This enabled all eligible staff at a center to receive a prepaid token of appreciation, regardless of staffing category.

### III. Experiment Results

#### Spring 2021 experiment results

We reviewed the results from the experiment in 26 centers (see Appendix A for our analytical approach) in which the spring TUS was released more than one week before stopping the survey (thus providing time to complete it). We saw a significantly higher response rate among respondents who received prepaid and postpaid tokens of appreciation over those who received only a postpaid token of appreciation (81 percent compared with 61 percent; Exhibit 1). We did not see differences between the two groups with respect to days to complete the surveys (about 11 days, on average).<sup>4</sup>

**Exhibit 1. Spring 2021 time-use survey response rates and days to complete**

| Tokens of appreciation experiment group               | Response rate <sup>a</sup>         |                                   |             | Days to complete <sup>b</sup> |           |             |          |            |
|---|------------------------------------|-----------------------------------|-------------|-------------------------------|-----------|-------------|----------|------------|
|   | Total number of staff <sup>c</sup> | Total number of completed surveys | Percentage  | Min                           | Max       | Mean        | Median   | SD         |
| <b>Overall</b>  | <b>185</b>                         | <b>126</b>                        | <b>68.1</b> | <b>1</b>                      | <b>35</b> | <b>10.7</b> | <b>8</b> | <b>8.2</b> |
| \$10 prepaid and \$10 postpaid tokens of appreciation | 68                                 | 55                                | 80.9        | 2                             | 35        | 10.7        | 7        | 8.0        |
| \$20 postpaid token of appreciation                   | 117                                | 71                                | 60.7        | 1                             | 31        | 10.7        | 8        | 8.5        |

Note: Includes staff from 26 field test centers for which the spring TUS was released more than one week before the survey close. Excludes one field test center that would not allow us to offer staff tokens of appreciation and centers that had participated in a prior wave of ICHQ data collection and were not included in the experiment. Excludes surveys that were released across eight centers on July 13 and 16, the week before the spring TUS closed. Staff in these eight centers had only a few days to complete the survey, and those in the group assigned a prepaid token of appreciation might not have received their gift card from their center director.

<sup>a</sup> Includes all staff in an experiment group for which the TUS was released; difference in percentages is statistically significant ( $p < 0.01$ ).

<sup>b</sup> Includes all staff respondents in an experiment group who completed the TUS; *no significance*.

<sup>c</sup> Centers were randomly assigned to each of the two experimental groups, not accounting for center size. We were monitoring center size with the goal of achieving relatively equal numbers of large and small centers in the full 80 center sample (with licensed capacity above or below 75 children, respectively). At this stage of recruitment and data collection, centers were not equally distributed between the two experiment groups by size and so the number of staff across the two groups differs.

ICHQ = Implementation and Cost of High-Quality Early Care and Education; SD = standard deviation; TUS = time-use survey.

Appendix B shows characteristics of the 26 treatment and comparison centers in the analytic sample (Exhibit B.1). Using the What Works Clearinghouse standard for assessing baseline differences (U.S. Department of Education 2020), we found a few differences that should be kept in mind in interpreting results reported here. Specifically, the centers that received both prepaid and postpaid amounts were less likely to have high Quality Rating and Improvement System (QRIS) ratings, more likely to have mixed funding (mixed public or mixed public and private funding), and more likely to be small (serving less than 75 children). It is possible that some of these differences contributed to the differences in response rates we observed.

<sup>4</sup> We calculated days to complete by subtracting the date the respondent completed the survey from the date the survey was released. However, because center directors distributed survey invitation packets, we could not control when the packets made it into the hands of respondents.

We saw higher percentages of response among the group of respondents that received both prepaid and postpaid tokens of appreciation regardless of the respondent’s job category (administrators and teaching staff). We did not conduct significance testing for subgroups due to small sample sizes. Administrators in the prepaid group and teaching staff in the prepaid group had response rates that were 17.5 to 20 percentage points higher, respectively, than their counterparts who received only a postpaid amount (Exhibit 2).

**Exhibit 2. Spring 2021 time-use survey response rates, by job category**

| Job category and tokens of appreciation experiment group | Total number of staff | Total number of completed surveys | Response rate <sup>a</sup> (percentage) |
|--|-----------------------|-----------------------------------|---|
| <b>Administrators</b>                                    | <b>44</b>             | <b>35</b>                         | <b>79.5</b>                             |
| \$10 prepaid and \$10 postpaid tokens of appreciation    | 19                    | 17                                | 89.5                                    |
| \$20 postpaid token of appreciation                      | 25                    | 18                                | 72.0                                    |
| <b>Teaching staff</b>                                    | <b>141</b>            | <b>91</b>                         | <b>64.5</b>                             |
| \$10 prepaid and \$10 postpaid tokens of appreciation    | 49                    | 38                                | 77.6                                    |
| \$20 postpaid token of appreciation                      | 92                    | 53                                | 57.6                                    |

Note: In determining which center staff were eligible to participate in the TUS, the study team classified eligible staff into one of two categories—center administrators or teaching staff. Includes staff from 26 field test centers for which the spring TUS was released more than one week before the survey close. Excludes one field test center that would not allow us to offer staff tokens of appreciation and eight centers that had participated in a prior wave of ICHQ data collection and were not included in the experiment. Excludes surveys that were released across eight centers on July 13 and 16, the week before the spring TUS closed. Staff in these eight centers had only a few days to complete the survey, and those in the group assigned a prepaid token of appreciation might not have received their gift card from their center director.

<sup>a</sup> Includes all staff in an experiment group for which the TUS was released.

ICHQ = Implementation and Cost of High-Quality Early Care and Education; TUS = time-use survey.

The gift card cost per complete for the group receiving both prepaid and postpaid tokens of appreciation was higher at \$23.60 than the cost per complete for the group receiving only a postpaid token of appreciation at \$20.00 (Exhibit 3). The additional \$3.60 per complete for the group receiving a prepaid amount (or 18 percent higher cost) was associated with a 20-percentage-point improvement in the response rate. The additional cost for this group was a result of needing to purchase physical gift cards for all sample members—not just those that completed surveys—and because there is an additional \$1 processing fee for physical gift cards that is not incurred for electronic gift cards.

**Exhibit 3. Spring 2021 time-use survey gift card costs per complete**

| Tokens of appreciation experiment group               | Total number of staff | Total number of completed surveys | Response rate <sup>a</sup> (percentage) | Gift card costs <sup>b</sup>       | Cost per complete |
|---|-----------------------|-----------------------------------|---|------------------------------------|-------------------|
| \$10 prepaid and \$10 postpaid tokens of appreciation | 68                    | 55                                | 80.9                                    | Total = \$1,298                    | \$23.60           |
|   |                       |                                   |   | <i>Prepaid: \$11 * 68 = \$748</i>  |                   |
|   |                       |                                   |   | <i>Postpaid: \$10 * 55 = \$550</i> |                   |
| \$20 postpaid token of appreciation                   | 117                   | 71                                | 60.7                                    | \$20 * 71 = \$1,420                | \$20.00           |

Note: Includes staff from 26 field test centers for which the spring TUS was released more than one week before the survey close. Excludes one field test center that would not allow us to offer staff tokens of appreciation and eight Phase 3 centers not included in the experiment. Excludes surveys that were released across eight centers on July 13 and 16, the week before the spring TUS closed. Staff in these eight centers had only a few days to complete the survey, and those in the group assigned a prepaid token of appreciation might not have received their gift card from their center director.

<sup>a</sup> Includes all staff in an experiment group for which the TUS was released.

<sup>b</sup> Physical gift cards distributed as part of the prepaid amount included a \$1 processing fee per card.

TUS = time-use survey.

### Fall 2021 experiment results

We reviewed the results from the fall 2021 experiment for the teaching staff survey in 57 centers in which the combined TUS and SEQUAL survey was released (see Appendix B for center characteristics). We saw a significantly higher response rate among the group of teaching staff respondents who received the \$10 prepaid amount and \$40 postpaid amount over those who received the \$25 prepaid amount and \$25 postpaid amount (93 percent compared with 87 percent; Exhibit 4). This finding suggests that even the smaller prepaid token of appreciation gets the attention of potential respondents, and once researchers have their attention, the higher postpaid amount might motivate them to finish the survey. We did not see significant differences between the two groups with respect to days to complete the surveys (about 14.6 days, on average).<sup>5</sup>

**Exhibit 4. Fall 2021 teaching staff survey response rates and days to complete**

| Tokens of appreciation experiment group               | Response rate <sup>a</sup> |                                   |             | Days to complete <sup>b</sup> |           |             |           |             |
|---|----------------------------|-----------------------------------|-------------|-------------------------------|-----------|-------------|-----------|-------------|
|   | Total number of staff      | Total number of completed surveys | Percentage  | Min                           | Max       | Mean        | Median    | SD          |
| <b>Overall</b>  | <b>487</b>                 | <b>439</b>                        | <b>90.1</b> | <b>5</b>                      | <b>64</b> | <b>14.6</b> | <b>11</b> | <b>10.3</b> |
| \$10 prepaid and \$40 postpaid tokens of appreciation | 252                        | 234                               | 92.9        | 5                             | 57        | 14.2        | 11        | 9.5         |
| \$25 prepaid and \$25 postpaid tokens of appreciation | 235                        | 205                               | 87.2        | 5                             | 64        | 14.9        | 11        | 11.1        |

Note: Includes teaching staff from 57 centers for which the fall survey was released, including Phase 3 centers and field test centers, and regardless of whether the center participated in the spring TUS experiment. No centers that participated in the fall survey prohibited their staff from receiving tokens of appreciation.

<sup>a</sup> Includes all teaching staff for which the fall survey was released;  $p < 0.05$ .

<sup>b</sup> Includes all teaching staff who completed the fall survey; *no significance*.

SD = standard deviation; TUS = time-use survey.

Appendix B shows characteristics of the 57 treatment and comparison centers in which the fall teaching staff survey was released (Exhibit B.3). Using the same What Works Clearinghouse (2020) standard for assessing baseline differences as we did for the spring 2021 experiment, we found a few differences between the centers in the \$10 prepaid/\$40 postpaid group and centers in the \$25 prepaid/\$25 postpaid group. Specifically, \$10 prepaid/\$40 postpaid centers were: more likely to have high subsidy funding and less likely to have mostly Head Start or pre-K funding; less likely to serve infants or toddlers; and more likely to be small (serving less than 75 children) than centers that received \$25 for both the prepaid and postpaid amounts. The \$10 prepaid/\$40 postpaid centers were also more likely than the centers in the other group to either not be part of their state’s QRIS or to have ratings that do not map to a “high” or “low” category, although we note the percentage of centers in this category is very low across both groups. It is possible that some of these differences contributed to the differences in response rates we observed.

We wanted to explore if response to the combined fall survey was potentially influenced by whether respondents had been invited to or completed the spring TUS survey only. We found response rates differed among fall teaching staff survey respondents according to whether they were invited to complete the spring TUS (Exhibit 5). We think the results for the centers that were not invited to the spring survey

<sup>5</sup> We calculated days to complete by subtracting the date the respondent completed the survey from the date the survey was released. However, because center directors distributed survey invitation packets, we could not control when the packets made it into the hands of respondents.



represent the most clear-cut results in the experiment because these respondents had no prior exposure to any survey connected to the study. Among the 230 respondents who were not invited to complete the spring TUS (the first three rows in Exhibit 5), the fall combined TUS and SEQUAL teaching staff survey response rate was 13.6 percentage points higher among those that were offered the \$10 prepaid/\$40 postpaid token of appreciation structure than those who were offered the \$25 prepaid/\$25 postpaid amounts (94.6 percent compared to 81 percent).

**Exhibit 5. Fall 2021 teaching staff survey response rates by spring time-use survey status**

| Spring time-use survey status and tokens of appreciation experiment group | Total number of staff | Total number of completed surveys | Response rate <sup>a,b</sup> (percentage) |
|---|-----------------------|-----------------------------------|---|
| <b>Not invited to complete spring TUS</b>                                 | <b>230</b>            | <b>204</b>                        | <b>88.7</b>                               |
| \$10 prepaid and \$40 postpaid tokens of appreciation                     | 130                   | 123                               | 94.6                                      |
| \$25 prepaid and \$25 postpaid tokens of appreciation                     | 100                   | 81                                | 81.0                                      |
| <b>Invited but did not complete the spring TUS<sup>c</sup></b>            | <b>123</b>            | <b>108</b>                        | <b>87.8</b>                               |
| \$10 prepaid and \$40 postpaid tokens of appreciation                     | 62                    | 54                                | 87.1                                      |
| \$25 prepaid and \$25 postpaid tokens of appreciation                     | 61                    | 54                                | 88.5                                      |
| <b>Invited and completed the spring TUS</b>                               | <b>134</b>            | <b>127</b>                        | <b>94.8</b>                               |
| \$10 prepaid and \$40 postpaid tokens of appreciation                     | 60                    | 57                                | 95.0                                      |
| \$25 prepaid and \$25 postpaid tokens of appreciation                     | 74                    | 70                                | 94.6                                      |
| <b>Grand total</b>  | <b>487</b>            | <b>439</b>                        | <b>90.1</b>                               |

Note: Includes teaching staff from 57 centers for which the fall survey was released, including Phase 3 centers and field test centers, and regardless of whether the center participated in the spring TUS experiment. No centers that participated in the fall survey prohibited their staff from receiving tokens of appreciation.

<sup>a</sup> Includes all teaching staff for which the fall survey was released.

<sup>b</sup> The difference in response rates between the two experiment groups for teaching staff that were not invited to complete the spring TUS was significant ( $p < 0.01$ ). We did not conduct significant testing for the other two groups due to small sample sizes.

<sup>c</sup> Because the spring TUS was cut short, the “invited but did not complete the spring TUS” group includes teaching staff who did not have time to complete the survey before it closed and might have completed the survey if they had more time.

TUS = time-use survey.

The \$10 prepaid/\$40 postpaid token of appreciation structure offered a lower cost per complete (\$51.85) than the \$25 prepaid/\$25 postpaid structure (\$54.80) (Exhibit 6).

**Exhibit 6. Fall 2021 teaching staff survey gift card costs per complete**

| Tokens of appreciation experiment group               | Total number of staff | Total number of completed surveys | Response rate <sup>a</sup> (percentage) | Gift card costs <sup>b</sup>  | Cost per complete |
|---|-----------------------|-----------------------------------|---|---|-------------------|
| \$10 prepaid and \$40 postpaid tokens of appreciation | 252                   | 234                               | 92.9                                    | Total = \$12,132<br><i>Prepaid: \$11 * 252 = \$2,772</i><br><i>Postpaid: \$40 * 234 = \$9,360</i> | \$51.85           |
| \$25 prepaid and \$25 postpaid tokens of appreciation | 235                   | 205                               | 87.2                                    | Total = \$11,235<br><i>Prepaid: \$26 * 235 = \$6,110</i><br><i>Postpaid: \$25 * 205 = \$5,125</i> | \$54.80           |

Note: Includes teaching staff from 57 centers for which the fall survey was released, including Phase 3 centers and field test centers, and regardless of whether the center participated in the TUS experiment. No centers that participated in the fall survey prohibited their staff from receiving tokens of appreciation.

<sup>a</sup> Includes all teaching staff for which the fall survey was released.

<sup>b</sup> Physical gift cards distributed as part of the prepaid token of appreciation included a \$1 processing fee per card.

TUS = time-use survey.



## IV. Conclusions

This research helps gauge the relative value of increasingly expensive efforts to improve response rates. Within the ICHQ project specifically, the token of appreciation structure with prepaid and postpaid amounts resulted in high response rates for the fall survey, which allowed the study to meet its analytic goals. The results of these experiments show that a relatively small prepaid token of appreciation can significantly improve response rates among CCEE staff when in-person visits by study representatives are not possible. It also suggests that prepaid tokens of appreciation might remove the need for in-person visits to achieve a high response rate. This could generate significant cost savings on future projects when the design does not otherwise require an in-person visit, or the project is taking place in an environment where centers may not welcome on-site visitors, as during the COVID-19 pandemic.

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## **Appendix A**

### **Analytical Approach**

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As the project team prepared for recruitment for the ICHQ field test in spring 2021, we categorized all the centers in our sample into strata based on their QRIS rating and funding mix. We then randomly assigned centers in each stratum to one of the two experiment groups. We took a similar approach in fall 2021 to randomly assign the 80 centers that were already participating in the field test to one of the two experiment groups.

To analyze the results, we used Microsoft Excel and Stata to tabulate respondent and center-level statistics for response rates and days to complete. We conducted t-tests of the differences in overall response rates and days to complete between the two groups of centers in the spring and fall survey experiments with tokens of appreciation; we did not conduct t-tests of differences between subgroups, given small sample sizes.

For each experiment, we examined whether the treatment and control groups were balanced on observable center characteristics: QRIS rating, funding mix, age group of children served, and licensed capacity. We followed the approach recommended by the What Works Clearinghouse (2020), and calculated an effect size difference using Cox's index with a correction for small-sample bias for each binary variable (age group of children served and licensed capacity), and each level of each categorical variable (QRIS rating and funding mix). Following What Works Clearinghouse standards, we used an effect size cutoff of 0.25 to determine whether the treatment and control groups were balanced on each variable.

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## **Appendix B**

### **Center Characteristics for Each Experiment**

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**Exhibit B.1. Spring 2021 time-use survey center characteristics, by experiment group**

| Center characteristics                   | Spring TUS experiment group                            |   |                  | Difference between prepaid and postpaid versus postpaid only (effect size) <sup>h</sup> |
|--|--|---|------------------|---|
|  | Prepaid and postpaid tokens of appreciation number (%) | Postpaid token of appreciation number (%) | Total number (%) |   |
| <b>QRIS rating</b>                       |  |   |                  |   |
| High <sup>a</sup>                        | 4 (36%)  | 8 (53%)                                   | 12 (46%)         | -0.41   |
| Low <sup>b</sup>                         | 4 (36%)  | 6 (40%)                                   | 10 (38%)         | -0.10   |
| N/A (Head Start) <sup>c</sup>            | 1 (9%)   | 1 (7%)                                    | 2 (8%)           | 0.16  |
| Other <sup>d</sup>                       | 2 (18%)  | 0 (0%)                                    | 2 (8%)           | –   |
| <b>Funding mix</b>                       |  |   |                  |   |
| High subsidy <sup>e</sup>                | 0 (0%)   | 2 (13%)                                   | 2 (8%)           | –   |
| Mostly Head Start or pre-K <sup>f</sup>  | 2 (18%)  | 2 (13%)                                   | 4 (15%)          | 0.23  |
| Mostly private tuition <sup>g</sup>      | 3 (27%)  | 5 (33%)                                   | 8 (31%)          | -0.17   |
| Mixed public or mixed public and private | 6 (55%)  | 6 (40%)                                   | 12 (46%)         | 0.36  |
| <b>Age group of children served</b>      |  |   |                  |   |
| Serves infants or toddlers               | 7 (64%)  | 11 (73%)                                  | 18 (69%)         | 0.25  |
| Does not serve infants or toddlers       | 4 (36%)  | 4 (27%)                                   | 8 (31%)          |   |
| <b>Licensed capacity</b>                 |  |   |                  |   |
| Small (< 75 children)                    | 9 (82%)  | 11 (73%)                                  | 20 (77%)         | 0.31  |
| Large (≥75 children)                     | 2 (18%)  | 4 (27%)                                   | 6 (23%)          |   |
| <b>Total</b>                             | <b>11</b>  | <b>15</b>                                 | <b>26</b>        |   |

<sup>a</sup> High QRIS includes Arkansas (AR) centers with a rating of 3, Arizona (AZ) centers with a rating of 4 or 5, Colorado (CO) centers with a rating of 4 or 5, and Pennsylvania (PA) centers with a rating of 4.

<sup>b</sup> Low QRIS includes AR centers with a rating of 1, AZ centers with a rating of 2 or 3, CO centers with a rating of 2, and PA centers with a rating of 2.

<sup>c</sup> Centers that were fully funded by Head Start or received most of their funding from Head Start mixed with other public funding.

<sup>d</sup> Centers that were not part of their state’s QRIS and centers whose QRIS rating did not map to a “high” or “low” category.

<sup>e</sup> Includes centers in which 50 percent or more of the children were supported by funding from CCDF and less than 30 percent of children were supported by funding from other federal, state, or local government sources.

<sup>f</sup> Includes centers in which less than 30 percent of the children were supported with funding from CCDF.

<sup>g</sup> Includes centers in which 90 percent or more of the children were supported through private tuition paid by their parents or guardians without any public funding.

<sup>h</sup> The effect size difference for each center characteristic was calculated using the Cox index with a correction for small-sample bias (What Works Clearinghouse 2020). For categorical variables, each level of the variable is treated as a distinct dichotomous variable. The Cox index cannot be calculated for dichotomous outcomes where the probability for one of the groups is zero.

N/A = not applicable; CCDF = Child Care and Development Fund; QRIS = Quality Rating and Improvement System; TUS = time-use survey.

**Exhibit B.2. Spring 2021 time-use survey eligible staff, by experiment group**

| Tokens of appreciation experiment group               | Number of centers | Number of staff eligible for the spring TUS |                  |                   |                 |
|---|-------------------|---|------------------|-------------------|-----------------|
|   |                   | Total                                       | Range per center | Median per center | Mean per center |
| \$10 prepaid and \$10 postpaid tokens of appreciation | 11                | 68  | 2–17             | 6                 | 6.2             |
| \$20 postpaid token of appreciation                   | 15                | 117   | 3–17             | 6                 | 7.8             |
| Total   | 26                | 185   | 2–17             | 6                 | 7               |

TUS = time-use survey.

**Exhibit B.3. Fall 2021 teaching staff survey center characteristics, by experiment group**

| Center characteristics                   | Fall survey experiment group                 |  |                     | Difference between \$10/\$40 and \$25/\$25 (effect size) <sup>h</sup> |
|--|--|--|---------------------|---|
|  | \$10 prepaid/<br>\$40 postpaid<br>number (%) | \$25 prepaid/<br>\$25 postpaid<br>number (%) | Total<br>number (%) |   |
| <b>QRIS rating</b>                       |  |  |                     |   |
| High <sup>a</sup>                        | 13 (42%)                                     | 13 (50%)                                     | 26 (46%)            | -0.19   |
| Low <sup>b</sup>                         | 9 (29%)                                      | 8 (31%)                                      | 17 (30%)            | -0.05   |
| N/A (Head Start) <sup>c</sup>            | 6 (19%)                                      | 4 (15%)                                      | 10 (18%)            | 0.17  |
| Other <sup>d</sup>                       | 3 (10%)                                      | 1 (4%)                                       | 4 (7%)              | 0.59  |
| <b>Funding mix</b>                       |  |  |                     |   |
| High subsidy <sup>e</sup>                | 8 (26%)                                      | 4 (15%)                                      | 12 (21%)            | 0.39  |
| Mostly Head Start or pre-K <sup>f</sup>  | 6 (19%)                                      | 8 (31%)                                      | 14 (25%)            | -0.37   |
| Mostly private tuition <sup>g</sup>      | 8 (26%)                                      | 6 (23%)                                      | 14 (25%)            | 0.09  |
| Mixed public or mixed public and private | 9 (29%)                                      | 8 (31%)                                      | 17 (30%)            | -0.05   |
| <b>Age group of children served</b>      |  |  |                     |   |
| Serves infants or toddlers               | 21 (68%)                                     | 22 (85%)                                     | 43 (75%)            | -0.58   |
| Does not serve infants or toddlers       | 10 (32%)                                     | 4 (15%)                                      | 14 (25%)            | 0.58  |
| <b>Licensed capacity</b>                 |  |  |                     |   |
| Small (< 75 children)                    | 17 (55%)                                     | 10 (38%)                                     | 27 (47%)            | 0.40  |
| Large (≥75 children)                     | 14 (45%)                                     | 16 (62%)                                     | 30 (53%)            | -0.40   |
| <b>Total</b>                             | <b>31</b>                                    | <b>26</b>                                    | <b>57</b>           |   |

<sup>a</sup> High QRIS includes AR centers with a rating of 3, AZ centers with a rating of 4 or 5, CO centers with a rating of 4 or 5, and PA centers with a rating of 4.

<sup>b</sup> Low QRIS includes AR centers with a rating of 1, AZ centers with a rating of 2 or 3, CO centers with a rating of 2, and PA centers with a rating of 2.

<sup>c</sup> Centers that were fully funded by Head Start or received most of their funding from Head Start mixed with other public funding.

<sup>d</sup> Centers that were not part of their state's QRIS and centers whose QRIS rating did not map to a "high" or "low" category.

<sup>e</sup> Includes centers in which 50 percent or more of the children were supported by funding from CCDF and less than 30 percent of children were supported by funding from other federal, state, or local government sources.

<sup>f</sup> Includes centers in which less than 30 percent of the children were supported with funding from CCDF.

<sup>g</sup> Includes centers in which 90 percent or more of the children were supported through private tuition paid by their parents or guardians without any public funding.

<sup>h</sup> The effect size difference for each center characteristic was calculated using the Cox index with a correction for small-sample bias (What Works Clearinghouse 2020). For categorical variables, each level of the variable is treated as a distinct dichotomous variable. The Cox index cannot be calculated for dichotomous outcomes where the probability for one of the groups is zero.

N/A = not applicable; CCDF = Child Care and Development Fund; QRIS = Quality Rating and Improvement System.

**Exhibit B.4. Fall 2021 teaching staff survey number of eligible teaching staff, by experiment group**

| Tokens of appreciation experiment group               | Number of centers | Number of teaching staff eligible for the fall survey |                  |                   |                 |
|---|-------------------|---|------------------|-------------------|-----------------|
|   |                   | Total   | Range per center | Median per center | Mean per center |
| \$10 prepaid and \$40 postpaid tokens of appreciation | 31                | 252   | 1–23             | 7                 | 8.1             |
| \$25 prepaid and \$25 postpaid tokens of appreciation | 26                | 235   | 1–29             | 7                 | 9.0             |
| Total   | 57                | 487   | 1–29             | 7                 | 8.6             |

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