Maryland Enhanced Childcare Support and Teacher Retention Award (ECSTRA) and Workforce Survey

Implementation Report

January 2025

Implementation Report: June 2024 Employment Verification Data Collected for Maryland's ECSTRA Retention Bonus Program

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Key Takeaways

- In 2023, the Maryland State Department of Education (MSDE) initiated the Enhanced Childcare Support and Teacher Retention Award (ECSTRA) Program to help address turnover in its licensed childcare sites. The program tested retention bonus offers to reduce turnover, rewarding those who stayed at their licensed childcare site for 5 months (receiving the first half of a bonus) and 8 months (receiving the second half).
- Our research team at UVA conducted an Employment Verification (EmVer) Process in June 2024 to determine which early educators participating in the ECSTRA Program had met the bonus eligibility requirements at the end of the 8-month period. This brief describes the implementation and results of that 8-Month EmVer Process.
- Overall, 96% of site leaders completed the EmVer Form (1,474 of 1,536).
- Among ECSTRA Study participants, 89% remained at their original site after 8 months (4,849 of 5,436). In this brief, we discuss possible reasons for the difference in this study's results compared to similar studies from other states.
- The 8-month turnover rate in the control group was 8.8% (113 of 1,283). In the groups offered ECSTRA retention bonuses, turnover rates were slightly lower—8.2%, 7.2%, and 8.2% in the $1000, $2000, and $3000 groups, respectively.
- While personal circumstances were the most frequently cited reason early educators left their site, nearly 40% of departures were attributed to job stress, compensation, organizational fit, or involuntary exit.)

This report is part of a series that, combined, aims to study the early educator workforce in Maryland, as well as how retention bonuses from the Enhanced Childcare Support and Teacher Retention Award (ECSTRA) Program may have influenced turnover. **The purpose of this report is to summarize implementation of the 8-Month Employment Verification (EmVer) Form data collection conducted by a University of Virginia (UVA) research team and present data from it that determined eligibility for the 2nd half of participants' ECSTRA bonuses.**

This brief will answer the following questions: (Q1) What Was the Overall 8-Month EmVer Response Rate? (Q2) Did EmVer Non-Response Rates Differ by Study Treatment Group? (Q3) What Percent of ECSTRA Participants Remained at Their Site for at Least 8 Months? (Q4) Does the 8-Month Retention Rate Documented by the EmVer Seem Accurate? (Q5) How Does the Retention Data from the 8-Month EmVer Compare to Other Retrospective Data Sources? (Q6) Do Turnover Rates Differ Based on the Size of the Bonuses? (Q7) Why Did ECSTRA Participants Leave Their Sites?

Background

What Is the ECSTRA Program?

A stable early-educator base is important in creating positive early childhood experiences for children, but turnover continues to be a persistent problem in the early childcare and education (ECE) field (Totenhagen et al., 2016). This turnover is, in part, due to early childcare and education being one of the lowest-paid industries nationally (Totenhagen et al., 2016; Cooksey & Thomas, 2024).

Some states have begun to address the issue of turnover in ECE related to employee compensation through retention bonus programs—to determine if increased pay in the form of bonuses would reduce early educators' exit from their childcare sites. A 2019 pilot program providing $1500 retention bonuses in Virginia, for example, reduced 8-month turnover rates by nearly half (Bassok et al., 2021). These incentive programs are a relatively new approach to addressing retention, however. There remains much to be learned about whether retention bonus programs would have such large effects in other contexts, and the program features that would maximize their impact. In the face of constrained funding, policymakers need to make consequential decisions about the scope of such programs, how large retention bonuses should be to affect turnover, and whether certain populations of ECE teachers would be most responsive to retention bonuses.

In 2023, MSDE piloted the ECSTRA Program[1] as a potential solution to help stabilize its ECE workforce. The ECSTRA Program allocated American Rescue Plan Act (ARPA) funds for bonuses to a select group of eligible early educators who met the criteria of remaining in their same childcare sites and roles for a specified length of time. The program assigned $1000, $2000, or $3000 retention bonus offers as a means to reduce turnover, rewarding those who stayed at their licensed childcare site for 5 months (to receive the first half of the bonus) and 8 months (to receive the second half).[2]

UVA Study of the ECSTRA Program

A UVA-based research team conducted a study to evaluate the results of the ECSTRA Program and monitored progress throughout the program's implementation. The primary goal of the research study was to explore whether ECSTRA bonus offer amounts reduced site turnover. To accommodate financial constraints given the limited ARPA funding, the ECSTRA Program used a lottery-based approach to fairly allocate the limited opportunities to participate in the program, and at each bonus level. As a result, the UVA research team was able to leverage the lottery to implement a randomized controlled trial (RCT) design to study ECSTRA. From the pool of eligible

[1] For complete details, see ECSTRA Program Information Guide and ECSTRA Program Frequently Asked Questions.
[2] For additional information about the ECSTRA Program and its causal effects, see the published report, The Impacts of Maryland's Enhanced Childcare Support and Teacher Retention Award (ECSTRA) Bonus Program.

applicants (N=5,446), approximately 75% were randomly[3] selected to receive a retention bonus offer of either $1000, $2000, or $3000 (about 25% in each payment group). These participants were considered the "treatment" group, while the remaining 25% that were randomly assigned *not* to receive a bonus formed the "control," or comparison, group.[4] To receive a bonus, those in a treatment group had to remain in an eligible role at the same licensed childcare from the start of the ECSTRA Program (October 25, 2023) for at least 5 months to receive the first half of the bonus, and at least 8 months to receive the second half of the bonus. The research team tracked retention in both the treatment and control groups.

How Was Retention Data Collected and Verified?

The first Employment Verification (EmVer) took place in March 2024.[5] In June 2024, UVA designed and administered an additional EmVer Form to confirm payment status for the second of the two payments in the ECSTRA program.[6] The form was administered to collect "live" data that reflected in-the-moment employment information on ECSTRA participants.[7]

The 8-Month employment verification was emailed to site leaders for 5,256 early educators, at 1,536 sites.[8] The response window was 22 days, starting June 4 and ending June 25, 2024. For those cases where the site leader of a bonus-eligible early educator did not respond to the 5-Month EmVer—but responded to the 8-Month EmVer (13 of 24)—the eligible early educators at those sites would receive only the second half of the bonus and not any form of retroactive compensation related to the first, 5-Month EmVer. As a thank you for their time, site leaders were provided a $35 gift card upon completion of the form. For a detailed description of the second EmVer Form, see Appendix A.

The 8-Month EmVer Form provided essential outcome data for the research study of the ECSTRA Program's impacts on early educator retention. This brief summarizes the execution and data collection of the 8-Month EmVer Form.

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[3] The randomization occurred at the site-level to ensure applicants from the same site were all randomized to the same bonus tier (rather than colleagues working at the same site or even the same classroom being offered different bonus amounts). For additional detail about the randomization, see the report The Impacts of Maryland's Enhanced Childcare Support and Teacher Retention Award (ECSTRA) Bonus Program.

[4] This control group is essential because it serves as the key point of comparison for understanding whether, and by how much, the ECSTRA bonus offers reduce turnover. Because randomization solely determined treatment status, there are no differences in the baseline characteristics of early educators across groups other than their ECSTRA bonus offer.

[5] The results from that verification can be found in the March 2024 ECSTRA Employment Verification Brief.

[6] Early educators in the study needed to meet three criteria to remain bonus-eligible: (1) Be employed in the licensed childcare site that they were at the start of the ECSTRA Program in October 25, 2023; (2) Teach or provide care for children aged 0-5 (not including kindergarten); (3) Work at least 20 hours per week, on average. There were some exceptions and accommodations for these requirements. For additional details, please refer to the ECSTRA Program Information Guide and ECSTRA Program Frequently Asked Questions documentation.

[7] MSDE's Childcare Administrative Tracking System (CCATS) data, which is updated over time, was useful for verifying the accuracy of employment records retrospectively but was limited in providing "live" information due to updating delays from childcare sites.

[8] The sample size of educators and sites for the 8-Month EmVer differs from the 5-Month EmVer as those who had exited their sites by the 5-month mark became ineligible to continue their participation in ECSTRA.

Findings

(Q1) What Was the Overall 8-Month EmVer Response Rate?

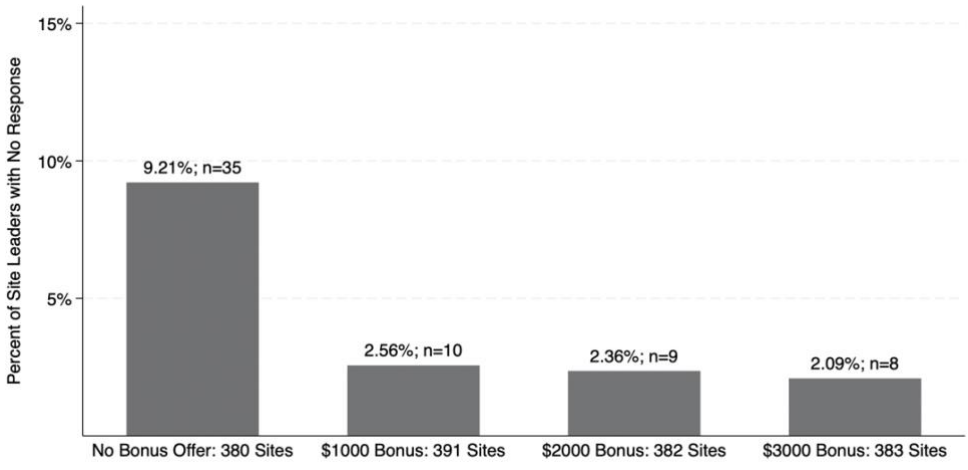
The response rate for the 8-Month EmVer Form was 96% (1,474 of 1,536 sites). This is a high response rate for primary data collection in research conducted with early educators. To achieve this high response rate, the UVA research team partnered with MSDE to engage in proactive messaging to ECSTRA-participating site leaders regarding the EmVer—leveraging several lines of communication, including:

- The statewide MSDE communication tool, "Tuesday Tidbits," that provided timely updates to leaders and early educators about the EmVer process.
- Direct employee outreach to ECSTRA participants to help ensure their site leader had submitted the form—those in the bonus groups had a particular incentive to prompt site-leader completion of the 8-Month EmVer Form for bonuses to be processed.
- MDSE Regional Licensing offices reached out to those sites that were not responding and subsequent relayed any necessary information back to the research team (e.g. changes in contact information).
- A small thank-you reward that compensated site leaders for their time.
- The UVA research team strategically-timed and personalized email reminders for those who had not responded and maintained an email inbox to assist those who reached out with questions.

(Q2) Did EmVer Non-Response Rates Differ by Study Treatment Group?

For control group sites—the study's reference group who were *not* set to receive a bonus—there continued to be higher rates of non-response. As shown in Figure 1, 9.21% (35 of 380 sites) did not complete the 8-Month EmVer.[9] While non-response rates were similar among the bonus groups, the non-response rate was marginally lower as the bonus amount increased: the $3000 bonus group sites exhibiting the lowest rate of non-response (8 of 383 sites).[10]

Figure 1. Percent of Sites that Did Not Complete 8-Month EmVer Form, by Treatment Group



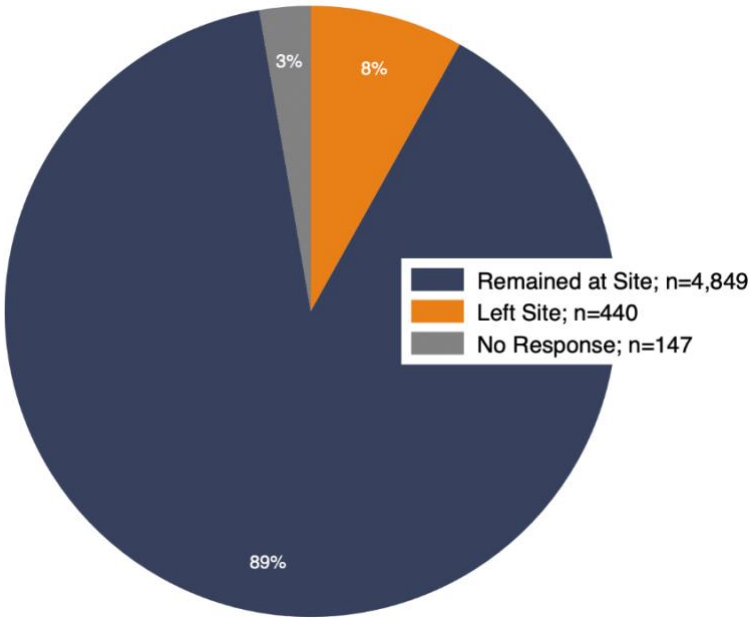
[9] Three sites opted out of the study at the 8-Month EmVer.

[10] Site leaders of early educators who were randomly selected for an ECSTRA bonus offer would have a stronger incentive to complete the EmVer Form than those in the control group as it was the only way to ensure bonus payments.

(Q3) What Percent of ECSTRA RCT Participants Remained at Their Site for at Least 8 Months?

The 8-Month EmVer documented that the vast majority—89% of ECSTRA participants—remained in their original ECSTRA October 2023 licensed childcare sites for 8 months (4,849 of 5,436). These findings reflect site departures for ECSTRA RCT participants at *any* point before the eighth month of the study—not only those who left between the 5- and 8-Month EmVers. This is slightly lower than the first 5-Month EmVer's documented retention rate of 93%. Figure 2 also shows that about 8% of participants had left their site by eight months (440 of 5,436), and that we did not receive data about 3% of participating educators due to site leader non-response as described above (147 of 5,436).

Figure 2. Percent of ECSTRA Participants Retained at Their Site for at Least 8 Months



We primarily chose to focus on retention outcomes in this brief because the main goal of the ECSTRA Retention Bonus Program was to encourage early educators to remain in their same site longer, thus helping stabilize young children's care. To see a review of ECSTRA participants who remained "bonus-eligible"—an outcome very closely related to retention—see Appendix B.[11]

(Q4) Does the 8-Month Retention Rate Documented by the EmVer Seem Accurate?

The 8-month retention rate of 89% for all RCT participants was higher than expected by the research team relative to similar studies of early childcare workers. In one study of publicly funded childcare centers in Louisiana, retention rates were reported at around 89% at roughly the 6-month mark, and 68% at one year (Bellows et al., 2022). Another study, examining Virginia's Teacher Recognition Program (TRP), focused on an 8-month period (May to December 2019); this study reported a retention rate of 86.1% among educators who *did* receive payment, but only 74.8% retention among those who *did not* receive an incentive (Bassok et al., 2021). Both the

[11] Staying in one's original ECSTRA site for at least 8 months was the main—but not the only—criteria for remaining ECSTRA bonus-eligible. Participants also needed to remain in a role that taught or provided care for children aged 0-5 (not including kindergarten) at least 20 hours per week. As shown in Appendix B, among the 460 ECSTRA participants who did not receive the second half of their ECSTRA retention bonus, 92% lost eligibility because they left their site. Only 35 ECSTRA participants were not bonus-eligible due to changes in their role or hours.

rates in the TRP study are thus lower than the *combined* bonus and "control" retention rate of 89%, and the retention rate for only ECSTRA bonus groups which was roughly 92% (3,826 of 4,153). Several factors, however, could explain why retention rates appeared higher in the MSDE ECSTRA sample—the length of the retention period, the time of year of the retention window, differences in the context, or unique characteristics of the ECSTRA sample, for example.[12] In other words, *some* of these between-study differences are to be expected.

The research team would have been concerned if, for any reason, the 8-Month EmVer Form did not accurately reflect the retention rates of its study participants when compared to other available employment data sources. To verify results, we compared the results from the 8-Month EmVer to other outside sources of employment information. As shown below, we find that additional MSDE employment data sources largely confirm the accuracy of 8-Month EmVer results.

(Q5) How Does the Retention Data from the 8-Month EmVer Compare to Other Retrospective Data Sources?

Comparisons to other data sources generally increased our confidence in the 8-Month EmVer findings. To reach this conclusion, we validated the 89% retention rate results from the 8-Month EmVer through a series of comparisons to other data sources, including MSDE's Childcare Administrative Tracking System (CCATS) data,[13] as well as ECSTRA participants' own responses on a later August 2024 Follow-Up Survey. Sections (5A) and (5B) below present a summary of the findings from our comparisons. For a full discussion of this comparison, see Appendix C.

(5A) Comparing 8-Month EmVer to ECSTRA Participants' CCATS Records

We compared the site-leader-reported retention status of ECSTRA participants according to the 8-Month EmVer Form to their retention status in CCATS data. At a high level, these comparisons suggested that there was reasonable agreement between the retention data according to CCATS and the 8-Month EmVer.

Table 1 shows areas of agreement between the two sources are highlighted in green, while areas of disagreement can be found in the yellow cells. The values below reflect the 5,289 early educators that had a site leader-reported turnover status as of the 8-Month EmVer Form.

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[12] A unique feature of the ECSTRA Program was that participants were required to hold a Maryland Childcare Credential (MDCC)—a condition not present in the Virginia TRP. Early educators who had obtained an MDCC Credential may have already demonstrated their commitment to remaining in childcare by completing that process. As a result, requiring a credential for ECSTRA participation may have pre-selected early educators who were already highly committed to staying in their roles. In Appendix C we explore whether the 89% retention rate among the ECSTRA participants appeared to be driven by unique features of the ECSTRA participants.

[13] The dataset from CCATS was provided to the UVA research team by the Regional Economic Studies Institute (RESI) at Towson University. The CCATS collects information on all MSDE licensed sites serving children under five, including LCCCs, FCCHs, LFCHs, and LOCs. The CCATS contains both site-level information (e.g., licensing, registration, and program quality rating scores) and employee-level information (e.g., credentials, contact information, and some sociodemographic characteristics). Although MSDE's data system tracks information about licensed childcare sites and employees, it does not provide the real-time employment status required for determining ECSTRA bonus eligibility.

Table 1.Comparison of 8-Month Retention Status Between EmVer and CCATS

8-Month Status According to EmVer	Employee's 8-Month Status According to CCATS: Retained at Site	Left Site	Total
Retained at Site	98% *(of row)* *(N=4,750)*	2% *(of row)* *(N=99)*	100% *(N=4,849)*
Left Site	30% *(of row)* *(N=130)*	70% *(of row)* *(N=310)*	100% *(N=440)*
Total	92% *(N=4,880)*	8% *(N=409)*	100% *(N=5,289)*

Here are the key takeaways from comparing CCATS to the 8-Month EmVer:

- ***For 96% of ECSTRA participants, their 8-Month EmVer-based retention matched CCATS records.*** Overall, 5,060 of 5,289 records matched (all green cells, Table 1).
- ***For 4% of ECSTRA participants, their 8-Month EmVer-based retention did not match CCATS records.*** Overall, 229 of 5,289 records did not match (all yellow cells, Table 1), due to the following two circumstances:
  - Of the ECSTRA participants whose site leader reported they were still *present* at their site on the 8-Month EmVer (upper row of Table 1), 2% appeared in CCATS as having *left* their site by that time (99 of 4,849).
  - The more prevalent mismatch in reporting was from those participants who were reported as having left their site by a site leader responding to the 8-Month EmVer (lover row of Table 1). Of those participants reported as having *left*, 30% appear to still be *present* at that site according to CCATS data (130 of 440). This is likely because of a delay in site leaders updating their site information for CCATS. The differences in reporting varied little based on the assigned bonus group (see Appendix C).
- ***The reported date of departure was similar between these sources—74% were within 2 weeks of one another*** (see Appendix C). We compared the EmVer site-leader-reported last day for ECSTRA participants to reported departure dates in historical CCATS records. There were 302 early educators with data from both sources. The average difference in reporting dates was 21 days. For 74% of cases, the reported dates were within two weeks of one another (224 of 302). Of those 74% of cases, about one-third of the reported dates were exactly the same (94 of 302).

(5B) Comparing the 8-Month EmVer to Participants' Self-Reported Retention

We also compared early educators' retention status as reported by their site leader on the 8-Month EmVer Form to the employee's self-reported 8-month retention status on an August 2024 Follow-Up Survey (see Table 2). About 66% of ECSTRA participants had reported data from both (3,589 of 5,436). Overall, these comparisons suggested that there is reasonable agreement between the retention data provided by ECSTRA participants themselves and the 8-Month EmVer data. This generally lends support to the validity of the retention data collected by the research team via the 8-Month EmVer.

Table 2. 8-Month Retention Status Based on EmVer vs. Self-Report on Follow-Up Survey

8-Month Status According to EmVer	*Employee's 8-Month Status According to the Follow- Up Survey*		
	Retained at Site	Left Site	Total
Retained at Site	99.4% *(of row)* *(N = 3,368)*	0.6% *(of row)* *(N = 20)*	100% *(N = 3,388)*
Left Site	14% *(of row)* *(N = 29)*	86% *(of row)* *(N = 181)*	100% *(N = 210)*
Total	94% *(N = 3,397)*	6% *(N = 201)*	100% *(N = 3,598)*

Here are the key takeaways from comparing ECSTRA participants' August 2024 Follow-Up Survey to the 8-Month EmVer:

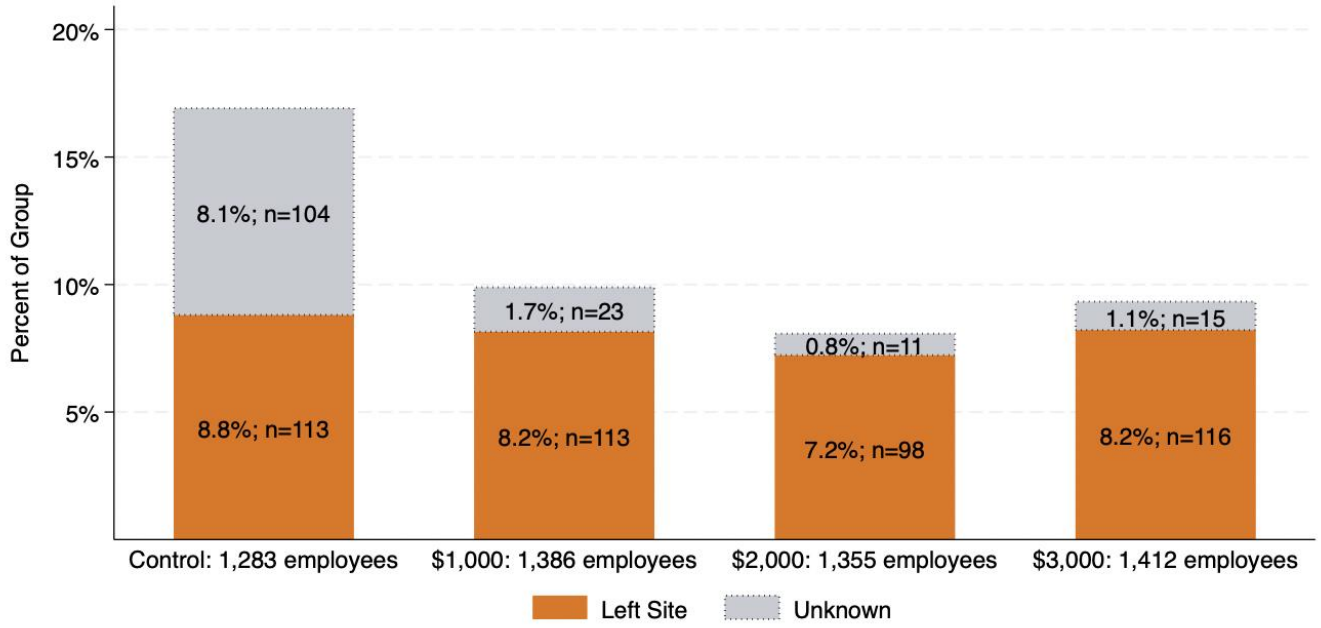
- ***For 99% of ECSTRA participants, their 8-Month EmVer status matched their Follow-Up Survey self-report.*** Overall, 3,549 of 3,598 matched (all green cells of Table 2).
- ***For 1% of ECSTRA participants, their 8-Month EmVer status did not match their Follow-Up Survey self-report.*** Only 49 of 3,598 records did not match (all yellow cells of Table 2), due to the following two circumstances:
  - Of the 3,388 early educators whose site leader reported they were still *present* on the 8-Month EmVer (upper row of Table 2), only 0.6% self-reported that they had *left* during that time frame (20 of 3,388).
  - Of those whose site-leader reported they *left* their site by the 8-Month EmVer (lower row of Table 2), 14% self-reported they were still *present* at their site (29 of 210). See Appendix C for further information about agreement by treatment groups.
- ***The date of departure was similar between both sources of data—74% were within two weeks of one another*** (see Appendix C). Of the 180 employees that had a reported last day in both the 8-Month EmVer and the Follow-Up Survey, 74% had a reported date within two weeks of one another (134 of 180). Within that 74%, about a quarter of the

reported departure dates were the same (46 of 180). The average difference in reporting was 12 days. Early educators recorded their dates two months after the 8-Month EmVer, and that delay may have contributed to some discrepancies between reported dates.

(Q6) Do Turnover Rates Differ Based on the Size of the Bonuses?

There is a slight difference between the turnover for the control group and for those who received bonuses, as shown in Figure 3. Of the ECSTRA participants assigned to the control group—a randomly selected group that did not receive a bonus regardless of retention status— 8.8% left by 8 months after the program launch (113 of 1,283).[14] In groups that were offered retention bonuses, reported turnover rates were lower: at 8.2%, 7.2%, and 8.2% for the $1000, $2000, and $3000 bonus groups, respectively. For additional information on differences in turnover timing between treatment groups, see Appendix D.

Figure 3. Percent of ECSTRA Participants Who Left Their Site Within Eight Months of Program Launch, by ECSTRA Bonus Offer Amount

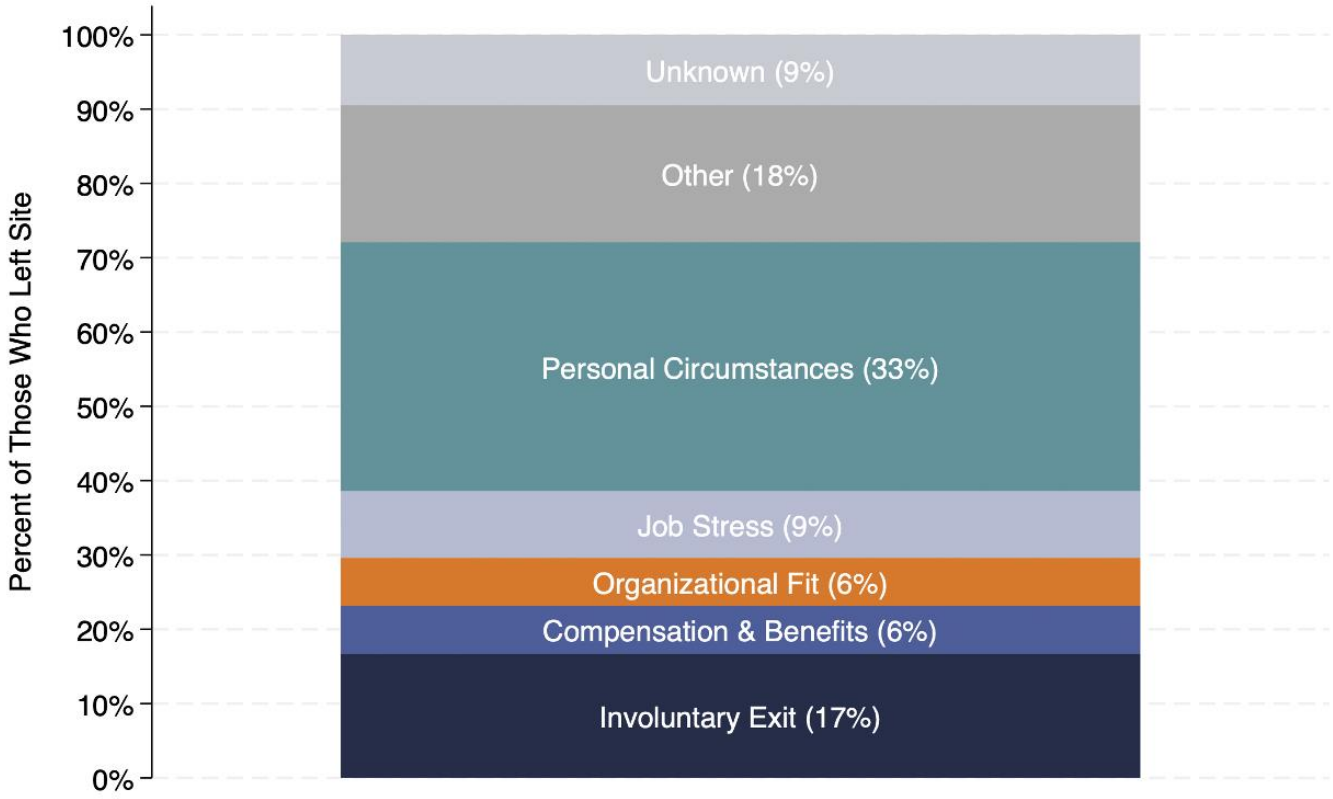


[14] For another 104 participants in this group, we do not know their turnover status due to nonresponse on the part of the site leader.

(Q7) Why Did ECSTRA Participants Leave Their Sites?

The EmVer Form also asked site leaders to report the primary reason they believed any ECSTRA participants left their site, from a list of seven options: job stress, compensation, benefits, organizational fit, personal circumstances, involuntary exit, or "other" reasons.[15] For this question, we consider those 233 employees who exited after the first verification and payment, but before the second verification. This allows for comparison between the motivators of early and later leavers. Overall findings for those who left between the time of the 5-Month EmVer and the 8-Month EmVer are presented in Figure 4.[16] The primary reason for exit appeared to be personal circumstances for 33% of those that left (78 of 233). For another 38% of exited participants, the reason for departure related to site-based factors, including involuntary exit (17%), compensation and benefits (6%), organizational fit (6%), and job stress (9%).

Figure 4. Reasons Site Leaders Reported Their ECSTRA Early Educators Left Their Site between the 5- and 8-Month EmVer

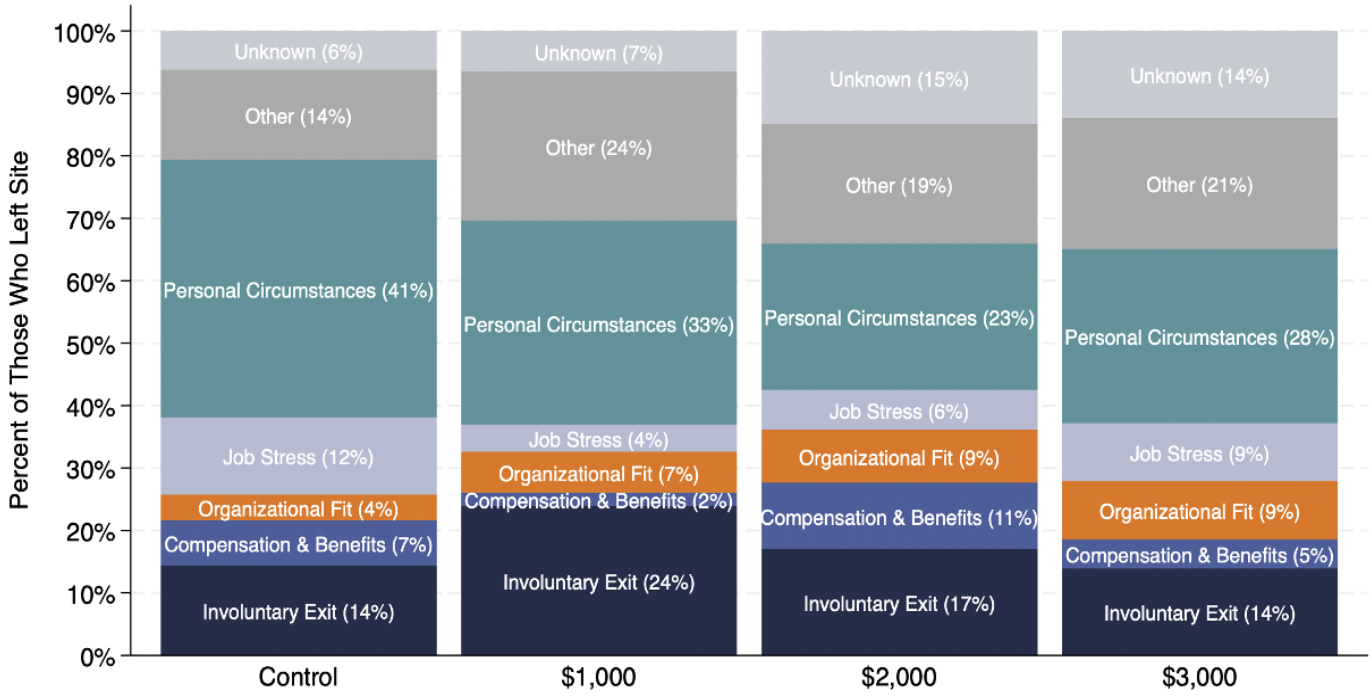


[15] If the site leader selected "other," they were asked to clarify, and several within that group referenced new employment opportunities.

[16] For information regarding reasons for departure between the start of the ECSTRA Program and the 5-Month Employment Verification, see the March 2024 ECSTRA Employment Verification Brief. It is of note that compensation as a reason for departure decreased from 9% of the 5-Month EmVer departures to 6% of those who left by the 8-Month EmVer.

We also considered exit reasons by bonus group to see if these reasons varied by the size of the bonus (see Figure 5).

Figure 5. Reasons Site Leaders Reported Their ECSTRA Early Educators Left Their Site Between the 5- and 8-Month EmVer by Bonus Group



In general, reasons for leaving were not systematically different between the control and treatment groups, except in a few ways: In the control group, 41% of exits were attributed to personal circumstances; this is somewhat higher than in the three treatment groups offered bonuses—at 33%, 23%, and 28%, respectively. Departures due to job stress were slightly more common in the control group (12%) than in the three treatments groups (4%, 6%, 9%). Other differences across groups do not appear to be systematically related to the amount of the bonus offer.

Conclusion

The 8-Month EmVer Form showed that retention among ECSTRA participants was relatively high, with 89% remaining at their original childcare sites at the close of the program. For those participants who left, site leaders reported a range of factors relating to educator-departure, with personal circumstances cited most frequently as the reason for exit. However, it is also worth noting that—when combining site-based factors such as involuntary exit, compensation, benefits, organizational fit, and job stress—these factors accounted for an additional 38% of the reasons an employee left a site. These findings reinforce the need to consider *both* broader workplace conditions *and* compensation when designing policies to improve workforce retention.

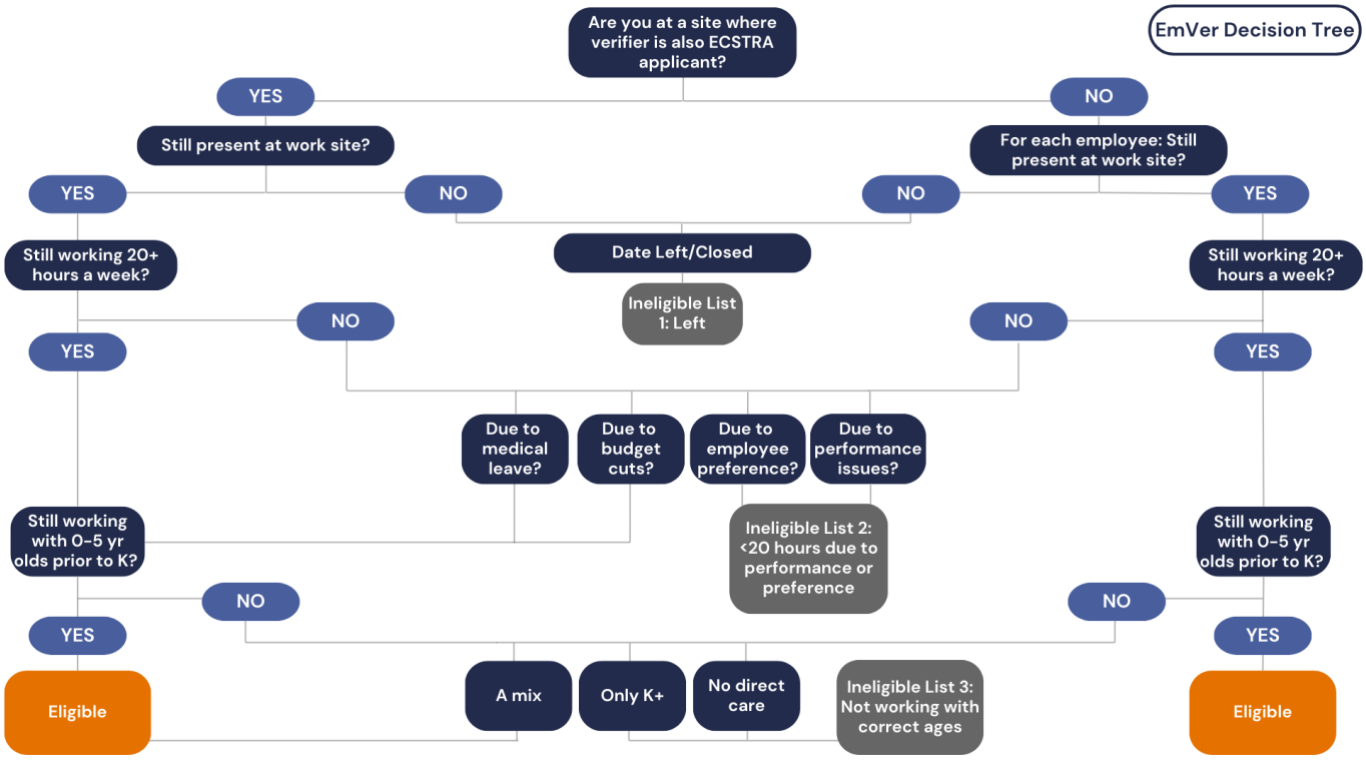
The successful 96% response rate from site leaders was a critical factor in generating these findings and ensuring a comprehensive, real-time assessment of workforce stability. High participation levels allowed the research team to closely examine turnover patterns, compare retention outcomes across different groups, and validate employment status through multiple data sources. This process highlighted key lessons in data collection strategies, demonstrating how strong partnerships, targeted outreach, and well-designed incentives can significantly improve response rates in early educator workforce studies.

Beyond retention rates, this study also provided important insights into workforce measurement approaches. By comparing the 8-Month EmVer results to other data sources—such as MSDE's CCATS system and the self-reported Follow-Up Survey—we gained a better understanding of data alignment and potential discrepancies across different reporting methods. In general, these comparisons strengthened confidence in the results of the 8-Month EmVer data collection.

Appendix A. Additional Detail on the EmVer Format

All EmVer Forms began with an introduction, consent, and confirmation of the correct contact for a site's leader. Site leadership can change, so the EmVer Form had an option to update the leader's contact information relative to the 5-Month EmVer. Figure A1 below shows the question path after that point. The EmVer responses determined any subsequent questions that would be used to establish payment eligibility. All early educators were recorded as either eligible or ineligible for payment based on the EmVer responses, along with whether they were in a payment group or the control group.

Figure A1. EmVer Form Path Diagram

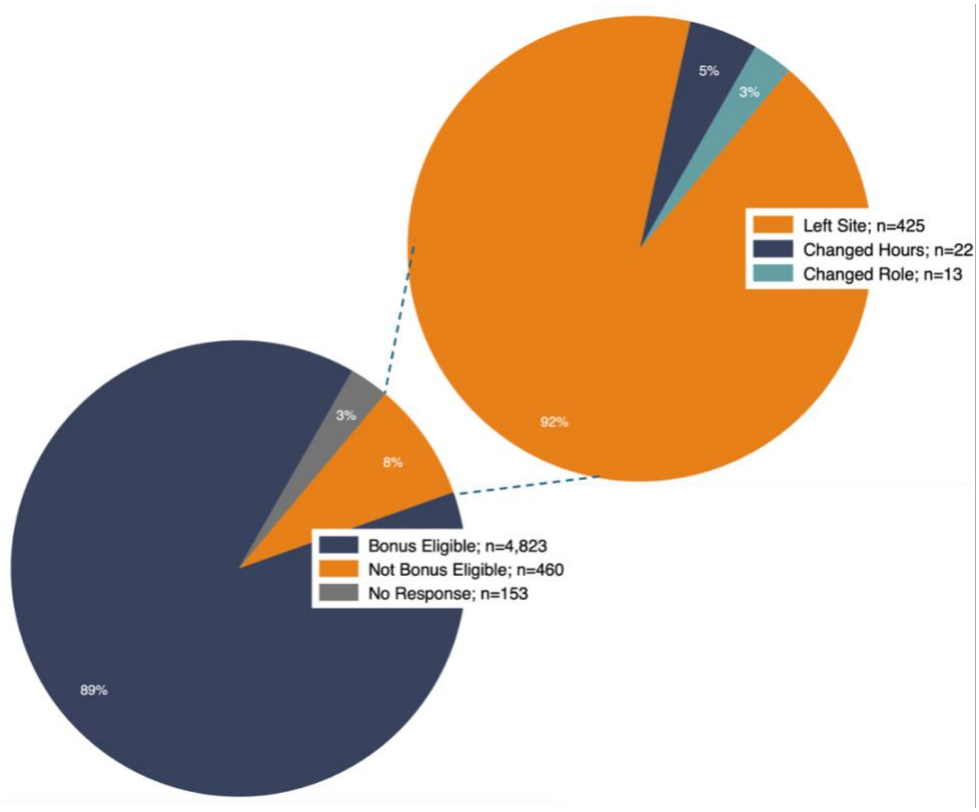


Appendix B. Bonus Eligibility at Eight Months

We defined "bonus eligibility" as meeting all the necessary criteria that would result in a bonus payment. Meeting eligibility requirements can be calculated early educators both for treatment and control sites by determining if the employee (a) remained at their site, (b) continued to work at least 20 hours a week, and (c) was in a role teaching or caring for children ages 0-5 who were not yet in kindergarten. There are exceptions to these eligibility requirements as outlined in the ECSTRA Program Information Guide and ECSTRA Program Frequently Asked Questions documentation. These exceptions are primarily related to whether a site change was caused by a closure or budget issues or if hours or an employee's role were changed for budget or personal health reasons. Those with allowable exceptions were able to receive their bonus.

To compare the bonus eligibility outcomes for those receiving a bonus to those in our control group, we also called those members of the control group "bonus eligible" who met the criteria, though they were in a group without a bonus payout. Figure B1 shows what percentage of those early educators from all groups were reported by their site leaders as being bonus eligible.

Figure B1. Percent of ECSTRA Participants Still Bonus-Eligible at 8 Months

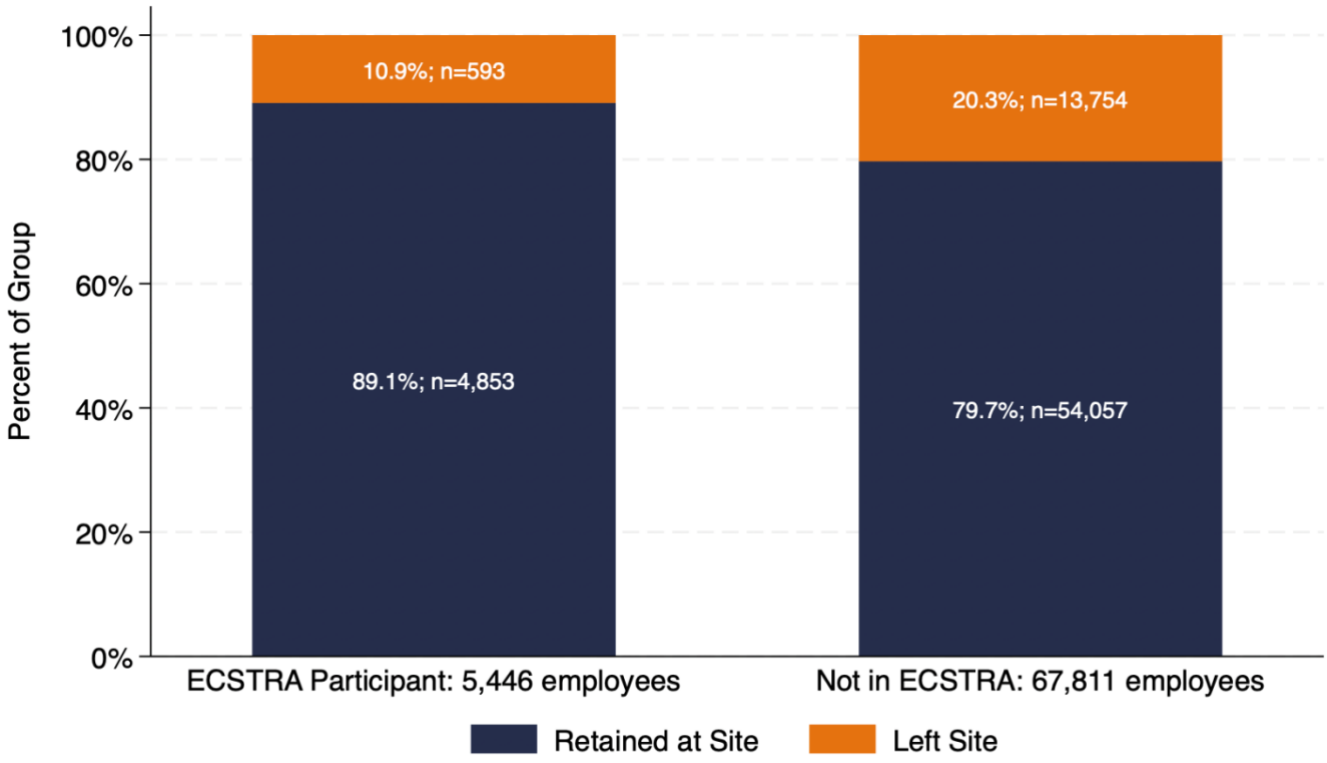


Even with the eligibility exceptions, the percentages related to ineligibility were consistent with ECSTRA turnover percentages. Of the 460 of 5,436 ECSTRA RCT participants who did not meet the eligibility criteria for the second half of their bonus, 425 had left their site for reasons not covered by allowable exceptions, 22 had decreased their hours below the threshold, and 13 had experienced a change in role that moved them away from the target age group. We saw the driver of disruptions to stability as an exit from the site, which is why our focus was on turnover.

Appendix C. Examining the EmVer Retention Data Quality Using CCATS and Follow-Up Survey Data

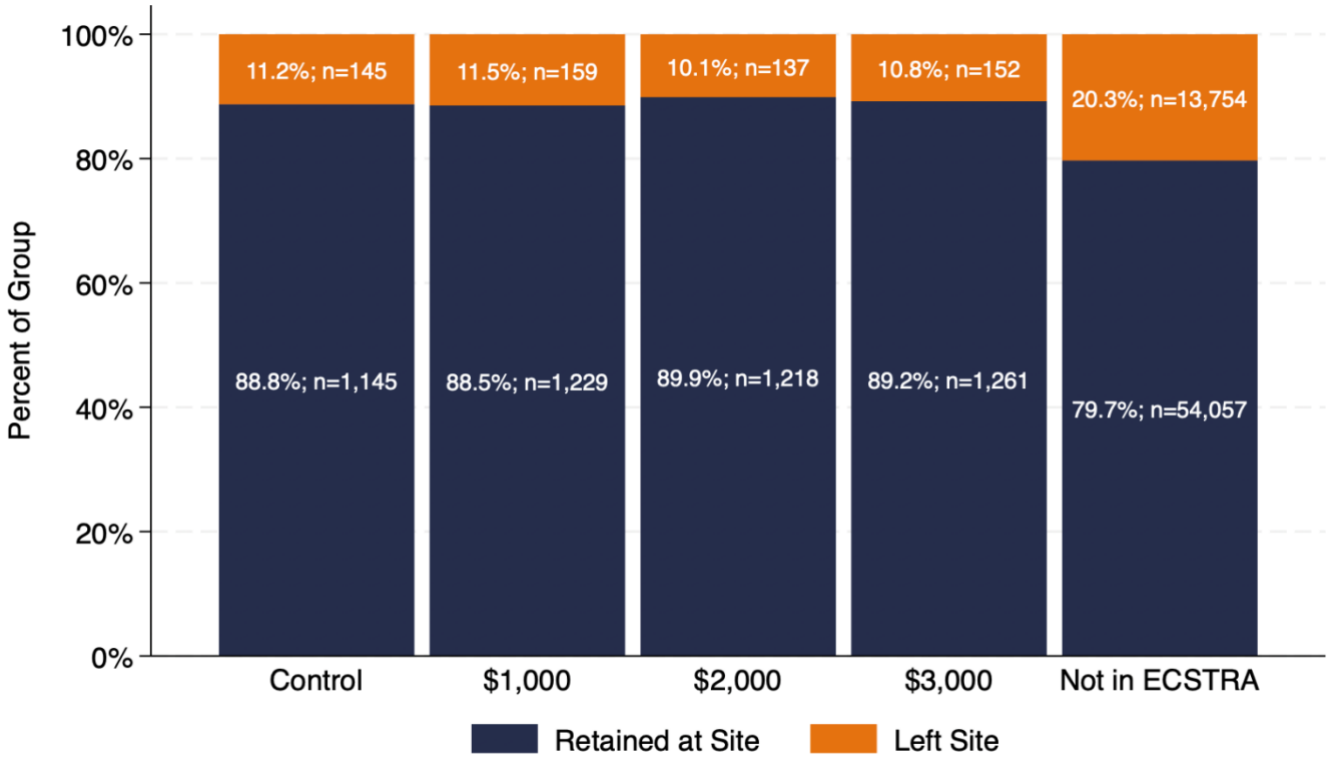
MSDE keeps records of employment through CCATS. The following section describes CCATS data retention information—specifically, employee records from the start of the study in October until the June verification form. As mentioned previously, these numbers differed from the EmVer results, and those differences could stem from a variety of factors, including form non-response rates as well as delays in reporting employee departures to CCATS. Figure C1 shows CCATS retention rates separated by those who were assigned to the ECSTRA Program and those who were not.

Figure C1. CCATS 8-Month Retention Data by ECSTRA Participation



CCATS data showed that 89.1% of the original ECSTRA RCT participants were retained (4,853 of 5,446), while 79.7% of non-ECSTRA early educators were retained (54,057 of 67,811). Differences also existed between bonus groups in CCATS data, as seen in Figure C2.

Figure C2. 8-Month CCATS Retention Data by ECSTRA Participation and Bonus Group



In the 8-Month EmVer data, the control group (which also had the lowest response rate) had the highest levels of turnover, but CCATS data shows that the highest turnover rate was within the $1000 bonus group, though the difference between the $1000 and the control group is minimal and, more generally: all groups are very close in terms of turnover and retention across treatment conditions. The control group retained 88.8% of early educators (1,145 of 1,290), the $1000 group retained 88.5% (1,229 of 1,388), the $2000 group retained 89.9% (1,218 of 1,355), and the $3000 group retained 89.2% of its early educators (1,261 of 1,413). Those not in ECSTRA had a retention rate of 79.7% (54,057 of 67,811).

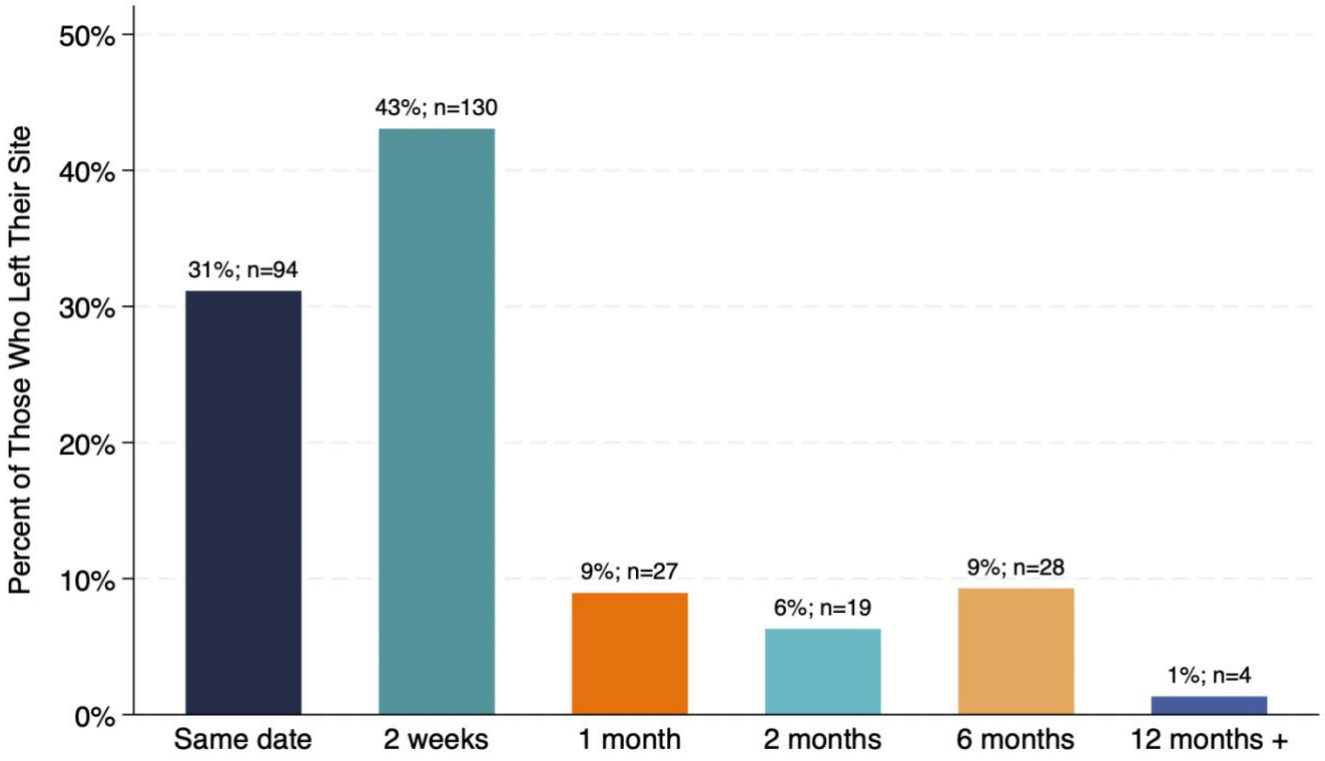
In terms of data accuracy and validity, we considered the 8-Month EmVer Form reported retention status compared to the CCATS data record as of June 2024 by treatment group, as shown in Table C1 below. For reference, the green cells show areas of agreement, while the yellow cells show areas of disagreement in reporting between these two sources.

Table C1. Comparison of 8-Month Retention Status Between EmVer and CCATS by Treatment Group

		Employee's 8-Month Status According to CCATS		
		Retained at Site	Left Site	Total
All ECSTRA	Retained at Site	98% *(of row)* *(N = 4,750)*	2% *(of row)* *(N = 99)*	100% *(N = 4,849)*
	Left Site	30% *(of row)* *(N = 130)*	70% *(of row)* *(N = 310)*	100% *(N = 440)*
	Total	92% *(N = 4,880)*	8% *(N = 409)*	100% *(N = 5,289)*
No Bonus	Retained at Site	99% *(of row)* *(N = 1,054)*	1% *(of row)* *(N = 16)*	100% *(N = 1,070)*
	Left Site	32% *(of row)* *(N = 36)*	68% *(of row)* *(N = 77)*	100% *(N = 113)*
	Total	92% *(N = 1,090)*	8% *(N = 93)*	100% *(N = 1,183)*
$1,000 Bonus	Retained at Site	98% *(of row)* *(N = 1,224)*	2% *(of row)* *(N = 27)*	100% *(N = 1,251)*
	Left Site	31% *(of row)* *(N = 35)*	69% *(of row)* *(N = 78)*	100% *(N = 113)*
	Total	92% *(N = 1,259)*	8% *(N = 105)*	100% *(N = 1,364)*
$2,000 Bonus	Retained at Site	98% *(of row)* *(N = 1,222)*	2% *(of row)* *(N = 24)*	100% *(N = 1,246)*
	Left Site	22% *(of row)* *(N = 22)*	78% *(of row)* *(N = 76)*	100% *(N = 98)*
	Total	93% *(N = 1,244)*	7% *(N = 100)*	100% *(N = 1,344)*
$3,000 Bonus	Retained at Site	98% *(of row)* *(N =1,250)*	2% *(of row)* *(N = 32)*	100% *(N = 1,282)*
	Left Site	32% *(of row)* *(N = 37)*	68% *(of row)* *(N = 79)*	100% *(N = 116)*
	Total	92% *(N = 1,287)*	8% *(N = 111)*	100% *(N = 1,398)*

Next, CCATS-reported last dates from historical data records were compared to the dates reported by site leaders. Figure C3 highlights the reporting differences in the number of days between what is recorded in the CCATS historical data and the EmVer data.

Figure C3. Differences in CCATS Data and the EmVer for Reported Last Day



Most of the dates matched within the same month (251 of 302), with only a few outliers whose last date was different by several months (47 of 302). There were four recorded date differences that spanned over a year.

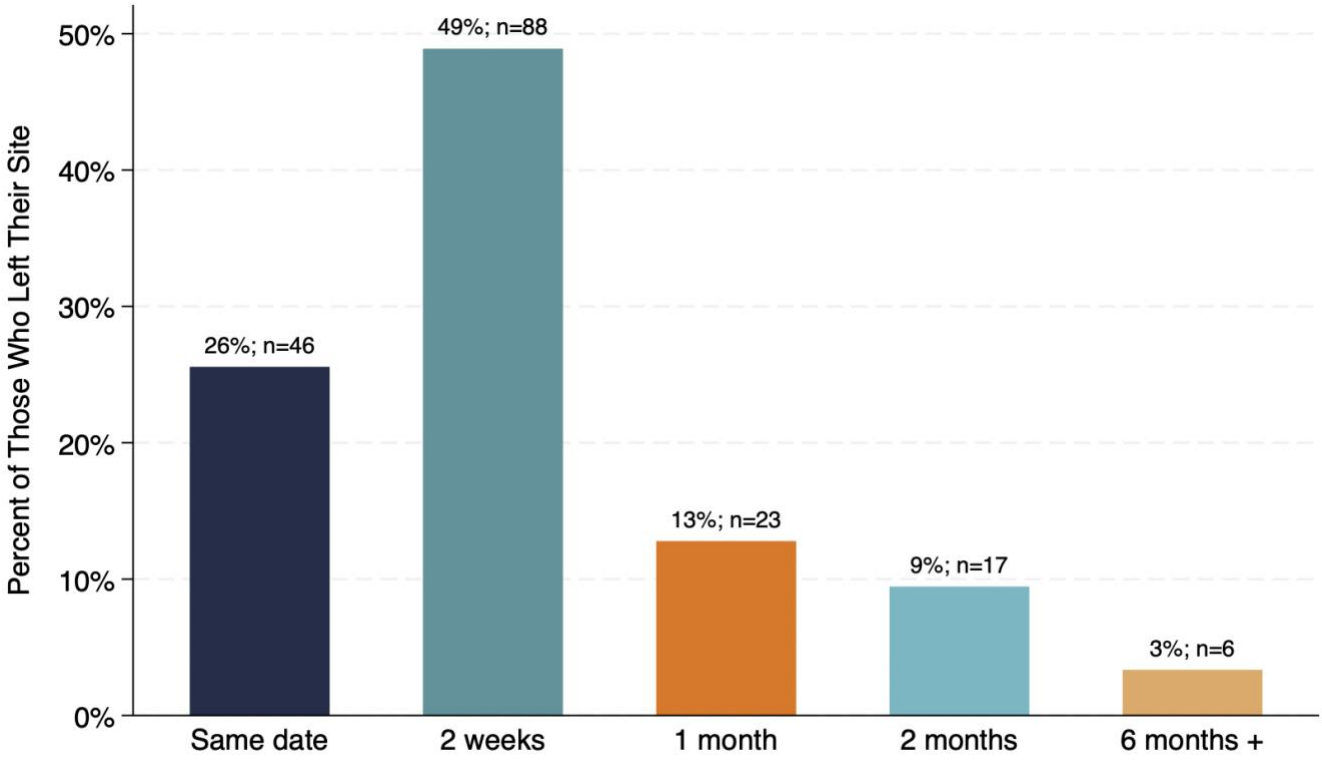
Finally, we considered employee self-reported site turnover from the August 2024 Follow-Up Survey to the site-leader-reported turnover by bonus group. Table C2 shows the level of agreement from these two sources, with green cells highlighting areas of agreement and yellow cells highlighting areas of disagreement in reporting.

Table C2. Comparison of 8-Month Retention Status Between EmVer and the Employee Follow-Up Survey Data by Treatment Group

		Employee's 8-Month Status According to the Follow-Up Survey		
		Retained at Site	Left Site	Total
All ECSTRA	Retained at Site	99.4% *(of row)* *(N = 3,368)*	0.6% *(of row)* *(N = 20)*	100% *(N = 3,388)*
	Left Site	14% *(of row)* *(N = 29)*	86% *(of row)* *(N =181)*	100% *(N = 210)*
	Total	94% *(N = 3,397)*	6% *(N = 201)*	100% *(N = 3,598)*
No Bonus	Retained at Site	99% *(of row)* *(N = 670)*	1% *(of row)* *(N = 6)*	100% *(N = 676)*
	Left Site	22% *(of row)* *(N = 11)*	78% *(of row)* *(N = 40)*	100% *(N = 51)*
	Total	94% *(N = 681)*	6% *(N = 46)*	100% *(N = 727)*
$1,000 Bonus	Retained at Site	99% *(of row)* *(N = 875)*	1% *(of row)* *(N = 6)*	100% *(N = 881)*
	Left Site	8% *(of row)* *(N = 5)*	92% *(of row)* *(N = 54)*	100% *(N = 59)*
	Total	94% *(N = 880)*	6% *(N = 60)*	100% *(N = 940)*
$2,000 Bonus	Retained at Site	99% *(of row)* *(N = 890)*	1% *(of row)* *(N = 7)*	100% *(N = 897)*
	Left Site	12% *(of row)* *(N = 6)*	88% *(of row)* *(N = 43)*	100% *(N = 49)*
	Total	95% *(N = 896)*	5% *(N = 50)*	100% *(N = 946)*
$3,000 Bonus	Retained at Site	99.9% *(of row)* *(N = 933)*	0.1% *(of row)* *(N = 1)*	100% *(N = 934)*
	Left Site	14% *(of row)* *(N = 7)*	86% *(of row)* *(N = 44)*	100% *(N = 51)*
	Total	95% *(N = 940)*	5% *(N = 45)*	100% *(N = 985)*

In terms of date recording accuracy, Figure C4 highlights the proximity of the reported last working dates from the EmVer data and the Follow-Up Survey.

Figure C4. Differences in Employee Follow-Up Survey Data and the EmVer for Reported Last Day

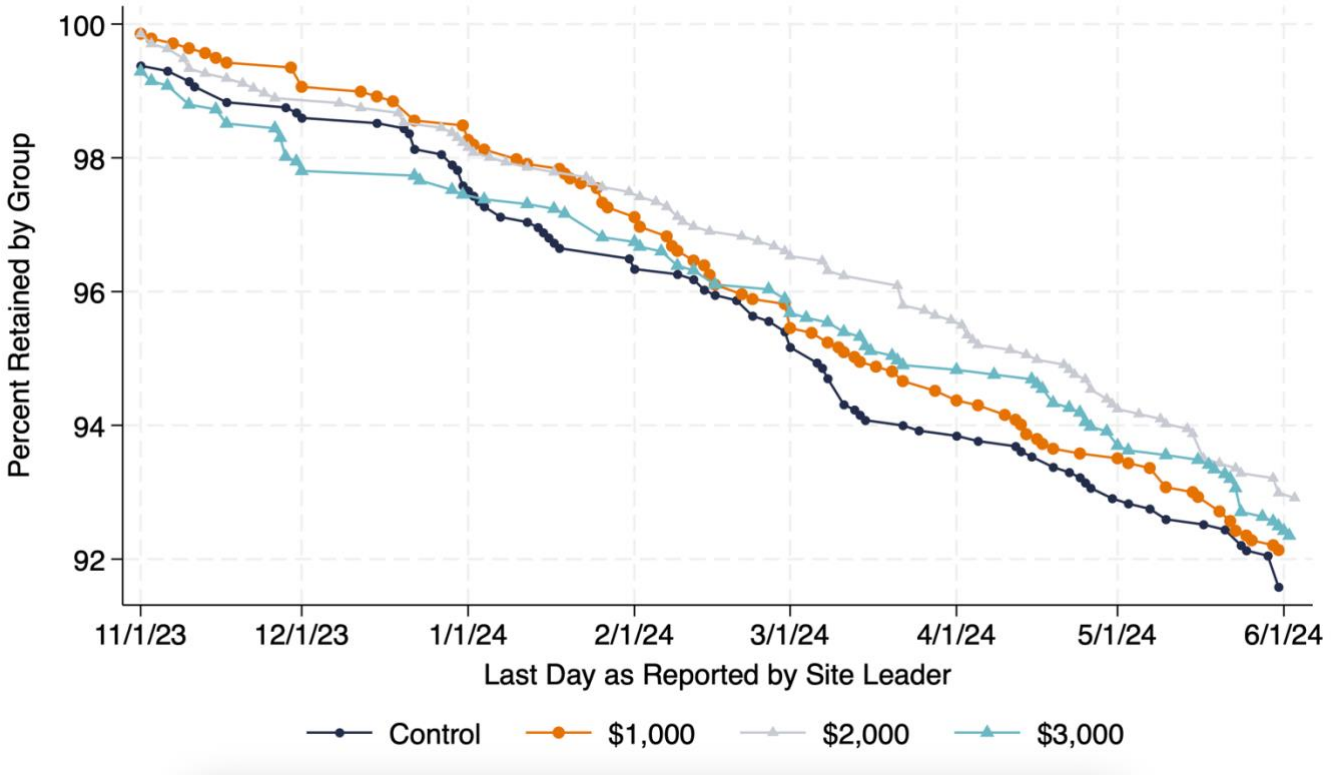


Discrepancies between the 8-Month EmVer results and the employee self-reporting on the Follow-Up Survey were not as wide relative to the CCATS comparison, and there were no differences that equated to a year or more.

Appendix D. Differences in Turnover Timing Between ECSTRA Treatment Groups

The timing of turnover is important to consider as well. As one of the goals of ECSTRA was to see how the bonuses related to stability for children being served, seeing how and when turnover took place could help to give a sense of what that stability looked like in sites with differing bonus amounts. In Figure D1, the lines show the percent of the group retained at their site over time, while the markers show dates that early educators exited. This figure thus shows trends in two ways: percent of educators exiting over time, and the frequency of departure. It is possible to see where the last reported working dates cluster and if there are differences in these patterns between the bonus groups.

Figure D1. Percent of ECSTRA Participants Still Present Across the First 8 Months of ECSTRA, by Randomized Bonus Offer



There appeared to be more frequent turnover near the end of the school year, as evidenced by the frequency of the markers present on the trend lines shown in Figure D1. This is consistent with the understanding that a greater amount of turnover is experienced in the summer months. By the end of the study, the $2000 and $3000 groups had the larger percentages of early educators retained over time, a trend that remained consistent from around the point of the first bonus verification in March until the end of the bonus program. These retention percentages may differ slightly from the figures shared previously, as reported last dates were not available for all early educators.

References

Bassok, D., Doromal, J. B., Michie, M., & Wong, V. (2021). The effects of financial incentives on teacher turnover in early childhood settings: Experimental evidence from Virginia. *Charlottesville, VA: University of Virginia, EdPolicy Works*.

Bellows, L., Bassok, D., & Markowitz, A. J. (2022). A study Teacher Turnover in Early Childhood Education: Longitudinal Evidence From the Universe of Publicly Funded Programs in Louisiana. Educational Researcher, 51(9), 565-574. https://doi-org.proxy1.library.virginia.edu/10.3102/0013189X221131505

Cooksey, K. & Thomas, E. (2024). Childcare employment – before, during, and after the COVID-19 pandemic. Bureau of Labor Statistics. https://www.bls.gov/opub/mlr/2024/article/childcare-employment-before-during-and-after-the-covid-19-pandemic.htm

Totenhagen, C. J., Hawkins, S. A., Casper, D. M., Bosch, L. A., Hawkey, K. R., & Borden, L. M. (2016). Retaining early childhood education workers: A review of the empirical literature. *Journal of research in childhood education*, *30*(4), 585-599.