



Florida Office of Child Care Regulation

Contract LC944

Preliminary Analysis of Child Care Center Key Indicator Effectiveness

September 27, 2022

Note: *This document is for discussion purposes only. The findings shown are preliminary and based on NARA's understanding of the data structure to date.*

Background and Purpose

In February 2022, the Florida Department of Children and Families (Department) contracted with the National Association for Regulatory Administration (NARA) for the purpose of implementing and evaluating a statewide Key Indicator Differential Monitoring System for the Child Care Program.

Service Task C-1.1.6 of the contract requires NARA to conduct validation studies to ascertain the effectiveness and efficiency of the Key Indicator Differential Monitoring System. Per task C-1.5.1, validation studies should be conducted annually as part of the statewide implementation and evaluation process.

NARA has elected to conduct an interim analysis of the Key Indicator Differential Monitoring System to identify effectiveness to date, identify possible data discrepancies or misinterpretation of the data, and to establish the information to be presented in the June 2023 annual report specified in the contract.

Data

On September 22, 2022, the Department provided a data extract for the period July 1, 2022 – September 22, 2022 for each program type including the following:

- Routine inspections with no violations
- Routine inspections with violations
- Abbreviated inspections¹

Extract Methodology

Child Care Facilities ("Facilities") were extracted from the full dataset. Other program types were not included in this analysis, as not enough Key Indicator (KI) abbreviated inspections have been completed to date to generate valid results.

Only inspections in "Inspection Approved" status were used for this analysis.

Inspections were assigned an "Inspection ID" by combining the Provider ID, Inspection Month, and Inspection Day in order to obtain a distinct count of inspections. For example, CAP Head Start –

¹ Six (6) abbreviated inspections where violations were identified were also provided; these inspections were not included in the analysis as the Department's abbreviated inspection policy requires that the abbreviated inspection convert to a full inspection when any violations are found. The Department has determined the reason for the policy deviation in these cases and taken steps to prevent recurrence.

Gibson Center, Provider ID C01ES0040, was inspected on Friday, August 26, 2022. The provider's generated Inspection ID was C01ES0040AugFri.

Routine inspections² with violations (n = 397) and routine inspections without violations (n = 759) were combined into a single file for a total of 1,156 inspections. There were 314 abbreviated inspections conducted during the observation period.

The violations found during routine inspections were matched with the KI rules to determine which violations were and were not KI.

Key Indicator Violations during Routine Inspections

The first and most important test is to determine whether the KI rules are good predictors of overall compliance. To complete this test, NARA compared the total number of rule violations found during each routine inspection conducted during the observation period and identified which (if any) of the violated rules were KI. Of the 1,159 routine inspections conducted, KI violations were found in 278 (24%) of the inspections.

We then obtained the Phi correlation coefficient to determine the strength of association between the number of violations found and whether at least one of the violations was a KI rule. The resulting coefficient was .658 (p<.001), showing a strong relationship between the number of violations found whether at least one of the violations was a KI rule.

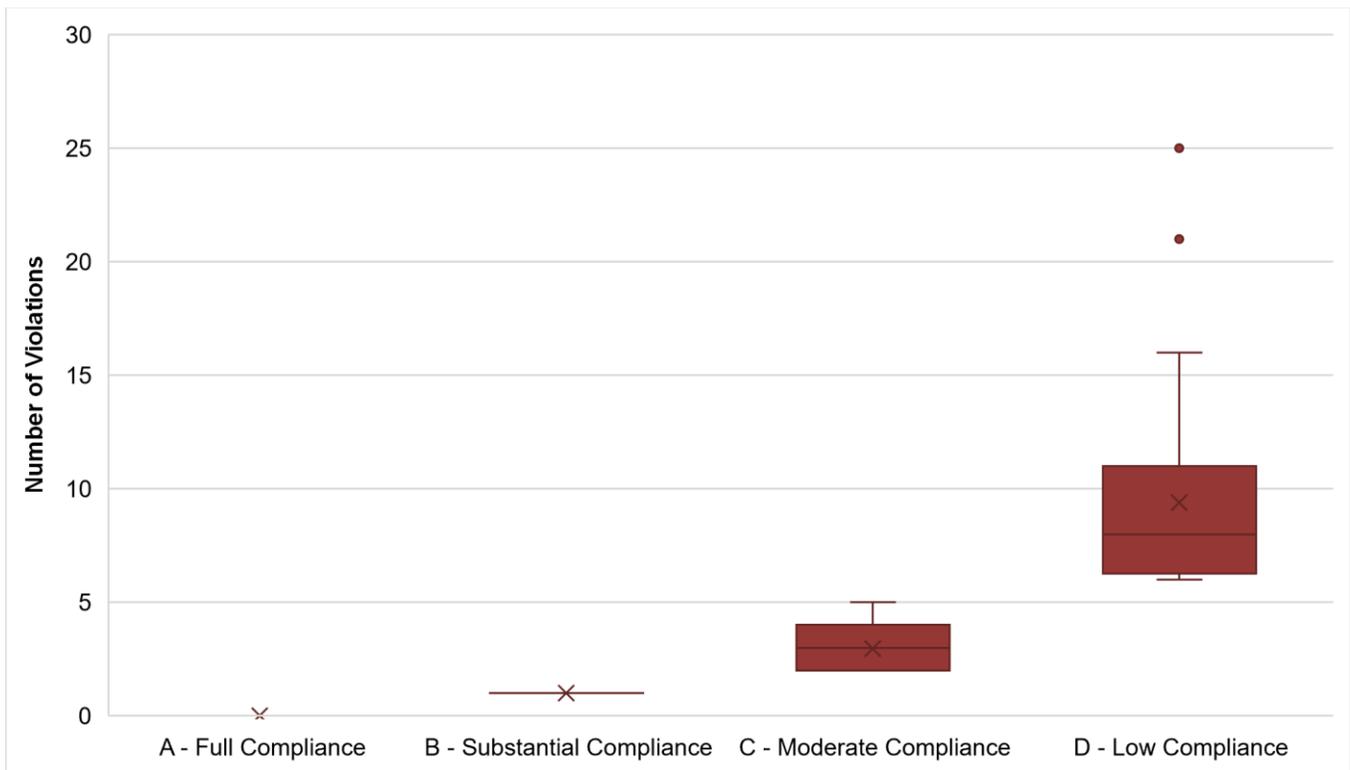
We then conducted the same test to determine the relationship between the number of rule violations and the total number of KI rule violations found. In this case, the resulting coefficient was .886 (P<.0001), showing a very strong relationship between the total number of violations and the total number of KI violations found. In other words, we can confidently assert that centers with more KI violations will have more violations overall, and that the KIs are strong predictors of overall compliance.

It is not uncommon for most licensing inspections to find few-to-no violations. This is the case in Florida. NARA performed additional tests of indicator validity to account for this. We began by grouping each center into "compliance categories" as follows:

Compliance Category	Noncompliances	Facilities in Category
Full Compliance	0	759
Substantial Compliance	1	137
Moderate Compliance	2 - 5	192
Low Compliance	6 or More	68

The chart below shows the range of noncompliances in each compliance category, the median or "middle" of the range, and outlier centers:

² Routine inspections were conducted at these facilities because the facilities did not meet the eligibility criteria for an abbreviated inspection.



We then obtained the Spearman’s rho correlation coefficient to determine the strength of association between the compliance category and whether at least one of the violations was a KI rule. The resulting coefficient was .821 ($p < .001$), showing a very strong relationship between compliance category and KI rule noncompliance. The test was repeated using total number of KI rule violations found, resulting in a coefficient of .832 ($P < .001$), also a very strong relationship. These tests show that there is a very strong, statistically-significant relationship between the KI rules and overall compliance.

We also conducted a One-Way Analysis of Variance (ANOVA) test to determine whether there was a statistically-significant difference between the average number of KI violations between each group that is greater than what one would expect to see by chance.

Compliance Category	Average Number of KI Violations
Full Compliance	0.00
Substantial Compliance	0.45
Moderate Compliance	1.32
Low Compliance	3.71

$F = 720.07, p < .001$

The test showed that there is a statistically-significant difference in the average number of KI violations between each category such that the difference is greater than what one would expect to see by chance.

Analysis 2: Inspection Time Comparison

The primary objective of an abbreviated KI inspection is to devote more time to overseeing noncompliant licensed settings by spending less time in highly-compliant settings in a manner that

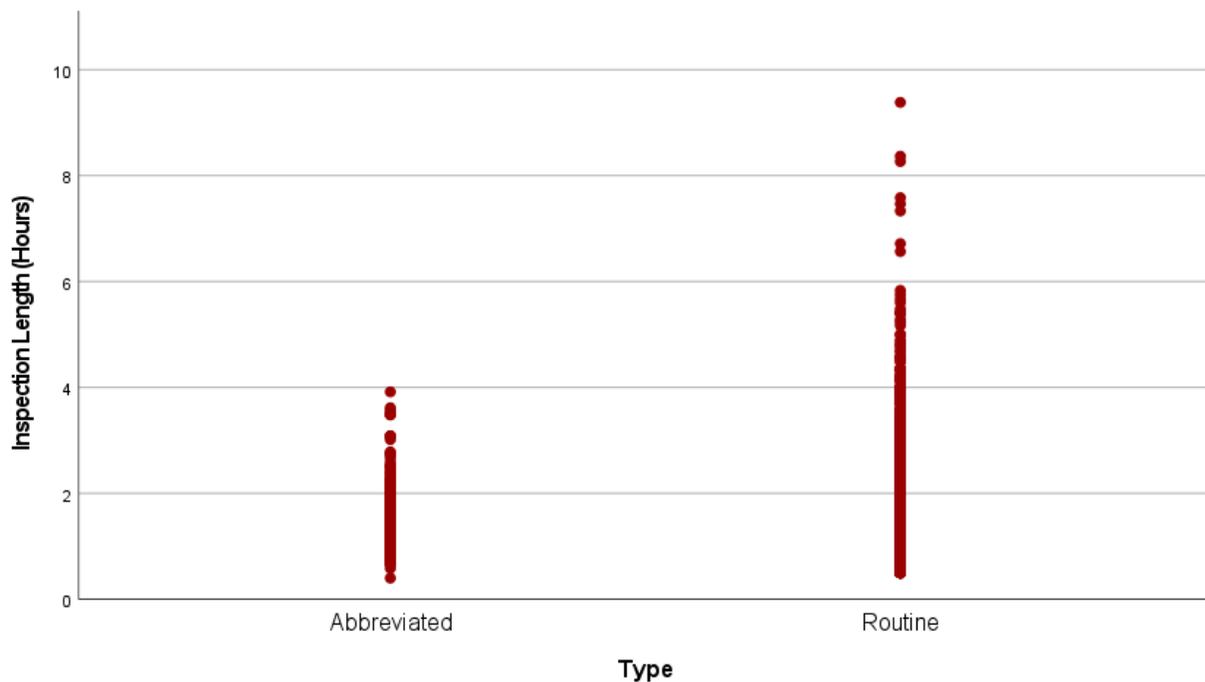
does not compromise the health and safety of children in care. We have already demonstrated that the KI rules are strong predictors of overall compliance and that abbreviated KI inspections do not compromise children’s health and safety; we must now determine whether KI inspections take less time to complete and that any decrease in completion time is not due to chance.

On average, it took about 2 hours to complete a routine inspection, and about 1.5 hours to complete an abbreviated inspection¹. However, we must also consider the range of times to complete each type of inspection. As shown in the table below, the times to complete routine inspections ranged from 30 minutes to over 9 hours, whereas no abbreviated inspection took longer than 4 hours to complete. Additionally, the time to complete abbreviated inspections will likely decrease over time as licensing staff become more familiar with the process.

	Routine	Abbreviated
N	951	308
Mean	1.92	1.53
Median	1.63	1.42
Mode	1.25	1.00
Std. Deviation	1.12	0.60
Minimum	0.50	0.40
Maximum	9.38	3.92

F = 34.39, p<.001

The chart below shows a visual representation of the ranges of time to complete both inspection types:



A more rudimentary way to consider the efficiency of abbreviated inspections is to calculate the time saved by conducting abbreviated inspections. In total, 470 hours were spent conducting 308 abbreviated inspections during the observation period. Using the mean inspection time for routine inspections (1.92 hours), we can assume that the 308 inspections would have taken approximately 591 hours to complete had they been routine inspections, a difference of 121 hours, or 16 business

days. This is a considerable amount of time saved given that the observation period was approximately 60 days.

Analysis 3: KI Violations that Resulted in Conversion to a Full Inspection

The Department’s abbreviated inspection policy requires that the abbreviated inspection become a full inspection when any violations are found. There were 62 inspections that began as abbreviated inspections but converted to routine inspections during the observation periodⁱⁱ. The table below shows the number and percent of inspections and the type of violation that resulted in the conversion.

Reason for Conversion	Inspections	Percent of Inspections
KI Violation	33	53.2%
SR Violation	5	8.1%
Other Violation	24	38.7%
Total	62	100%

The table below shows the number and short description of KI violations that resulted in conversion to a routine inspection³. The Phi coefficient for the identified indicators from the June 14, 2021 *Florida Differential Monitoring Final Project Summary Report* is also included.

Rule	Short Description	Inspections Where KI Found	Phi Coefficient
44.4	The personnel/volunteer record did not include a CF-FSP 5337 Child Abuse and Neglect Reporting Requirements form signed annually.	7	0.58
3.1	Storage of harmful items accessible to children	5	0.53
33.9	The facility did not have documented proof that all child care personnel were trained and knowledgeable within 30 days of date of hire.	5	0.47
12.2	Diaper area surface was not impermeable	4	0.49
32.7	Diaper area surface was not impermeable	4	0.42
33.3	The facility did not have documentation to show child care personnel had begun the introductory training within 90 days of employment.	4	0.42

³ Number will not sum to 62 as multiple KI violations were identified during 8 inspections.

Rule	Short Description	Inspections Where KI Found	Phi Coefficient
28.2	Unsafe food served at the facility	3	0.41
32.3	Child care personnel did not wash their hands	3	0.41
12.18	Child care personnel did not wash their hands	2	0.46
41.1	Immunizations certification not present.	2	0.41
41.2	Immunizations certification was inadequate.	2	0.55
45.2	Documentation of Level 2 Clearinghouse screening clearance was missing for child care personnel.	1	0.45

Conclusions

This analysis found that the Child Care Facility KI rules are strong and statistically-significant predictors of overall compliance. The analysis also found that Abbreviated KI inspections take less time to complete than routine inspections, a relationship that is not due to chance. Abbreviated KI inspections offered an additional 16 business days during the observation period that could be devoted to other licensing tasks.

Next Steps

- NARA will and the Department will review this report to identify possible data discrepancies or misinterpretation of the data and to determine if the information presented should appear in the June 2023 annual report specified in the contract.
- The standard method to validate KI effectiveness is to conduct simultaneous routine and abbreviated inspections at a sample of facilities. NARA and the Department will explore whether and how this can be accomplished in the upcoming months.
- An updated version of this analysis that includes necessary modifications, additional validation methods, and validation of family home KIs will be produced in early 2023.

Endnotes

ⁱ 212 inspections took less than 30 minutes or more than 9.5 hours to complete. The time ranges for these inspections are shown below:

Time Range	Routine	Abbreviated
Less than 0 minutes	2	1
0 Minutes	3	0
1-5 Minutes	42	0
6-10 Minutes	47	0
11-20 Minutes	82	1
21 - 49 Minutes	17	0
>9.5 Hours	12	5
Total	205	7

All of these inspections except for the 15-minute abbreviated inspection were removed for purposes of time analysis as suspected data entry errors; it is highly unlikely that routine inspections can be completed in ~20 minutes or less, or that any inspection will take longer than 9.5 hours.

Time data captured during inspections will be a subject of further discussion between NARA and the Department.

ⁱⁱ There were 28 inspections coded as "Initially Abbreviated = Yes" in the dataset. These data cannot be accurate, as at least 1 violation must be found to convert an abbreviated inspection to a routine inspection, and as such were excluded from this analysis. This will be a subject of further discussion between NARA and the Department.