Child and Family Services Reviews

Instructions to Run Data Quality (DQ) Checks and Observed Performance Syntax for Statewide Data Indicators

This document provides information, software requirements, and instructions for interested parties to run the CFSR 3 statewide data indicators syntax for data quality checks and observed performance. An appendix is attached that provides a short description of the folders, files, and syntax included in the CFSR3IndicatorSyntax-Revised.zip file.

Software Requirements

- IBM® SPSS® Version 21.0 or higher

  SPSS syntax also requires: Python Essentials for IBM® SPSS® Statistics (this is installed by default beginning with SPSS® version 22)

  CFSR SPSS syntax also requires these extensions: SPSSINC Split Dataset, and SPSSINC Process Files

- Microsoft Excel 2007 or higher

STATA Syntax

The STATA syntax included in the syntax package is used by the Children's Bureau (CB) to calculate Risk-Standardized Performance (RSP) for each State. The RSP code uses a statistical model that requires a national, child-level data set to calculate. Therefore, States and other interested parties will not be able to use the STATA syntax to calculate RSPs or otherwise replicate CB's results. STATA is not required to perform data quality checks and calculate observed performance for a single State.

Set-up Required to Run Syntax

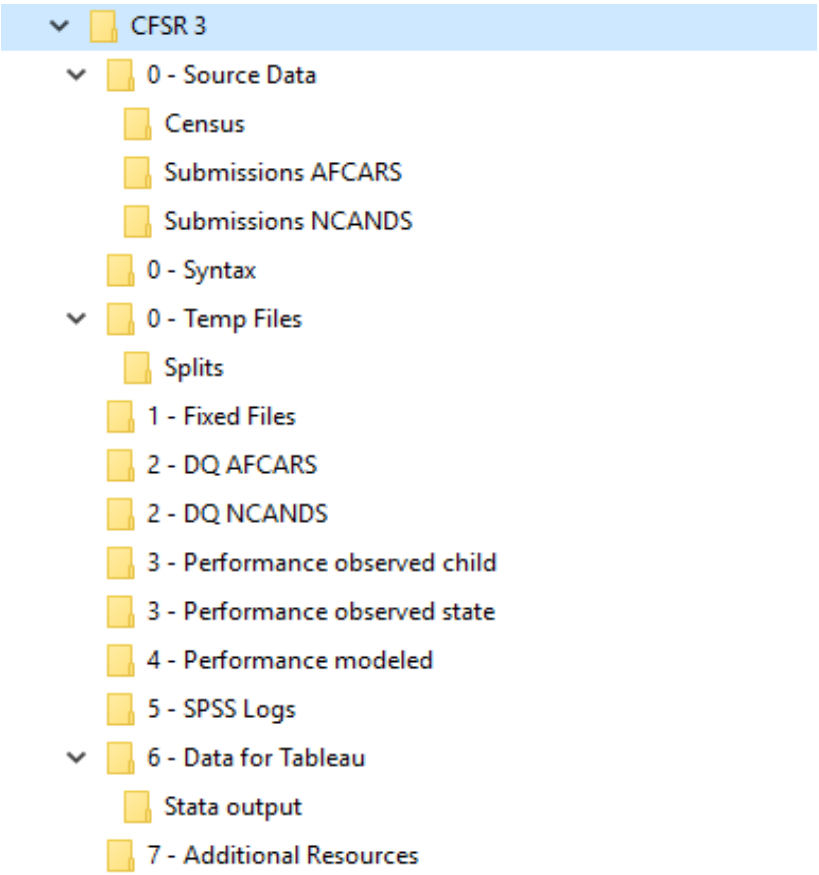
To run the CFSR Indicator syntax it is first necessary to unzip the files found in the CFSR3IndicatorSyntax-Revised.zip file into a folder on your computer. You can unzip and save the contents of the zip file to your desired location. When the CFSR3IndicatorSyntax-Revised.zip file is unzipped it will create two folders called "CFSR 3 Indicator Calculation Syntax" and "CFSR 3." The appendix includes a description of the data folders, subfolders, and files. All folders, subfolders and syntax files are embedded in the zip file.

Note: The syntax requires the folder/file structure to be in place (i.e., unzipped) and on the computer running the programs. The functionality to unzip the file differs based on the computer.

State's Adoption and Foster Care Analysis and Reporting System (AFCARS) and National Child Abuse and Neglect Data System (NCANDS) submissions are not included in the zip file. In "0 – Source Data\Submissions AFCARS" and "0-Source Data\Submissions NCANDS" folders, put the corresponding AFCARS and NCANDS data files required to run the analyses. See Table 1 to identify the data files you will need to calculate each indicator.

Note: You will need to convert all AFCARS and NCANDS files to SPSS format. We have provided a syntax file that will convert a 6-month AFCARS txt file to the same format as the SPSS file used by CB staff. SPSS versions of a State's annual NCANDS submissions are sent to the State in the validation packet sent by WRMA after a submission is accepted. If you do not have an SPSS version of the NCANDS file available, we have provided syntax that will convert a txt version of the NCANDS file to SPSS. These syntax files are located in the "Additional Resources" folder.

Folder Library Required to Run CFSR Syntax File



The table below indicates AFCARS and NCANDS files that are needed to calculate observed performance for each data indicator, as well as the 12-month cohort of children whose performance is evaluated based on the data files used.

Table 1: Identifying Cohort and Data Files

Indicator	AFCARS Semi-Annual Files Needed[1]	NCANDS Annual Files Needed[2]	12-Month Cohort of Children Whose Performance Is Evaluated	Special Considerations
Permanency in 12 months for children entering foster care	Six consecutive For example: 15B, 16A, 16B, 17A, 17B, 18A	N/A	Period included in the first two AFCARS files For example: 15B/16A (4/1/15–3/31/16)	The consecutive files may begin with either the "A" period or the "B" period.
Permanency in 12 months for children in care 12–23 months	Two consecutive For example: 17B, 18A	N/A	Period included in the two AFCARS files For example: 17B/18A (4/1/17–3/31/18)	The consecutive files may begin with either the "A" period or the "B" period.
Permanency in 12 months for children in care 24 months or more	Two consecutive For example: 17B, 18A	N/A	Period included in the two AFCARS files. For example: 17B/18A (4/1/17–3/31/18)	The consecutive files may begin with either the "A" period or the "B" period.
Reentry to foster care in 12 months	Six consecutive For example: 15B, 16A, 16B, 17A, 17B, 18A	N/A	Period included in the first two AFCARS files[3] For example: 15B/16A (4/1/15–3/31/16)	The consecutive files may begin with either the "A" period or the "B" period.
Placement stability	Two consecutive For example: 17B, 18A	N/A	Period included in the two AFCARS semi-annual files. For example: 17B/18A (4/1/17–3/31/18)	The consecutive files may begin with either the "A" period or the "B" period.

[1] *AFCARS files are submitted twice during the fiscal year. "A" refers to the 6-month report period, October 1 through March 31. "B" refers to the 6-month report period, April 1 through September 30. Two-digit year refers to the calendar year in which the period ends.*

[2] *NCANDS data are submitted for federal fiscal years, October 1 through September 30.*

[3] *This refers to children who had an initial entry in the period included in the first two AFCARS files and discharged to permanency within 12 months of entry. Depending on when a child discharged, re-entries can occur in 16A to 18A in the example provided.*

Indicator	AFCARS Semi-Annual Files Needed[1]	NCANDS Annual Files Needed[2]	12-Month Cohort of Children Whose Performance Is Evaluated	Special Considerations
Recurrence of maltreatment	N/A	Two consecutive fiscal year files For example: FY 2016, FY 2017	Period included in the first NCANDS file For example: FY 2016 (10/1/15–9/30/16)	Children can be first reported in either file as long as the first report date occurred during the time period covered by the first FY included in the analysis.
Maltreatment in foster care	Two consecutive For example: 16A, 16B	Two consecutive For example: FY2016, FY2017	Period included in the two AFCARS files and records from NCANDS files that have a report date that falls in the period of the two AFCARS files. For example: AFCARS 16A/16B, NCANDS FY 2016-2017 with report dates between (10/1/15–9/30/16.	AFCARS files must represent the beginning and end of a FY (i.e., must be A and B from the same FY, always in AB order), and must correspond with the first annual NCANDS file being used.

Running the Source Data Creation, Data Quality, and Observed Performance Syntax

Syntax Preparation

The syntax needed to create the AFCARS and NCANDS source data files, run DQ checks and create DQ files, and compute Observed Performance are located in the folder: “CFSR 3 Indicator Calculation Syntax”. At the top of each syntax file, you will see a series of file handles. The first file handle will always be the root directory file handle. If the folders and subfolders extracted from the zip folder were saved to “C:\CFSR 3,” then no action is needed. If they are located elsewhere, then the “Root_FH” line must be changed to the correct path.

The syntax line that needs to be edited looks like this:

file handle Root_FH /name="C:\CFSR 3 ".

You will need to update the path so that it matches the path to the CFSR 3 folder you created when unzipping the file. This file handle path will need to be updated in every syntax file.

These changes are required to the five (5) Source Data and Data Quality (DQ) Syntax files[4] and the five (5) Observed Performance Syntax files. These files are located in the "CFSR 3 Indicator Calculation Syntax" folder.

Source Data and Data Quality (DQ) Syntax

Before you run any indicator syntax, there are several other syntax files that must be run to create properly formatted source data and run necessary DQ tests. These files are located in the "CFSR 3 Indicator Calculation Syntax" folder.

Once you have updated the root directory syntax and saved all required AFCARS and NCANDS files to "submissions AFCARS" and "submissions NCANDS" respectively, you will need to run the following 4 syntax files in this order:

1) CFSR 3 – 1 Create AFCARS source data.sps
2) CFSR 3 – 1 Create NCANDS source data.sps
3) CFSR 3 – 2 Create AFCARS DQ files.sps
4) CFSR 3 – 2 Create NCANDS DQ files.sps

Once the root directory is changed in each of these files, they are ready to run. No manual input is required. Highlight the entire syntax file and hit run.

Note: We recommend completing the entire set up process for both AFCARS and NCANDS and including multiple years of data even if you initially only plan to run one indicator. Once you have finished this step, you do not have to complete it again until you add new data. As long as you do not need to add new data, the source files and DQ files that were created can be used for running additional indicators and/or time periods at a later point in time without having to redo any of the previous steps. Having all of these files prepared and saved will save time if you choose to run syntax involving other indicators.

Observed Performance Syntax

Once you reach this step, the observed performance indicator syntax can be run in any order or only for specific indicators. There are 5 indicator syntax files used to compute the 7 indicators. There files are located in the "CFSR 3 Indicator Calculation Syntax" folder. They are:

- CFSR 3 – 3 Observed perf for maltx in care.sps
- CFSR 3 – 3 Observed perf for maltx recurrence.sps
- CFSR 3 – 3 Observed perf for perm (entries) & reentry.sps[5]

[4] One or more of the observed performance syntax files attempts to use the child population file. To prevent an error when running the syntax we recommend updating the root directory file handle in the "CFSR 3 – 0 Create Census Child Populations" syntax. No other changes are required to the syntax files located in the "CFSR 3/ 0-Syntax" folder.

[5] CFSR 3 – 3 Observed perf for perm (entries) & reentry.sps runs calculations for both data indicators: Permanency in 12 months for children entering foster care and Re-entry to foster care in 12 months.

- CFSR 3 – 3 Observed perf for perm (first day).sps[6]
- CFSR 3 – 3 Observed perf for placement stability.sps

In addition to updating the root file handle, you will need to update the period for which you are running the analysis in each observed performance syntax file. In each file, under the file handle syntax the next section of syntax you will find begins with the line "******** START USER INPUT ********." This indicates the portion of syntax that requires manual input related to the time period of interest.

Table 2: Update Syntax with Time Periods of Interest

X placeholders represent where manual input will be entered. The number of Xs identify the number of characters to enter.

Recurrence of Maltreatment	All Other Indicator Syntax
define YYYY () XXXX !enddefine. define YYstr () "XX" !enddefine. define YY2str () "XX" !enddefine. *Example of updated syntax*: define YYYY () 2016 !enddefine. define YYstr () "16" !enddefine. define YY2str () "17" !enddefine.	define PeriodType () "XX" !enddefine. define YYYY () XXXX !enddefine. define YYstr () "XX" !enddefine. *Example of updated syntax*: define PeriodType () "AB" !enddefine. define YYYY () 2016 !enddefine. define YYstr () "16" !enddefine.

Variable Definitions:

<u>YYYY</u> is the name of the variable that holds the year of interest.

<u>YYstr</u> is the name of the variable that holds the last two digits of the year of interest. It is a string variable and must have quotation marks around the value you enter for it.

<u>YY2str</u> is the name of the variable for the second year of interest when you are required to enter 2 years. It is a string variable and must have quotation marks around the value you enter for it.

<u>PeriodType</u> is the name of the variable that identifies if you are running the analysis for an AB or BA period. It is a string variable and must have quotation marks around the value you enter for it.

[6] *CFSR 3 – 3 Observed perf for perm (first day).sps runs the permanency indicators for both the 12-23 month and 24 month+ first day cohorts.*

Instructions to Update Time Periods of Interest for Recurrence of Maltreatment

For define YYYY () XXXX, you will need to replace XXXX with the primary year of analysis. Since recurrence requires two fiscal years, this is the first of those fiscal years. For example, if you are running maltreatment recurrence for FY16-17, you would put 2016 in this line.

For YYstr () “XX” you will need to replace XX with the last 2 digits of the first fiscal year. For FY16-17 you should put “16”. The quotation marks must remain in the syntax.

For define YY2str () “XX” you will need to replace XX with the last 2 digits of the second fiscal year. For FY16-17 you would put “17”. The quotation marks must remain in the syntax.

Instructions to Update Time Periods of Interest for All Other Indicator Syntax

Identify the 12-month cohort of interest (e.g., children in care during 16A16B) by entering "AB" or "BA" for define PeriodType () “XX”. For 16A16B you would enter “AB”.

Identify the calendar year in which the 12-month period of interest ends. Enter the 4-digit year for define YYYY () XXXX. For 16A16B you would enter 2016. Enter the 2-digit year for define YYstr () XX. For 16A16B you would enter 16. See Additional Notes on Manual Input Section below for further help.

Additional Notes on Manual Input

- AB period (A file + B file) spans Oct 1 - Sept 30 of the following year. This is the same as a fiscal year.
- BA period (B file + A file) spans Apr 1 - Mar 31 of the following year.
- As a general rule, the year entered for YYYY and YYstr always corresponds with the year associated with the A file in the period of interest.
- Maltreatment in Care is only run for AB time periods. All permanency indicators, reentry, and placement stability is run for both AB and BA time periods.

Table 3: Examples of Period Types to Use

Children in care during	PeriodType	YYYY	YYstr
15B16A (16BA)	BA	2016	16
16A16B (16AB)	AB	2016	16
16B17A (17BA)	BA	2017	17
17A17B (17AB)	AB	2017	17
17B18A (18BA)	BA	2018	18
18A18B (18AB)	AB	2018	18
18B19A (19BA)	BA	2019	19
19A19B (19AB)	AB	2019	19

Once you have made these changes, highlight the entire syntax file and hit run.

Note: The results of observed performance syntax are available in the CFSR 3\3 - Performance observed state folder as SPSS data files (.sav). Your State's performance is found in the Perf_State variable. Alternatively, observed performance and more details can be found in the CFSR 3\3 - Performance observed child folder. Within the SPSS data files (.sav) in this folder, the result can be found for each individual child (variable: Perf_Child_MP), as well as numerator (variable: Num_State), denominator (variable: Den_State), and final results of the State's performance (variable: Perf_State_MP).

Considerations When Comparing Results with the State's CFSR 3 Data Profiles

CB provides States with CFSR 3 Data Profiles that contain observed performance, risk-standardized performance, and results of data quality checks performed. Consider the following tips when comparing State calculated results from running the SPSS syntax for data quality checks and observed performance with CFSR 3 Data Profiles and the results do not match:

- The cohort and associated data submissions should be the same as those used in the calculations for the CFSR 3 Data Profile.
- The data files used to run the syntax should be the same as the most recent submission to the Administration for Children and Families as of the date provided on the CFSR 3 Data Profile. Each profile provides a "data as of" date, and only submissions received before that date were used in producing the profile. Even improvements in data quality may result in different results in observed performance.
- The results of running the syntax for observed performance should be compared with the observed performance on the CFSR Data Profile rather than the State's risk-standardized performance.

For Additional Support

Contact information is below if you have questions regarding running the CFSR Round 3 Syntax, calculating observed performance, conducting data quality checks, or other CFSR 3 syntax and data indicator related questions.

State Child Welfare Partner Organizations, Private Agencies, and the Public

Children's Bureau, Office of Data Analysis Research and Evaluation

CBDatateam@acf.hhs.gov

Contact for State Child Welfare Agencies

Children's Bureau, Capacity Building Center (CBC) for States

Requests processed by:

Your federal Children's Bureau Regional Office

Your State designated CBC Liaison

Capacity Building Center general email: capacityinfo@icf.com

APPENDIX

Descriptions of Folders, Files, and Syntax the Children's Bureau Uses to Calculate

Data Quality and Observed Performance for CFSR 3 Statewide Data Indicators

Available in the CFSR3IndicatorSyntax-Revised.zip file

.sav = SPSS data file • .sps = SPSS syntax • .dta = STATA data file[1] • .do = STATA syntax

Folder \ File	Description
CFSR 3 Indicator Calculation Syntax Folder	
CFSR 3 – 0 Create census child populations.sps	Shows how the Children's Bureau downloaded and prepared the child population data from the U.S. Census Bureau that is reflected in the Child populations .sav data provided in the .zip file
CFSR 3 - 1 Create AFCARS source data.sps	Creates the source data file needed to calculate observed and risk-standardized performance on all indicators except Recurrence of Maltreatment
CFSR 3 - 1 Create NCANDS source data.sps	Creates the source data file needed to calculate observed and risk-standardized performance for Maltreatment in Care and Recurrence of Maltreatment
CFSR 3 - 2 Create AFCARS DQ files.sps	Creates the data quality files needed to examine state data quality results relative to the AFCARS data quality checks and limits, to determine if a state should be excluded from the analysis for a particular indicator
CFSR 3 - 2 Create NCANDS DQ files.sps	Creates the data quality files needed to examine state data quality results relative to the NCANDS data quality checks and limits, to determine if a state should be excluded from the analysis for a particular indicator
CFSR 3 - 3 Observed perf for maltx in care.sps	Calculates observed performance for Maltreatment in Care
CFSR 3 - 3 Observed perf for maltx recurrence.sps	Calculates observed performance for Recurrence of Maltreatment
CFSR 3 - 3 Observed perf for perm (entries) & reentry.sps	Calculates observed performance for Permanency in 12 months for children entering care and Re-entry to foster care in 12 months
CFSR - 3 Observed perf for perm (first day).sps	Calculates observed performance for Permanency in 12 months for children in foster care 12-23 months and Permanency in 12 months for children in foster care 24 months or more
CFSR 3 - 3 Observed perf for placement stability.sps	Calculates observed performance for Placement Stability
CFSR 3 - 4 RSP for maltx in care.dta	Calculates risk-standardized performance for Maltreatment in Care

Folder \ File	Description
CFSR 3 - 4 RSP for maltx recurrence.dta	Calculates risk-standardized performance for Recurrence of Maltreatment
CFSR 3 - 4 RSP for perm (entries).dta	Calculates risk-standardized performance for Permanency in 12 months for children entering care
CFSR 3 - 4 RSP for perm (FD 12-23).dta	Calculates risk-standardized performance for Permanency in 12 months for children in foster care 12-23 months
CFSR 3 - 4 RSP for perm (FD 24 or more).dta	Calculates risk-standardized performance for Permanency in 12 months for children in foster care 24 months or more
CFSR 3 - 4 RSP for placement stability.dta	Calculates risk-standardized performance for Placement Stability
CFSR 3 - 4 RSP for reentry.dta	Calculates risk-standardized performance for Re-entry to foster care in 12 months
CFSR 3 Folder	
0 - Source Data	Folder to store original source data files required to run the syntax
0 - Source Data\Census	Folder to store census data downloaded from the web
0 - Source Data\Submissions AFCARS	Folder to store State's six-month AFCARS submissions
0 - Source Data\Submissions NCANDS	Folder to store State's 12-month NCANDS submissions
0 - Syntax	Folder to store additional program code required to run the data quality syntax
0 - Syntax\ CreateDQFiles.sps	Program used as part of CFSR 3 - 2 Create AFCARS DQ files.sps to calculate and tabulate the AFCARS DQ results
0 - Syntax\ NCANDS_ChildLevel_DQ.sps	Program used as part of CFSR 3 - 2 Create NCANDS DQ files.sps to calculate and tabulate the child-level NCANDS DQ results
0 - Syntax\ NCANDS_RecordLevel_DQ.sps	Program used as part of CFSR 3 - 2 Create NCANDS DQ files.sps to calculate and tabulate the record-level NCANDS DQ results
0 - Temp files	Syntax will save to this folder all SPSS data files (.sav) that are the result of temporary or intermediate steps in creating the analytic data files, calculating the data quality results, or calculating observed performance
0 - Temp files\Splits	Syntax will save to this folder all SPSS data files (.sav) that are the result of running a SPSS Splits command statement. Results will be overwritten each time the code is run
1 - Fixed files	Some syntax calls the four fixed data files described below:

Folder \ File	Description
1 - Fixed files\CFSR 3 AFCARS data quality checks.sav	Holds details about the AFCARS data quality checks, including data quality limits, descriptions, and the indicators to which they apply
1 - Fixed files\Child populations.sav	Holds U.S. Census Bureau child population estimates for 50 states, District of Columbia, and Puerto Rico
1 - Fixed files\CFSR 3 NCANDS data quality checks.sav	Holds details about the NCANDS data quality checks, including data quality limits, descriptions, and the indicators to which they apply
1 - Fixed files\states.sav	Holds states FIPS codes, full text name, and postal code abbreviations (SPSS version)
2 - DQ AFCARS	Syntax will save to this folder SPSS data files (.sav) containing states' data quality results related to the AFCARS data quality checks for every 6-month period examined
2 - DQ NCANDS	Syntax will save to this folder SPSS data files (.sav) containing states' data quality results related to the NCANDS data quality checks for every 12-month period and FY examined
3 - Performance observed child	Syntax will save to this folder child-level files produced after running the SPSS syntax to calculate states' observed performance
3 - Performance observed state	Syntax will save to this folder state-level files produced after running the SPSS syntax to calculate states' observed performance
4 - Performance modeled	Syntax will save to this folder child- and state-level files produced after running the STATA syntax to calculate states' risk-standardized performance
5 - SPSS Logs	Syntax will save to this folder SPSS log files generated as part of running the CFSR code
6 - Data for Tableau	Folder to store state-level files formatted for using Tableau software
6 - Data for Tableau\Stata Output	Syntax will save to this folder state-level files produced after running the Stata syntax to calculate states' risk-standardized performance. These files are formatted in a way to make using them in Tableau easier
7 – Additional Resources	Folder contains additional helpful resource documents including instructions for running syntax and data dictionary

[1] The STATA (.dta) syntax used to calculate risk-standardized performance (RSP) is provided for informational purposes only. Calculating RSPs requires child-level data from every state.