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CCD
Common
Core of Data

Considerations for Analysis to the Common Core of Data (CCD)

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Module Objectives

Describe the analytic considerations for using the Common Core of Data (CCD) including

- Attention to detail
- Universe data file inconsistency
- Data Issues
  - Missing data
  - Not applicable data
  - Zero count
  - Misreported data
  - Misinterpreted data

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Attention to Detail

Pay attention to the data details to ensure that data are being used properly

- Review the definitions
- Use the correct level of data
- Note the footnotes on tables

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Attention to Detail: Definitions

Understand what the data represent

- Lack of understanding may lead to misinterpretation of output/findings
- Read the documentation; for each variable, there is a detailed description
- Critical for fiscal variables since the types of expenditures can vary

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Attention to Detail: Definitions – Example

- Free lunch eligibility counts
  - CCD reports the number of reported students that are eligible for free or reduced-price lunch
- Often used as a measure of poverty
  - Assume it shows the number of students who participate in the program
  - However, "participating" ≠ "eligible," could result in errors
  - Various methods used to determine eligibility could cause variations

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Attention to Detail: Using the Correct Level

- CCD data are typically reported at the following levels
  - School
  - District
  - State
- All data for analysis should come from the same level, if possible

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Attention to Detail: Using the Correct Level – Example

- Create a table of English-Language Learner (ELL) counts by state, create percentage tables
- Calculate the percentage, find the total number of students
    - But which level? School? District? State?
        - Answer: District, since the ELL counts are reported at the district (LEA) level
            - Review the documentation
            - The same level must be used for both sets of numbers

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Attention to Detail: Data Tables vs. Files

- There are multiple tables available on the NCES website with CCD data including
    - CCD Reports
    - CCD Table Library
    - Digest of Education
- When comparing the tables to the CCD data files, be sure to look at the footnotes and table title

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Attention to Detail: Data Tables vs. Files (Continued)

Some of the differences between the data files and the tables may be due to the following

- Data from only one level
- Schools or districts are excluded for certain reasons (only active schools, only districts with enrollment counts)
- US totals vs. the universe (includes outlying areas)

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Differences in the Universe Data Files

- CCD is used as a sampling frame for other data collections
  - Civil Rights Data Collection (CRDC)
  - Schools and Staffing Survey (SASS)
- The universes may not always match
  - School differences
  - District differences
- It is important to keep these differences in mind as they may cause problems when comparing counts between the files

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Differences in the Universe Data Files (Continued)

CCD fiscal and nonfiscal

- Nonfiscal district file is used as the base for the fiscal F-33 file, but
  - Charter school differences
  - Enrollment counts
- Enrollment counts for the two files may differ due to various adjustments being made to match the provided fiscal data on the file

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Issues to Consider when Analyzing CCD Data

- Missing data
- Not applicable data
- Zero count
- Misreported data
- Misinterpreted data

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Missing Data: Define

Missing data

- Element exists but could not be reported
  - Reporting agency not able to report the data
  - Data were not reported to NCES in time

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Missing Data: Example

- The number of teachers at a Kindergarten through 6th grade school could not be split into Kindergarten and Elementary teachers
- The number of students who are eligible for free lunch could not be reported in time to be used on the data file
- The state could not report which schools are magnet schools, but the state does allow for magnet schools

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Missing Data: Example (Continued)

- To compare the free lunch eligibility of two districts, aggregate the school level enrollment and free lunch eligibility for each

	Total Free Lunch Eligible	Total Enrollment	Percent Eligible for Free Lunch
District A	120	300	40%
District B	60	300	20%

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Missing Data: Example (Continued)

- However, if you include missing data in the equation, you may result in a different finding

Schools	Total Free Lunch Eligible	Total Enrollment	Percent Eligible for Free Lunch
A1	40	100	40%
A2	35	100	35%
A3	45	100	45%
Total	120	300	40%
Schools	**Total Free Lunch Eligible**	**Total Enrollment**	**Percent Eligible for Free Lunch**
B1	60	100	60%
B2	Missing	100	???
B3	Missing	100	???
Total	???	300	???

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Missing Data: Managing

- On the CCD files, NCES missing = -1 or M
- On the data tools and reports, the aggregate totals at the state and district cannot be reported if 10% of the data are missing (15% for U.S. totals)
- Missing data at the state level are imputed if the data are missing, but not at the lower levels

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Not Applicable and Zero

- Not applicable occurs when the element does not apply to that case
  - Example: 12th graders in an elementary school
- A count of zero indicates that the element could exist but does not
  - Example: a small school with grades kindergarten through 12th grade does not have any 8th graders

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Misreported Data

- Current year vs. prior years
- Cross files checks
- Data not reported consistent with our definitions

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Misreported Data: Examples

- The enrollment of a school changes from 50 to 300 but the teacher count stays the same
  - NCES may suppress the number of students
- Vocational schools that offer grades K-12
  - NCES may change the grades to match the enrollment counts at the school

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Misreported Data: Managing

- NCES contacts the states to determine if the problem can be resolved (corrected or explained)
- Explanations are included as state notes within the documentation
- If the data cannot be corrected or explained, NCES will indicate that the data element does not meet NCES standards by suppressing it and coding it to -9

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Misinterpreted Data: Definition

Data can be misinterpreted if they are not being used in the way they are intended

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Misinterpreted Data: Examples

- Incorrect assumptions
  - Free lunch = poverty
  - Graduation rate = 100% – dropout rate
    - AFGR vs ACGR
    - Event dropout vs status dropout
  - FTE = head counts
- Incorrect comparisons
  - Current expenditures vs total expenditures
  - District vs school enrollment
  - United States vs Reporting States vs totals from the data file (the data file includes the outlying areas)
  - Race counts between years/states where five race categories were reported vs seven race categories

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Misinterpreted Data: Examples (Continued)

Other issues to be aware of

- Not being careful when aggregating data (including the missing)
- Schools with 0 students (may be shared time schools)
- Using the correct school year (School Year vs. Fiscal Year)
- Improperly recoding (e.g. agency type)

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Misinterpreted Data: How to Avoid

- Read the documentation, especially the state notes
  - Exceptions that the data user should be aware of are in the notes
- Understand what the data represent
- Review how the data were collected (NPEFS survey, ED*Facts* specifications)
- Verify the coding was done correctly (missing, not applicable, suppressions, change in definitions, etc.)

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Module Summary and Resources

Summary

Described the analytic considerations for using the Common Core of Data (CCD) including

- Attention to detail
- Universe data file inconsistency
- Data Issues
  - Missing data
  - Not applicable data
  - Zero count
  - Misreported data
  - Misinterpreted data

Resources

- Common Core of Data (CCD)