

# **Calculating Disproportionality in Identification, Placement, and Discipline**

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# Significant Disproportionality

A district must reserve 15% of its funds for CEIS if it has “significantly disproportionality” based on race or ethnicity in

- Identification,
- Placement, or
- Discipline

# Disproportionate Representation and Significant Disproportionality in Identification

- Numerical disproportionality
- Disproportionate representation
  - Triggers review to determine whether it results from inappropriate identification. Over- and underrepresentation
- Significant disproportionality
  - Triggers the requirement to set aside the maximum amount for comprehensive CEIS. Overrepresentation only.

Source: OSEP 08-09. CEIS Memo.

# Identification: Required Categories

- All disabilities (APR indicator B9)
- At minimum, the following six specific disability categories (APR indicator B10)
  - Mental retardation, Specific learning disabilities, Emotional disturbance, Speech or language impairments, Other health impairments, autism

# Placement: Required Categories from 618 data

- At minimum
  - Children who received educational and related services in the regular class no more than 79 percent of the day and no less than 40 percent of the day
  - Children who received special education and related services in the regular class for less than 40 percent of the day
  - Children who received special education and related services in separate schools and residential facilities

# Some data sources

- 618 data submitted to DAC ([www.ideadata.org](http://www.ideadata.org))
  - Child Count
  - Educational Environments
  - Discipline
- DAC analytic tool ([www.ideadata.org](http://www.ideadata.org))
- CCD enrollment data (<http://nces.ed.gov/ccd/bat/>)

# Some Georgia data (2007-2008 school year)

- Total enrolled students: 1,649,589
- Total Black enrolled students: 627,245
- All students, age 3-21, served under IDEA: 184,043
- Black students, age 3-21, served under IDEA: 74,863
- All sped students inside the regular classroom < 40% of the time: 26,009
- Black sped students inside the regular classroom < 40% of the time: 13,010
- Total disciplinary removals for sped students: 159,592
- Total disciplinary removals for Black sped students: 96,750
- Disabled children with OSS > 10 days: 3,022
- Black disabled children with OSS > 10 days: 2,182

# Westat's TA Guide (2005)

- **Addresses Identification and Placement**
- Available at [ideadata.org/TAMaterial.asp](http://ideadata.org/TAMaterial.asp)
- Recommended by OSEP in CEIS guidance and APR instructions
- Describes Measures:
  - Composition,
  - Relative difference in composition,
  - Risk,
  - Risk ratio.

# Westat's spreadsheet and user guide

- Calculates measures described in TA Guide.
- Available upon request from Westat ([ideadata@westat.com](mailto:ideadata@westat.com); 888-819-7024)

# Westat's TA Guide, version 2

- Going to OSEP soon, should be published by the end of the year
- Revised spreadsheet and user guide with 7 R/E categories and new measures:
  - Events per Student (EPS)
  - Events per Student Ratio (EPSR)
  - Likelihood Measure
  - District Likelihood Measure

# Composition: Sample Questions

## *Identification*

What percentage of students receiving special education and related services are Black?

## *Placement*

What percentage of students receiving special education and related services inside the regular classroom less than 40% of the day are Black?

# Composition

## *Identification*

**Black students identified**  
**All students identified**

$$= \frac{74,863}{184,043} = .40677$$

- 41% of students receiving special education and related services are Black.

## *Placement*

**Black IEP students in the**  
**regular class < 40%**  
**All IEP students in the**  
**regular class < 40%**

$$= \frac{13,010}{26,009} = .50021$$

- 50% of students in the regular classroom less than 40% of the time are Black.

# Relative Difference in Composition

- To assess disproportionality, compare the composition of the disability or educational environment category to the composition of a comparison group.

# Enrollment Composition

Enrolled Black students

All enrolled students

$$= \frac{627,245}{1,649,589} = 0.38024$$

- 38% of the students enrolled in Georgia schools are Black.

# Relative Difference in Composition: Sample Questions

## *Identification*

- By what percent does the percentage of students receiving special education and related services that are Black differ from the percentage of enrolled students that are black?

## *Placement*

- By what percent does the percentage of students receiving special education and related services inside the regular classroom less than 40% of the day that are black differ from the percentage of enrolled students that are black?

# Relative Difference in Composition

## *Identification*

Sped composition for Black students – Enrollment composition for Black students

Enrollment composition for Black students

$$= \frac{.40677 - .38024}{.38024} = .070$$

- The percentage of special education students that are Black is 7% larger than the percentage of the student enrollment that is Black.

## *Placement*

Environment composition for Black students – Enrollment composition for Black students

Enrollment composition for Black students

$$= \frac{.50021 - .38024}{.38024} = .316$$

- The percentage of Black IEP students that are in the regular classroom less than 40% of the day is 31.6% larger than the percentage of the student enrollment that is Black.

# Risk: Sample Questions

## *Identification*

What percentage of Black students receive special education and related services?

## *Placement*

What percentage of Black students with disabilities receive special education and related services inside the regular classroom <40% of the school day?

# Risk for Identification

- What percentage of Black students receive special education and related services?

**Risk =**

$$\frac{\text{Black sped students}}{\text{All Black students}} = \frac{74,863}{627,245} = .11935$$

- 11.9% of Black students in Georgia receive special education and related services.

# Risk for Placement

- What percentage of disabled Black students receive special education and related services in the regular classroom less than 40% of the day?

**Risk =**

$$\frac{\text{Black sped students in the regular classroom} < 40\% \text{ of the time}}{\text{All Black sped students}} = \frac{13,010}{74,863} = .17378$$

- 17.4% of Black students in Georgia receive special education and related services in the regular classroom less than 40% of the day.

# Assessing Disproportionality with Risk

- To assess disproportionality, compare the risk for a specific racial/ethnic group to the risk for a comparison group
- The risk ratio compares the relative size of two risks

# Identification Risk for All Other Students

- What percentage of non-Black students receive special education and related services?

**Risk =**

$$\frac{\text{non-Black sped students}}{\text{All non-Black students}} =$$

- $\frac{184,043 - 74,863}{1,649,589 - 627,245} = \frac{109,180}{1,022,344} = .10679$
- 10.7% of non-Black students in Georgia receive special education and related services.

# Placement Risk for All Other Students

What percentage of non-Black students receive special education and related services inside the regular classroom < 40% of the time?

**Risk =**

$$\text{Risk} = \frac{\text{non-Black sped students inside the regular classroom less than 40\% of the time}}{\text{All non-Black sped students}} =$$

$$\frac{26,009 - 13,010}{184,043 - 74,863} = \frac{12,999}{109,180} = .11906$$

**11.9% of non-Black students in Georgia receive special education and related services inside the regular classroom less than 40% of the time.**

# Risk Ratio for Identification

- What is the risk for Black students for receiving special education and related services as compared to the risk for all other students?

**Risk Ratio =**

$$\frac{\text{Risk for Black students}}{\text{Risk for all other students}} = \frac{.11935}{.11906} = 1.1176$$

- Black students in Georgia are 1.1 times more likely than all other students to receive special education and related services.

# Risk Ratio for Placement

- What is the risk for Black students for being placed in the regular classroom less than 40% of the day as compared to the risk for all other students?

**Risk Ratio =**

$$\frac{\text{Risk for Black students}}{\text{Risk for all other students}} = \frac{.17378}{.10679} = 1.6273$$

- Black students in Georgia are 1.6 times more likely than all other students to receive special education and related services inside the regular classroom less than 40% of the day.

# Requirements for discipline

- Incidence
- Duration
- Type
- Including suspension and expulsion

# Sample categories

- OSS of 10 days or less
- OSS (including expulsions) > 10 days
- ISS of 10 days or less
- ISS (including expulsions) > 10 days
- Total number of disciplinary removals

# **NEW: Events per Student (EPS)**

“On average, how many times was a Black student with disabilities subjected to any kind of disciplinary removal during the school year?”

# Events per Student: Total Disciplinary Removals for Black Special Ed Students

**EPS =**

**Total disciplinary removals for Black sped students =**  
**Total number of Black sped students**

$$\frac{\mathbf{96,750}}{\mathbf{74,863}} = \mathbf{1.2924}$$

On average, each Black student in Georgia is subjected to 1.3 disciplinary removals per year.

# **NEW: Events per Student Ratio (EPSR)**

How many disciplinary removals are black students with disabilities subjected to as compared to other students with disabilities?

# EPS: Total Disciplinary Removals for Other SpEd Students

**EPS =**

**Total disciplinary removals for non-Black sped students**  
**Total number of non-Black sped students**

$$\frac{159,592 - 96,750}{184,043 - 74,863} = \frac{63,202}{109,180} = .57888$$

On average, each non-Black student in Georgia is subjected to 0.6 disciplinary removals per year.

# Events per Student Ratio (EPSR) for Total Removals

**EPSR=**

$$\frac{\text{EPS for Black students}}{\text{EPS for all other students}} = \frac{1.2924}{.57888} = 2.2326$$

- Black special education students in Georgia are, on average, subjected to 2.2 times as many disciplinary removals as all other special education students.

# **NEW: Likelihood Measure**

- In a state where 3,022 out of 184,043 disabled children received long-term out-of-school suspensions or expulsions, what is the likelihood that 2,182 or more of 74,863 black children would receive long-term out-of-school suspensions or expulsions solely by chance?"

# All other rate for OSS > 10

The “all other rate” is equal to  
Non-Black OSS > 10 days for cwd

Count of Non-Black cwd

$$= \frac{3,022 - 2,182}{184,043 - 74,863} = \frac{840}{109,180}$$

$$= .00769$$

0.77% of non-Black disabled children were  
suspended or expelled for more than 10  
days

# Excel Likelihood formula

Likelihood =

$1 - \text{BINOMDIST}(\text{removals}-1, \text{child count}, \text{all other rate}, \text{true}) =$

$1 - \text{BINOMDIST}(2182-1, 74863, .00769, \text{true}) =$   
.000000

This event is extremely unlikely – it would happen less than one time in a million. It is appropriate to say that Black students in Georgia are disproportionately subjected to long-term suspension and expulsion.

# Zeroes in the likelihood formula

Prior to using the Excel formula in the previous slide, please adjust your data to remove problematic zeros

- If the number of removals in the category of interest is zero, change it to 1
- If the number of *other removals* is zero, change it to 1

# For identification

- Risk ratio is the single best method for assessing disproportionality in identification
  - Use “all other” as comparison group
  - Calculate weighted risk ratio for district analyses
  - Do not calculate if there are less than 10 students in the ethnic group of interest
  - Use the alternate risk ratio if there are less than 10 students in the all other group or if there are zero students identified in that group.

# For placement

- Risk ratio is the single best method for assessing disproportionality in placement
  - Use “all other” as comparison group
  - Calculate weighted risk ratio for district analyses
  - Do not calculate if there are less than 10 students with disabilities in the ethnic group of interest
  - Use the alternate risk ratio if there are less than 10 students with disabilities in the all other group or if there are zero students with disabilities in that ethnic group and educational environment.

# For total disciplinary removals (in draft)

- Events per student ratio (EPSR) is the single best method for assessing disproportionality in total disciplinary removals
  - Use “all other” as comparison group
  - Calculate weighted risk ratio for district analyses
  - Do not calculate if there are less than 10 students in the ethnic group of interest
  - Use the alternate EPSR if there are less than 10 students in the all other group or if there are zero students identified in that group.

# For suspensions and expulsions (in draft)

- Use the likelihood measure
  - Use “all other” to calculate the base rate.
  - Use alternate likelihood measure if there are less than 25 students in the ethnic group of interest
  - Adjust results for the number of comparisons made