Defining Disproportionate Discipline
Understanding Common Measures

Child Composition
Percentage of children who receive BIRs who belong to a specific group

15 children with at least 1 BIR

- 5 are African American

# of African American children who received at least 1 BIR

African American children who received at least 1 BIR

5

Total # of children who received at least 1 BIR

Total # of children who received at least 1 BIR

15

Risk Ratio
Risk of one group compared to the risk of another group; best single measure to summarize a group’s risk
At least 15 children are needed in the focal & comparison groups in order for the risk ratio to be stable and meaningful.

15 African American children enrolled in a program

“All Other” children, 10 with at least 1 incident
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<table>
<thead>
<tr>
<th>Risk Ratio Value</th>
<th>Level of Disproportionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Equal risk</td>
</tr>
<tr>
<td>1.25</td>
<td>25% higher risk</td>
</tr>
<tr>
<td>1.50</td>
<td>50% higher risk</td>
</tr>
<tr>
<td>2.00</td>
<td>Two times higher risk</td>
</tr>
<tr>
<td>2.50</td>
<td>2.5 times higher risk</td>
</tr>
<tr>
<td>3.00</td>
<td>3 times higher risk</td>
</tr>
<tr>
<td>&gt;3.00</td>
<td>Yikes!</td>
</tr>
</tbody>
</table>

Check for small n if your ratio exceeds 7.0

Risk
Percentage of children in a specific group who have at least one incident

15 African American children enrolled in a program

15 African American children who received at least 1 BIR
5

Total # of children who received at least 1 BIR
15

African American children's risk for receiving a BIR
33%

Risk Ratio Value for BIRs
1.0

All Other children who received at least 1 BIR
10

Total # of children who received at least 1 BIR
30

BIR Composition
Percentage of BIRs generated by a specific group; Impacted by children who receive multiple BIRs

African American children who received at least 1 BIR
5

Total # of children who received at least 1 BIR
15

33% of children who receive BIRs are African American

Adapted from:
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9 BIRs from African American children

30 BIRs total, 15 children with at least 1 BIR

# of BIRs from African American children

Total # of BIRs

BIRs from African American children

30

30%
of BIRs were generated by African American children

Additional Metrics
Multiple metrics are needed to measure disproportionality since it may occur in terms of students who receive discipline, and/or in terms of the amount of discipline received. Multiple metrics help teams understand how to intervene.

BIR Ratio
Rate of BIRs for a specific group divided by the BIR rate of all other children; 1.0 is equal

BIR Rate
Total number of BIRs for a group divided by the number of children enrolled in that group

Difference in Child Composition
Child composition minus the percent of child enrollment; Positive values suggest disproportionality

Difference in BIR Composition
BIR Composition minus the percent of child enrollment; Positive values suggest disproportionality

E-Formula
If a group’s child Composition is greater than or the E-Formula value, disproportionality is indicated

- Designed for “small-n” scenarios; Standard error for Composition (the percent of children who received a BIR who belong to a specific group)

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- The “upper bounds” for a specific group’s composition given the size of their population and the total number of children who received a BIR.

Standard error is the standard deviation of the sampling distribution of a statistic.

\[
E = A + \sqrt{\frac{A \times (100 - A)}{N}}
\]

- \(E\) = Upper bounds of what is expected given the proportionality
- \(A\) = % of children in a category (i.e., race/ethnicity, gender, IEP status, DLL status)
- \(N\) = Total number in the classification (i.e., total incidents, suspension events, dismissal events)

### BIR System View

<table>
<thead>
<tr>
<th>Guiding Question 1: Are outcomes equitable for all groups?</th>
<th>Guiding Question 2: How big are the disparities?</th>
<th>Guiding Question 3: How much of your target group is affected by disproportionate discipline?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Composition</strong></td>
<td><strong>BIR Ratio</strong></td>
<td><strong>BIR Rate</strong></td>
</tr>
<tr>
<td>The % of children with BIRs who belong to a target group; RED cells suggest disproportionality</td>
<td>BIR Rate for group divided by the BIR Rate for all other children; 1.0 is equal</td>
<td>Total number of BIRs for group divided by the number of enrolled children from that group</td>
</tr>
</tbody>
</table>