Disproportionality
Understanding the Risk Ratio Formulas

There are four indicators that determine disproportionality:

1. **Indicator 4: Suspension and Expulsion**
   - A. Any Discipline
   - B. Greater than 10 Days In-School
   - C. Greater than 10 Days Out of School
   - D. Less than 10 Days In-School
   - E. Less than 10 Days Out of School

2. **Indicator 5: Least Restrictive Environment (LRE)**
   - A. In Regular Class Less than 40%
   - B. In Separate Schools

3. **Indicator 9: Disproportionality Overall**

4. **Indicator 10: Disproportionality by Disability**
   - A. Autism
   - B. Emotional Disturbance
   - C. Intellectual Disabilities
   - D. Other Health Impairments
   - E. Specific Learning Disability
   - F. Speech or Language Impairment

There are four factors used to determine which risk ratio (if any) will be used to calculate disproportionality (only 1 factor will apply to each race/ethnicity):

1. If the # of SWD in the race/ethnicity group (numerator) is less than 10 and the number of students in the same race/ethnicity group for general education (denominator) is less than 20, then no calculation (NC) is done.
2. If the # of SWD in the race/ethnicity group (numerator) is less than 2, then no calculation (NC) is done.
3. If the # of SWD in the race/ethnicity group (numerator) is less than 10 or the number of students in the same race/ethnicity group for general education (denominator) is less than 20, then the Alternate Risk Ratio is used.
4. If the # of SWD in the race/ethnicity group (numerator) is more than 10 and the number of students in the same race/ethnicity group for general education (denominator) is more than 20, then the LEA Risk Ratio is used.

Data Sources:

1. **Indicator 4: Suspension and Expulsion**
   - a. SWD Enrollment Data: June CASEMIS Submission - Prior Year (Example: If this school year is 2017-18, then the June 2017 submission would be used).
   - b. Discipline Data: CALPADS End of Year (EOY) Submission – Prior Year (Example: If this school year is 2017-18, then the CALPADS EOY Submission from 2017 would be used).
   - c. General Education Data: CALPADS Enrollment Data (Example: If this school year is 2017-18, then the CALPADS Enrollment Submission from 2016 would be used).

2. **Indicator 5: Least Restrictive Environment (LRE)**
   - a. Enrollment Data: December CASEMIS Submission (Example: If this school year is 2017-18, then the December 2017 submission would be used).
   - b. General Education Data: CALPADS Enrollment Data (Example: If this school year is 2017-18, then the CALPADS Enrollment Submission from 2017 would be used).

3. **Indicator 9: Disproportionality Overall**
   - a. Enrollment Data: December CASEMIS Submission (Example: If this school year is 2017-18, then the December 2017 submission would be used).
   - b. General Education Data: CALPADS Enrollment Data (Example: If this school year is 2017-18, then the CALPADS Enrollment Submission from 2017 would be used).

4. **Indicator 10: Disproportionality by Disability**
   - a. Enrollment Data: December CASEMIS Submission (Example: If this school year is 2017-18, then the December 2017 submission would be used).
   - b. General Education Data: CALPADS Enrollment Data (Example: If this school year is 2017-18, then the CALPADS Enrollment Submission from 2017 would be used).
Indicator 4: Suspension and Expulsion

Example:

<table>
<thead>
<tr>
<th>Students Discipline (SWD)</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>General Education</td>
<td>15</td>
<td>11</td>
<td>46</td>
<td>214</td>
<td>56</td>
<td>2</td>
<td>675</td>
</tr>
<tr>
<td>Risk Ratio (Max = 3)</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>2.40</td>
<td>NC</td>
<td>NC</td>
<td>1.53</td>
</tr>
<tr>
<td>Disproportionate?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

If the risk ratio is over 3, then the district is considered disproportionate.

The # of students with disabilities disciplined in the race/ethnicity group of American Indian is 1 (numerator), which is less than 10 and the # of general education students disciplined in the same race/ethnicity group of American Indian is 15 (denominator), which is less than 20 so no calculation (NC).

The # of students with disabilities disciplined in the race/ethnicity group of Pacific Islander is 0 (numerator), which is less than 2 so no calculation (NC) for risk ratio.

The # of students with disabilities disciplined in the race/ethnicity group of White is 21 (numerator) which is over 10 and the # of general education students disciplined in the same race/ethnicity group of Hispanic is 675, which is over 20 so the LEA Risk Ratio is used.

\[
\frac{\text{# of SWD in White}}{\text{# of General Education in White}} \times 100 = \frac{21}{675} \times 100 = \frac{7}{344} \times 100 = \frac{3.1111}{2.03488} = 1.53
\]

7 = American Indian (1) + Asian (1) + African American (0) + Hispanic (5) + Multiple Ethnicities (0) + Pacific Islander (0) [Source: Any Discipline – Student Discipline]

344 = American Indian (15) + Asian (11) + African American (46) + Hispanic (214) + Multiple Ethnicities (56) + Pacific Islander (2) [Source: General Education]

The # of students with disabilities disciplined in the race/ethnicity group of Hispanic (numerator) is 5, which is less than 10 but the # of general education students disciplined in the same race/ethnicity of Hispanic is 214, which is over 20 so the alternative risk ratio is used.

The chart below displays the statewide data for this example:

<table>
<thead>
<tr>
<th>Statewide – Indicator 4</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>33,369</td>
<td>712,829</td>
<td>350,338</td>
<td>3,378,344</td>
<td>253,472</td>
<td>29,384</td>
<td>1,470,499</td>
</tr>
<tr>
<td>Any Discipline</td>
<td>653</td>
<td>1,248</td>
<td>10,456</td>
<td>28,208</td>
<td>2,155</td>
<td>265</td>
<td>12,880</td>
</tr>
<tr>
<td>&gt; 10 Days Out of School</td>
<td>48</td>
<td>41</td>
<td>908</td>
<td>1,654</td>
<td>132</td>
<td>15</td>
<td>707</td>
</tr>
<tr>
<td>&lt; 10 Days In School</td>
<td>129</td>
<td>210</td>
<td>1,835</td>
<td>5,337</td>
<td>427</td>
<td>52</td>
<td>2,737</td>
</tr>
<tr>
<td>&lt; 10 Days Out of School</td>
<td>544</td>
<td>1,071</td>
<td>8,703</td>
<td>23,574</td>
<td>1,801</td>
<td>221</td>
<td>10,598</td>
</tr>
<tr>
<td>&gt; 10 Days In School</td>
<td>1</td>
<td>0</td>
<td>18</td>
<td>38</td>
<td>1</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

\[
\frac{\text{# of SWD in Hispanic}}{\text{# of General Education in Hispanic}} \times 100 = \frac{5}{214} \times 100 = \frac{27,657}{2,849,891} \times 100 = \frac{2.33644}{0.97045} = 2.40
\]

27,657 = American Indian (653) + Asian (1,248) + African American (350,338) + Multiple Ethnicities (253,472) + Pacific Islander (26,384) + White (1,470,499) [Source: Statewide Indictor 4 – Any Discipline]

2,849,891 = American Indian (33,369) + Asian (712,829) + African American (350,339) + Multiple Ethnicities (253,472) + Pacific Islander (29,384) + White (1,470,499) [Source: Statewide Indicator 4 - General Education]
Indicator 5: Least Restrictive Environment

Example:

The # of students with disabilities in regular class less the 40% in the race/ethnicity group of American Indian is 1 (numerator), which is less than 10 and the # of general education students in the same race/ethnicity group of American Indian is 6 (denominator), which is less than 20 so no calculation (NC).

The # of students with disabilities in regular class less the 40% in the race/ethnicity group of Pacific Islander is 0 (numerator), which is less than 2 so no calculation (NC) for risk ratio.

The # of students with disabilities in regular class less the 40% in the race/ethnicity group of Multiple Ethnicities is 12 (numerator) which is over 10 and the # of general education students in the same race/ethnicity group of Multiple Ethnicities is 419, which is over 20 so the LEA Risk Ratio is used.

The # of students with disabilities in regular class less the 40% in the race/ethnicity group of Hispanic (numerator) is 5, which is less than 10 but the # of general education students in the same race/ethnicity of Hispanic is 1,055, which is over 20 so the alternative risk ratio is used.

The chart below displays the statewide data for this example:
**Indicator 9: Disproportionality Overall**

**Example:**

<table>
<thead>
<tr>
<th>Disproportionality Overall</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with Disabilities (SWD)</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>23</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>General Education</td>
<td>2</td>
<td>20</td>
<td>14</td>
<td>233</td>
<td>18</td>
<td>1</td>
<td>67</td>
</tr>
<tr>
<td>Risk Ratio (Max = 3)</td>
<td>NC</td>
<td>NC</td>
<td>3.33</td>
<td>0.71</td>
<td>0.00</td>
<td>NC</td>
<td>1.00</td>
</tr>
<tr>
<td>Disproportionate?</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

*If the risk ratio is over 3, then the district is considered disproportionate.*

The # of students with disabilities that are disproportionate overall in the race/ethnicity group of American Indian is 1 (numerator), which is less than 10 and the # of general education students in the same race/ethnicity group of American Indian is 2 (denominator), which is less than 20 so **no calculation (NC)**.

The # of students with disabilities that are disproportionate overall in the race/ethnicity group of Pacific Islander is 1 (numerator), which is less than 2 so **no calculation (NC)** for risk ratio.

The # of students with disabilities that are disproportionate overall in the race/ethnicity group of Hispanic is 23 (numerator) which is over 10 and the # of general education students in the same race/ethnicity group of Hispanic is 233, which is over 20 so the **LEA Risk Ratio** is used.

\[
\left( \frac{\text{# of SWD in Hispanic}}{\text{# of General Education in Hispanic}} \right) \times 100 = \left( \frac{23}{233} \right) \times 100 = \frac{9,87124}{13.93442} = 0.71
\]

17 = American Indian (1) + Asian (0) + African American (5) + Multiple Ethnicities (3) + Pacific Islander (1) + White (7) [Source: SWD – Disproportionality Overall]
122 = American Indian (2) + Asian (20) + African American (14) + Multiple Ethnicities (18) + Pacific Islander (1) + White (67) [Source: General Education]

The # of students with disabilities that are disproportionate overall in the race/ethnicity group of White (numerator) is 7, which is less than 10 but the # of general education students in the same race/ethnicity of White is 67, which is over 20 so the **alternative risk ratio** is used.

The chart below displays the statewide data for this example:

<table>
<thead>
<tr>
<th>Statewide – Indicator 9</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education</td>
<td>4,874</td>
<td>38,522</td>
<td>55,949</td>
<td>371,293</td>
<td>23,947</td>
<td>2,481</td>
<td>155,560</td>
</tr>
<tr>
<td>General Education</td>
<td>32,500</td>
<td>721,394</td>
<td>340,841</td>
<td>3,376,591</td>
<td>277,779</td>
<td>28,920</td>
<td>1,442,388</td>
</tr>
</tbody>
</table>

\[
\left( \frac{\text{# of SWD in White}}{\text{# of General Education in White}} \right) \times 100 = \left( \frac{7}{67} \right) \times 100 = \frac{10,44776}{10,40316} = 1.0042871 = 1.00
\]

497,066 = American Indian (4,874) + Asian (38,522) + African American (55,949) + Hispanic (371,293) + Multiple Ethnicities (23,947) + Pacific Islander (2,481) [Source: Statewide Indicator 9 – Special Education]
4,778,025 = American Indian (32,500) + Asian (721,394) + African American (340,841) + Hispanic (3,376,591) + Multiple Ethnicities (277,779) + Pacific Islander (28,920) [Source: Statewide Indicator 9 - General Education]
Indicator 10: Disproportionality by Disability

Example:

<table>
<thead>
<tr>
<th>Specific Learning Disability</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with Disabilities (SWD)</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>15</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>General Education</td>
<td>23</td>
<td>21</td>
<td>58</td>
<td>226</td>
<td>63</td>
<td>2</td>
<td>633</td>
</tr>
<tr>
<td>Risk Ratio (Max = 3)</td>
<td>NC</td>
<td>NC</td>
<td>1.88</td>
<td>3.32</td>
<td>NC</td>
<td>NC</td>
<td>0.28</td>
</tr>
<tr>
<td>Disproportionate?</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

If the risk ratio is over 3, then the district is considered disproportionate.

The # of students with disabilities that are disproportionate with a primary disability of SLD in the race/ethnicity group of Pacific Islander is 1 (numerator), which is less than 10 and the # of general education students in the same race/ethnicity group of Pacific Islander is 2 (denominator), which is less than 20 so no calculation (NC).

The # of students with disabilities that are disproportionate with a primary disability of SLD in the race/ethnicity group of American Indian is 0 (numerator), which is less than 2 so no calculation (NC) for risk ratio.

The # of students with disabilities that are disproportionate with a primary disability of Specific Learning Disability in the race/ethnicity group of Hispanic is 15 (numerator) which is over 10 and the # of general education students in the same race/ethnicity group of Hispanic is 226, which is over 20 so the LEA Risk Ratio is used.

$$\left( \frac{\text{# of SWD in Hispanic}}{\text{# of General Education in Hispanic}} \right) \times 100 = \left( \frac{15}{226} \right) \times 100 = \frac{6.63716}{2.00000} = 3.32$$

16 = American Indian (0) + Asian (0) + African American (5) + Multiple Ethnicities (0) + Pacific Islander (1) + White (10) [Source: SWD – Specific Learning Disability]

800 = American Indian (23) + Asian (21) + African American (58) + Multiple Ethnicities (63) + Pacific Islander (2) + White (633) [Source: General Education]

The # of students with disabilities that are disproportionate with a primary disability of Specific Learning Disability in the race/ethnicity group of African American (numerator) is 5, which is less than 10 but the # of general education students in the same race/ethnicity of African American is 58, which is over 20 so the alternative risk ratio is used.

The chart below displays the statewide data for this example:

<table>
<thead>
<tr>
<th>Statewide – Indicator 10</th>
<th>American Indian</th>
<th>Asian</th>
<th>African American</th>
<th>Hispanic</th>
<th>Multiple Ethnicities</th>
<th>Pacific Islander</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>32,500</td>
<td>721,394</td>
<td>340,841</td>
<td>3,376,591</td>
<td>277,779</td>
<td>28,920</td>
<td>1,442,388</td>
</tr>
<tr>
<td>Autism</td>
<td>488</td>
<td>12,683</td>
<td>6,637</td>
<td>40,765</td>
<td>4,128</td>
<td>318</td>
<td>26,211</td>
</tr>
<tr>
<td>Emotional Disturbance</td>
<td>259</td>
<td>755</td>
<td>3,186</td>
<td>9,723</td>
<td>1,273</td>
<td>84</td>
<td>8,822</td>
</tr>
<tr>
<td>Intellectual Disability</td>
<td>254</td>
<td>3,115</td>
<td>3,507</td>
<td>24,263</td>
<td>1,095</td>
<td>195</td>
<td>7,416</td>
</tr>
<tr>
<td>Other Health Impairment</td>
<td>722</td>
<td>3,340</td>
<td>10,561</td>
<td>42,636</td>
<td>3,991</td>
<td>305</td>
<td>30,167</td>
</tr>
<tr>
<td>Specific Learning Disability</td>
<td>2,436</td>
<td>9,135</td>
<td>26,513</td>
<td>194,012</td>
<td>8,320</td>
<td>1,152</td>
<td>55,012</td>
</tr>
<tr>
<td>Speech or Language Disability</td>
<td>715</td>
<td>9,494</td>
<td>5,545</td>
<td>59,894</td>
<td>5,140</td>
<td>427</td>
<td>27,932</td>
</tr>
</tbody>
</table>

$$\left( \frac{\text{# of SWD in African American}}{\text{# of General Education in African American}} \right) \times 100 = \left( \frac{5}{58} \right) \times 100 = \frac{1.8767985}{1.88}$$

270,067 = American Indian (2,436) + Asian (9,135) + Hispanic (194,012) + Multiple Ethnicities (8,320) + Pacific Islander (1,152) + White (55,012) [Source: Statewide Indicator 10 – Specific Learning Disability]

5,879,592 = American Indian (32,500) + Asian (721,394) + Hispanic (3,376,591) + Multiple Ethnicities (277,779) + Pacific Islander (28,920) + White (1,442,388) [Source: Statewide Indicator 10 – General Education]