

**Michigan Department of Education  
Office of Special Education and Early Intervention Services**

**Methodology for Determining  
District Disproportionate Representation**

Using a formula to calculate a risk ratio allows the SEA to determine the extent that each racial/ethnic group contributes to the risk for the comparison group, in proportion to its size, relative to the entire comparison group. One limitation of calculating a risk ratio is that a racial/ethnic group may have the same risk in two districts, but substantially different risk ratios because of variability in the district-level racial/ethnic demographic distributions.

The weighted risk ratio addresses this limitation by adjusting for district variability in the racial/ethnic composition of the comparison group. The weighted risk ratio thus allows comparison of risk ratios across districts and enables states to rank districts when deciding how to target technical assistance.

The weighted risk ratio uses the district-level risk for the racial/ethnic group for the numerator and a weighted risk for all other students for the denominator. The weighted risk for all other students uses the district-level risks for each racial/ethnic group in the comparison group, weighted according to the racial/ethnic composition of the state.

The equation for the weighted risk ratio is:

$$\begin{aligned} \text{Weighted risk ratio} &= \frac{R_i}{\sum_{j \neq i} w_j R_j} \\ &= \frac{R_i}{(1-p_i)R_i + \sum_{j \neq i} p_j R_j} \end{aligned}$$

Where  $R_i$  is the district-level risk for racial/ethnic group  $i$ , and  $p_i$  is the state-level proportion of students from racial/ethnic group  $i$ .  $R_j$  is the district-level risk for the  $j$ -th racial/ethnic group, and  $p_j$  is the state-level proportion of students from the  $j$ -th racial/ethnic group.

*Source:*

*Methods for Assessing Racial/Ethnic Disproportionality in Special Education: A Technical Assistance Guide, 2005. OSEP Leadership Conference materials, <http://www.rrfcnetwork.org/content/view/249/19>*