Data Suppression Guidelines

Under the Family Educational Rights and Privacy Act (FERPA), educational agencies and institutions reporting or releasing data derived from education records are responsible for protecting personally identifiable information (PII) in their reports from disclosure. Under the No Child Left Behind Act, The U.S. Department of Education also states, in reporting achievement results under section 1111(h) of the Elementary and Secondary Education Act of 1965, as amended (ESEA), to "not use disaggregated data for one or more subgroups… to report achievement results… if the results would reveal personally identifiable information about an individual student" and to "implement appropriate strategies to protect the privacy of individual students" (34 CFR §200.7). Further, "to determine whether disaggregated results would reveal personally identifiable information about an individual student" (34 CFR §200.7), States are instructed to follow FERPA requirements (34 CFR §99).

CSDE has determined that the following suppression rules meet these requirements, while still allowing the Department to provide substantial amount of information to the public. These rules have also been vetted by representatives of the US Department of Education (USDE) and the Privacy Technical Assistance Center (PTAC) within the USDE.

Suppression of Cell Counts:

1. If any cell is ≤ 5 the value is suppressed (this includes a total).
2. If cell is ≤ 5 and only one value is suppressed in a row or column, the next highest value in that row or column is also suppressed. If there are multiple occurrences of this value, randomly suppress one occurrence. This is referred to as complementary suppression.
    ***Note:* Charts generated through SAS Visual Analytics will not apply any complementary suppression. CSDE will minimize showing counts in chart objects.**
3. Totals are retained whenever possible.
4. Fields with a value of 0 are not suppressed.
5. All categories by which data are parsed (e.g., race, EL) are presented in report tables even if there are no data for categories.

Suppression of Computed Statistics:

When cell counts are small, suppression of statistics (e.g., average, percent of total) protects confidentiality and ensures that statistics based on a very small sample size are not interpreted as equally representative as those based on a sufficiently larger sample size.

Suppress a statistic if <u>any one</u> of the following conditions is true:
    a. the count associated with the statistic has been previously suppressed
    b. numerator is ≤ 5
    c. denominator is < 20

Example 1: Step-by-Step Suppression

Unsuppressed Table

Enrollment by Race/Ethnicity

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	3	60.0%	2	40.0%	0	0.0%	5
District 2	0	0.0%	4	40.0%	6	60.0%	10
District 3	10	66.7%	0	0.0%	5	33.3%	15
District 4	8	42.1%	7	36.8%	4	21.1%	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

1. **Suppression of Cell Counts:** Suppress any cell where the value is less than or equal to 5 (including totals). Do not suppress zeros.

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	3	60.0%	2	40.0%	0	0.0%	5
District 2	0	0.0%	4	40.0%	6	60.0%	10
District 3	10	66.7%	0	0.0%	5	33.3%	15
District 4	8	42.1%	7	36.8%	4	21.1%	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

2a. **Suppression of Cell Counts** (*Complementary Suppression*): If only one value **IN A COLUMN** is suppressed, suppress the next highest value in that **COLUMN**. If there are multiple occurrences of this value, randomly suppress one occurrence. Totals should be retained whenever possible.

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	*	60.0%	*	40.0%	0	0.0%	*
District 2	0	0.0%	*	40.0%	6	60.0%	10
District 3	10	66.7%	0	0	*	33.3%	15
District 4	8	42.1%	7	36.8%	*	21.1%	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

2b. **Suppression of Cell Counts** (*Complementary Suppression*): If only one value **IN A ROW** is suppressed, suppress the next highest value in that **ROW**. If there are multiple occurrences of this value, randomly suppress one occurrence. Totals should be retained whenever possible.

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	*	60.0%	*	40.0%	0	0.0%	*
District 2	0	0.0%	*	40.0%	6	60.0%	*
District 3	10	66.7%	0	0.0%	*	33.3%	15
District 4	*	42.1%	7	36.8%	*	21.1%	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

Note: If through complementary suppression, another single suppressed value in any column or row is created, another pass of complementary suppression (2a and 2b) must be applied.

3. **Suppression of Computed Statistics:** Suppress computed statistics based on previously suppressed cell counts (including totals).

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	*	60.0%	*	40.0%	0	0.0%	*
District 2	0	0.0%	*	40.0%	6	60.0%	*
District 3	*	66.7%	0	0.0%	*	33.3%	15
District 4	*	42.1%	7	36.8%	*	21.1%	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

4. **Suppression of Computed Statistics:** Suppress computed statistics if numerator is less than or equal to 5 or denominator is less than 20. This includes numerators of zero.

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	*	*	*	*	0	*	*
District 2	0	*	*	*	6	*	*
District 3	*	*	0	0.0%	*	*	15
District 4	*	*	7	36.8%	*	*	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

Final Suppressed Table

District	Black		White		Hispanic		Total
	Count	Percent	Count	Percent	Count	Percent	
District 1	*	*	*	*	0	*	*
District 2	0	*	*	*	6	*	*
District 3	*	*	0	*	*	*	15
District 4	*	*	7	*	*	*	19
District 5	10	40.0%	8	32.0%	7	28.0%	25
Total	31	41.9%	21	28.4%	22	29.7%	74

Note 1: This example was created in an effort to illustrate all potential suppression situations. Therefore, the result is a highly suppressed table.

Note 2: While this example shows results from manual suppression, suppression completed using the CSDE automated suppression algorithm may vary slightly in certain scenarios (e.g., complementary suppression when there are multiple occurrences of the next highest value). Either result (manual and automated) is acceptable, as both ensure compliance with the Family Educational Rights and Privacy Act (FERPA) and protection of personally identifiable information (PII). Suppression rules will limit the ability to compute values across tables.

Future Enhancement

Expansion of this section to include masking of extreme percentages (> 95% and < 5%) is being considered for the next release of the *Data Suppression Guidelines*. Specifically, further consideration is being given to situations when provision of an extreme percentage may reveal personally identifiable information about an individual student as well as when provision of a masked percentage could be included to allow for some level of interpretation when all associated cell counts have been suppressed. (See *Example 2*.)

Example 2: Suppression of Computed Statistics (Current and Future)

Unsuppressed Table

Eligible for Free Meals		Eligible for Reduced-Price Meals		Not Eligible for Free or Reduced-Price Meals	
N	%	N	%	N	%
2	2%	0	0%	98	98%

Table After *Current* Suppression Rules Applied

Eligible for Free Meals		Eligible for Reduced-Price Meals		Not Eligible for Free or Reduced-Price Meals	
N	%	N	%	N	%
*	*	0	0%	*	*

Possible *Future* Enhancement

Eligible for Free Meals		Eligible for Reduced-Price Meals		Not Eligible for Free or Reduced-Price Meals	
N	%	N	%	N	%
*	< 5%	0	0%	*	> 95%