Indicator B-13 Sampling Plan

Guidance

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Michigan Department of Education Office of Special Education
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Goals of the Indicator B-13 (Secondary Transition) Sampling Frame

Michigan Department of Education (MDE) Office of Special Education (OSE) draws a sample of students for record review at the intermediate school district (ISD) level, which is the responsible party as the sub-recipient of the *Individuals with Disabilities Education Act* (IDEA) funds. All districts with eligible students are included in the sample frame each year although the sample will be drawn randomly from within each ISD. This sampling allows the OSE to draw samples from districts, while also getting a reliable and more calibrated estimate of the performance of the ISD. The sample stratum unit of the ISD allows a more equitable means of providing representative local data than other methods, such as oversampling key demographic groups, and will allow the OSE to annually get reliable and more efficient data without as much of a reporting burden to the ISDs and their member districts.

The sampling frame and strategy will provide statewide representative results (estimated to be within +/- 0.8% at the 95% confidence level) and all member districts with eligible students (i.e., transition-aged students receiving special education services) will be included in the pool to be randomly drawn from every ISD every year. This sampling strategy will continue to provide statewide representative results.

Sampling Frame

The sampling frame uses a 90% response distribution assumption. This continued 90% response distribution is based upon the average state-wide results from FFY 2007 to FFY 2017 data collection efforts, which saw Michigan's compliance rate averaging around 90%. Assuming a 90% response distribution allows the OSE to pull fewer records to achieve the targeted margin of error in each ISD. Prior to FFY 2009, Michigan used the

response distribution of 50%, which is appropriate when no pre-existing information is known about how districts are performing.

For the margin of error, Michigan now uses a 5% margin of error for each ISD, drawing randomly from all member districts which have eligible students. This level of precision is consistent with what Michigan used previously for large districts. Additionally, the OSE will ensure that any single member district that has more than 50,000 students enrolled, will be included in the broader ISD sample with its own sample drawn that is large enough to reach a 10% margin of error.

- All ISDs will be sampled to achieve a margin of error within +/- 5% at the 95% confidence level.
- Any member district with 50,000 or more enrolled students will be directly sampled to achieve a margin of error within +/- 10% at the 95% confidence level.

Methodology

Michigan's sample of individualized education programs (IEP) records for Indicator B-13 data collection is drawn from the Michigan Student Data System (MSDS). Any student receiving special education services (i.e., has an IEP), aged 16-26 in the Fall collection of the MSDS is included in the eligible universe for sampling.

Table 1 shows the sample size per ISD for the various sampling bands. ISDs with 40 or fewer eligible students include 30 students in the sample. If the ISD has less than 30 students, then every student with an IEP will be included in their sample.

*Table 1: Indicator B-13 Sample by Number of Eligible Students in ISD**

Number of Eligible Students for B-13 Data Collection in ISD	Sample Size
With Less Than 30	All
31-40	30
41-50	40
51-85	50
86-115	60

Number of Eligible Students for B-13 Data Collection in ISD	Sample Size
116-165	70
166-187	80
188-255	90
256-365	100
366-500	110
501-892	120
893-1935	130
1936-4580	140
4581-7300	150
7301 or More	160

*The sample sizes in this table are based upon a 5% margin of error. Currently Michigan has one ISD with a member district that has more than 50,000 students, and it has historically had between 1700 and 2000 students with IEPs, which would require its own sample frame of 30-40 students to reach a margin of error of +/- 10%. Also, currently the smallest ISD in Michigan has 73 students with IEPs, and the largest has 7,230. The sample frame bands provided above extend further in each direction than current population parameters to accommodate anticipated future regional population changes in Michigan (e.g., urban growth or rural decline) over the next 10-20 years.

For ISDs with 30 or more eligible students, the number of student IEPs to review in each ISD is determined using the following sample size calculation:

$$\frac{[(z)^2 \text{ X } (p) \text{ X } (\text{Number of Eligible Students})]}{[(z)^2 \text{ X } (p)] + [(\text{Number of Eligible Students} - 1) \text{ X } (\text{Margin of Error})^2]}$$

- z is the standard deviation value, and reflects the desired confidence level
  - For a 95% confidence level, z = 1.96
- p is the probability value, and reflects the selected response distribution
  - For a 90% response distribution, p = [(.90) X (100 - .90)] = .09

- Number of eligible students is determined using the MSDS and identifying the number of students aged 16-26 with an IEP in each ISD and its member districts.
- Margin of error is set based upon the total enrollment for the ISD and member districts:
  - For ISDs, it is 5% (.05)
  - For individual member districts with 50,000 or more enrolled students, it is 10% (.10)
  - Example:

$$(1.96^2 \text{ X } .09 \text{ X Number of Eligible Students})$$

$$(1.96^2 \text{ X } .09) + ((\text{Number of Eligible Students} - 1) \text{ X } 0.05^2)$$

The raw sample size calculations are then rounded up to the nearest whole number. The resulting whole number is the sample size used in each ISD. Using the calculated sample size, a stratified-random sample of student IEPs is then generated.

Data Collection

The list of student IEPs included in each ISD sample is then distributed through the secure Catamaran website used for data collection and local reporting of Indicator B-13.

Because Michigan's ISD transition coordinators and member districts are required to account for every IEP in their sample (either with data on the compliance of the IEP, or by indicating the student is no longer receiving services in their district), the response rate is very high (>90%). This reduces the need for oversampling to achieve target response levels. At the same time, because this sampling frame samples each ISD with eligible students every year and uses a consistent margin of error criteria to randomly select transition aged student receiving special education services, the OSE anticipates that the sample will be representative of the population of Michigan students eligible for Indicator B-13 review.

Representative Data

The OSE will ensure the sample is representative by using a differences-in-proportions test and applying post-stratification weights to the final sample.

After data collection the final sample is checked for representativeness against the known universe of students with IEPs eligible for Indicator B-13 review (including age, race/ethnicity, gender, and primary disability). The differences in proportions test (z-test) will be used to look for any variation between the final sample and the known universe of students with IEPs at the state level. A 95% confidence level will be used, and any statistically significant variation ($p<.05$) will be noted.

Since FFY 2009, the OSE has been applying post-stratification weighting to the sample based upon the differences in proportions testing of population demographics. If there is a statistically significant variation between the final sample and the known universe of students with IEPs eligible for secondary transitions, appropriate weights will be applied.

Both weighted and unweighted results will be reported in the Annual Performance Report (APR), along with detailed tables showing the results of the representativeness testing, at the state level and for each member district with 50,000 or more enrolled students. These tables will include the distribution and representativeness of the above demographics for the original sample, as well as the final sample (after removing students who are no longer in their sampled district) and will note any statistically significant variation used for the weighted analysis.

Frequently Asked Questions

1. How are shared students assigned to a district if their record is selected for review?

   Answer: For shared students, their record is assigned to the district which claims the larger share of the student's time. For students whose time is shared equally between two districts, the student record is assigned to the last district which entered information into MSDS.

2. Will every district with students ages 16+ have a student in the sample for data collection?

   Answer: No. Students are aggregated to the ISD level and then a random selection of students is pulled. In any sample a particular district may or may not have any students whose record is selected for review. The exception is the districts with more than 50,000 students as described above.

3. If a district opts out of a record during data collection, does the district need to include another student to replace the first one?

   Answer: No. If a student record review is not able to be completed, the district and ISD do not need to add additional student records to replace the first student. The high overall response rate allows for some records to be excluded without the need to replace them. Additional weighting of may be done following data collection if warranted.