Calculating Sample Size for the NYTD Follow-up Population

The NYTD regulation allows States the option to collect and report outcomes information on a sample of the baseline population (45 CFR 1356.84). The actual sample size depends on the number of youth in the baseline population who participate in outcomes data collection at age 17 and the application of the correct formula pursuant to 45 CFR 1356.84(c) and Appendix C of the NYTD regulation. The resulting sample size must be increased by 30% to allow for attrition as specified at 45 CFR 1356.84(c)(1)-(2) but the sample size may not be larger than the number of youth who participated in data collection at age 17. Consequently, depending on the number of baseline youth who participate in the NYTD survey in a State, the resulting sample size may be the entire baseline population. To promote consistency among States and to select an unbiased sample, States will work with the Children's Bureau Regional Office specialist who will consult with a statistician at ACF to select the sample for the State or, if necessary, to approve any sampling plan for a State that chooses to conduct their own sampling.

In this brief:

We provide more information about a how a State may, for planning purposes, calculate a sample size for the NYTD follow-up population

Target audience: Data managers

Key words: Sampling; follow-up population

In the meantime, States are welcome to use the formulas provided in Appendix C of the NYTD regulation <u>for planning purposes only</u> to estimate the number of youth the State will need to locate and survey at ages 19 and 21 as part of its sample. As many States have asked for more assistance with calculating an estimated sample size for the NYTD follow-up population, we have provided the following tools to help States estimate a potential follow-up population sample size for NYTD. For States that anticipate drawing the sample from a population of less than 5,000 youth, use **Chart 1**. For States that anticipate drawing the sample from a population of over 5,000 youth, use **Chart 2**.

Chart 1. Follow-up Population Sample Size Computation Using Various Sampling Frames (N) with the Finite Population Correction (FPC) Note: The Finite Population Correction (FPC) is applied when the sample is drawn from a population of one to 5,000 youth because the sample is more than five percent of the population.

Sample Size Formula *(with Finite Population Correction)*:

$$\frac{(P_y)(P_n) + \text{Standard error}^2}{\text{Standard error}^2 + \frac{(P_y)(P_n)}{N}}$$

P_y	P_n	std error	std error ^{2}	All 17-year-olds who participated in baseline outcomes data collection — **N**	Sample size — **n**	Follow-up Population Sample Size (increased by 30% to allow for attrition) — **actual n**
0.5	0.5	0.0303951	0.000923862	90	68	**89**
				100	74	**97**
				125	86	**112**
				150	97	**127**
				175	107	**140**
				200	116	**151**
				300	143	**186**
				500	177	**231**
				750	200	**260**
				1000	214	**279**
				1500	231	**301**
				2000	240	**312**
				2500	246	**320**
				3000	250	**325**
				3500	253	**329**
				4000	255	**332**
				4500	257	**335**
				4999	258	**336**

OR

Enter your own estimate of the number of 17-year-olds who will participate in baseline outcomes data collection here: → (*between 1 and 4,999*)	**?**	**#VALUE!**	**#VALUE!**

Chart 2. Follow-up Population Sample Size without the Finite Population Correction (FPC) Note: the FPC is not applied when the sample is drawn from a population of over 5,000 youth.

Sample Size Formula *(without Finite Population Correction)*:

$$\frac{(P_y)(P_n)}{\text{Standard error}^2}$$

P_y	P_n	std error	std error ^{2}	Sample size — **n**	Follow-up Population Sample Size (increased by 30% to allow for attrition) — **actual n**
0.5	0.5	0.0303951	0.000923862	**271**	**353**