

Appendix C

**2022 National Survey of Children's Health
Table of State Sample Sizes**

2022 NSCH - Estimated State Sample Sizes

State Sample Sizes	Base Sample Oversampling Rate ¹ 'k'	Proportion of Households with Children from 2020 ACS 'P'	Base Sample Sampling Variance ¹ 'R'	Total Sample ²	Stratum 1 Sample (Admin Flag for HHL D w/Children)	Stratum 2a Sample (Admin Flag for HHL D w/o Children)
Alabama	4.0	29%	1.01	5,900	4,100	1,700
Alaska	4.0	25%	1.02	6,800	4,000	2,800
Arizona	4.0	34%	1.05	5,400	4,000	1,500
Arkansas	4.0	28%	1.00	6,500	4,500	2,000
California	3.0	43%	1.02	34,500	23,500	11,000
Colorado	3.0	37%	0.98	9,700	6,300	3,500
Connecticut	4.0	37%	1.05	4,000	3,000	1,000
Delaware	4.0	30%	0.98	5,300	3,800	1,500
District of Columbia	6.0	17%	0.99	5,300	3,400	2,000
Florida	4.0	30%	1.04	5,600	4,100	1,500
Georgia	3.0	35%	0.99	9,300	6,000	3,200
Hawaii	2.0	30%	0.99	7,500	2,500	5,000
Idaho	4.0	38%	1.06	4,000	3,000	900
Illinois	4.0	34%	1.04	4,400	3,200	1,200
Indiana	4.0	34%	1.03	4,400	3,200	1,200
Iowa	6.0	25%	1.03	4,400	3,200	1,200
Kansas	4.0	36%	1.05	4,300	3,200	1,100
Kentucky	4.0	31%	1.03	5,300	3,600	1,700
Louisiana	3.0	32%	1.00	7,200	4,700	2,500
Maine	6.0	25%	1.03	5,000	3,600	1,400
Maryland	4.0	39%	1.05	4,200	3,300	900
Massachusetts	4.0	36%	1.03	3,600	2,600	1,000
Michigan	4.0	36%	1.02	4,500	3,400	1,000
Minnesota	4.0	37%	0.99	3,500	2,600	900
Mississippi	4.0	25%	0.99	7,300	4,700	2,600
Missouri	4.0	33%	1.02	4,400	3,300	1,200
Montana	5.0	21%	0.99	5,100	3,100	2,000
Nebraska	5.0	28%	0.98	5,500	3,800	1,600
Nevada	3.0	34%	0.98	6,100	3,900	2,200
New Hampshire	4.0	33%	0.98	4,300	3,100	1,200
New Jersey	3.0	41%	1.00	4,400	3,000	1,300
New Mexico	4.0	23%	1.00	7,600	4,500	3,100
New York	3.0	34%	0.98	35,000	20,500	14,500
North Carolina	4.0	34%	1.04	5,200	3,800	1,500
North Dakota	5.0	23%	0.99	4,800	3,100	1,600
Ohio	4.0	37%	1.04	8,700	6,400	2,300
Oklahoma	4.0	28%	1.02	6,200	4,100	2,100
Oregon	4.0	33%	1.02	13,000	8,700	4,300
Pennsylvania	4.0	36%	1.01	8,300	5,900	2,400
Rhode Island	4.0	31%	1.01	5,300	3,600	1,700
South Carolina	4.0	32%	1.03	5,200	3,800	1,400
South Dakota	5.0	25%	0.99	4,800	3,200	1,500
Tennessee	4.0	35%	1.06	13,000	9,000	3,800
Texas	3.0	38%	1.01	6,600	4,500	2,100
Utah	3.0	44%	1.01	3,700	2,700	1,000
Vermont	8.0	19%	1.02	4,000	2,800	1,300
Virginia	3.0	41%	0.98	4,400	3,100	1,300
Washington	4.0	37%	1.05	3,900	2,900	1,000
West Virginia	5.0	22%	1.01	6,300	3,900	2,400
Wisconsin	4.0	35%	1.01	3,800	2,800	1,000
Wyoming	4.0	27%	0.98	10,000	6,200	3,900
Total				357,500	239,500	118,000
Proportion by Strata					67%	33%

¹ These are the Stratum 1 oversampling rates and the sampling variances for the base production sample only. California, Colorado, Georgia, Nebraska, New York, Ohio, Oregon, Pennsylvania, Tennessee, and Wyoming all have additional sample that may have different oversampling rates and sampling variances.

² Sample sizes include both the base production sample as well as the additional nationwide oversample of young children and state oversamples in CA, CO, GA, NE, NY, OH, OR, PA, TN, and WY. All sample sizes have been rounded.

Calculations for Base Production State Sample Sizes

The oversampling rate (k) was calculated to maximize the sample from Stratum 1 without increasing the variance (R) too much beyond that of a proportional stratified design of a similar cost.

(P) is the proportion of households with children based on the 2020 ACS audit³.

The portion of the sample coming from each stratum was calculated using the oversampling rate (k) and the proportion of all households in each of the sampling strata (W1 and W2a). Address valid rates, child prevalence rates, and Screener and Topical returns rates were estimated by state and stratum primarily using previous years' response outcomes. A national total sample size of approximately 357,500 was determined based on budget. This includes the base production sample for all states as well as a national oversample aimed at getting additional interviews from children aged zero to five and additional sample in California, Colorado, Georgia, Nebraska, New York, Ohio, Oregon, Pennsylvania, Tennessee, and Wyoming. We expect the base production sample will produce approximately 700 Topical interviews per state. The expected number of interviews along with previous years' response information was used to calculate stratum sample sizes (n1 and n2a) in each state.

For example, in Alabama⁴:

The oversampling rate (k) was recalculated to be 4.0, for an $R = 1.01$. Of the 2020 ACS households eligible for NSCH sampling, 21.1% would be put in Stratum 1 (W1) and 52.7% would be put in Stratum 2a (W2a).

The portion of the sample coming from Stratum 1 was estimated to be $(k \cdot W1) / (W2a + k \cdot W1) = 61.6\%$ and the portion of the sample from Stratum 2a was 38.4%.

We can expect a completed Topical from 92.6% (Valid) * 38.0% (Screener) * 80.4% (Children) * 82.2% (Topical) = 23.2% of addresses in Stratum 1 and 77.8% (Valid) * 45.7% (Screener) * 12.3% (Children) * 81.3% (Topical) = 3.6% of addresses in Stratum 2a.

Since we expect to get 700 Topicals per state, we can get the state sample size (n) by evaluating the following:

$(n \cdot \text{Portion of the sample from Stratum 1} \cdot \text{Stratum 1 completed Topical rate}) + (n \cdot \text{Portion of the sample from Stratum 2a} \cdot \text{Stratum 2a completed Topical rate}) = 700$.

Within rounding, it then follows that $n = 700 / (61.6\% \cdot 23.2\% + 38.4\% \cdot 3.6\%) = 4500$. Now $n1 = 4500 \cdot 61.6\% = 2800$ and $n2a = 4500 \cdot 38.4\% = 1700$. These are the base production sample sizes in each stratum for Alabama.⁵

³ Before mailout, this will be updated with the 2021 ACS.

⁴ Note that numbers have been rounded here for all calculations.

⁵ These numbers do not match what is in the table since this shows only the calculation for Alabama's base production sample while the sample sizes in the table include the additional nationwide oversample of young children.