State Sample Sizes

State Sample Sizes	Oversample Ratio 'k'	Proportion of Households with Children from 2015 ACS 'P'	Sampling Variance 'R'	Total Sample	Stratum 1 Sample (Admin Flag for HHLD w/Children)	Stratum 2a Sample (Admin Flag for HHLD w/o Children)
Alabama	3.0	38%	0.99	4144	2460	1684
Alaska	3.0	31%	1.04	4196	1809	2387
Arizona	3.0	42%	1.03	3256	2018	1238
Arkansas	3.0	37%	1.00	3961	2190	1771
California	3.0	50%	1.03	2896	2060	836
Colorado	3.0	46%	1.00	2478	1658	820
Connecticut	3.0	45%	1.00	2700	1841	859
Delaware	3.0	50%	1.01	2791	2088	703
District of Columbia	5.0	32%	1.08	3195	2273	922
Florida	3.0	39%	0.99	3812	2494	1317
Georgia	3.0	44%	1.02	3609	2449	1160
Hawaii	2.0	36%	0.99	3457	1293	2164
Idaho	3.0	43%	1.01	2580	1688	892
Illinois	3.0	45%	1.01	2706	1815	891
Indiana	3.0	47%	1.02	2849	2005	844
Iowa	3.0	49%	0.99	2283	1646	638
Kansas	3.0	47%	1.00	2794	1947	848
Kentucky	3.0	41%	1.01	3287	2064	1223
Louisiana	3.0	38%	1.00	4650	2998	1652
Maine	5.0	28%	1.02	3257	1856	1401
Maryland	4.0	49%	1.09	2369	1850	519
Massachusetts	3.0	45%	0.99	2422	1659	764
Michigan	4.0	46%	1.06	2368	1789	578
Minnesota	3.0	53%	1.00	1873	1409	464
Mississippi	3.0	38%	1.02	4959	3003	1956
Missouri	3.0	43%	1.01	2923	1897	1026
Montana	4.0	31%	1.06	3168	1718	1450
Nebraska	3.0	48%	0.99	2393	1681	713
Nevada	3.0	41%	1.01	3848	2532	1316
New Hampshire	4.0	39%	1.01	2646	1820	827
New Jersey	3.0	47%	1.02	2689	1847	842
New Mexico	3.0	33%	1.02	4188	2063	2125
New York	3.0	39%	1.01	3262	1985	1277
North Carolina	4.0	40%	1.06	2962	2076	886
North Dakota	4.0	39%	1.07	2649	1720	929
Ohio	4.0	46%	1.07	2577	1933	644
Oklahoma	3.0	37%	1.03	4253	2416	1837
Oregon	4.0	44%	1.06	2319	1655	664
Pennsylvania	4.0	43%	1.05	2416	1755	661
Rhode Island	4.0	40%	1.05	3024	2138	886
South Carolina	4.0	40%	1.07	3310	2338	972
South Dakota	3.0	43%	1.02	2550	1609	940
Tennessee	4.0	42%	1.07	2980	2182	798
Texas	3.0	47%	1.05	3347	2316	1030
Utah	3.0	56%	1.05	2076	1573	503
Vermont	4.0	30%	0.99	2858	1504	1354
Virginia	3.0	48%	0.99	2375	1719	656
Washington	3.0	47%	1.01	2368	1629	739
West Virginia	3.0	32%	1.02	4047	1881	2166
Wisconsin	3.0	50%	0.99	2012	1466	545
Wyoming	3.0	34%	1.01	3923	1920	2003
Total				156,054	99,733	56,321
Proportion by Strata					64%	36%

Calculations for State Sample Sizes

The oversampling factor (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 2015 ACS audit.

The portion of the sample coming from each stratum was calculated using the oversample rate (k) and the portion of all households in each stratum (W1 and W2). These estimates were then used with the prevalence of households with children in each stratum (P1 and P2) to get the percent of the sample expected to have children. Address valid rates, Screener and Topical returns rates were estimated by state (and address valid rates by Stratum as well) using 2016 response outcomes. Using this response information, along with the percent of the sample expected to have children in each state, we calculated the sample size needed to get 460 topical interviews in each state.

For example, in Alabama:
The oversampling rate (k) was recalculated to be 3.0, for an R = .99.
Using the ACS x NSCH Flag tabulations:

	NSCH Administrative Flag for Household with Children	NSCH Administrative Flag for Household without Children	Proportion of All Households with children from 2014 ACS
2015 ACS Household with Children	74.5% (P1)	15.8% (P2)	22.4% (W1)
2015 ACS Household without Children	25.5%	84.2%	77.6% (W2)

The portion of the sample coming from Stratum 1 was estimated to be (k*W1)/(W2 + k*W1) = 64.1% and the portion of the sample from Stratum 2a was 35.9%.
Within our sample we expect 74.5%*64.1% + 15.8%*35.9% = 53.4% to have children.

We can expect a completed interview from 84.4% (Valid) * 36.9% (Screener) * 53.4% (Children) * 66.7% (Topical) = 11.1% of addresses.

Now we take the target of 460 interviews and adjust for the expected response and the percent of the sample with children to get the state sample size: $460*(11.1\%)^{-1} = 4144$.
Now n1 = 64.1%*4144=2460 and n2 = 35.9%*4144 = 1684.