

Attachment 14a

Sample Design Tables 2019-2020

The sample design selected for NHANES 2019-2020 is similar to the NHANES 2015-2018 with one exception. To increase operational efficiency, the new design will produce a nationally representative sample over the course of a two-year cycle instead of annually. Because of declining response rates, it has become difficult to reach the target number of examinations (5,000/year) with the current design. Changing to a two-year cycle will permit more days of field work and a great number of MEC appointments in each PSU which will result in more time to screen and recruit potential participants, and allow for more exam slots.

Table 1 shows the summary distribution by race/Hispanic origin/income and age for 2015-2018 and the planned distribution in 2019-2020. For NHANES 2019-2020, there will still be 87 sampling domains defined by race and Hispanic origin, gender, age, and, for the white/other domains, low income status (i.e., households in which the household income is below 185% of the poverty level). These domains represent the analytic subpopulations of interest. **Table 2** shows the detailed sampling domains for NHANES with expected total sampled persons, estimated exam response rates and expected number of exams for the 87 sampling domains. **Attachment A** contains the current NHANES 2015-18 sample design as presented in the NHANES Protocol #2018-01.

Table 1: Examination Target Distribution by Race/Hispanic: Origin/Income and Age Category

| Race/ethnicity/ income | Distribution | |
|---------------------------|---------------|---------------|
| | 2015- 2018 | 2019- 2020 |
| Black | 25% | 25% |
| Mexican/Hispanic | 25% | 25% |
| Other Low income | 12% | 12% |
| Other Non-low income | 25% | 25% |
| Asian | 13% | 13% |

| Age Category | Distribution | |
|--------------|---------------|---------------|
| | 2015- 2018 | 2019- 2020 |
| 0-5 | 16% | 16% |
| 6-11 | 12% | 12% |
| 12-19 | 12% | 12% |
| 20-39 | 19% | 19% |
| 40-59 | 19% | 19% |

| | | |
|------|-----|-----|
| 60+ | 21% | 21% |
| 0-19 | 40% | 40% |
| 20+ | 60% | 60% |

Table 2: Projected population size for 2019-2022, number of sampled persons, and projected response rates for NHANES 2019-2020 in 30 PSUs by sex, age, race/Hispanic origin, and income

| Race Ethnicity Income | Sex | Age | Projected population average over years 2019-2022 ¹ | Total Sample | Estimated exam response rate ² | Target number of exams for 2019- 2020 |
|---------------------------------|-----|------------|---|-----------------|--|---|
| Black | M&F | 0-11 mos. | 702,386 | 130 | 62% | 79 |
| | | 1-2 yrs. | 1,386,924 | 252 | 56% | 143 |
| | | 3-5 yrs. | 2,026,435 | 279 | 57% | 160 |
| | M | 6-11 yrs. | 2,006,398 | 287 | 56% | 160 |
| | | 12-19 yrs. | 2,584,917 | 279 | 57% | 160 |
| | | 20-39 yrs. | 5,992,528 | 502 | 49% | 246 |
| | | 40-49 yrs. | 2,295,065 | 256 | 48% | 123 |
| | | 50-59 yrs. | 2,349,826 | 244 | 51% | 123 |
| | | 60+ yrs. | 3,283,261 | 507 | 49% | 246 |
| | F | 6-11 yrs. | 1,945,644 | 256 | 62% | 160 |
| | | 12-19 yrs. | 2,582,021 | 264 | 61% | 160 |
| | | 20-39 yrs. | 6,707,346 | 470 | 52% | 246 |
| | | 40-49 yrs. | 2,804,662 | 221 | 56% | 123 |
| | | 50-59 yrs. | 2,812,709 | 226 | 55% | 123 |
| | | 60+ yrs. | 4,499,819 | 497 | 50% | 246 |
| Total non-Hispanic Black | | | 43,979,942 | 4,671 | 54% | 2,500 |
| Hispanic | M&F | 0-11 mos. | 1,080,951 | 199 | 62% | 123 |
| | | 1-2 yrs. | 2,145,096 | 242 | 62% | 150 |
| | | 3-5 yrs. | 3,156,692 | 268 | 56% | 150 |
| | M | 6-11 yrs. | 3,235,852 | 261 | 58% | 150 |
| | | 12-19 yrs. | 4,276,739 | 251 | 60% | 150 |
| | | 20-39 yrs. | 10,325,422 | 531 | 46% | 246 |
| | | 40-49 yrs. | 4,282,980 | 274 | 45% | 123 |
| | | 50-59 yrs. | 3,287,883 | 256 | 48% | 123 |
| | | 60+ yrs. | 3,400,667 | 529 | 46% | 246 |
| | F | 6-11 yrs. | 3,122,093 | 245 | 61% | 150 |
| | | 12-19 yrs. | 4,124,568 | 253 | 59% | 150 |
| | | 20-39 yrs. | 9,521,929 | 461 | 53% | 246 |

| | | 40-49 yrs. | 4,100,088 | 213 | 58% | 123 |
|--|------------|------------|--|-------------------------|---|--|
| | | 50-59 yrs. | 3,303,196 | 225 | 55% | 123 |
| | | 60+ yrs. | 4,132,941 | 486 | 51% | 246 |
| Total Hispanic | | | 63,497,100 | 4,693 | 53% | 2,500 |
| Race Ethnicity Income | Sex | Age | Projected population average over years 2019-2022¹ | Total Sample | Estimated exam response rate² | Target number of exams for 2019- 2020 |
| Asian | M&F | 0-11 mos. | 298,790 | 55 | 51% | 28 |
| | | 1-2 yrs. | 593,720 | 107 | 45% | 48 |
| | | 3-5 yrs. | 880,552 | 160 | 41% | 67 |
| | M | 6-11 yrs. | 851,126 | 154 | 43% | 67 |
| | | 12-19 yrs. | 1,108,621 | 203 | 42% | 86 |
| | | 20-39 yrs. | 3,333,060 | 431 | 37% | 159 |
| | | 40-49 yrs. | 1,466,201 | 221 | 36% | 79 |
| | | 50-59 yrs. | 1,203,629 | 221 | 35% | 78 |
| | | 60+ yrs. | 1,655,908 | 300 | 35% | 105 |
| | F | 6-11 yrs. | 814,305 | 148 | 38% | 56 |
| | | 12-19 yrs. | 1,083,179 | 200 | 44% | 87 |
| | | 20-39 yrs. | 3,531,786 | 451 | 35% | 159 |
| | | 40-49 yrs. | 1,696,161 | 215 | 37% | 79 |
| | | 50-59 yrs. | 1,401,563 | 242 | 33% | 79 |
| 60+ yrs. | | 2,138,563 | 389 | 31% | 122 | |
| Total non-Hispanic, non-Black Asian | | | 22,057,165 | 3,498 | 37% | 1,300 |
| White/Other Low Income | M&F | 0-11 mos. | 589,533 | 109 | 57% | 61 |
| | | 1-2 yrs. | 1,212,175 | 133 | 54% | 72 |
| | | 3-5 yrs. | 1,801,361 | 136 | 53% | 72 |
| | M | 6-11 yrs. | 1,799,593 | 124 | 58% | 72 |
| | | 12-19 yrs. | 2,106,515 | 125 | 57% | 72 |
| | | 20-29 yrs. | 2,728,011 | 100 | 50% | 51 |
| | | 30-39 yrs. | 2,081,901 | 95 | 53% | 51 |
| | | 40-49 yrs. | 1,704,688 | 95 | 53% | 51 |
| | | 50-59 yrs. | 2,080,516 | 92 | 54% | 51 |
| | | 60-69 yrs. | 2,415,067 | 101 | 49% | 51 |
| | | 70-79 yrs. | 1,718,180 | 107 | 47% | 51 |
| | 80+ yrs. | 1,055,762 | 117 | 43% | 51 | |
| | F | 6-11 yrs. | 1,701,029 | 116 | 62% | 72 |
| | | 12-19 yrs. | 2,226,543 | 125 | 57% | 72 |
| 20-29 yrs. | | 3,602,179 | 87 | 58% | 51 | |

| | | | | | | |
|---|------------|------------|--|-------------------------|---|--|
| | | 30-39 yrs. | 2,865,649 | 83 | 60% | 51 |
| | | 40-49 yrs. | 2,177,716 | 85 | 59% | 51 |
| | | 50-59 yrs. | 2,344,394 | 86 | 58% | 51 |
| Race Ethnicity Income | Sex | Age | Projected population average over years 2019-2022¹ | Total Sample | Estimated exam response rate² | Target number of exams for 2019- 2020 |
| White/Other Low Income | F | 60-69 yrs. | 3,011,326 | 89 | 56% | 51 |
| | | 70-79 yrs. | 2,723,697 | 102 | 49% | 51 |
| | | 80+ yrs. | 2,272,283 | 131 | 38% | 51 |
| Total non-Hispanic White/Other Low Income | | | 44,218,118 | 2,239 | 54% | 1,200 |
| Total non-Hispanic White/Other Not Low Income | M&F | 0-11 mos. | 1,461,867 | 266 | 47% | 127 |
| | | 1-2 yrs. | 2,922,530 | 326 | 46% | 149 |
| | | 3-5 yrs. | 4,441,896 | 345 | 43% | 149 |
| | M | 6-11 yrs. | 4,568,617 | 361 | 42% | 149 |
| | | 12-19 yrs. | 6,867,873 | 360 | 42% | 149 |
| | | 20-29 yrs. | 9,326,976 | 304 | 35% | 105 |
| | | 30-39 yrs. | 10,534,275 | 308 | 34% | 105 |
| | | 40-49 yrs. | 9,996,836 | 297 | 36% | 105 |
| | | 50-59 yrs. | 11,555,571 | 294 | 36% | 105 |
| | | 60-69 yrs. | 11,385,049 | 281 | 38% | 105 |
| | | 70-79 yrs. | 7,359,661 | 274 | 39% | 105 |
| | | 80+ yrs. | 3,024,606 | 354 | 30% | 105 |
| | | F | 6-11 yrs. | 4,357,716 | 342 | 44% |
| | 12-19 yrs. | | 6,379,885 | 357 | 42% | 149 |
| | 20-29 yrs. | | 8,386,306 | 234 | 45% | 105 |
| | 30-39 yrs. | | 9,841,720 | 240 | 44% | 105 |
| | 40-49 yrs. | | 9,665,823 | 255 | 42% | 105 |
| | 50-59 yrs. | | 11,672,017 | 271 | 39% | 105 |
| | 60-69 yrs. | | 11,801,476 | 244 | 43% | 105 |
| | 70-79 yrs. | | 7,638,799 | 308 | 34% | 105 |
| 80+ yrs. | 3,499,707 | | 370 | 29% | 105 | |
| Total non-Hispanic White/Other Not Low Income | | | 156,689,207 | 6,388 | 39% | 2,500 |
| Total non-Hispanic White/Other | | | 200,907,325 | 8,627 | 43% | 3,700 |

| | | | | |
|--------------|--------------------|---------------|------------|---------------|
| TOTAL | 330,441,531 | 21,488 | 47% | 10,000 |
|--------------|--------------------|---------------|------------|---------------|

¹ Civilian noninstitutionalized population in the 50 United States and the District of Columbia.

² Unconditional response rates are the domain-level response rates (number of examined persons divided by the number of sampled persons) from the 2015-2016 experience, each adjusted downward by the overall screener response rate experienced in those years to result in conservative estimates.
