***Attachment 5b***

***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 ofannually. 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**

|  |  |
| --- | --- |
|  | **Distribution** |
| **Race/ethnicity/income** | **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% |

|  |  |
| --- | --- |
|  | **Distribution** |
| **Age Category** | **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 2019-20221** | **Total Sample** | **Estimated exam response rate2** | **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% | 149 |
|  | 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. |