estimated mean or proportion (say, when the CV is less than 5 percent).

ESTIMATING THE POPULATION DISTRIBUTION - There are many continuous biomedical variables for which the population distribution is of interest to users. The population standard deviation is often used as a measure of the dispersion of the observations in a population when the distribution is approximately symmetric. [Note that an estimated population standard deviation, a sample size, and an average design effect are sometimes displayed together in an agency publication. This allows users to calculate the standard error of the corresponding estimated mean by themselves.] Percentiles are often used to describe asymmetric distributions like those associated with dietary intake.

The suggestion for the presentation of population standard deviations is the same as for standard errors - *unless there is a minimum of 30 individuals and at least 12 variance strata with observations in both primary sampling units an estimated population standard deviation should be marked with an asterisk*.

The suggestions for the presentation of percentiles parallels those for proportions: *Medians and other percentiles in middle range (i.e., .25 < P < .75) should be marked with an asterisk when the sample size is less than 30 times a broadly calculated design effect. The quantity values at a tail percentiles, P, (i.e., P $\leq$ .25 or P $\geq$ .75) should be marked with an asterisk when the minimum of nP and n(1-P) is less than 8 times a broadly calculated design effect* (see accompanying nomogram). Unlike means, an agency may choose to suppress the publication of percentile values that are based on small numbers of observations or have a high estimated CV.

Substantive as well as statistical considerations play a part in the way in which a population distribution is displayed and interpreted. For example, estimated percentiles for one-day (or many-day) dietary intakes can be misleading, since it is the distribution of long-run or usual dietary intakes that most interests users. Thus, *the distinction between long-run and one-day (or many-day) distributions of dietary intakes must be made clear in the text accompanying any table displaying the estimated percentiles of one-day (or many-day) intakes*. The same distinction should also be made clear for certain biomedical variables like blood pressure and cholesterol level.

42

Table 1. Recommended sample sizes for analyses of complex survey data, by design effect and specified proportion

Proportion	Design effect						
	1.0	1.1	1.2	1.3	1.4	1.5	1.6
0.99	800	880	960	1,040	1,120	1,200	1,280
0.95	160	176	192	208	224	240	256
0.90	80	88	96	104	112	120	128
0.85	53	59	64	69	75	80	85
0.80	40	44	48	52	56	60	64
0.75	32	35	38	42	45	48	51
0.56-0.74	30	33	36	39	42	45	48
0.55	30	33	36	39	42	45	48
0.50	30	33	36	39	42	45	48
0.45	30	33	36	39	42	45	48
0.26-0.44	30	33	36	39	42	45	48
0.25	32	35	38	42	45	48	51
0.20	40	44	48	52	56	60	64
0.15	53	59	64	69	75	80	85
0.10	80	88	96	104	112	120	128
0.05	160	176	192	208	224	240	256
0.01	800	880	960	1,040	1,120	1,200	1,280

Proportion	Design effect						
	1.7	1.8	1.9	2.0	2.5	3.0	3.5
0.99	1,360	1,440	1,520	1,600	2,000	2,400	2,800
0.95	272	288	304	320	400	480	560
0.90	136	144	152	160	200	240	280
0.85	91	96	101	107	133	160	187
0.80	68	72	76	80	100	120	140
0.75	54	58	61	64	80	96	112
0.56-.74	51	54	57	60	75	90	105
0.55	51	54	57	60	75	90	105
0.50	51	54	57	60	75	90	105
0.45	51	54	57	60	75	90	105
0.26-.44	51	54	57	60	75	90	105
0.25	54	58	61	64	80	96	112
0.20	68	72	76	80	100	120	140
0.15	91	96	101	107	133	160	187
0.10	136	144	152	160	200	240	280
0.05	272	288	304	320	400	480	560
0.01	1,360	1,440	1,520	1,600	2,000	2,400	2,800

NOTE: Minimum sample size requirements were adjusted for the relative inefficiency in the sample design by a factor equal to the design effect, where design effect = complex sample variance/simple random sample variance.

For midrange proportions (p greater than 0.25 and less than 0.75), the simple random sample (SRS) minimum sample size is 30.

For extreme proportions (p less than or equal to 0.25 or p greater than or equal to 0.75), the SRS sample size (n) satisfies the following rule: n(p) greater than or equal to 8 and n(1-p) greater than or equal to 8.