

Appendix B: Pre-Calculated Sample Size Tables

Below are pre-calculated sample size tables for seasonal influenza situational awareness and rare/novel influenza event detection. These tables cover a range of population sizes, and may be used as a quick reference or alternative to the online calculators for states interested in estimating sample sizes at confidence levels, margins of error, and thresholds recommended in the Sampling Implementation Guidance section. rare/novel influenzal event detection quick reference tables are provided for both high season (influenza positivity > 20%), and low season (influenza positivity < 20%).

States wishing to calculate sample sizes based on jurisdictional populations, altered confidence levels or threshold inputs that may provide more statistical precision at various points in the season should use the online [sample size calculators and user guide](#).

Situational Awareness for Seasonal Influenza

Inputs used to calculate the sample sizes for each state within these state population groups:

- MA-ILI = 2.2% (ILINet Baseline)
- Expected Flu+/MA-ILI = 10%

State Population	Average Population*	Confidence Level (5% Margin of Error)		
		95%	90%	85%
Less than 2 Million	1094706	118	87	68
2-5 Million	3530463	132	94	73
5-10 Million	7193033	135	96	74
10-20 Million	15214169	137	97	74

Rare/novel influenza Event: National Thresholds – Low Season, 100% MA-ILI

Inputs used to calculate the sample sizes for each state within these state population groups:

- Laboratory receives and tests 100% MA-ILI specimens (unscreened)
- Expected Flu+/MA-ILI = 10%
- Confidence Level 95%

State Population	Average Population*	Detection Threshold (MA-ILI specimens only)		
		1/200	1/165	1/143
Less than 2 Million	1094706	21	17	15
2-5 Million	3530463	68	55	48
5-10 Million	7193033	137	112	96
10-20 Million	15214169	290	237	205

Rare/novel influenza Event: National Thresholds – Low Season, ~40% Flu+ and ~60% MA-ILI***

Inputs used to calculate the sample sizes for each state within these state population groups:

- Laboratory receives and tests ~40% Flu+ and 60% MA-ILI specimens
- Expected Flu+/MA-ILI = 10%
- Confidence Level 95%

State Population	Average Population	Detection Threshold					
		1/200		1/165		1/143	
		Flu+ (~40%)	MA-ILI (~60%)	Flu+ (~40%)	MA-ILI (~60%)	Flu+ (~40%)	MA-ILI (~60%)
Less than 2 Million	1094706	...	...	...	...	...	...
2-5 Million	3530463	...	...	...	...	...	...
5-10 Million	7193033	12	16	10	12	9	7
10-20 Million	15214169	25	37	20	37	18	25

Rare/novel influenza Event: National Thresholds – High Season, 100% MA-ILI

Inputs used to calculate the sample sizes each state within these state population groups:

- Laboratory receives and tests 100% MA-ILI specimens (unscreened)
- Expected Flu+/MA-ILI = 30%
- Confidence Level 95%

State Population	Average Population*	Detection Threshold (using MA-ILI specimens only)		
		1/700	1/600	1/500
Less than 2 Million	1094706	25	21	18
2-5 Million	3530463	78	67	56
5-10 Million	7193033	159	136	113
10-20 Million	15214169	335	287	240

Rare/novel influenza Event: National Thresholds – High Season, ~20% Flu+ and 80% MA-ILI***

Inputs used to calculate the sample sizes each state within these state population groups:

- Laboratory receives and tests ~20% Flu+ and 80% MA-ILI specimens
- Expected Flu+/MA-ILI = 30%
- Confidence Level 95%

State Population	Average Population*	Detection Threshold					
		1/700		1/600		1/500	
		Flu+ (~20%)	MA-ILI (~80%)	Flu+ (~20%)	MA-ILI (~80%)	Flu+ (~20%)	MA-ILI (~80%)
Less than 2 Million	1094706	3	14	3	12	3	9
2-5 Million	3530463	11	43	9	38	7	31
5-10 Million	7193033	22	86	19	74	15	62
10-20 Million	15214169	46	182	39	157	131	33

Rare/novel influenza Event: National Thresholds – High Season, ~40% Flu+ and 60% MA-ILI***

Inputs used to calculate the sample sizes each state within these state population groups:

- Laboratory receives and tests ~40% Flu+ and 60% MA-ILI specimens
- Expected Flu+/MA-ILI = 30%
- Confidence Level 95%

State Population	Average Population*	Detection Threshold					
		1/700		1/600		1/500	
		Flu+ (~40%)	MA-ILI (~60%)	Flu+ (~40%)	MA-ILI (~60%)	Flu+ (~40%)	MA-ILI (~60%)
Less than 2 Million	1094706	5	8	4	8	3	8
2-5 Million	3530463	16	25	14	20	11	19
5-10 Million	7193033	32	52	28	43	23	37
10-20 Million	15214169	69	105	59	91	49	76

* Tables exclude Texas and California due to greater than 20 million total state population; please refer to the online calculators.

** States with smaller population sizes (i.e., <5 million) had too much variation in sampling combinations of Flu+ and MA-ILI to determine an average 40% Flu+ and 60% MA-ILI combination. Please refer to the online calculators for a blend that would best fit the target population's needs.

*** When determining sample sizes using a combination of Flu+ and MA-ILI specimens, the combination percents will vary based on population. The sample sizes in the table above were chosen based on the combination percentages closest to the indicated recommendation of Flu+ and MA-ILI specimens (e.g., 20% Flu+ and 80% MA-ILI). Please refer to the online calculators for an exact percentage and to determine sample sizes for different combinations.