

National Survey on Drug Use and Health: Comparison of 2008-2009 and 2018-2019 Population Percentages (50 States and the District of Columbia)

NOTE: The methodology used to conduct significance testing for state population percentages between the 2008-2009 and 2018-2019 NSDUHs and to calculate p values is provided after [Table 13](#).

Table 1 Marijuana Use in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	10.88 ^a	16.71	0.000	13.37 ^b	12.84	0.098	29.31 ^a	35.09	0.000	7.38 ^a	14.27	0.000	10.61 ^a	17.10	0.000
Northeast	11.95 ^a	17.70	0.000	14.22	13.30	0.140	34.64 ^a	39.12	0.000	7.84 ^a	14.88	0.000	11.71 ^a	18.10	0.000
Midwest	10.36 ^a	16.28	0.000	12.84	12.47	0.435	28.53 ^a	35.45	0.000	6.90 ^a	13.65	0.000	10.08 ^a	16.67	0.000
South	9.59 ^a	13.98	0.000	12.06 ^b	11.19	0.053	25.38 ^a	30.17	0.000	6.62 ^a	11.79	0.000	9.32 ^a	14.27	0.000
West	12.55 ^a	20.70	0.000	15.26	15.50	0.725	31.83 ^a	39.60	0.000	8.69 ^a	18.31	0.000	12.25 ^a	21.23	0.000
Alabama	8.49 ^a	14.74	0.000	10.11	9.72	0.771	22.60 ^a	30.01	0.001	5.89 ^a	12.93	0.000	8.31 ^a	15.24	0.000
Alaska	16.25 ^a	24.97	0.000	15.89	17.75	0.323	35.51 ^a	41.30	0.036	12.67 ^a	23.33	0.000	16.29 ^a	25.75	0.000
Arizona	10.89 ^a	16.01	0.000	14.28	12.70	0.363	29.42	30.17	0.774	7.29 ^a	14.11	0.000	10.50 ^a	16.35	0.000
Arkansas	10.78 ^a	13.53	0.004	12.33	11.20	0.444	27.59	26.25	0.588	7.85 ^a	11.78	0.000	10.61 ^a	13.78	0.002
California	12.91 ^a	20.06	0.000	15.12	15.82	0.505	32.15 ^a	40.40	0.000	8.91 ^a	17.27	0.000	12.65 ^a	20.48	0.000
Colorado	15.12 ^a	26.32	0.000	18.55	17.60	0.643	38.59 ^a	48.54	0.000	10.79 ^a	23.86	0.000	14.76 ^a	27.19	0.000
Connecticut	12.56 ^a	19.05	0.000	15.91	14.08	0.311	37.10 ^a	43.91	0.015	8.25 ^a	15.64	0.000	12.20 ^a	19.53	0.000
Delaware	11.82 ^a	18.18	0.000	15.53	14.43	0.531	35.92 ^a	41.57	0.038	7.35 ^a	15.29	0.000	11.43 ^a	18.53	0.000
District of Columbia	14.34 ^a	27.42	0.000	14.59 ^b	18.01	0.087	33.16 ^a	49.84	0.000	10.11 ^a	24.01	0.000	14.33 ^a	27.95	0.000
Florida	10.12 ^a	14.80	0.000	12.94	12.11	0.419	26.58 ^a	32.76	0.000	7.38 ^a	12.69	0.000	9.85 ^a	15.03	0.000
Georgia	11.03 ^a	15.00	0.000	12.69	11.22	0.292	26.60 ^b	30.67	0.083	8.15 ^a	12.92	0.000	10.84 ^a	15.42	0.000
Hawaii	12.06 ^a	15.77	0.003	14.45	11.92	0.166	31.14	29.57	0.562	8.74 ^a	14.38	0.000	11.82 ^a	16.12	0.001
Idaho	10.66 ^a	14.03	0.000	13.44	12.04	0.376	28.30	28.99	0.775	7.15 ^a	11.85	0.000	10.32 ^a	14.27	0.000
Illinois	10.54 ^a	16.38	0.000	13.33	13.55	0.852	27.95 ^a	34.01	0.000	7.01 ^a	13.96	0.000	10.22 ^a	16.67	0.000
Indiana	10.28 ^a	16.61	0.000	12.90	12.42	0.753	27.22 ^a	35.14	0.002	7.08 ^a	13.97	0.000	9.99 ^a	17.06	0.000
Iowa	7.68 ^a	12.43	0.000	11.72	11.61	0.938	20.54 ^a	28.10	0.002	4.90 ^a	9.80	0.000	7.25 ^a	12.51	0.000
Kansas	9.39 ^a	14.64	0.000	12.12	11.61	0.734	25.63 ^b	29.96	0.082	6.00 ^a	12.35	0.000	9.09 ^a	14.98	0.000
Kentucky	8.83 ^a	14.87	0.000	10.91	11.33	0.780	24.66 ^a	29.67	0.035	6.10 ^a	12.94	0.000	8.61 ^a	15.22	0.000
Louisiana	8.52 ^a	12.15	0.000	9.76	8.56	0.370	23.23 ^b	27.57	0.057	5.51 ^a	10.17	0.000	8.37 ^a	12.53	0.000
Maine	13.55 ^a	24.77	0.000	14.20 ^b	17.53	0.081	39.68 ^a	48.63	0.002	9.85 ^a	22.42	0.000	13.49 ^a	25.37	0.000
Maryland	10.69 ^a	16.07	0.000	13.73	12.27	0.373	30.32 ^a	40.05	0.001	6.98 ^a	12.97	0.000	10.36 ^a	16.45	0.000
Massachusetts	14.57 ^a	22.16	0.000	16.44	16.03	0.828	40.19 ^a	46.57	0.025	9.81 ^a	18.67	0.000	14.39 ^a	22.69	0.000
Michigan	12.20 ^a	20.80	0.000	14.21	13.38	0.461	32.33 ^a	44.14	0.000	8.51 ^a	17.86	0.000	11.97 ^a	21.52	0.000
Minnesota	10.37 ^a	16.60	0.000	11.29	12.59	0.410	29.92 ^a	38.75	0.001	6.92 ^a	13.67	0.000	10.27 ^a	17.02	0.000
Mississippi	7.88 ^a	12.09	0.000	9.92	9.90	0.988	20.36 ^a	24.62	0.044	5.30 ^a	10.28	0.000	7.64 ^a	12.33	0.000
Missouri	9.73 ^a	14.91	0.000	11.54	11.35	0.897	27.19 ^a	32.52	0.034	6.62 ^a	12.58	0.000	9.53 ^a	15.27	0.000
Montana	12.23 ^a	20.06	0.000	15.50	15.98	0.785	34.96 ^a	40.46	0.040	8.04 ^a	17.36	0.000	11.90 ^a	20.44	0.000

See notes at end of file.

(continued)

Table 1 Marijuana Use in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	9.25 ^a	14.35	0.000	10.87 ^b	13.87	0.062	24.63 ^a	34.47	0.000	6.12 ^a	10.92	0.000	9.07 ^a	14.41	0.000
Nevada	11.09 ^a	23.94	0.000	16.45	16.76	0.868	28.98 ^a	43.50	0.000	7.74 ^a	22.04	0.000	10.49 ^a	24.65	0.000
New Hampshire	14.87 ^a	21.43	0.000	16.56	16.17	0.841	41.83	45.92	0.174	10.55 ^a	18.31	0.000	14.69 ^a	21.88	0.000
New Jersey	9.19 ^a	13.73	0.000	11.63	11.48	0.914	30.00 ^a	35.36	0.031	5.67 ^a	10.87	0.000	8.93 ^a	13.95	0.000
New Mexico	10.95 ^a	20.48	0.000	16.83	18.66	0.351	29.23 ^a	35.38	0.026	6.82 ^a	18.34	0.000	10.30 ^a	20.67	0.000
New York	12.82 ^a	17.33	0.000	14.87 ^b	13.09	0.093	36.36	38.49	0.185	8.34 ^a	14.50	0.000	12.61 ^a	17.70	0.000
North Carolina	10.46 ^a	15.08	0.000	13.41	12.78	0.673	28.35	30.87	0.257	7.20 ^a	12.89	0.000	10.14 ^a	15.31	0.000
North Dakota	8.29 ^a	12.64	0.000	9.42	9.44	0.990	23.06 ^a	28.72	0.023	4.85 ^a	9.90	0.000	8.18 ^a	12.95	0.000
Ohio	10.08 ^a	15.84	0.000	12.97	11.88	0.283	29.54 ^a	35.81	0.000	6.52 ^a	13.20	0.000	9.77 ^a	16.24	0.000
Oklahoma	10.19 ^a	15.37	0.000	12.69	11.17	0.344	25.06 ^a	31.95	0.007	7.16 ^a	13.14	0.000	9.91 ^a	15.83	0.000
Oregon	14.41 ^a	26.99	0.000	18.34	18.56	0.907	37.33 ^a	47.28	0.000	10.40 ^a	24.93	0.000	14.01 ^a	27.74	0.000
Pennsylvania	10.04 ^a	16.10	0.000	12.87	12.01	0.436	28.78 ^a	33.69	0.005	6.62 ^a	13.91	0.000	9.75 ^a	16.48	0.000
Rhode Island	14.34 ^a	23.31	0.000	16.31	16.21	0.955	39.48 ^b	45.03	0.070	9.39 ^a	20.30	0.000	14.14 ^a	23.92	0.000
South Carolina	9.36 ^a	14.46	0.000	11.75	11.27	0.747	25.58	27.52	0.438	6.40 ^a	12.88	0.000	9.10 ^a	14.77	0.000
South Dakota	8.96 ^a	11.13	0.009	12.05	10.24	0.245	25.67	26.69	0.671	5.55 ^a	8.67	0.000	8.62 ^a	11.22	0.003
Tennessee	9.61 ^a	13.68	0.000	10.52	10.65	0.926	26.28	29.45	0.184	6.95 ^a	11.62	0.000	9.52 ^a	13.98	0.000
Texas	8.31 ^a	12.19	0.000	11.24	10.92	0.733	22.03 ^a	26.22	0.002	5.29 ^a	9.93	0.000	7.95 ^a	12.35	0.000
Utah	7.18 ^a	12.36	0.000	9.73	10.23	0.718	17.70 ^a	25.71	0.001	4.13 ^a	9.77	0.000	6.83 ^a	12.66	0.000
Vermont	15.95 ^a	27.04	0.000	16.67 ^a	21.13	0.026	45.25 ^a	52.18	0.019	11.09 ^a	23.31	0.000	15.88 ^a	27.52	0.000
Virginia	9.75 ^a	12.23	0.003	13.80 ^a	9.65	0.003	27.03 ^a	32.96	0.012	6.32 ^a	9.29	0.001	9.33 ^a	12.48	0.000
Washington	12.81 ^a	25.58	0.000	15.24	16.38	0.536	34.11 ^a	45.50	0.000	9.08 ^a	23.67	0.000	12.55 ^a	26.45	0.000
West Virginia	9.60 ^a	14.11	0.000	12.05	12.20	0.925	26.63 ^a	33.09	0.010	6.88 ^a	11.63	0.000	9.37 ^a	14.28	0.000
Wisconsin	10.65 ^a	14.62	0.000	13.71	12.01	0.278	31.13	32.63	0.552	6.82 ^a	12.06	0.000	10.33 ^a	14.88	0.000
Wyoming	9.88 ^a	12.77	0.002	14.19	12.44	0.304	27.24	30.85	0.150	6.27 ^a	10.07	0.000	9.43 ^a	12.81	0.001

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 2 *Marijuana Use in the Past Month*, by Age Group and State: Percentages, Annual Averages, and *P* Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (<i>P</i> Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (<i>P</i> Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (<i>P</i> Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (<i>P</i> Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (<i>P</i> Value)
Total U.S.	6.40 ^a	10.80	0.000	7.03	7.02	0.953	17.42 ^a	22.54	0.000	4.42 ^a	9.39	0.000	6.33 ^a	11.17	0.000
Northeast	7.14 ^a	11.42	0.000	7.94	7.37	0.207	21.45 ^a	24.88	0.000	4.63 ^a	9.78	0.000	7.06 ^a	11.79	0.000
Midwest	6.07 ^a	10.28	0.000	7.03	6.64	0.261	16.57 ^a	22.47	0.000	4.14 ^a	8.74	0.000	5.97 ^a	10.65	0.000
South	5.47 ^a	8.87	0.000	6.06	6.13	0.828	15.21 ^a	18.97	0.000	3.76 ^a	7.62	0.000	5.41 ^a	9.15	0.000
West	7.57 ^a	13.87	0.000	7.86	8.54	0.178	18.43 ^a	26.53	0.000	5.56 ^a	12.49	0.000	7.54 ^a	14.41	0.000
Alabama	5.04 ^a	8.67	0.000	5.70	5.80	0.917	14.49 ^a	18.34	0.036	3.35 ^a	7.49	0.000	4.97 ^a	8.96	0.000
Alaska	11.52 ^a	17.25	0.000	9.14	8.54	0.663	25.16 ^a	30.71	0.037	9.30 ^a	16.25	0.000	11.81 ^a	18.20	0.000
Arizona	6.70 ^a	11.00	0.000	7.28	6.04	0.277	17.08 ^b	20.80	0.089	4.86 ^a	10.01	0.000	6.63 ^a	11.51	0.000
Arkansas	6.11 ^a	8.46	0.002	6.73	5.82	0.367	16.16	15.80	0.856	4.40 ^a	7.60	0.000	6.04 ^a	8.73	0.001
California	7.67 ^a	13.47	0.000	7.70	8.85	0.149	18.67 ^a	26.48	0.000	5.57 ^a	11.91	0.000	7.67 ^a	13.93	0.000
Colorado	9.77 ^a	17.39	0.000	10.17	9.75	0.776	24.18 ^a	34.39	0.000	7.31 ^a	15.62	0.000	9.72 ^a	18.15	0.000
Connecticut	7.26 ^a	12.34	0.000	8.35	7.46	0.470	22.56 ^b	27.22	0.071	4.70 ^a	10.52	0.000	7.14 ^a	12.81	0.000
Delaware	6.97 ^a	12.26	0.000	7.54	8.26	0.576	22.67 ^a	27.58	0.047	4.29 ^a	10.53	0.000	6.91 ^a	12.63	0.000
District of Columbia	8.46 ^a	16.39	0.000	7.50	8.99	0.271	19.59 ^a	30.73	0.000	6.07 ^a	14.30	0.000	8.54 ^a	16.80	0.000
Florida	5.80 ^a	10.11	0.000	6.31	6.47	0.826	15.21 ^a	21.45	0.000	4.35 ^a	8.96	0.000	5.75 ^a	10.42	0.000
Georgia	6.06 ^a	9.20	0.000	5.50	6.04	0.553	15.87 ^a	19.56	0.044	4.46 ^a	7.91	0.000	6.12 ^a	9.55	0.000
Hawaii	8.46	10.12	0.111	7.72	6.29	0.259	19.15	18.77	0.872	6.84 ^a	9.38	0.038	8.54 ^b	10.47	0.085
Idaho	5.89 ^a	8.57	0.000	7.50	5.90	0.133	14.13 ^a	18.21	0.039	4.21 ^a	7.36	0.000	5.69 ^a	8.89	0.000
Illinois	5.91 ^a	10.38	0.000	7.29	7.01	0.731	16.23 ^a	21.74	0.000	3.86 ^a	9.00	0.000	5.76 ^a	10.72	0.000
Indiana	6.08 ^a	11.56	0.000	7.24	7.52	0.800	16.48 ^a	25.63	0.000	4.17 ^a	9.66	0.000	5.95 ^a	11.98	0.000
Iowa	4.48 ^a	6.70	0.000	6.88	5.71	0.265	11.62 ^a	16.16	0.014	2.92 ^a	5.18	0.001	4.23 ^a	6.80	0.000
Kansas	5.02 ^a	7.48	0.000	5.97	5.00	0.310	13.04	15.39	0.203	3.40 ^a	6.42	0.000	4.91 ^a	7.75	0.000
Kentucky	4.81 ^a	9.75	0.000	5.27	6.18	0.363	14.25 ^a	18.96	0.015	3.27 ^a	8.71	0.000	4.76 ^a	10.11	0.000
Louisiana	5.14 ^a	7.74	0.000	4.82	4.99	0.849	15.19 ^b	18.47	0.095	3.26 ^a	6.39	0.000	5.18 ^a	8.03	0.000
Maine	9.81 ^a	17.58	0.000	8.43 ^b	10.93	0.088	26.13 ^a	35.12	0.001	7.69 ^a	15.97	0.000	9.94 ^a	18.13	0.000
Maryland	5.66 ^a	10.99	0.000	7.01	7.07	0.963	17.03 ^a	26.37	0.000	3.56 ^a	9.16	0.000	5.51 ^a	11.37	0.000
Massachusetts	8.74 ^a	14.91	0.000	9.09	9.72	0.640	24.84 ^a	31.01	0.021	5.84 ^a	12.73	0.000	8.70 ^a	15.36	0.000
Michigan	7.52 ^a	13.80	0.000	7.88	7.42	0.582	18.99 ^a	29.30	0.000	5.52 ^a	12.02	0.000	7.48 ^a	14.42	0.000
Minnesota	5.98 ^a	9.96	0.000	5.58	6.53	0.353	17.10 ^a	22.47	0.013	4.13 ^a	8.44	0.000	6.02 ^a	10.31	0.000
Mississippi	4.54 ^a	7.88	0.000	5.02	5.68	0.478	11.72 ^a	16.99	0.003	3.15 ^a	6.65	0.000	4.48 ^a	8.12	0.000
Missouri	5.94 ^a	8.99	0.000	5.74	5.88	0.888	16.91 ^b	20.73	0.068	4.15 ^a	7.52	0.000	5.96 ^a	9.30	0.000
Montana	8.12 ^a	14.92	0.000	8.78	9.77	0.459	21.99 ^a	29.85	0.001	5.72 ^a	13.18	0.000	8.05 ^a	15.40	0.000

See notes at end of file.

(continued)

Table 2 Marijuana Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	5.36 ^a	8.43	0.000	6.09	6.75	0.536	14.70 ^a	21.24	0.001	3.50 ^a	6.43	0.000	5.28 ^a	8.62	0.000
Nevada	7.00 ^a	16.10	0.000	8.96	9.67	0.611	18.34 ^a	31.49	0.000	5.06 ^a	14.69	0.000	6.78 ^a	16.74	0.000
New Hampshire	9.62 ^a	14.05	0.000	9.66	8.18	0.248	27.28	30.16	0.298	6.91 ^a	12.25	0.000	9.61 ^a	14.56	0.000
New Jersey	5.04 ^a	8.99	0.000	6.16	6.69	0.598	17.42 ^a	22.50	0.014	2.99 ^a	7.30	0.000	4.92 ^a	9.22	0.000
New Mexico	6.54 ^a	12.43	0.000	9.25	9.83	0.685	15.74 ^a	23.48	0.001	4.49 ^a	10.99	0.000	6.24 ^a	12.70	0.000
New York	7.73 ^a	11.02	0.000	8.50	7.20	0.101	23.09	24.45	0.352	4.87 ^a	9.35	0.000	7.65 ^a	11.36	0.000
North Carolina	6.30 ^a	9.16	0.000	7.19	6.87	0.748	16.85	19.41	0.163	4.49 ^a	7.83	0.000	6.21 ^a	9.39	0.000
North Dakota	4.67 ^a	7.67	0.000	5.06	4.76	0.740	10.65 ^a	17.10	0.000	3.30 ^a	6.19	0.000	4.64 ^a	7.95	0.000
Ohio	5.96 ^a	10.22	0.000	7.63	6.45	0.125	17.26 ^a	22.02	0.001	3.89 ^a	8.82	0.000	5.77 ^a	10.60	0.000
Oklahoma	5.60 ^a	10.07	0.000	6.23	5.84	0.707	14.18 ^a	19.22	0.014	3.96 ^a	9.09	0.000	5.53 ^a	10.54	0.000
Oregon	9.29 ^a	18.69	0.000	8.66	10.74	0.131	23.87 ^a	32.64	0.000	7.11 ^a	17.49	0.000	9.36 ^a	19.40	0.000
Pennsylvania	5.81 ^a	9.83	0.000	7.19	6.11	0.152	17.08 ^b	19.80	0.053	3.80 ^a	8.73	0.000	5.67 ^a	10.17	0.000
Rhode Island	10.04 ^a	15.37	0.000	9.09	8.30	0.552	27.14	31.00	0.167	6.94 ^a	13.40	0.000	10.13 ^a	15.98	0.000
South Carolina	5.91 ^a	9.17	0.000	5.55	6.56	0.306	16.88	18.34	0.470	4.16 ^a	8.09	0.000	5.95 ^a	9.42	0.000
South Dakota	5.14 ^b	6.35	0.068	6.61	5.10	0.142	13.55	14.74	0.517	3.44 ^a	5.13	0.024	4.98 ^a	6.49	0.034
Tennessee	5.42 ^a	8.75	0.000	5.19	5.70	0.590	16.64	18.22	0.418	3.72 ^a	7.65	0.000	5.44 ^a	9.05	0.000
Texas	4.74 ^a	7.19	0.000	6.11	5.94	0.804	13.45 ^b	15.51	0.076	2.91 ^a	5.92	0.000	4.58 ^a	7.34	0.000
Utah	3.60 ^a	6.42	0.000	4.78	4.58	0.820	8.21 ^a	14.50	0.000	2.27 ^a	4.96	0.000	3.44 ^a	6.68	0.000
Vermont	10.85 ^a	19.74	0.000	9.73 ^b	12.84	0.051	30.56 ^a	38.99	0.002	7.75 ^a	17.11	0.000	10.96 ^a	20.30	0.000
Virginia	5.33 ^a	7.89	0.000	6.33	5.41	0.339	15.70 ^a	20.26	0.017	3.45 ^a	6.25	0.000	5.23 ^a	8.13	0.000
Washington	7.21 ^a	17.75	0.000	7.74 ^b	9.92	0.100	17.19 ^a	31.80	0.000	5.53 ^a	16.54	0.000	7.15 ^a	18.49	0.000
West Virginia	5.50 ^a	9.48	0.000	5.74	7.05	0.196	17.46	20.88	0.106	3.74 ^a	8.12	0.000	5.47 ^a	9.69	0.000
Wisconsin	6.19 ^a	9.05	0.000	7.20	6.58	0.574	17.49	20.67	0.114	4.16 ^a	7.48	0.000	6.09 ^a	9.29	0.000
Wyoming	5.42 ^a	7.38	0.003	7.55	5.88	0.122	15.50	17.73	0.270	3.37 ^a	5.98	0.001	5.19 ^a	7.53	0.001

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 3 *First Use of Marijuana*, by Age Group and State: Average Annual Initiation Estimates (Expressed as Percentages of the At-Risk Population) and *P* Values from Tests of Differences between Rates, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (<i>P</i> Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (<i>P</i> Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (<i>P</i> Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (<i>P</i> Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (<i>P</i> Value)
Total U.S.	1.75 ^a	2.31	0.000	5.74	5.70	0.809	7.09 ^a	8.39	0.000	0.13 ^a	0.67	0.000	1.07 ^a	1.73	0.000
Northeast	1.80 ^a	2.44	0.000	5.92	5.99	0.804	7.96 ^a	9.82	0.000	0.13 ^a	0.70	0.000	1.12 ^a	1.87	0.000
Midwest	1.79 ^a	2.48	0.000	5.57	5.55	0.908	7.41 ^a	9.24	0.000	0.12 ^a	0.69	0.000	1.12 ^a	1.92	0.000
South	1.56 ^a	1.92	0.000	5.22	5.08	0.504	6.34 ^a	6.99	0.033	0.12 ^a	0.52	0.000	0.95 ^a	1.40	0.000
West	2.00 ^a	2.78	0.000	6.57	6.65	0.799	7.38 ^a	9.12	0.000	0.14 ^a	0.91	0.000	1.18 ^a	2.08	0.000
Alabama	1.38 ^a	1.81	0.009	4.47	4.62	0.816	5.53	6.54	0.249	0.12 ^a	0.51	0.000	0.87 ^a	1.35	0.001
Alaska	2.30 ^a	3.58	0.000	6.35	7.78	0.110	7.33 ^a	10.11	0.041	0.17 ^a	1.28	0.000	1.34 ^a	2.62	0.000
Arizona	1.72 ^a	2.43	0.002	6.10	6.00	0.902	6.58	7.38	0.476	0.12 ^a	0.81	0.000	0.95 ^a	1.78	0.000
Arkansas	1.56 ^a	1.97	0.025	5.15	5.02	0.850	6.99	7.27	0.797	0.12 ^a	0.51	0.000	0.95 ^a	1.46	0.002
California	2.06 ^a	2.66	0.000	6.66	6.83	0.748	7.39 ^a	8.93	0.030	0.14 ^a	0.84	0.000	1.23 ^a	1.94	0.000
Colorado	2.45 ^a	3.80	0.000	8.11	7.97	0.886	9.23 ^a	12.49	0.043	0.17 ^a	1.21	0.000	1.38 ^a	2.88	0.000
Connecticut	2.14 ^a	3.08	0.000	7.09	6.57	0.562	8.98 ^b	11.64	0.065	0.14 ^a	0.96	0.000	1.23 ^a	2.43	0.000
Delaware	2.13 ^b	2.60	0.056	6.67	7.12	0.613	9.55	9.35	0.885	0.14 ^a	0.79	0.000	1.32 ^a	1.84	0.017
District of Columbia	2.33 ^a	3.96	0.000	7.25 ^a	9.50	0.032	8.38 ^b	11.37	0.058	0.24 ^a	1.50	0.000	1.68 ^a	3.22	0.000
Florida	1.39 ^a	1.77	0.001	5.35	5.28	0.884	6.22 ^b	7.48	0.054	0.10 ^a	0.48	0.000	0.83 ^a	1.29	0.000
Georgia	1.87	1.98	0.526	5.46	4.93	0.416	6.90	6.75	0.874	0.17 ^a	0.53	0.000	1.17 ^b	1.46	0.085
Hawaii	1.71	2.06	0.123	6.42	5.70	0.423	7.57	6.53	0.394	0.11 ^a	0.74	0.000	1.01 ^a	1.48	0.027
Idaho	1.86 ^b	2.25	0.065	5.50	5.43	0.932	7.18	6.90	0.789	0.13 ^a	0.60	0.000	1.14 ^a	1.59	0.017
Illinois	1.74 ^a	2.33	0.000	5.65	6.04	0.456	6.85	7.82	0.189	0.12 ^a	0.68	0.000	1.07 ^a	1.67	0.000
Indiana	1.76 ^a	2.54	0.000	5.81	5.34	0.535	7.37	8.98	0.162	0.11 ^a	0.72	0.000	1.05 ^a	1.98	0.000
Iowa	1.55 ^a	2.12	0.004	5.34	5.06	0.699	5.97	7.55	0.126	0.10 ^a	0.54	0.000	0.95 ^a	1.63	0.000
Kansas	1.72 ^a	2.40	0.002	5.65	4.96	0.348	6.85	7.79	0.403	0.10 ^a	0.73	0.000	1.06 ^a	1.89	0.000
Kentucky	1.48 ^a	2.18	0.000	5.46	5.03	0.555	6.09 ^b	8.14	0.052	0.14 ^a	0.62	0.000	0.86 ^a	1.68	0.000
Louisiana	1.33 ^a	1.74	0.012	3.89	4.33	0.468	5.53	6.79	0.176	0.12 ^a	0.45	0.000	0.91 ^a	1.31	0.007
Maine	1.73 ^a	3.38	0.000	5.43 ^a	7.71	0.007	8.97 ^a	14.39	0.001	0.14 ^a	1.09	0.000	1.09 ^a	2.61	0.000
Maryland	1.81 ^b	2.18	0.083	5.61	5.46	0.849	8.20	8.06	0.910	0.12 ^a	0.64	0.000	1.17 ^a	1.60	0.026
Massachusetts	2.27 ^a	3.79	0.000	7.13	7.25	0.890	9.69 ^a	15.27	0.002	0.16 ^a	1.13	0.000	1.42 ^a	3.17	0.000
Michigan	2.10 ^a	3.18	0.000	5.97	6.30	0.516	8.72 ^a	12.69	0.000	0.13 ^a	0.93	0.000	1.33 ^a	2.59	0.000
Minnesota	1.77 ^a	2.49	0.001	4.85	5.13	0.689	7.89	9.58	0.179	0.12 ^a	0.78	0.000	1.20 ^a	1.98	0.000
Mississippi	1.34 ^a	1.67	0.042	4.09	4.55	0.466	5.22	5.83	0.463	0.11 ^a	0.37	0.000	0.88 ^a	1.19	0.032
Missouri	1.64 ^a	2.25	0.002	5.11	5.05	0.925	7.12	8.93	0.119	0.12 ^a	0.57	0.000	1.02 ^a	1.76	0.000
Montana	2.04 ^a	3.33	0.000	6.67	7.46	0.352	9.79	11.70	0.217	0.13 ^a	0.98	0.000	1.25 ^a	2.52	0.000

See notes at end of file.

(continued)

Table 3 First Use of Marijuana, by Age Group and State: Average Annual Initiation Estimates (Expressed as Percentages of the At-Risk Population) and P Values from Tests of Differences between Rates, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	1.54 ^a	2.39	0.000	4.48 ^a	6.29	0.013	6.32 ^b	8.29	0.069	0.10 ^a	0.56	0.000	1.05 ^a	1.70	0.001
Nevada	1.85 ^a	2.97	0.000	7.16	7.38	0.813	6.55 ^a	10.66	0.002	0.15 ^a	1.01	0.000	0.91 ^a	2.15	0.000
New Hampshire	2.25 ^a	3.50	0.000	6.29	7.68	0.110	10.53 ^b	13.81	0.080	0.15 ^a	1.01	0.000	1.44 ^a	2.68	0.000
New Jersey	1.50 ^a	1.90	0.017	4.89	5.22	0.625	7.69	8.59	0.427	0.10 ^a	0.48	0.000	0.96 ^a	1.39	0.005
New Mexico	2.06 ^a	3.10	0.000	7.84	8.75	0.390	8.01	9.39	0.321	0.12 ^a	0.88	0.000	1.09 ^a	2.06	0.000
New York	1.81 ^a	2.15	0.013	6.05	5.59	0.323	7.38	8.60	0.121	0.13 ^a	0.63	0.000	1.12 ^a	1.64	0.000
North Carolina	1.69 ^a	2.10	0.021	6.24	6.14	0.897	6.67	6.46	0.824	0.13 ^a	0.59	0.000	0.96 ^a	1.41	0.004
North Dakota	1.56 ^a	2.14	0.005	4.28	4.03	0.695	6.59 ^b	8.75	0.065	0.08 ^a	0.56	0.000	1.15 ^a	1.85	0.001
Ohio	1.78 ^a	2.44	0.000	5.59	5.39	0.664	7.47 ^a	10.08	0.002	0.13 ^a	0.63	0.000	1.10 ^a	1.91	0.000
Oklahoma	1.47 ^a	2.26	0.000	4.87	4.70	0.812	5.77 ^a	8.19	0.027	0.11 ^a	0.71	0.000	0.91 ^a	1.80	0.000
Oregon	2.42 ^a	3.36	0.003	7.87	7.16	0.440	9.63	11.66	0.193	0.19 ^a	1.26	0.000	1.39 ^a	2.64	0.000
Pennsylvania	1.61 ^a	2.24	0.000	5.37	5.81	0.365	7.47	8.30	0.315	0.10 ^a	0.63	0.000	1.01 ^a	1.66	0.000
Rhode Island	2.27 ^a	3.34	0.000	7.20	6.78	0.641	9.16	11.82	0.105	0.16 ^a	1.09	0.000	1.40 ^a	2.72	0.000
South Carolina	1.46 ^b	1.75	0.096	4.77	5.07	0.669	6.41	6.11	0.754	0.12 ^a	0.46	0.000	0.93 ^a	1.23	0.047
South Dakota	1.59 ^b	1.91	0.088	5.17	4.45	0.301	6.70	7.84	0.298	0.09 ^a	0.50	0.000	1.01 ^a	1.49	0.006
Tennessee	1.26 ^a	1.87	0.000	4.11	4.94	0.196	6.00	7.04	0.297	0.12 ^a	0.48	0.000	0.81 ^a	1.38	0.000
Texas	1.59 ^a	1.87	0.015	5.20	4.86	0.442	5.86	6.47	0.303	0.11 ^a	0.48	0.000	0.95 ^a	1.35	0.000
Utah	1.29 ^a	1.84	0.004	3.94	3.68	0.675	3.64 ^a	5.48	0.025	0.10 ^a	0.50	0.000	0.82 ^a	1.45	0.001
Vermont	2.47 ^a	4.19	0.000	7.37 ^b	9.31	0.060	11.93 ^b	15.54	0.071	0.15 ^a	1.14	0.000	1.56 ^a	3.25	0.000
Virginia	1.90	1.89	0.973	5.98 ^b	4.87	0.095	7.59	7.53	0.953	0.13 ^a	0.53	0.000	1.20	1.42	0.192
Washington	1.94 ^a	3.51	0.000	5.68	6.35	0.410	8.53 ^a	11.45	0.048	0.16 ^a	1.41	0.000	1.24 ^a	2.93	0.000
West Virginia	1.27 ^a	2.14	0.000	5.33	5.97	0.383	5.76 ^a	8.43	0.009	0.12 ^a	0.57	0.000	0.72 ^a	1.55	0.000
Wisconsin	1.92 ^a	2.35	0.046	6.16	5.38	0.296	8.39	8.35	0.972	0.12 ^a	0.65	0.000	1.17 ^a	1.81	0.001
Wyoming	1.92	2.22	0.159	6.47	5.49	0.213	7.70	7.78	0.944	0.11 ^a	0.68	0.000	1.15 ^a	1.64	0.013

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: *Average annual initiation of marijuana (%) = 100 * {[X₁ ÷ (0.5 * X₁ + X₂)] ÷ 2}*, where X₁ is the number of marijuana initiates in the past 24 months and X₂ is the number of individuals who never used marijuana (with the at-risk population defined as 0.5 * X₁ + X₂). Both of the computation components, X₁ and X₂, are based on a survey-weighted hierarchical Bayes estimation approach. The age group shown is based on a respondent's age at the time of the interview, not his or her age at first use. For details, see Section B of the "2018-2019 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at <https://www.samhsa.gov/data/>.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 4 Cocaine Use in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	2.01	2.00	0.920	1.11 ^a	0.42	0.000	5.46	5.54	0.747	1.53	1.63	0.267	2.11	2.16	0.554
Northeast	2.38	2.21	0.244	1.11 ^a	0.38	0.000	6.68	6.35	0.465	1.81	1.77	0.796	2.52	2.38	0.394
Midwest	1.82	1.81	0.972	1.06 ^a	0.43	0.000	5.12	5.07	0.882	1.34	1.45	0.427	1.90	1.95	0.673
South	1.81	1.65	0.103	0.98 ^a	0.36	0.000	4.64	4.39	0.390	1.44	1.38	0.577	1.90	1.78	0.271
West	2.21 ^a	2.58	0.018	1.35 ^a	0.54	0.000	6.08 ^a	7.18	0.019	1.62 ^a	2.09	0.013	2.31 ^a	2.79	0.006
Alabama	1.38	1.78	0.181	0.76 ^a	0.31	0.004	3.44	4.13	0.392	1.11	1.58	0.179	1.45	1.93	0.154
Alaska	2.99 ^b	2.05	0.053	1.45 ^a	0.47	0.000	7.38 ^b	5.09	0.066	2.39	1.78	0.284	3.18 ^b	2.23	0.078
Arizona	2.33	1.82	0.150	1.38 ^a	0.48	0.000	6.91	5.31	0.195	1.68	1.41	0.471	2.44	1.95	0.221
Arkansas	1.43	1.11	0.194	0.89 ^a	0.36	0.005	3.52	3.05	0.558	1.16	0.89	0.336	1.49	1.19	0.275
California	2.12 ^a	2.75	0.009	1.39 ^a	0.52	0.000	5.57 ^a	7.71	0.003	1.56 ^a	2.21	0.022	2.20 ^a	2.97	0.004
Colorado	3.28	4.12	0.121	1.37 ^a	0.64	0.026	8.94	10.98	0.206	2.56	3.45	0.153	3.47	4.46	0.102
Connecticut	2.05	1.99	0.855	1.26 ^a	0.37	0.000	6.25	6.21	0.972	1.49	1.50	0.977	2.14	2.15	0.987
Delaware	2.36	2.21	0.708	0.91 ^a	0.31	0.001	6.40	6.63	0.850	1.87	1.79	0.866	2.52	2.39	0.775
District of Columbia	3.76	3.95	0.804	0.43	0.21	0.102	5.14	6.45	0.254	3.76	3.75	0.995	4.01	4.16	0.853
Florida	1.80	1.72	0.719	1.05 ^a	0.36	0.000	4.70	5.07	0.570	1.46	1.41	0.868	1.88	1.84	0.887
Georgia	1.51	1.43	0.767	0.81 ^a	0.25	0.000	3.93	3.41	0.486	1.20	1.26	0.847	1.60	1.56	0.913
Hawaii	1.76	2.41	0.105	1.25 ^a	0.43	0.011	4.39	6.12	0.130	1.40	2.13	0.112	1.81 ^b	2.59	0.081
Idaho	1.31	1.36	0.801	1.24 ^a	0.57	0.018	4.52	4.01	0.588	0.75	1.04	0.235	1.31	1.46	0.580
Illinois	1.91	2.10	0.447	0.99 ^a	0.40	0.000	4.64	4.77	0.861	1.53	1.88	0.237	2.01	2.27	0.350
Indiana	1.66	1.58	0.772	1.09 ^a	0.50	0.005	4.97	4.63	0.735	1.18	1.19	0.961	1.72	1.69	0.920
Iowa	1.11	1.45	0.142	1.11 ^a	0.47	0.006	3.64	4.51	0.335	0.66	1.03	0.138	1.11 ^b	1.55	0.089
Kansas	1.52 ^b	2.05	0.087	1.11 ^a	0.54	0.018	4.97	5.11	0.898	0.94 ^a	1.71	0.024	1.57 ^b	2.21	0.061
Kentucky	1.36 ^a	1.95	0.037	1.02 ^a	0.45	0.006	4.37	4.61	0.798	0.93 ^a	1.70	0.020	1.40 ^a	2.10	0.026
Louisiana	2.34	1.81	0.151	0.84 ^a	0.26	0.000	4.77	4.77	0.998	2.08	1.53	0.210	2.51	1.97	0.192
Maine	2.30	1.96	0.321	1.13 ^a	0.56	0.013	7.67	7.25	0.762	1.69	1.42	0.472	2.42	2.08	0.372
Maryland	1.57	1.73	0.619	0.87 ^a	0.27	0.000	4.03	4.41	0.677	1.24	1.50	0.504	1.64	1.88	0.534
Massachusetts	2.45	2.24	0.580	1.18 ^a	0.42	0.001	7.16	6.98	0.890	1.76	1.63	0.741	2.58	2.40	0.673
Michigan	2.00	1.82	0.420	1.05 ^a	0.37	0.000	5.74	5.93	0.802	1.49	1.31	0.490	2.11	1.96	0.552
Minnesota	1.77	2.14	0.250	1.12 ^a	0.43	0.000	5.14	5.94	0.463	1.27	1.76	0.178	1.84	2.31	0.186
Mississippi	1.36	1.52	0.574	0.63 ^a	0.25	0.009	3.15	3.45	0.684	1.14	1.36	0.508	1.45	1.66	0.511
Missouri	2.01 ^a	1.33	0.019	1.00 ^a	0.38	0.001	5.74	4.12	0.108	1.52 ^b	1.00	0.099	2.12 ^a	1.42	0.031
Montana	2.32	2.11	0.520	1.17 ^a	0.61	0.034	7.60	6.92	0.599	1.58	1.53	0.892	2.44	2.25	0.599

See notes at end of file.

(continued)

Table 4 Cocaine Use in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	1.57	1.70	0.622	1.10 ^a	0.50	0.006	4.61	5.93	0.199	1.06	1.13	0.813	1.62	1.84	0.479
Nevada	2.34	2.74	0.307	1.50 ^a	0.53	0.000	6.72	7.41	0.601	1.79	2.35	0.221	2.43	2.96	0.231
New Hampshire	2.75	2.63	0.790	1.23 ^a	0.61	0.020	8.97	9.23	0.870	1.98	1.86	0.780	2.91	2.81	0.837
New Jersey	1.73	1.59	0.598	1.04 ^a	0.32	0.000	4.93	4.77	0.870	1.33	1.27	0.858	1.81	1.71	0.754
New Mexico	2.17	1.87	0.402	1.30 ^a	0.65	0.034	6.55	4.98	0.195	1.47	1.53	0.884	2.26	2.00	0.500
New York	2.66	2.52	0.615	1.09 ^a	0.32	0.000	7.31	6.44	0.296	2.02	2.14	0.724	2.83	2.71	0.720
North Carolina	2.10	1.93	0.614	0.93 ^a	0.33	0.000	4.90	5.17	0.769	1.79	1.62	0.640	2.22	2.10	0.723
North Dakota	1.22	1.44	0.379	1.05 ^a	0.48	0.024	3.78	4.41	0.499	0.68	0.98	0.231	1.24	1.54	0.287
Ohio	1.49	1.74	0.220	1.02 ^a	0.37	0.000	4.51	4.89	0.556	1.05	1.41	0.140	1.54	1.88	0.139
Oklahoma	1.50	1.63	0.645	1.14 ^a	0.41	0.001	4.70	4.24	0.629	0.97	1.34	0.207	1.54	1.76	0.475
Oregon	2.63	2.89	0.502	1.23 ^a	0.66	0.033	8.04	8.41	0.793	1.95	2.32	0.390	2.77	3.09	0.455
Pennsylvania	2.27	2.15	0.682	1.08 ^a	0.43	0.000	5.86	6.35	0.542	1.82	1.71	0.723	2.39	2.31	0.797
Rhode Island	3.89 ^a	2.24	0.001	1.28 ^a	0.43	0.000	9.39 ^b	6.66	0.066	3.17 ^a	1.67	0.007	4.15 ^a	2.40	0.002
South Carolina	2.75 ^a	1.46	0.001	0.83 ^a	0.28	0.000	4.97	4.06	0.353	2.62 ^a	1.21	0.001	2.95 ^a	1.58	0.001
South Dakota	1.17	1.10	0.717	0.95 ^a	0.44	0.043	3.91	3.57	0.690	0.71	0.77	0.785	1.20	1.17	0.893
Tennessee	1.57	1.53	0.872	0.93 ^a	0.36	0.001	4.31	3.57	0.394	1.23	1.35	0.710	1.64	1.64	0.991
Texas	1.89 ^a	1.47	0.031	1.16 ^a	0.44	0.000	5.09	4.12	0.122	1.40	1.16	0.267	1.98 ^b	1.60	0.073
Utah	1.43	1.27	0.527	1.16 ^a	0.52	0.021	4.14	3.65	0.581	0.80	0.88	0.738	1.47	1.38	0.760
Vermont	3.01	3.06	0.925	1.22 ^b	0.68	0.051	10.17	9.09	0.495	2.05	2.25	0.670	3.19	3.25	0.900
Virginia	1.75	1.80	0.880	1.02 ^a	0.31	0.000	4.95	5.20	0.789	1.30	1.43	0.687	1.83	1.94	0.736
Washington	2.08	2.26	0.605	1.20 ^a	0.53	0.004	6.24	6.22	0.984	1.51	1.87	0.374	2.17	2.43	0.520
West Virginia	2.51 ^a	1.60	0.006	1.05 ^a	0.51	0.017	7.65 ^a	4.76	0.013	1.93 ^b	1.27	0.066	2.65 ^a	1.70	0.009
Wisconsin	2.71 ^b	2.04	0.065	1.19 ^a	0.55	0.007	7.27	5.54	0.147	2.13	1.65	0.241	2.87 ^b	2.19	0.088
Wyoming	1.46	1.66	0.462	1.13 ^a	0.62	0.046	5.25	5.83	0.589	0.83	1.16	0.294	1.49	1.77	0.371

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 5 Alcohol Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	51.74 ^a	50.92	0.037	14.79 ^a	9.19	0.000	61.45 ^a	54.72	0.000	54.80	55.15	0.468	55.78 ^b	55.09	0.099
Northeast	56.57 ^a	53.97	0.001	16.68 ^a	9.80	0.000	67.33 ^a	58.93	0.000	59.59 ^b	57.84	0.051	60.71 ^a	57.98	0.001
Midwest	54.26	54.07	0.774	15.24 ^a	9.62	0.000	65.07 ^a	59.29	0.000	57.42	58.47	0.175	58.55	58.58	0.966
South	47.74	48.03	0.642	13.75 ^a	8.89	0.000	57.62 ^a	51.11	0.000	50.43 ^a	52.18	0.016	51.47	52.03	0.413
West	51.78	50.55	0.105	14.56 ^a	8.90	0.000	59.40 ^a	53.30	0.000	55.40	54.99	0.651	56.01	54.76	0.136
Alabama	42.94	43.85	0.633	12.70 ^a	8.22	0.000	54.41 ^a	45.83	0.002	44.84	47.64	0.236	46.22	47.39	0.578
Alaska	54.52	51.83	0.149	14.22 ^a	8.73	0.000	60.50 ^a	53.48	0.012	59.37	57.00	0.303	59.54	56.53	0.142
Arizona	51.15	48.97	0.260	14.80 ^a	7.91	0.000	59.35 ^a	49.04	0.000	54.60	53.86	0.755	55.29	53.19	0.321
Arkansas	43.29	41.24	0.276	15.34 ^a	8.41	0.000	55.94 ^a	48.66	0.009	44.80	44.05	0.746	46.36	44.69	0.419
California	50.65	49.76	0.422	14.11 ^a	8.87	0.000	59.79 ^a	54.50	0.002	53.99	53.75	0.862	54.92	53.86	0.383
Colorado	62.22	60.03	0.230	20.22 ^a	10.69	0.000	69.51 ^a	62.49	0.007	66.11	65.30	0.716	66.60	64.92	0.400
Connecticut	59.32	60.03	0.721	18.56 ^a	11.24	0.000	67.86	65.61	0.409	63.08	64.59	0.528	63.73	64.73	0.643
Delaware	56.32	56.44	0.954	16.35 ^a	10.09	0.000	68.53 ^a	59.09	0.000	59.18	60.93	0.485	60.52	60.71	0.930
District of Columbia	61.55 ^a	65.97	0.019	15.63 ^a	9.26	0.000	71.82	70.56	0.641	63.53 ^a	68.93	0.018	65.04 ^a	69.17	0.039
Florida	51.41	50.84	0.645	15.30 ^a	9.10	0.000	56.91 ^a	49.56	0.000	54.58	55.03	0.762	54.88	54.40	0.724
Georgia	48.89	47.24	0.353	13.56 ^a	7.26	0.000	58.18 ^a	46.80	0.000	52.19	52.45	0.904	53.06	51.65	0.475
Hawaii	48.23	46.13	0.287	11.64 ^a	5.97	0.000	57.21 ^a	50.13	0.018	50.95	49.69	0.595	51.81	49.75	0.337
Idaho	45.71	46.40	0.715	12.91 ^a	7.94	0.000	52.50	49.48	0.266	49.19	51.24	0.381	49.68	50.99	0.529
Illinois	54.33	55.35	0.417	15.16 ^a	8.55	0.000	64.88 ^a	56.07	0.000	57.60 ^a	60.74	0.041	58.72	60.11	0.313
Indiana	48.06	49.51	0.448	14.41 ^a	9.16	0.000	57.94	55.79	0.436	50.82	53.47	0.256	51.85	53.80	0.350
Iowa	56.70	57.80	0.564	17.34 ^a	11.38	0.000	69.06 ^b	63.95	0.056	59.43	62.35	0.211	60.87	62.58	0.413
Kansas	53.92	52.43	0.442	15.93 ^a	10.30	0.000	66.34 ^a	58.66	0.005	56.66	56.81	0.953	58.18	57.08	0.605
Kentucky	38.74 ^a	43.28	0.017	12.21 ^b	9.62	0.060	50.64	48.20	0.362	40.10 ^a	46.42	0.007	41.52 ^a	46.66	0.013
Louisiana	48.24	48.03	0.912	15.26 ^a	9.93	0.000	61.67 ^a	52.53	0.001	50.16	51.92	0.460	52.02	52.00	0.993
Maine	55.07	55.77	0.730	14.57 ^a	10.36	0.004	65.34 ^b	60.07	0.053	58.08	59.44	0.577	58.97	59.52	0.802
Maryland	54.24	55.22	0.638	14.02 ^a	9.06	0.000	61.74	57.44	0.141	58.09	60.07	0.436	58.62	59.74	0.625
Massachusetts	61.54	60.42	0.544	16.89 ^a	10.83	0.000	72.39 ^a	64.06	0.002	64.83	64.88	0.984	65.97	64.76	0.541
Michigan	54.65	53.57	0.375	14.56 ^a	9.11	0.000	63.73	61.04	0.131	58.39	57.39	0.505	59.17	57.90	0.345
Minnesota	60.95	59.99	0.604	14.70 ^a	11.03	0.015	68.13	65.24	0.268	65.51	64.99	0.816	65.90	65.02	0.664
Mississippi	40.39	38.75	0.384	12.70 ^a	8.05	0.000	52.99 ^a	41.68	0.000	41.96	42.18	0.928	43.68	42.10	0.450
Missouri	50.15	49.51	0.749	13.92 ^a	9.19	0.001	61.01 ^a	53.95	0.009	52.95	53.48	0.829	54.09	53.55	0.803
Montana	59.07	57.64	0.485	21.39 ^a	11.64	0.000	69.07 ^a	62.94	0.019	61.95	61.76	0.940	62.97	61.92	0.637

See notes at end of file.

(continued)

Table 5 Alcohol Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	53.59	55.40	0.341	13.81 ^a	9.97	0.007	64.98	60.76	0.111	56.67	60.36	0.120	57.99	60.41	0.248
Nevada	54.47	52.10	0.252	15.29 ^a	9.28	0.000	60.32 ^a	53.71	0.019	58.63	56.73	0.452	58.85	56.37	0.274
New Hampshire	63.98	62.54	0.443	17.83 ^a	10.86	0.000	74.97 ^a	68.89	0.021	67.91	66.75	0.606	68.85	67.03	0.371
New Jersey	54.18	52.83	0.496	15.17 ^a	9.40	0.000	64.96 ^a	58.64	0.014	57.37	56.89	0.845	58.39	57.11	0.559
New Mexico	47.59	45.04	0.193	15.62 ^a	8.26	0.000	57.11 ^a	48.25	0.002	50.05	48.99	0.664	51.15	48.89	0.294
New York	55.72 ^a	50.90	0.000	16.83 ^a	9.50	0.000	66.32 ^a	56.07	0.000	58.57 ^a	54.34	0.005	59.75 ^a	54.57	0.000
North Carolina	47.45	49.31	0.293	12.83 ^a	9.19	0.004	58.35	54.94	0.170	49.98	53.07	0.151	51.15	53.33	0.259
North Dakota	57.80	56.40	0.452	18.98 ^a	9.42	0.000	71.80	67.76	0.128	59.46	59.62	0.944	61.71	60.93	0.700
Ohio	51.67	51.31	0.777	14.99 ^a	9.63	0.000	65.37 ^a	57.61	0.000	54.08	55.13	0.486	55.67	55.46	0.880
Oklahoma	45.62	44.48	0.566	13.86 ^a	8.23	0.000	59.12 ^a	51.80	0.010	47.31	47.87	0.821	49.13	48.43	0.751
Oregon	59.77	57.48	0.231	17.75 ^a	10.70	0.000	66.69 ^a	58.34	0.002	63.58	62.13	0.528	64.00	61.66	0.260
Pennsylvania	55.06 ^a	52.35	0.045	16.73 ^a	9.18	0.000	66.31 ^a	56.15	0.000	57.81	56.31	0.357	59.01 ^b	56.30	0.064
Rhode Island	59.91	58.58	0.490	18.29 ^a	10.42	0.000	71.17 ^b	66.17	0.065	62.78	62.17	0.795	64.10	62.75	0.516
South Carolina	45.89	48.42	0.202	12.45 ^a	9.01	0.007	53.32	49.57	0.185	48.82	52.61	0.115	49.46	52.22	0.201
South Dakota	57.81 ^b	54.38	0.070	15.85 ^a	9.24	0.000	70.66 ^a	59.82	0.000	60.93	59.09	0.433	62.41	59.19	0.121
Tennessee	41.06	43.94	0.130	11.39 ^b	9.12	0.084	53.40	51.53	0.504	42.77 ^b	46.74	0.086	44.18	47.38	0.125
Texas	48.42	47.64	0.481	14.09 ^a	9.10	0.000	58.49 ^a	50.79	0.000	51.52	52.45	0.503	52.63	52.20	0.730
Utah	28.11	29.16	0.575	6.73	5.67	0.406	32.09	32.49	0.900	30.72	32.49	0.465	30.98	32.47	0.481
Vermont	60.28	60.89	0.759	18.40 ^a	13.58	0.005	73.56 ^a	67.67	0.018	62.87	64.25	0.571	64.37	64.74	0.864
Virginia	50.79	51.14	0.845	13.10 ^a	9.07	0.001	60.21	58.33	0.453	53.83	54.77	0.667	54.75	55.25	0.800
Washington	56.13	55.08	0.576	14.03 ^a	9.96	0.004	60.77 ^a	53.19	0.007	60.54	60.21	0.886	60.58	59.32	0.541
West Virginia	38.17	38.72	0.790	13.23 ^a	9.61	0.013	53.45 ^b	48.35	0.068	38.66	40.29	0.513	40.53	41.29	0.734
Wisconsin	61.78	59.93	0.333	18.62 ^a	11.11	0.000	71.81 ^a	66.35	0.025	65.42	64.49	0.693	66.34	64.75	0.443
Wyoming	54.21	51.99	0.262	17.06 ^a	9.68	0.000	62.33	57.92	0.102	57.41	56.13	0.598	58.15	56.37	0.409

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 6 Alcohol Use in the Past Month among Individuals Aged 12 to 20, by State: Percentages and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	Alcohol Use in Past Month (2008-2009)	Alcohol Use in Past Month (2018-2019)	Alcohol Use in Past Month (P Value)
Total U.S.	26.83 ^a	18.67	0.000
Northeast	30.69 ^a	20.33	0.000
Midwest	27.60 ^a	20.87	0.000
South	25.18 ^a	17.35	0.000
West	25.76 ^a	17.69	0.000
Alabama	23.65 ^a	15.53	0.000
Alaska	25.51 ^a	16.54	0.000
Arizona	24.59 ^a	16.53	0.000
Arkansas	23.06 ^a	17.15	0.000
California	25.24 ^a	17.64	0.000
Colorado	32.89 ^a	22.22	0.000
Connecticut	31.02 ^a	27.31	0.049
Delaware	32.60 ^a	20.59	0.000
District of Columbia	31.66 ^a	21.98	0.000
Florida	26.62 ^a	18.69	0.000
Georgia	24.21 ^a	14.39	0.000
Hawaii	23.87 ^a	13.54	0.000
Idaho	23.93 ^a	15.18	0.000
Illinois	28.38 ^a	17.90	0.000
Indiana	23.50 ^a	16.78	0.000
Iowa	29.93 ^a	24.82	0.006
Kansas	28.91 ^a	22.03	0.000
Kentucky	23.65 ^a	18.14	0.001
Louisiana	29.69 ^a	19.89	0.000
Maine	26.61 ^a	22.44	0.020
Maryland	26.66 ^a	16.43	0.000
Massachusetts	32.97 ^a	24.11	0.000
Michigan	26.72 ^a	21.95	0.000
Minnesota	27.61 ^a	23.63	0.032
Mississippi	24.28 ^a	16.00	0.000
Missouri	24.24 ^a	20.46	0.030
Montana	34.33 ^a	23.97	0.000

See notes at end of file.

(continued)

Table 6 Alcohol Use in the Past Month among Individuals Aged 12 to 20, by State: Percentages and *P* Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	Alcohol Use in Past Month (2008-2009)	Alcohol Use in Past Month (2018-2019)	Alcohol Use in Past Month (<i>P</i> Value)
Nebraska	26.45 ^a	22.61	0.032
Nevada	24.63 ^a	17.59	0.000
New Hampshire	34.84 ^a	23.15	0.000
New Jersey	27.22 ^a	19.85	0.000
New Mexico	25.80 ^a	16.17	0.000
New York	32.01 ^a	18.74	0.000
North Carolina	22.42 ^a	17.71	0.002
North Dakota	36.44 ^a	25.79	0.000
Ohio	28.41 ^a	21.23	0.000
Oklahoma	25.90 ^a	17.80	0.000
Oregon	31.36 ^a	20.76	0.000
Pennsylvania	29.02 ^a	17.04	0.000
Rhode Island	34.78 ^a	27.14	0.000
South Carolina	21.88 ^a	16.84	0.003
South Dakota	32.31 ^a	20.70	0.000
Tennessee	20.16 ^b	17.11	0.058
Texas	26.46 ^a	17.17	0.000
Utah	14.34 ^a	9.94	0.013
Vermont	36.53 ^a	31.66	0.023
Virginia	25.83 ^a	18.44	0.000
Washington	27.00 ^a	18.97	0.000
West Virginia	22.75 ^a	18.61	0.017
Wisconsin	30.83 ^a	23.20	0.000
Wyoming	30.54 ^a	20.36	0.000

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 7 Tobacco Product Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	28.06 ^a	21.28	0.000	11.64 ^a	4.01	0.000	41.53 ^a	25.08	0.000	27.85 ^a	22.68	0.000	29.86 ^a	23.01	0.000
Northeast	26.45 ^a	19.28	0.000	11.37 ^a	3.59	0.000	41.23 ^a	24.53	0.000	25.78 ^a	20.12	0.000	28.01 ^a	20.71	0.000
Midwest	30.55 ^a	23.88	0.000	13.24 ^a	4.50	0.000	46.33 ^a	27.89	0.000	30.06 ^a	25.51	0.000	32.45 ^a	25.84	0.000
South	29.54 ^a	23.38	0.000	11.53 ^a	4.44	0.000	41.69 ^a	26.75	0.000	29.79 ^a	25.09	0.000	31.51 ^a	25.31	0.000
West	24.67 ^a	17.14	0.000	10.55 ^a	3.19	0.000	37.12 ^a	20.36	0.000	24.31 ^a	18.26	0.000	26.27 ^a	18.55	0.000
Alabama	32.94 ^a	28.92	0.014	13.26 ^a	5.31	0.000	45.41 ^a	30.64	0.000	33.33	31.36	0.328	35.08 ^a	31.27	0.033
Alaska	29.41 ^a	23.15	0.000	13.46 ^a	6.56	0.000	44.60 ^a	25.80	0.000	28.91 ^a	24.83	0.037	31.40 ^a	24.96	0.000
Arizona	25.71 ^a	18.84	0.000	10.17 ^a	2.93	0.000	39.80 ^a	21.49	0.000	25.39 ^a	20.31	0.007	27.48 ^a	20.47	0.000
Arkansas	35.26 ^a	29.15	0.000	14.99 ^a	5.47	0.000	47.74 ^a	30.89	0.000	35.81 ^b	31.76	0.056	37.48 ^a	31.64	0.002
California	22.79 ^a	14.10	0.000	9.47 ^a	2.56	0.000	34.37 ^a	17.04	0.000	22.43 ^a	14.97	0.000	24.35 ^a	15.26	0.000
Colorado	27.37 ^a	20.64	0.000	13.30 ^a	4.15	0.000	43.67 ^a	26.24	0.000	26.37 ^a	21.66	0.010	28.84 ^a	22.28	0.000
Connecticut	25.34 ^a	18.76	0.000	11.01 ^a	3.04	0.000	41.49 ^a	24.08	0.000	24.58 ^a	19.66	0.010	26.89 ^a	20.27	0.000
Delaware	30.13 ^a	22.60	0.000	13.07 ^a	4.04	0.000	45.53 ^a	25.59	0.000	29.65 ^a	24.12	0.005	31.92 ^a	24.31	0.000
District of Columbia	27.62 ^a	19.22	0.000	9.48 ^a	3.69	0.000	34.96 ^a	21.51	0.000	27.66 ^a	19.84	0.000	28.99 ^a	20.09	0.000
Florida	26.78 ^a	19.51	0.000	10.61 ^a	3.34	0.000	38.36 ^a	20.42	0.000	26.85 ^a	20.94	0.000	28.33 ^a	20.89	0.000
Georgia	28.86 ^a	21.32	0.000	11.68 ^a	3.64	0.000	40.80 ^a	21.97	0.000	29.20 ^a	23.49	0.001	30.89 ^a	23.28	0.000
Hawaii	22.31 ^a	17.30	0.001	9.93 ^a	2.20	0.000	37.26 ^a	18.83	0.000	21.32	18.64	0.130	23.51 ^a	18.66	0.002
Idaho	26.80 ^a	19.69	0.000	10.75 ^a	3.88	0.000	39.73 ^a	23.65	0.000	26.82 ^a	21.24	0.002	28.75 ^a	21.58	0.000
Illinois	29.01 ^a	20.15	0.000	12.45 ^a	3.46	0.000	44.24 ^a	21.78	0.000	28.44 ^a	21.85	0.000	30.87 ^a	21.85	0.000
Indiana	31.88 ^a	28.18	0.022	13.97 ^a	4.94	0.000	46.31 ^a	33.10	0.000	31.80	30.24	0.434	33.89 ^b	30.66	0.070
Iowa	30.23 ^a	25.16	0.001	12.41 ^a	4.95	0.000	44.08 ^a	27.16	0.000	30.01	27.26	0.160	32.12 ^a	27.24	0.005
Kansas	30.69 ^a	24.52	0.000	13.11 ^a	3.48	0.000	47.46 ^a	25.55	0.000	29.91	27.08	0.178	32.67 ^a	26.85	0.002
Kentucky	38.08 ^a	31.19	0.000	16.82 ^a	7.14	0.000	52.70 ^a	35.11	0.000	38.37 ^a	33.37	0.020	40.31 ^a	33.61	0.000
Louisiana	30.67	28.57	0.196	10.72 ^a	5.80	0.000	41.06 ^a	30.14	0.000	31.40	31.06	0.868	32.96	30.94	0.262
Maine	29.82 ^a	20.56	0.000	12.13 ^a	5.18	0.000	47.65 ^a	27.35	0.000	29.28 ^a	21.13	0.000	31.52 ^a	21.83	0.000
Maryland	23.84 ^a	19.69	0.006	9.04 ^a	3.46	0.000	35.70 ^a	24.30	0.000	23.72	20.83	0.115	25.46 ^a	21.28	0.011
Massachusetts	25.06 ^a	17.97	0.000	10.50 ^a	3.92	0.000	41.42 ^a	22.20	0.000	23.85 ^a	18.68	0.003	26.50 ^a	19.19	0.000
Michigan	30.47 ^a	24.00	0.000	12.88 ^a	4.50	0.000	45.86 ^a	28.75	0.000	30.17 ^a	25.44	0.000	32.45 ^a	25.90	0.000
Minnesota	27.59 ^a	20.96	0.000	12.49 ^a	4.48	0.000	47.57 ^a	26.41	0.000	26.07 ^a	22.07	0.023	29.20 ^a	22.65	0.000
Mississippi	31.60	30.57	0.530	12.10 ^a	7.08	0.000	43.29 ^a	32.11	0.000	32.19	33.32	0.583	33.92	33.14	0.667
Missouri	32.65 ^a	24.19	0.000	14.57 ^a	5.09	0.000	47.19 ^a	27.52	0.000	32.55 ^a	25.88	0.001	34.62 ^a	26.10	0.000
Montana	31.17 ^b	28.32	0.091	15.59 ^a	7.59	0.000	49.20 ^a	39.79	0.001	30.03	28.78	0.542	32.78	30.25	0.168

See notes at end of file.

(continued)

Table 7 Tobacco Product Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	29.00 ^a	22.98	0.000	12.29 ^a	4.04	0.000	42.14 ^a	28.70	0.000	28.71 ^a	24.43	0.035	30.85 ^a	25.06	0.001
Nevada	28.44 ^a	20.94	0.000	11.98 ^a	3.47	0.000	40.40 ^a	22.84	0.000	28.78 ^a	22.65	0.003	30.28 ^a	22.68	0.000
New Hampshire	28.12 ^a	19.95	0.000	12.55 ^a	3.97	0.000	45.16 ^a	29.79	0.000	27.40 ^a	20.08	0.000	29.76 ^a	21.34	0.000
New Jersey	24.81 ^a	16.03	0.000	9.81 ^a	2.96	0.000	38.34 ^a	21.38	0.000	24.58 ^a	16.74	0.000	26.42 ^a	17.32	0.000
New Mexico	26.72 ^b	23.83	0.061	12.82 ^a	5.08	0.000	42.62 ^a	31.36	0.000	25.62	24.91	0.707	28.26	25.79	0.147
New York	24.57 ^a	17.94	0.000	10.73 ^a	3.18	0.000	39.13 ^a	22.68	0.000	23.64 ^a	18.72	0.000	26.00 ^a	19.25	0.000
North Carolina	31.32 ^a	24.74	0.000	12.01 ^a	4.85	0.000	43.70 ^a	28.09	0.000	31.72 ^a	26.52	0.003	33.38 ^a	26.73	0.000
North Dakota	30.37 ^a	25.50	0.002	13.46 ^a	5.44	0.000	46.39 ^a	30.87	0.000	28.87	26.77	0.284	32.07 ^a	27.44	0.007
Ohio	32.29 ^a	27.00	0.000	14.11 ^a	5.50	0.000	49.54 ^a	33.06	0.000	31.76 ^a	28.53	0.016	34.27 ^a	29.14	0.000
Oklahoma	34.82 ^a	29.65	0.003	13.78 ^a	5.35	0.000	48.56 ^a	35.42	0.000	35.07	31.79	0.136	37.14 ^a	32.31	0.013
Oregon	30.12 ^a	20.71	0.000	14.94 ^a	4.49	0.000	45.09 ^a	26.43	0.000	29.56 ^a	21.55	0.000	31.65 ^a	22.16	0.000
Pennsylvania	30.97 ^a	23.98	0.000	13.84 ^a	4.36	0.000	45.29 ^a	29.77	0.000	30.67 ^a	25.17	0.000	32.74 ^a	25.77	0.000
Rhode Island	26.34 ^a	20.37	0.000	10.30 ^a	3.28	0.000	41.51 ^a	25.32	0.000	25.41 ^a	21.25	0.027	27.95 ^a	21.85	0.000
South Carolina	31.30 ^a	26.67	0.006	11.78 ^a	5.72	0.000	44.29 ^a	30.62	0.000	31.59	28.40	0.118	33.37 ^a	28.69	0.010
South Dakota	31.32 ^a	24.05	0.000	14.94 ^a	5.90	0.000	49.54 ^a	29.85	0.000	30.16 ^a	25.35	0.013	33.12 ^a	25.99	0.000
Tennessee	33.55 ^a	26.88	0.000	12.46 ^a	5.66	0.000	46.98 ^a	33.18	0.000	34.05 ^a	28.33	0.005	35.77 ^a	28.97	0.000
Texas	27.05 ^a	20.71	0.000	10.01 ^a	3.59	0.000	38.36 ^a	24.25	0.000	27.41 ^a	22.48	0.000	29.15 ^a	22.74	0.000
Utah	18.44 ^a	14.19	0.002	6.72 ^a	2.71	0.000	24.94 ^a	17.28	0.002	18.80 ^b	15.49	0.060	20.02 ^a	15.81	0.007
Vermont	27.61 ^a	22.50	0.002	12.66 ^a	6.75	0.000	44.28 ^a	31.64	0.000	26.58 ^a	22.44	0.035	29.07 ^a	23.78	0.003
Virginia	27.48 ^a	21.59	0.000	11.74 ^a	4.51	0.000	41.54 ^a	30.55	0.000	27.03 ^a	22.12	0.004	29.13 ^a	23.25	0.000
Washington	26.86 ^a	21.00	0.000	11.87 ^a	3.75	0.000	41.46 ^a	22.05	0.000	26.35 ^a	22.70	0.043	28.44 ^a	22.62	0.000
West Virginia	38.41 ^a	33.77	0.014	16.88 ^a	8.14	0.000	54.20 ^a	40.01	0.000	38.44	35.47	0.192	40.43 ^a	36.03	0.032
Wisconsin	30.21 ^a	22.16	0.000	12.88 ^a	3.81	0.000	45.41 ^a	25.46	0.000	29.79 ^a	23.74	0.002	32.04 ^a	23.97	0.000
Wyoming	34.32 ^a	27.49	0.000	18.41 ^a	7.19	0.000	49.70 ^a	38.14	0.000	33.58 ^a	28.29	0.015	36.01 ^a	29.59	0.001

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Tobacco Products include cigarettes, smokeless tobacco (i.e., snuff, dip, chewing tobacco, or snus), cigars, or pipe tobacco.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 8 Cigarette Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	23.63 ^a	16.91	0.000	9.09 ^a	2.50	0.000	35.80 ^a	18.34	0.000	23.40 ^a	18.35	0.000	25.23 ^a	18.35	0.000
Northeast	22.40 ^a	15.43	0.000	8.82 ^a	2.14	0.000	35.95 ^a	17.65	0.000	21.75 ^a	16.48	0.000	23.81 ^a	16.63	0.000
Midwest	25.66 ^a	18.96	0.000	10.45 ^a	2.94	0.000	39.92 ^a	20.37	0.000	25.16 ^a	20.63	0.000	27.33 ^a	20.59	0.000
South	24.80 ^a	18.43	0.000	9.12 ^a	2.79	0.000	35.96 ^a	19.21	0.000	24.92 ^a	20.15	0.000	26.52 ^a	20.02	0.000
West	20.86 ^a	13.79	0.000	7.97 ^a	1.87	0.000	31.69 ^a	15.69	0.000	20.62 ^a	14.88	0.000	22.32 ^a	14.99	0.000
Alabama	26.82 ^a	22.72	0.007	10.40 ^a	3.58	0.000	38.16 ^a	21.91	0.000	26.98	25.05	0.303	28.60 ^a	24.62	0.018
Alaska	24.21 ^a	17.47	0.000	9.37 ^a	3.85	0.000	38.26 ^a	19.55	0.000	23.78 ^a	18.86	0.004	26.07 ^a	18.95	0.000
Arizona	21.97 ^a	15.63	0.000	8.70 ^a	1.81	0.000	33.07 ^a	17.49	0.000	21.85 ^a	16.98	0.003	23.48 ^a	17.05	0.000
Arkansas	30.28 ^a	22.55	0.000	12.05 ^a	3.56	0.000	42.83 ^a	22.42	0.000	30.56 ^a	24.89	0.004	32.28 ^a	24.55	0.000
California	19.28 ^a	11.43	0.000	7.05 ^a	1.23	0.000	29.58 ^a	13.24	0.000	19.02 ^a	12.33	0.000	20.71 ^a	12.46	0.000
Colorado	22.33 ^a	16.32	0.000	9.69 ^a	3.01	0.000	36.42 ^a	19.28	0.000	21.52 ^a	17.38	0.013	23.65 ^a	17.64	0.000
Connecticut	21.47 ^a	13.90	0.000	8.67 ^a	1.53	0.000	36.51 ^a	15.82	0.000	20.69 ^a	14.98	0.001	22.85 ^a	15.10	0.000
Delaware	25.41 ^a	17.46	0.000	9.74 ^a	1.93	0.000	39.95 ^a	17.84	0.000	24.90 ^a	19.03	0.002	27.05 ^a	18.89	0.000
District of Columbia	23.85 ^a	16.28	0.000	6.30 ^a	1.70	0.000	30.11 ^a	16.60	0.000	24.08 ^a	17.19	0.000	25.17 ^a	17.10	0.000
Florida	22.66 ^a	15.48	0.000	8.30 ^a	2.10	0.000	32.61 ^a	14.09	0.000	22.76 ^a	16.94	0.000	24.03 ^a	16.62	0.000
Georgia	24.48 ^a	16.40	0.000	8.95 ^a	2.21	0.000	35.71 ^a	15.17	0.000	24.72 ^a	18.43	0.000	26.32 ^a	17.97	0.000
Hawaii	20.24 ^a	14.10	0.000	7.60 ^a	1.52	0.000	34.07 ^a	15.27	0.000	19.46 ^a	15.22	0.010	21.47 ^a	15.23	0.000
Idaho	23.14 ^a	15.62	0.000	9.05 ^a	2.87	0.000	35.00 ^a	17.44	0.000	23.07 ^a	17.10	0.000	24.85 ^a	17.15	0.000
Illinois	24.93 ^a	16.26	0.000	10.01 ^a	1.88	0.000	38.97 ^a	16.16	0.000	24.37 ^a	17.97	0.000	26.60 ^a	17.73	0.000
Indiana	26.78 ^a	22.45	0.003	10.84 ^a	3.38	0.000	40.95 ^a	25.12	0.000	26.49	24.37	0.238	28.58 ^a	24.48	0.011
Iowa	24.90 ^a	20.61	0.004	10.17 ^a	3.87	0.000	37.13 ^a	20.38	0.000	24.58	22.68	0.302	26.46 ^a	22.34	0.011
Kansas	25.04 ^a	18.27	0.000	10.80 ^a	2.32	0.000	39.71 ^a	16.92	0.000	24.19 ^a	20.59	0.046	26.63 ^a	20.04	0.000
Kentucky	31.94 ^a	25.08	0.000	12.44 ^a	4.67	0.000	44.22 ^a	25.93	0.000	32.38 ^a	27.31	0.010	33.98 ^a	27.12	0.000
Louisiana	26.54 ^a	22.07	0.003	8.41 ^a	3.35	0.000	36.03 ^a	22.05	0.000	27.20	24.32	0.127	28.62 ^a	24.01	0.005
Maine	25.64 ^a	17.24	0.000	9.72 ^a	3.99	0.000	42.51 ^a	21.06	0.000	25.03 ^a	17.99	0.000	27.17 ^a	18.34	0.000
Maryland	19.82 ^a	14.85	0.000	7.61 ^a	1.86	0.000	31.15 ^a	16.07	0.000	19.45 ^a	16.12	0.047	21.15 ^a	16.12	0.001
Massachusetts	20.99 ^a	14.47	0.000	7.63 ^a	2.22	0.000	34.67 ^a	16.70	0.000	20.13 ^a	15.35	0.002	22.32 ^a	15.54	0.000
Michigan	26.12 ^a	19.04	0.000	10.34 ^a	2.68	0.000	39.79 ^a	19.69	0.000	25.87 ^a	20.79	0.000	27.89 ^a	20.63	0.000
Minnesota	23.49 ^a	16.29	0.000	9.72 ^a	2.99	0.000	41.01 ^a	19.55	0.000	22.22 ^a	17.36	0.003	24.96 ^a	17.65	0.000
Mississippi	26.35	24.16	0.152	9.66 ^a	4.19	0.000	36.57 ^a	22.46	0.000	26.82	26.99	0.934	28.34	26.34	0.238
Missouri	26.31 ^a	19.72	0.000	10.98 ^a	3.41	0.000	39.48 ^a	21.94	0.000	26.09 ^a	21.26	0.008	27.98 ^a	21.36	0.000
Montana	24.75 ^a	20.83	0.011	11.24 ^a	5.58	0.000	39.49 ^a	28.79	0.000	23.91	21.24	0.161	26.14 ^a	22.25	0.020

See notes at end of file.

(continued)

Table 8 Cigarette Use in the Past Month, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	24.27 ^a	17.99	0.000	9.36 ^a	2.82	0.000	36.05 ^a	20.47	0.000	24.00 ^a	19.53	0.013	25.91 ^a	19.67	0.000
Nevada	24.45 ^a	16.96	0.000	9.44 ^a	2.03	0.000	33.92 ^a	16.41	0.000	24.97 ^a	18.72	0.001	26.13 ^a	18.44	0.000
New Hampshire	23.36 ^a	14.64	0.000	10.23 ^a	2.84	0.000	39.18 ^a	20.78	0.000	22.53 ^a	14.90	0.000	24.74 ^a	15.66	0.000
New Jersey	20.88 ^a	13.17	0.000	7.59 ^a	1.56	0.000	35.13 ^a	14.90	0.000	20.33 ^a	14.23	0.000	22.32 ^a	14.32	0.000
New Mexico	22.74 ^a	19.30	0.019	10.06 ^a	2.89	0.000	36.12 ^a	23.87	0.000	21.95	20.56	0.447	24.15 ^b	21.01	0.053
New York	21.30 ^a	14.51	0.000	8.21 ^a	1.75	0.000	34.38 ^a	16.07	0.000	20.55 ^a	15.57	0.000	22.66 ^a	15.63	0.000
North Carolina	26.45 ^a	19.83	0.000	9.16 ^a	2.93	0.000	37.96 ^a	19.26	0.000	26.73 ^a	21.87	0.004	28.30 ^a	21.52	0.000
North Dakota	24.70 ^a	19.46	0.000	10.42 ^a	4.01	0.000	36.38 ^a	21.64	0.000	23.86 ^b	20.83	0.100	26.14 ^a	20.95	0.001
Ohio	26.71 ^a	21.16	0.000	10.93 ^a	3.76	0.000	41.85 ^a	23.56	0.000	26.23 ^a	22.79	0.005	28.43 ^a	22.89	0.000
Oklahoma	28.24 ^a	23.68	0.005	11.31 ^a	4.27	0.000	41.18 ^a	27.10	0.000	28.10	25.59	0.217	30.11 ^a	25.80	0.017
Oregon	25.01 ^a	15.93	0.000	10.32 ^a	3.00	0.000	37.51 ^a	20.69	0.000	24.78 ^a	16.56	0.000	26.49 ^a	17.09	0.000
Pennsylvania	25.69 ^a	19.05	0.000	11.13 ^a	2.93	0.000	38.72 ^a	21.98	0.000	25.30 ^a	20.30	0.000	27.19 ^a	20.52	0.000
Rhode Island	22.58 ^a	16.30	0.000	7.93 ^a	1.99	0.000	35.37 ^a	18.20	0.000	21.93 ^a	17.43	0.011	24.05 ^a	17.54	0.000
South Carolina	26.94 ^a	21.26	0.000	9.52 ^a	3.78	0.000	37.73 ^a	22.03	0.000	27.33 ^a	23.08	0.020	28.80 ^a	22.94	0.000
South Dakota	25.04 ^a	18.61	0.000	11.43 ^a	4.07	0.000	39.83 ^a	20.65	0.000	24.14 ^a	20.08	0.020	26.53 ^a	20.16	0.000
Tennessee	28.20 ^a	20.72	0.000	9.69 ^a	3.94	0.000	39.48 ^a	24.06	0.000	28.71 ^a	22.12	0.001	30.14 ^a	22.37	0.000
Texas	22.51 ^a	16.67	0.000	8.17 ^a	2.19	0.000	33.64 ^a	18.22	0.000	22.51 ^a	18.42	0.000	24.27 ^a	18.39	0.000
Utah	16.42 ^a	11.45	0.000	5.39 ^a	1.82	0.000	22.29 ^a	13.28	0.000	16.83 ^a	12.72	0.011	17.91 ^a	12.81	0.000
Vermont	22.31 ^a	17.55	0.001	8.73 ^a	4.56	0.000	38.02 ^a	24.68	0.000	21.29 ^a	17.57	0.039	23.64 ^a	18.60	0.002
Virginia	23.23 ^a	16.51	0.000	9.56 ^a	2.79	0.000	35.65 ^a	21.32	0.000	22.79 ^a	17.31	0.000	24.66 ^a	17.85	0.000
Washington	22.91 ^a	17.02	0.000	8.89 ^a	2.43	0.000	35.68 ^a	16.96	0.000	22.56 ^a	18.60	0.019	24.38 ^a	18.39	0.000
West Virginia	30.76 ^a	25.86	0.004	13.14 ^a	5.48	0.000	47.13 ^a	30.72	0.000	30.30	27.22	0.134	32.42 ^a	27.66	0.009
Wisconsin	25.74 ^a	17.89	0.000	10.57 ^a	2.55	0.000	40.34 ^a	19.26	0.000	25.15 ^a	19.42	0.001	27.35 ^a	19.40	0.000
Wyoming	26.58 ^a	20.00	0.000	12.60 ^a	5.02	0.000	39.19 ^a	28.03	0.000	26.09 ^a	20.56	0.004	28.06 ^a	21.55	0.000

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 9 Alcohol Use Disorder in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Total U.S.	7.42 ^a	5.34	0.000	4.76 ^a	1.64	0.000	16.76 ^a	9.67	0.000	6.16 ^a	5.09	0.000	7.72 ^a	5.71	0.000
Northeast	7.42 ^a	5.28	0.000	4.73 ^a	1.68	0.000	17.81 ^a	10.12	0.000	5.99 ^a	4.92	0.001	7.70 ^a	5.61	0.000
Midwest	7.84 ^a	5.54	0.000	5.14 ^a	1.72	0.000	18.24 ^a	10.42	0.000	6.39 ^a	5.21	0.000	8.13 ^a	5.93	0.000
South	6.90 ^a	4.75	0.000	4.14 ^a	1.44	0.000	15.18 ^a	8.45	0.000	5.86 ^a	4.56	0.000	7.20 ^a	5.09	0.000
West	7.86 ^a	6.15	0.000	5.37 ^a	1.85	0.000	16.97 ^a	10.60	0.000	6.54 ^b	5.95	0.092	8.14 ^a	6.59	0.000
Alabama	6.40	5.33	0.105	4.12 ^a	1.50	0.000	13.75 ^a	9.16	0.002	5.45	5.18	0.721	6.65	5.71	0.191
Alaska	8.06	7.08	0.242	5.31 ^a	1.86	0.000	16.94 ^a	12.42	0.013	6.80	6.91	0.909	8.40	7.65	0.414
Arizona	7.73 ^a	4.79	0.000	5.40 ^a	1.71	0.000	18.24 ^a	8.85	0.000	6.26 ^a	4.49	0.030	8.00 ^a	5.10	0.000
Arkansas	6.75 ^a	4.89	0.006	4.90 ^a	1.56	0.000	15.57 ^a	8.17	0.000	5.54	4.78	0.319	6.95 ^a	5.24	0.020
California	7.87 ^a	6.28	0.000	5.27 ^a	1.80	0.000	16.36 ^a	10.51	0.000	6.61	6.12	0.374	8.18 ^a	6.73	0.004
Colorado	8.97	8.16	0.354	6.32 ^a	2.01	0.000	21.03 ^a	13.88	0.000	7.28	7.97	0.493	9.25	8.77	0.614
Connecticut	8.64 ^a	6.18	0.003	5.92 ^a	1.83	0.000	19.92 ^a	12.05	0.000	7.19	5.74	0.128	8.93 ^a	6.60	0.010
Delaware	7.88 ^a	6.16	0.028	4.86 ^a	1.53	0.000	18.98 ^a	10.87	0.000	6.40	5.98	0.648	8.19 ^b	6.58	0.057
District of Columbia	9.26	9.00	0.798	3.04 ^a	1.24	0.000	17.04 ^a	11.86	0.004	8.10	9.00	0.453	9.73	9.44	0.785
Florida	6.93 ^a	3.94	0.000	4.33 ^a	1.26	0.000	14.60 ^a	7.12	0.000	6.08 ^a	3.78	0.000	7.18 ^a	4.17	0.000
Georgia	6.68 ^a	4.55	0.000	3.38 ^a	1.36	0.000	15.02 ^a	7.85	0.000	5.72 ^b	4.42	0.063	7.07 ^a	4.90	0.001
Hawaii	7.58 ^b	5.93	0.051	5.83 ^a	1.77	0.000	16.34 ^a	12.45	0.043	6.38	5.51	0.369	7.75	6.31	0.109
Idaho	7.14 ^a	5.41	0.012	5.16 ^a	1.70	0.000	16.35 ^a	10.18	0.000	5.79	5.15	0.410	7.37 ^a	5.86	0.044
Illinois	7.58 ^a	5.53	0.000	4.32 ^a	1.53	0.000	17.59 ^a	9.89	0.000	6.19	5.31	0.140	7.94 ^a	5.93	0.000
Indiana	6.99 ^a	5.59	0.040	5.01 ^a	1.76	0.000	17.00 ^a	10.25	0.000	5.57	5.28	0.706	7.22 ^b	6.00	0.099
Iowa	8.64 ^a	5.76	0.000	6.67 ^a	2.19	0.000	19.79 ^a	11.75	0.000	6.92 ^a	5.15	0.039	8.85 ^a	6.13	0.001
Kansas	8.06 ^a	5.18	0.000	5.68 ^a	1.90	0.000	19.37 ^a	10.39	0.000	6.27 ^b	4.69	0.051	8.33 ^a	5.54	0.000
Kentucky	5.98	5.10	0.169	3.83 ^a	1.69	0.000	14.21 ^a	9.13	0.001	4.95	4.87	0.910	6.20	5.45	0.270
Louisiana	7.02 ^b	5.60	0.054	3.63 ^a	1.40	0.000	14.96 ^a	8.67	0.000	5.95	5.63	0.709	7.40 ^b	6.04	0.088
Maine	6.76	5.66	0.128	4.06 ^a	2.14	0.002	17.72 ^a	10.88	0.000	5.52	5.33	0.812	7.01	5.95	0.170
Maryland	7.05 ^a	4.87	0.002	3.70 ^a	1.38	0.000	15.17 ^a	8.62	0.000	6.10 ^b	4.71	0.089	7.42 ^a	5.21	0.004
Massachusetts	7.42 ^b	6.10	0.075	4.74 ^a	1.75	0.000	18.97 ^a	11.81	0.000	5.68	5.58	0.910	7.68	6.48	0.131
Michigan	7.63 ^a	5.72	0.000	4.90 ^a	1.64	0.000	16.79 ^a	10.39	0.000	6.43 ^b	5.43	0.099	7.93 ^a	6.12	0.001
Minnesota	9.20 ^a	5.65	0.000	5.77 ^a	1.69	0.000	21.08 ^a	11.50	0.000	7.60 ^a	5.22	0.009	9.56 ^a	6.06	0.000
Mississippi	6.29 ^a	4.77	0.020	3.68 ^a	1.37	0.000	13.24 ^a	7.83	0.000	5.38	4.70	0.376	6.60 ^a	5.15	0.042
Missouri	7.63 ^a	5.21	0.000	5.15 ^a	1.80	0.000	17.62 ^a	9.46	0.000	6.29 ^b	4.95	0.083	7.90 ^a	5.56	0.002
Montana	9.78 ^a	7.46	0.011	8.23 ^a	2.51	0.000	24.59 ^a	13.65	0.000	7.49	7.04	0.672	9.94 ^a	7.92	0.040

See notes at end of file.

(continued)

Table 9 Alcohol Use Disorder in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	12+ (2008- 2009)	12+ (2018- 2019)	12+ (P Value)	12-17 (2008- 2009)	12-17 (2018- 2019)	12-17 (P Value)	18-25 (2008- 2009)	18-25 (2018- 2019)	18-25 (P Value)	26+ (2008- 2009)	26+ (2018- 2019)	26+ (P Value)	18+ (2008- 2009)	18+ (2018- 2019)	18+ (P Value)
Nebraska	8.50 ^a	5.69	0.000	5.65 ^a	1.85	0.000	19.05 ^a	11.23	0.000	6.88 ^b	5.23	0.064	8.81 ^a	6.12	0.001
Nevada	7.61 ^a	6.04	0.048	5.40 ^a	1.84	0.000	16.76 ^a	10.31	0.000	6.53	5.93	0.506	7.86	6.46	0.104
New Hampshire	7.50	6.47	0.208	5.09 ^a	2.10	0.000	19.31 ^a	14.39	0.022	5.98	5.74	0.789	7.75	6.85	0.307
New Jersey	6.61 ^a	4.33	0.000	3.71 ^a	1.49	0.000	15.87 ^a	8.42	0.000	5.54 ^a	4.07	0.035	6.93 ^a	4.61	0.000
New Mexico	8.64 ^a	5.35	0.000	6.64 ^a	1.68	0.000	18.71 ^a	10.51	0.000	7.05 ^a	4.98	0.023	8.86 ^a	5.73	0.000
New York	7.88 ^a	5.16	0.000	5.31 ^a	1.61	0.000	18.10 ^a	9.28	0.000	6.36 ^a	4.89	0.009	8.15 ^a	5.48	0.000
North Carolina	6.27 ^b	5.10	0.051	3.40 ^a	1.47	0.000	14.65 ^a	8.69	0.000	5.28	4.96	0.656	6.58 ^b	5.46	0.087
North Dakota	8.38 ^a	6.44	0.014	5.29 ^a	2.36	0.000	20.61 ^a	12.71	0.000	6.03	5.69	0.698	8.69 ^a	6.83	0.029
Ohio	7.62 ^a	5.14	0.000	5.19 ^a	1.61	0.000	17.80 ^a	9.47	0.000	6.26 ^a	4.87	0.016	7.89 ^a	5.49	0.000
Oklahoma	7.55 ^a	5.47	0.003	4.96 ^a	1.64	0.000	16.78 ^a	10.03	0.000	6.21	5.19	0.206	7.84 ^a	5.88	0.011
Oregon	8.54 ^b	6.95	0.053	6.33 ^a	2.35	0.000	18.71 ^a	12.28	0.000	7.22	6.65	0.549	8.76	7.36	0.111
Pennsylvania	6.91 ^a	5.08	0.000	4.21 ^a	1.69	0.000	17.07 ^a	10.10	0.000	5.56	4.68	0.116	7.18 ^a	5.39	0.001
Rhode Island	8.26 ^a	6.51	0.033	4.86 ^a	1.78	0.000	18.03 ^a	12.33	0.003	6.84	5.99	0.369	8.60 ^b	6.92	0.057
South Carolina	7.90 ^a	5.14	0.000	3.98 ^a	1.43	0.000	16.24 ^a	9.21	0.000	7.03 ^a	4.95	0.021	8.32 ^a	5.50	0.001
South Dakota	9.68 ^a	5.93	0.000	6.74 ^a	1.97	0.000	23.35 ^a	11.86	0.000	7.59 ^a	5.45	0.023	10.00 ^a	6.36	0.000
Tennessee	6.18 ^a	4.85	0.038	3.28 ^a	1.63	0.001	14.18 ^a	9.15	0.001	5.30	4.56	0.322	6.48 ^b	5.17	0.059
Texas	6.98 ^a	4.57	0.000	4.63 ^a	1.43	0.000	14.76 ^a	8.31	0.000	5.85 ^a	4.36	0.003	7.26 ^a	4.95	0.000
Utah	6.07 ^a	4.16	0.003	3.31 ^a	1.57	0.002	12.42 ^a	7.67	0.002	4.96	3.83	0.122	6.44 ^a	4.52	0.007
Vermont	7.84	6.84	0.219	4.92 ^a	2.56	0.002	20.15 ^a	12.28	0.000	6.16	6.31	0.868	8.12	7.18	0.282
Virginia	8.04 ^a	5.06	0.000	5.07 ^a	1.52	0.000	19.44 ^a	9.40	0.000	6.47 ^a	4.78	0.025	8.35 ^a	5.41	0.000
Washington	7.08 ^b	5.79	0.073	4.74 ^a	2.01	0.000	16.26 ^a	10.18	0.000	5.88	5.56	0.692	7.32	6.15	0.129
West Virginia	6.54 ^a	4.14	0.000	4.45 ^a	1.74	0.000	15.43 ^a	8.76	0.000	5.48 ^a	3.73	0.016	6.73 ^a	4.35	0.001
Wisconsin	8.06 ^a	6.10	0.009	5.43 ^a	1.87	0.000	19.67 ^a	12.08	0.000	6.43	5.63	0.350	8.34 ^a	6.51	0.024
Wyoming	8.51 ^a	6.39	0.007	6.96 ^a	2.37	0.000	19.54 ^a	12.48	0.000	6.75	5.94	0.372	8.67 ^a	6.81	0.028

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Alcohol Use Disorder is defined as meeting criteria for alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 10 Any Mental Illness in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Total U.S.	17.92 ^a	19.86	0.000	18.25 ^a	27.85	0.000	17.86 ^a	18.60	0.020
Northeast	18.18 ^a	19.45	0.019	18.61 ^a	28.27	0.000	18.10	18.10	0.995
Midwest	18.36 ^a	20.99	0.000	19.22 ^a	29.79	0.000	18.21 ^a	19.58	0.009
South	17.33 ^a	18.74	0.001	17.06 ^a	25.94	0.000	17.38	17.62	0.608
West	18.23 ^a	20.95	0.000	18.88 ^a	28.84	0.000	18.12 ^a	19.70	0.015
Alabama	17.44 ^a	21.29	0.008	16.53 ^a	28.13	0.000	17.59	20.22	0.104
Alaska	16.72 ^a	21.47	0.001	15.79 ^a	31.90	0.000	16.90 ^b	19.84	0.060
Arizona	17.15 ^a	20.06	0.049	18.31 ^a	28.50	0.000	16.95	18.70	0.295
Arkansas	19.60	20.34	0.618	19.89 ^a	26.86	0.001	19.55	19.29	0.875
California	17.44 ^a	19.49	0.018	18.49 ^a	26.63	0.000	17.23	18.34	0.259
Colorado	18.95 ^a	23.20	0.006	17.74 ^a	34.28	0.000	19.15	21.47	0.178
Connecticut	17.87	18.85	0.511	19.35 ^a	28.73	0.000	17.64	17.27	0.825
Delaware	17.75 ^a	20.92	0.039	18.41 ^a	30.47	0.000	17.64	19.58	0.257
District of Columbia	17.99 ^a	22.83	0.001	17.44 ^a	28.23	0.000	18.12 ^a	21.85	0.029
Florida	16.99	17.23	0.794	16.69 ^a	25.20	0.000	17.03	16.18	0.405
Georgia	16.50	17.88	0.287	16.16 ^a	24.92	0.000	16.56	16.73	0.909
Hawaii	17.52	17.45	0.964	19.54 ^a	26.99	0.001	17.20	16.22	0.550
Idaho	19.51 ^a	22.48	0.042	19.37 ^a	32.09	0.000	19.54	20.91	0.407
Illinois	16.68 ^a	19.18	0.009	17.19 ^a	28.57	0.000	16.59	17.71	0.297
Indiana	20.37	22.29	0.208	20.62 ^a	30.10	0.000	20.33	20.96	0.711
Iowa	17.23	18.50	0.345	18.24 ^a	26.76	0.000	17.05	17.06	0.996
Kansas	17.24 ^a	20.56	0.020	17.89 ^a	27.90	0.000	17.13	19.28	0.179
Kentucky	19.23 ^a	22.54	0.029	17.78 ^a	27.03	0.000	19.46	21.83	0.161
Louisiana	17.46 ^a	21.21	0.008	16.81 ^a	27.07	0.000	17.59 ^b	20.29	0.091
Maine	19.25 ^b	22.10	0.068	19.59 ^a	32.25	0.000	19.20	20.81	0.344
Maryland	16.86	17.57	0.612	17.72 ^a	28.18	0.000	16.72	16.01	0.651
Massachusetts	18.01 ^a	21.15	0.033	18.31 ^a	29.55	0.000	17.95	19.73	0.280
Michigan	18.63 ^b	20.32	0.073	19.81 ^a	28.42	0.000	18.43	19.00	0.585
Minnesota	18.94	20.53	0.265	19.72 ^a	32.08	0.000	18.81	18.75	0.974
Mississippi	16.95 ^a	20.16	0.026	17.28 ^a	24.62	0.000	16.89	19.41	0.119
Missouri	19.11 ^a	22.71	0.016	21.43 ^a	31.06	0.000	18.72	21.40	0.107
Montana	19.18	20.81	0.273	19.20 ^a	28.07	0.000	19.17	19.69	0.758

See notes at end of file.

(continued)

Table 10 Any Mental Illness in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Nebraska	17.56 ^a	20.30	0.047	17.25 ^a	30.55	0.000	17.63	18.51	0.566
Nevada	20.59	21.97	0.401	20.46 ^a	28.66	0.000	20.60	21.04	0.811
New Hampshire	18.35 ^a	22.37	0.009	19.88 ^a	33.17	0.000	18.11	20.77	0.117
New Jersey	17.65	16.37	0.351	18.52 ^a	25.16	0.000	17.51	15.11	0.112
New Mexico	17.85 ^a	21.39	0.021	18.04 ^a	27.36	0.000	17.82	20.44	0.130
New York	18.35	19.52	0.221	18.27 ^a	27.33	0.000	18.37	18.32	0.962
North Carolina	17.74	19.31	0.232	16.43 ^a	26.78	0.000	17.95	18.15	0.891
North Dakota	15.46 ^a	20.50	0.000	15.32 ^a	29.07	0.000	15.50 ^a	18.83	0.032
Ohio	18.41 ^a	23.64	0.000	18.75 ^a	32.06	0.000	18.36 ^a	22.33	0.001
Oklahoma	20.33	22.54	0.161	20.56 ^a	31.28	0.000	20.28	21.08	0.655
Oregon	19.55 ^a	23.75	0.008	20.51 ^a	32.60	0.000	19.40 ^b	22.48	0.079
Pennsylvania	17.83 ^b	19.70	0.060	18.55 ^a	29.77	0.000	17.71	18.20	0.662
Rhode Island	23.53	22.38	0.499	22.77 ^a	29.21	0.006	23.67	21.20	0.199
South Carolina	16.95 ^b	19.43	0.089	16.99 ^a	24.10	0.000	16.94	18.74	0.268
South Dakota	16.40	18.26	0.167	16.94 ^a	29.14	0.000	16.31	16.46	0.921
Tennessee	19.12	19.40	0.848	17.43 ^a	28.22	0.000	19.38	18.06	0.415
Texas	16.47	17.17	0.418	16.11 ^a	23.24	0.000	16.54	16.11	0.654
Utah	21.78 ^a	26.86	0.001	21.53 ^a	33.94	0.000	21.85 ^b	25.29	0.061
Vermont	18.66 ^a	22.25	0.016	19.42 ^a	30.31	0.000	18.53	20.87	0.158
Virginia	16.33 ^b	18.58	0.079	18.33 ^a	28.47	0.000	15.99	17.04	0.461
Washington	19.85 ^a	23.43	0.025	20.00 ^a	31.98	0.000	19.82	22.18	0.184
West Virginia	20.00 ^a	24.62	0.005	21.21 ^a	31.71	0.000	19.83 ^a	23.62	0.036
Wisconsin	19.96	20.19	0.881	22.43 ^a	29.19	0.001	19.55	18.76	0.644
Wyoming	20.24	22.56	0.139	20.38 ^a	32.22	0.000	20.22	21.09	0.620

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Any mental illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, as assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). As such, these estimates are based on indicators of AMI rather than direct measures of diagnostic status. For details, see Section B of the "2018-2019 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at <https://www.samhsa.gov/data/>.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012 and October 2013).

Table 11 *Serious Mental Illness in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs*

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Total U.S.	3.70 ^a	4.91	0.000	3.55 ^a	8.14	0.000	3.72 ^a	4.40	0.000
Northeast	3.64 ^a	4.64	0.000	3.65 ^a	8.14	0.000	3.64 ^b	4.10	0.078
Midwest	4.00 ^a	5.29	0.000	3.79 ^a	9.05	0.000	4.04 ^a	4.68	0.009
South	3.59 ^a	4.74	0.000	3.28 ^a	7.58	0.000	3.64 ^a	4.30	0.002
West	3.63 ^a	5.03	0.000	3.66 ^a	8.21	0.000	3.62 ^a	4.53	0.001
Alabama	3.57 ^a	5.64	0.001	3.44 ^a	8.42	0.000	3.59 ^a	5.20	0.021
Alaska	3.49 ^a	5.86	0.000	3.11 ^a	10.61	0.000	3.56 ^a	5.12	0.023
Arizona	3.84 ^a	5.56	0.009	3.72 ^a	9.72	0.000	3.86	4.89	0.156
Arkansas	4.74	5.53	0.255	3.99 ^a	9.14	0.000	4.86	4.95	0.902
California	3.20 ^a	4.53	0.000	3.62 ^a	7.11	0.000	3.12 ^a	4.12	0.018
Colorado	4.65	5.53	0.208	3.67 ^a	9.68	0.000	4.81	4.89	0.920
Connecticut	3.52 ^b	4.50	0.084	3.53 ^a	8.54	0.000	3.51	3.86	0.573
Delaware	3.55 ^a	5.44	0.002	3.49 ^a	7.85	0.000	3.56 ^a	5.10	0.025
District of Columbia	3.06 ^a	4.92	0.001	3.00 ^a	6.75	0.000	3.07 ^a	4.59	0.022
Florida	3.64 ^b	4.34	0.077	3.39 ^a	7.37	0.000	3.67	3.95	0.535
Georgia	3.39 ^b	4.49	0.054	2.78 ^a	6.87	0.000	3.49	4.11	0.329
Hawaii	3.11 ^b	4.16	0.058	3.89 ^a	7.69	0.000	2.98	3.70	0.233
Idaho	4.75	5.28	0.421	3.74 ^a	9.54	0.000	4.93	4.58	0.627
Illinois	3.62 ^a	4.51	0.030	3.51 ^a	8.61	0.000	3.64	3.87	0.613
Indiana	4.71	5.42	0.304	4.02 ^a	9.05	0.000	4.82	4.80	0.972
Iowa	3.83 ^a	5.40	0.008	3.76 ^a	9.12	0.000	3.84	4.75	0.160
Kansas	3.51 ^a	5.74	0.000	3.78 ^a	9.93	0.000	3.46 ^a	5.00	0.027
Kentucky	4.18 ^a	5.76	0.022	3.42 ^a	8.39	0.000	4.30	5.34	0.169
Louisiana	3.59 ^a	5.30	0.003	3.49 ^a	8.23	0.000	3.61 ^b	4.84	0.057
Maine	4.00 ^a	6.03	0.003	4.33 ^a	11.35	0.000	3.95 ^b	5.36	0.058
Maryland	3.28 ^a	4.48	0.026	3.46 ^a	8.74	0.000	3.25	3.85	0.295
Massachusetts	3.73 ^a	5.16	0.019	3.21 ^a	8.88	0.000	3.82	4.54	0.285
Michigan	3.98 ^a	5.00	0.018	4.12 ^a	8.02	0.000	3.96	4.51	0.247
Minnesota	4.37	4.89	0.403	3.84 ^a	9.09	0.000	4.46	4.24	0.758
Mississippi	3.43 ^a	5.23	0.004	2.99 ^a	6.89	0.000	3.51 ^a	4.95	0.036
Missouri	4.09 ^a	5.56	0.022	3.58 ^a	9.09	0.000	4.18	5.00	0.237
Montana	3.95 ^a	5.19	0.050	3.98 ^a	8.83	0.000	3.95	4.63	0.327

See notes at end of file.

(continued)

Table 11 *Serious Mental Illness in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)*

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Nebraska	3.57 ^a	4.92	0.017	3.59 ^a	8.86	0.000	3.57	4.24	0.280
Nevada	4.37 ^b	5.63	0.081	3.81 ^a	8.73	0.000	4.45	5.20	0.342
New Hampshire	3.75 ^b	4.85	0.061	3.98 ^a	9.14	0.000	3.72	4.22	0.425
New Jersey	3.35	4.08	0.160	3.77 ^a	7.39	0.000	3.29	3.60	0.574
New Mexico	3.45 ^a	5.31	0.003	3.61 ^a	8.36	0.000	3.42 ^a	4.82	0.043
New York	3.84	4.35	0.203	3.80 ^a	7.41	0.000	3.85	3.88	0.943
North Carolina	3.63 ^b	4.75	0.059	3.02 ^a	7.01	0.000	3.73	4.39	0.307
North Dakota	3.25 ^a	5.04	0.001	3.36 ^a	8.84	0.000	3.23 ^b	4.31	0.066
Ohio	4.10 ^a	6.29	0.000	3.69 ^a	10.27	0.000	4.17 ^a	5.67	0.007
Oklahoma	3.97 ^a	5.43	0.025	4.07 ^a	8.52	0.000	3.95	4.92	0.180
Oregon	4.23 ^a	5.72	0.031	3.82 ^a	9.87	0.000	4.30	5.12	0.269
Pennsylvania	3.31 ^a	4.94	0.000	3.43 ^a	8.64	0.000	3.29 ^a	4.39	0.019
Rhode Island	5.38	5.05	0.667	4.29 ^a	8.64	0.000	5.58	4.43	0.166
South Carolina	3.57 ^a	4.89	0.028	3.26 ^a	7.25	0.000	3.62	4.53	0.164
South Dakota	3.19 ^a	5.34	0.000	3.44 ^a	9.47	0.000	3.14 ^a	4.65	0.015
Tennessee	3.80 ^a	5.42	0.012	3.25 ^a	8.97	0.000	3.89	4.87	0.155
Texas	3.33 ^a	4.32	0.008	3.08 ^a	7.04	0.000	3.37	3.85	0.258
Utah	4.64 ^a	6.31	0.015	3.78 ^a	9.49	0.000	4.86	5.60	0.341
Vermont	3.78 ^a	5.83	0.002	3.97 ^a	10.19	0.000	3.75 ^b	5.08	0.070
Virginia	3.34 ^a	4.53	0.026	3.55 ^a	7.60	0.000	3.30	4.05	0.202
Washington	3.78 ^a	5.53	0.005	3.55 ^a	9.09	0.000	3.82 ^b	5.01	0.080
West Virginia	4.87	5.84	0.198	3.66 ^a	9.44	0.000	5.04	5.34	0.720
Wisconsin	4.12 ^b	5.26	0.078	4.16 ^a	8.89	0.000	4.11	4.68	0.420
Wyoming	4.20 ^a	5.51	0.048	3.49 ^a	10.99	0.000	4.32	4.67	0.627

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Serious mental illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, as assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID), which is based on the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). SMI includes individuals with diagnoses resulting in serious functional impairment. As such, these estimates are based on indicators of SMI rather than direct measures of diagnostic status. For details, see Section B of the "2018-2019 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at <https://www.samhsa.gov/data/>.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012 and October 2013).

Table 12 Major Depressive Episode in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	12-17 (2008-2009)	12-17 (2018-2019)	12-17 (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Total U.S.	6.53 ^a	7.51	0.000	8.22 ^a	15.08	0.000	8.21 ^a	14.48	0.000	6.24	6.43	0.332
Northeast	6.42 ^a	7.22	0.012	7.92 ^a	13.62	0.000	8.06 ^a	14.43	0.000	6.15	6.12	0.946
Midwest	6.72 ^a	8.14	0.000	8.35 ^a	15.74	0.000	8.50 ^a	15.62	0.000	6.41 ^b	6.94	0.072
South	6.44 ^a	7.12	0.005	8.07 ^a	14.59	0.000	7.79 ^a	13.77	0.000	6.22	6.10	0.652
West	6.57 ^a	7.81	0.000	8.53 ^a	16.26	0.000	8.67 ^a	14.61	0.000	6.19	6.73	0.119
Alabama	6.35 ^a	8.13	0.033	7.99 ^a	14.51	0.000	7.35 ^a	13.33	0.000	6.19	7.32	0.219
Alaska	5.86 ^a	8.51	0.002	7.70 ^a	17.93	0.000	7.31 ^a	16.31	0.000	5.59 ^b	7.30	0.064
Arizona	6.94	7.81	0.311	8.99 ^a	17.41	0.000	8.88 ^a	15.58	0.000	6.61	6.56	0.961
Arkansas	7.86	7.90	0.964	9.03 ^a	16.27	0.000	8.98 ^a	14.33	0.000	7.67	6.87	0.421
California	6.05 ^a	7.17	0.017	8.14 ^a	15.22	0.000	8.50 ^a	13.11	0.000	5.58	6.22	0.227
Colorado	7.56	8.46	0.314	9.16 ^a	15.02	0.000	8.40 ^a	17.25	0.000	7.41	7.10	0.751
Connecticut	5.95	7.06	0.149	8.03 ^a	14.41	0.000	8.11 ^a	15.26	0.000	5.61	5.77	0.848
Delaware	6.43 ^a	8.50	0.019	7.86 ^a	15.48	0.000	8.55 ^a	15.09	0.000	6.08	7.58	0.120
District of Columbia	5.93 ^a	8.29	0.003	6.93 ^a	11.36	0.001	7.39 ^a	13.57	0.000	5.60 ^b	7.35	0.053
Florida	6.40	6.50	0.843	8.53 ^a	13.25	0.000	7.93 ^a	13.83	0.000	6.17	5.54	0.277
Georgia	6.26	6.91	0.381	7.88 ^a	13.75	0.000	7.65 ^a	13.63	0.000	6.02	5.81	0.795
Hawaii	6.15	5.83	0.688	8.08 ^a	14.16	0.000	8.68 ^a	12.86	0.007	5.74	4.93	0.332
Idaho	7.47	8.25	0.361	8.90 ^a	17.44	0.000	9.19 ^a	16.71	0.000	7.16	6.87	0.757
Illinois	6.17 ^b	7.12	0.077	7.48 ^a	15.15	0.000	7.93 ^a	14.89	0.000	5.85	5.91	0.919
Indiana	8.14	8.28	0.881	9.25 ^a	16.61	0.000	8.51 ^a	14.85	0.000	8.08	7.16	0.348
Iowa	5.87 ^a	7.82	0.010	8.07 ^a	16.69	0.000	7.75 ^a	14.11	0.000	5.54	6.74	0.149
Kansas	6.61	7.89	0.121	8.58 ^a	16.53	0.000	8.38 ^a	14.55	0.000	6.29	6.73	0.624
Kentucky	7.14	8.49	0.130	8.42 ^a	15.15	0.000	7.98 ^a	14.15	0.000	7.00	7.60	0.541
Louisiana	5.75 ^a	7.81	0.008	7.67 ^a	14.14	0.000	6.97 ^a	14.16	0.000	5.51	6.82	0.130
Maine	6.81	8.19	0.113	8.08 ^a	15.60	0.000	8.78 ^a	16.30	0.000	6.53	7.18	0.495
Maryland	6.17	6.81	0.419	7.31 ^a	14.93	0.000	8.18 ^a	14.72	0.000	5.83	5.66	0.834
Massachusetts	6.77	8.08	0.110	8.03 ^a	15.61	0.000	8.51 ^a	15.53	0.000	6.47	6.83	0.681
Michigan	6.65 ^a	8.23	0.006	8.21 ^a	16.55	0.000	9.15 ^a	15.33	0.000	6.23	7.09	0.172
Minnesota	7.55	7.98	0.614	8.60 ^a	15.94	0.000	8.87 ^a	16.80	0.000	7.33	6.63	0.449
Mississippi	5.80 ^b	7.28	0.052	7.26 ^a	12.64	0.000	6.60 ^a	11.17	0.000	5.66	6.64	0.249
Missouri	7.03 ^a	8.76	0.047	8.91 ^a	15.54	0.000	9.15 ^a	15.50	0.000	6.68	7.71	0.281
Montana	6.76	7.93	0.151	9.07 ^a	15.11	0.000	8.85 ^a	14.57	0.000	6.41	6.91	0.573

See notes at end of file.

(continued)

Table 12 Major Depressive Episode in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	12-17 (2008-2009)	12-17 (2018-2019)	12-17 (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Nebraska	6.31 ^b	7.59	0.092	8.20 ^a	15.50	0.000	7.59 ^a	15.64	0.000	6.07	6.20	0.879
Nevada	6.88	8.22	0.135	7.38 ^a	17.93	0.000	8.89 ^a	15.84	0.000	6.58	7.17	0.551
New Hampshire	7.61	8.27	0.470	8.80 ^a	15.85	0.000	8.88 ^a	16.71	0.000	7.41	7.02	0.689
New Jersey	5.98	6.19	0.773	7.35 ^a	12.71	0.000	8.12 ^a	13.48	0.000	5.65	5.14	0.515
New Mexico	6.47 ^b	8.06	0.064	8.95 ^a	18.60	0.000	8.56 ^a	15.28	0.000	6.08	6.92	0.370
New York	6.64	6.82	0.724	8.22 ^a	13.29	0.000	7.84 ^a	13.30	0.000	6.42	5.83	0.311
North Carolina	6.85	7.60	0.338	8.43 ^a	16.68	0.000	8.07 ^a	13.71	0.000	6.65	6.65	0.994
North Dakota	6.26 ^a	8.52	0.005	9.03 ^a	15.07	0.000	7.21 ^a	15.29	0.000	6.05	7.21	0.195
Ohio	6.18 ^a	8.84	0.000	8.31 ^a	14.73	0.000	8.16 ^a	17.02	0.000	5.85 ^a	7.57	0.007
Oklahoma	7.40	8.52	0.228	8.04 ^a	17.01	0.000	9.47 ^a	16.30	0.000	7.03	7.22	0.849
Oregon	7.44 ^a	9.50	0.031	10.18 ^a	18.62	0.000	9.83 ^a	17.24	0.000	7.07	8.39	0.206
Pennsylvania	5.92 ^a	7.69	0.003	7.54 ^a	12.88	0.000	7.64 ^a	15.23	0.000	5.64	6.57	0.142
Rhode Island	9.34	8.72	0.566	9.35 ^a	14.64	0.000	10.87 ^a	16.13	0.004	9.05	7.45	0.175
South Carolina	7.02	7.27	0.763	8.90 ^a	13.82	0.000	8.43 ^a	12.89	0.001	6.79	6.44	0.703
South Dakota	5.71 ^a	7.37	0.029	8.47 ^a	15.41	0.000	6.90 ^a	15.06	0.000	5.50	6.11	0.460
Tennessee	6.83	7.76	0.264	8.53 ^a	13.72	0.000	7.19 ^a	15.33	0.000	6.78	6.61	0.853
Texas	5.97	6.42	0.348	7.49 ^a	14.60	0.000	7.25 ^a	13.06	0.000	5.73	5.27	0.375
Utah	7.51 ^a	9.82	0.007	8.43 ^a	17.77	0.000	8.37 ^a	15.58	0.000	7.29	8.55	0.196
Vermont	6.52 ^a	8.75	0.009	8.10 ^a	16.36	0.000	9.43 ^a	16.30	0.000	6.04	7.46	0.127
Virginia	6.30	6.98	0.358	8.78 ^a	15.57	0.000	8.57 ^a	13.56	0.000	5.92	5.96	0.963
Washington	7.19 ^b	8.81	0.066	9.39 ^a	18.22	0.000	9.07 ^a	16.76	0.000	6.88	7.66	0.425
West Virginia	7.77	9.35	0.109	8.39 ^a	16.62	0.000	8.81 ^a	17.27	0.000	7.62	8.25	0.563
Wisconsin	7.28	8.63	0.117	8.83 ^a	15.99	0.000	9.55 ^a	16.38	0.000	6.89	7.40	0.593
Wyoming	7.37	7.96	0.489	8.50 ^a	17.59	0.000	9.50 ^a	16.68	0.000	6.99	6.64	0.701

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Major depressive episode (MDE) is defined as in the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), which specifies a period of at least 2 weeks when an individual experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. For details, see Section B of the "2018-2019 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at <https://www.samhsa.gov/data/>.

NOTE: There are minor wording differences in the questions in the adult and adolescent MDE modules. Therefore, data from youths aged 12 to 17 were not combined with data from adults aged 18 or older to produce an estimate for those aged 12 or older.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Table 13 *Had Serious Thoughts of Suicide in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs*

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Total U.S.	3.73 ^a	4.58	0.000	6.42 ^a	11.39	0.000	3.26 ^b	3.51	0.071
Northeast	3.73 ^a	4.44	0.002	6.64 ^a	11.34	0.000	3.24	3.39	0.542
Midwest	4.10 ^a	4.95	0.000	6.79 ^a	12.62	0.000	3.64	3.72	0.715
South	3.41 ^a	4.24	0.000	5.91 ^a	10.63	0.000	2.99	3.25	0.164
West	3.87 ^a	4.89	0.000	6.66 ^a	11.52	0.000	3.36 ^b	3.84	0.066
Alabama	3.73 ^b	4.83	0.076	6.42 ^a	12.25	0.000	3.28	3.67	0.548
Alaska	3.76 ^a	6.11	0.000	6.00 ^a	14.95	0.000	3.34 ^a	4.73	0.043
Arizona	3.98 ^b	5.01	0.100	6.60 ^a	12.11	0.000	3.54	3.87	0.617
Arkansas	4.11	4.71	0.304	6.67 ^a	12.07	0.000	3.69	3.54	0.803
California	3.39 ^a	4.55	0.001	6.53 ^a	10.30	0.000	2.79 ^a	3.62	0.029
Colorado	4.30 ^b	5.54	0.063	6.14 ^a	14.16	0.000	4.00	4.20	0.778
Connecticut	3.95	4.46	0.411	6.61 ^a	12.36	0.000	3.53	3.21	0.618
Delaware	3.02 ^a	5.18	0.000	6.09 ^a	12.01	0.000	2.51 ^a	4.23	0.008
District of Columbia	4.47	4.43	0.958	5.73 ^a	9.22	0.002	4.18	3.58	0.412
Florida	3.54	4.04	0.184	6.10 ^a	10.81	0.000	3.16	3.16	0.995
Georgia	2.80 ^a	3.85	0.021	5.26 ^a	10.09	0.000	2.38	2.83	0.340
Hawaii	3.81	4.74	0.151	7.53 ^a	11.89	0.002	3.21	3.82	0.384
Idaho	4.76	5.30	0.403	7.07 ^a	14.05	0.000	4.35	3.87	0.492
Illinois	4.28	4.00	0.520	6.31 ^a	11.29	0.000	3.91 ^a	2.87	0.025
Indiana	4.21 ^a	5.62	0.031	6.56 ^a	13.34	0.000	3.82	4.30	0.487
Iowa	4.01	4.94	0.117	6.44 ^a	12.36	0.000	3.59	3.66	0.911
Kansas	3.60 ^a	4.96	0.017	6.42 ^a	12.31	0.000	3.07	3.68	0.323
Kentucky	3.96	4.68	0.232	6.28 ^a	11.10	0.000	3.60	3.67	0.916
Louisiana	3.11 ^a	4.72	0.003	5.84 ^a	12.25	0.000	2.58 ^b	3.54	0.090
Maine	4.56	5.44	0.201	7.07 ^a	14.00	0.000	4.21	4.37	0.829
Maryland	3.41 ^b	4.34	0.088	6.51 ^a	12.70	0.000	2.89	3.11	0.690
Massachusetts	3.93	4.77	0.172	5.99 ^a	12.00	0.000	3.57	3.56	0.985
Michigan	4.26	4.61	0.427	7.67 ^a	11.44	0.000	3.69	3.51	0.703
Minnesota	3.67 ^b	4.74	0.068	6.59 ^a	13.13	0.000	3.18	3.45	0.649
Mississippi	3.29 ^a	5.31	0.000	6.35 ^a	12.43	0.000	2.72 ^a	4.13	0.022
Missouri	3.87 ^b	5.05	0.055	6.34 ^a	13.27	0.000	3.47	3.77	0.633
Montana	4.35	4.63	0.654	6.85 ^a	11.80	0.000	3.93	3.53	0.564

See notes at end of file.

(continued)

Table 13 Had Serious Thoughts of Suicide in the Past Year, by Age Group and State: Percentages, Annual Averages, and P Values from Tests of Differences between Percentages, 2008-2009 and 2018-2019 NSDUHs (continued)

State	18+ (2008-2009)	18+ (2018-2019)	18+ (P Value)	18-25 (2008-2009)	18-25 (2018-2019)	18-25 (P Value)	26+ (2008-2009)	26+ (2018-2019)	26+ (P Value)
Nebraska	3.91 ^b	4.88	0.094	6.04 ^a	12.27	0.000	3.51	3.60	0.882
Nevada	4.41	4.94	0.456	6.71 ^a	12.10	0.000	4.07	3.96	0.882
New Hampshire	3.40 ^a	4.68	0.025	6.82 ^a	12.89	0.000	2.88	3.47	0.319
New Jersey	3.28	3.79	0.294	6.97 ^a	10.58	0.002	2.71	2.82	0.838
New Mexico	4.15	4.81	0.298	6.85 ^a	11.43	0.000	3.65	3.76	0.867
New York	3.82	4.21	0.317	6.62 ^a	10.14	0.000	3.32	3.30	0.978
North Carolina	3.55	3.87	0.527	5.80 ^a	9.58	0.000	3.18	2.99	0.714
North Dakota	3.56 ^a	5.28	0.003	5.39 ^a	13.29	0.000	3.14	3.73	0.329
Ohio	4.25 ^a	6.09	0.000	6.90 ^a	14.76	0.000	3.82 ^b	4.75	0.074
Oklahoma	3.53 ^b	4.58	0.068	6.31 ^a	11.21	0.000	3.02	3.48	0.460
Oregon	4.43 ^b	5.65	0.079	6.64 ^a	14.13	0.000	4.08	4.44	0.638
Pennsylvania	3.52 ^a	4.83	0.002	6.73 ^a	12.50	0.000	2.99	3.69	0.112
Rhode Island	5.11	4.59	0.452	6.79 ^a	11.71	0.000	4.79 ^b	3.37	0.056
South Carolina	3.51 ^a	4.89	0.024	6.21 ^a	11.29	0.000	3.07	3.95	0.180
South Dakota	4.23	4.62	0.497	7.18 ^a	12.95	0.000	3.70	3.25	0.467
Tennessee	3.26 ^a	4.68	0.009	5.64 ^a	11.51	0.000	2.90	3.64	0.203
Texas	3.27 ^b	3.86	0.089	5.42 ^a	9.01	0.000	2.86	2.97	0.772
Utah	5.39	6.19	0.263	7.49 ^a	13.03	0.000	4.85	4.67	0.819
Vermont	4.49 ^b	5.66	0.096	7.04 ^a	12.79	0.000	4.07	4.44	0.625
Virginia	3.31 ^b	4.22	0.064	6.25 ^a	11.33	0.000	2.80	3.12	0.548
Washington	4.56	4.92	0.589	7.18 ^a	11.91	0.000	4.14	3.90	0.744
West Virginia	4.29 ^b	5.44	0.095	7.28 ^a	13.85	0.000	3.86	4.27	0.581
Wisconsin	4.05	4.66	0.293	7.90 ^a	11.59	0.004	3.40	3.56	0.792
Wyoming	4.52 ^b	5.74	0.078	6.32 ^a	14.76	0.000	4.20	4.37	0.814

NOTE: State and census region estimates are based on a survey-weighted hierarchical Bayes estimation approach, with their *p* values being the Bayes significance levels for the null hypothesis of no change between the 2008-2009 and 2018-2019 population percentages. The "Total U.S." estimates, along with the *p* values, are based on design-based (direct) estimation methods.

NOTE: Respondents were asked, "At any time in the past 12 months, did you seriously think about trying to kill yourself?" If they answered "Yes," they were categorized as having serious thoughts of suicide in the past year.

^a Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.05 level.

^b Difference between the 2008-2009 and 2018-2019 population percentages is statistically significant at the 0.10 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2008, 2009, 2018, and 2019 (2008 and 2009 Data – Revised March 2012).

Methodology Used to Estimate the Bayes Significance Level for the Null Hypothesis of No Change between the 2008-2009 and 2018-2019 Population Percentages

Estimating P Values

To determine whether the differences between the 2008-2009¹ and 2018-2019 National Survey on Drug Use and Health (NSDUH) state population percentages are statistically significant, let $\pi_{sa(1)}$ and $\pi_{sa(2)}$ denote the 2008-2009 and 2018-2019 population percentages, respectively, for state- s and age group- a . The difference between $\pi_{sa(1)}$ and $\pi_{sa(2)}$ is defined in terms of the log-odds ratio (lor_{sa}) as opposed to the simple difference because the posterior distribution of lor_{sa} is closer to Gaussian than the posterior distribution of the simple difference ($\pi_{sa(2)} - \pi_{sa(1)}$). The lor_{sa} is defined as follows:

$$lor_{sa} = \ln \left[\frac{\pi_{sa(2)} / (1 - \pi_{sa(2)})}{\pi_{sa(1)} / (1 - \pi_{sa(1)})} \right].$$

In this equation, the \ln denotes the natural logarithm. The p value given in each of the tables in this document (i.e., [Tables 1](#) to [13](#)) is computed to test the null hypothesis of no difference (i.e., $\pi_{sa(2)} = \pi_{sa(1)}$ or equivalently, $lor_{sa} = 0$). An estimate of lor_{sa} is given by

$$\hat{lor}_{sa} = \ln \left[\frac{\hat{\pi}_{sa(2)} / (1 - \hat{\pi}_{sa(2)})}{\hat{\pi}_{sa(1)} / (1 - \hat{\pi}_{sa(1)})} \right],$$

where $\hat{\pi}_{sa(1)}$ are the previously published 2008-2009 state estimates and $\hat{\pi}_{sa(2)}$ are the 2018-2019 state estimates. Both the 2008-2009 and 2018-2019 state estimates are presented in [Tables 1](#) to [13](#) above and elsewhere at <https://www.samhsa.gov/data/>.

¹ Note that in state small area estimation (SAE) documents prior to 2014-2015, the 2002-2003 aggregated data were used as the baseline against which long-term changes for state-level estimates were compared. However, starting with 2014-2015 documents, the 2008-2009 aggregated data are now used as the baseline so that mental health measures can also be included in long-term change testing.

Let $\hat{\theta}_1 = \frac{\hat{\pi}_{sa(1)}}{1 - \hat{\pi}_{sa(1)}}$ and $\hat{\theta}_2 = \frac{\hat{\pi}_{sa(2)}}{1 - \hat{\pi}_{sa(2)}}$, noting that subscript sa has been dropped from $\hat{\theta}_1$

and $\hat{\theta}_2$ in order to simplify the notation. An estimate of the posterior variance of lor_{sa} is given by the following formula:

$$v(\hat{lor}_{sa}) = v[\ln(\hat{\theta}_1)] + v[\ln(\hat{\theta}_2)] - 2 \text{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)],$$

where $\text{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)]$ denotes the covariance between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$. This covariance is defined in terms of the associated correlation as follows:

$$\text{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)] = \text{correlation}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)] \times \sqrt{v[\ln(\hat{\theta}_1)] \times v[\ln(\hat{\theta}_2)]}.$$

Note that $v[\ln(\hat{\theta}_1)]$ and $v[\ln(\hat{\theta}_2)]$ used here to calculate $v(\hat{lor}_{sa})$ are the same posterior variances used in calculating the previously published 2008-2009 Bayesian confidence intervals (CIs) and the 2018-2019 Bayesian CIs, respectively. The correlation between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$ is estimated using generalized correlations, which are described in detail in the next section.

To calculate the p value for testing the null hypothesis of no difference ($lor_{sa} = 0$), it is assumed that the posterior distribution of lor_{sa} is normal with estimated $mean = \hat{lor}_{sa}$ and $variance = v(\hat{lor}_{sa})$. The Bayesian p value or significance level for the null hypothesis of no difference ($lor_{sa} = 0$) is $p \text{ value} = 2 * P[Z \geq \text{abs}(z)]$, where Z is a standard normal random variate, $z = \frac{\hat{lor}_{sa}}{\sqrt{v(\hat{lor}_{sa})}}$, and $\text{abs}(z)$ denotes the absolute value of z . This Bayesian significance level (or p value) for the null value of lor_{sa} , say lor_0 , is defined following Rubin² as the posterior probability for the collection of the lor_{sa} values that are less likely or have smaller posterior density $d(lor_{sa})$ than the null (no change) value lor_0 . That is,

$$p \text{ value}(lor_0) = \text{probability}[d(lor_{sa}) \leq d(lor_0)].$$

With the posterior distribution of lor_{sa} approximately normal, $p \text{ value}(lor_0)$ is given by the above expression.

² See the following reference: Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys* (Wiley Series in Probability and Mathematical Statistics: Applied Probability and Statistics). New York, NY: John Wiley & Sons.

Estimating Generalized Correlations

The correlation between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$ for each substance use outcome measure by state by age group combination was estimated by taking the average of seven correlations for each outcome measure by state by age group, as follows:

- 2002-2003 versus 2007-2008,
- 2002-2003 versus 2008-2009,
- two sets of 2002-2003 versus 2009-2010,³
- 2002-2003 versus 2010-2011,
- 2002-2003 versus 2012-2013, and
- 2002-2003 versus 2013-2014.

The average of these seven correlations is henceforth referred to as a "generalized correlation."

The generalized correlation between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$ for any mental illness (AMI), serious mental illness (SMI), and suicidal thoughts by state and age group was estimated by taking the average of six correlations for each outcome by state by age group, as follows:

- 2008-2009 versus 2010-2011,
- 2008-2009 versus 2011-2012,
- 2008-2009 versus 2012-2013,
- 2009-2010 versus 2011-2012,
- 2009-2010 versus 2012-2013, and
- 2010-2011 versus 2012-2013.

The generalized correlation between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$ for the fourth mental health measure—major depressive episode (MDE)—was estimated by taking the average of eight correlations for each outcome by age group by state, as follows:

- 2005-2006 versus 2007-2008,
- 2005-2006 versus 2008-2009,
- 2005-2006 versus 2009-2010,
- 2005-2006 versus 2010-2011,

³ Correlations were available for 2002-2003 versus 2009-2010 for NSDUH data that included falsified cases, as well as 2009-2010 data excluding falsified cases. For more details on falsification and the revision of 2006 to 2010 data, see Section A.7 of the "2010-2011 National Survey on Drug Use and Health: Guide to State Tables and Summary of Small Area Estimation Methodology" at <https://www.samhsa.gov/data/>. Note that the correlations for 2002-2003 versus 2007-2008 and 2002-2003 versus 2008-2009 were also based on falsified data.

- 2005-2006 versus 2011-2012,
- 2005-2006 versus 2012-2013,
- 2006-2007 versus 2009-2010, and
- 2008-2009 versus 2010-2011.

Each of these individual sets of correlations was produced by simultaneously fitting 4 years of NSDUH data separately for each outcome measure. For example, to produce correlations between the 2002-2003 and 2007-2008 state estimates for past month marijuana use, four age groups (12 to 17, 18 to 25, 26 to 34, and 35 or older) by two time periods (2002-2003 and 2007-2008), that is, eight subpopulation-specific models, were fitted each with its own set of fixed and random effects. In this case, the general covariance matrices for the state and within-state random effects were 8×8 matrices corresponding to the eight element (age group \times time period) vectors of random effects.

An unpublished study was conducted using 2002-2003 versus 2007-2008 data and 2002-2003 versus 2008-2009 data. When the actual (modeled) correlation was replaced by an average correlation of those 2 years, the p values of testing differences between estimates from both sets of comparisons were fairly similar. In most cases, they had the same conclusion of whether the test between 2002-2003 and 2007-2008 and the test between 2002-2003 and 2008-2009 was statistically significant or not. Only a few tests changed their significance⁴ depending on which correlation (actual or the average) was used. For all of these cases where significance changed, the p values were close to 0.05 (i.e., borderline cases). Given these results, it was decided, starting in 2014-2015 and going forward, that generalized correlations could be used to estimate long-term change.

⁴ A total of 61 out of 9,632 tests across all outcomes, states, and age groups changed their conclusion from significant to nonsignificant and vice versa.