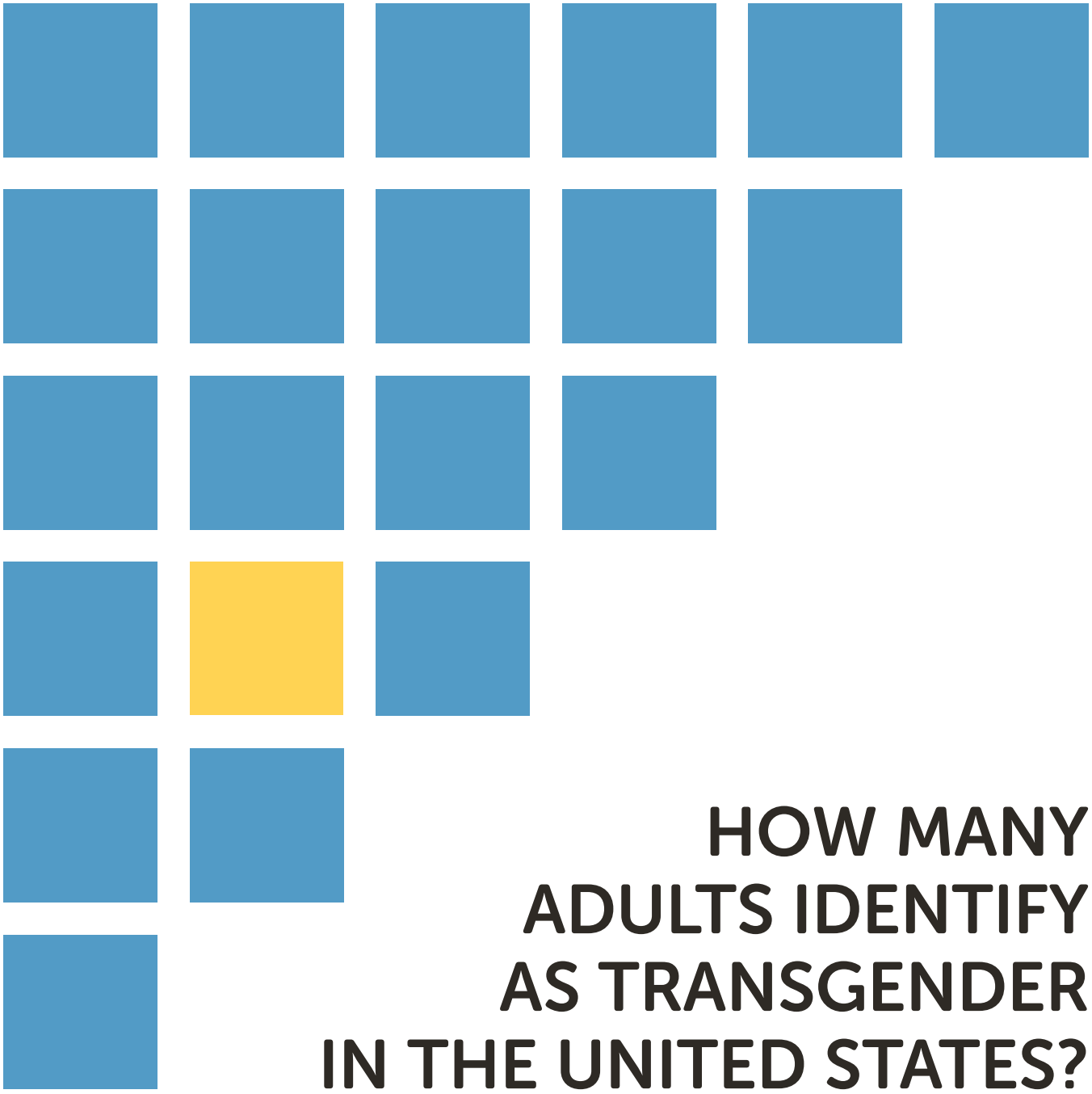


HOW MANY ADULTS IDENTIFY AS TRANSGENDER IN THE UNITED STATES?

Andrew R. Flores, Jody L. Herman, Gary J. Gates, and Taylor N. T. Brown

the Williams INSTITUTE

JUNE 2016

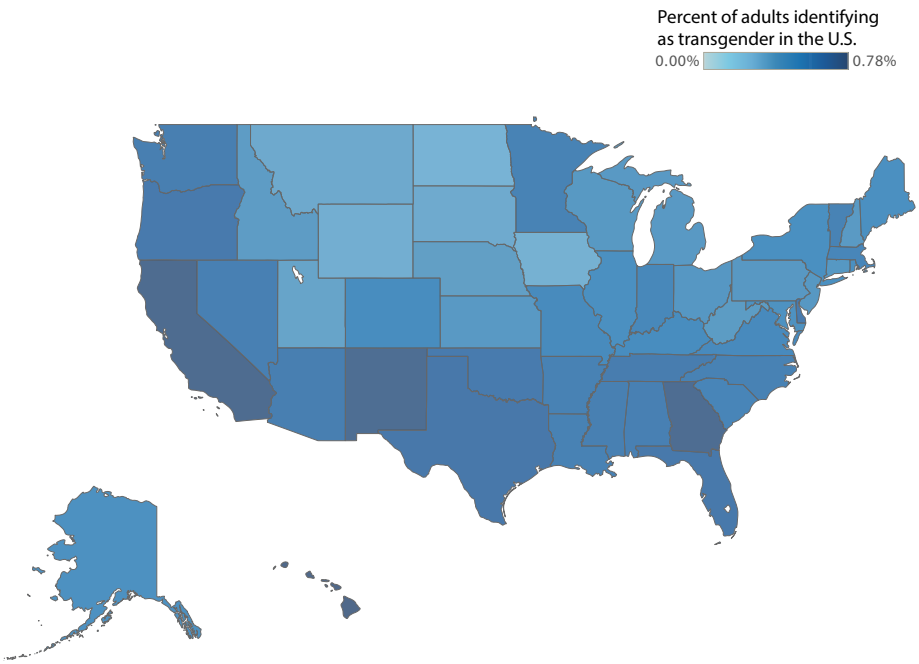
INTRODUCTION AND SUMMARY

Population-based surveys, meaning those that are designed to allow researchers to generalize findings to the population, rarely ask questions to identify transgender people and, therefore, cannot be used to provide estimates of the size and characteristics of the transgender population. The federal government administers several large, national population-based surveys like the American Community Survey and the National Health Interview Survey that track the demographics, health and well-being of U.S. residents. Unfortunately, these surveys do not currently measure gender identity.[1] However, there are several state-level population-based surveys that identify transgender respondents and can be used to estimate the size and characteristics of the transgender population.

In 2011, Gary J. Gates utilized two state-level population-based surveys that collected data from 2003 in California and from 2007 and 2009 in Massachusetts to estimate that 0.3% of the U.S. adult population, roughly 700,000 adults, identified as transgender.[2] Since then, more state-level data sources have emerged that allow us to utilize an estimation procedure that would not have been possible with the limited data available in 2011. Compared to the data used in Gates' study, these new data sources provide more recent data (2014), larger sample sizes, and more detailed information about respondents. This allows for the development of more recent, detailed, and statistically robust estimates of the percentage and number of adults in the United States who identify as transgender.

This report utilizes data from the CDC's Behavioral Risk Factor Surveillance System (BRFSS) to estimate the percentage and number of adults who identify as transgender nationally and in all 50 states.[3] We find that 0.6% of U.S. adults identify as transgender. This figure is double the estimate that utilized data from roughly a decade ago and implies that an estimated 1.4 million adults in the U.S. identify as transgender.[4] State-level estimates of adults who identify as transgender range from 0.3% in North Dakota to 0.8% in Hawaii.[5] In addition, due to current state-level policy debates that specifically target and affect transgender students, we provide estimates of the number of adults who identify as transgender by age. The youngest age group, 18 to 24 year olds, is more likely than older age groups to identify as transgender.

Figure 1. Percent of Adults Who Identify as Transgender in the United States



National and State-level Estimates of Transgender-Identified Adults

An estimated 0.6% of adults, about 1.4 million, identify as transgender in the United States. States vary in the percentage of residents who identify as transgender (See Table 1). Hawaii has the highest percentage of adults who identify as transgender, approximately 0.8% of adults, and North Dakota has the lowest percentage, at 0.3%. The District of Columbia is notable for its relatively high percentage of transgender-identified adults (2.8%).[6] Twenty states and the District of Columbia are estimated to have a higher percentage of transgender-identified adults than the national average.

Table 1. Estimated Population of Adults Who Identify as Transgender by State of Residence

STATE	POPULATION	PERCENT	RANK
United States of America	1,397,150	0.58%	-
Alabama	22,500	0.61%	15
Alaska	2,700	0.49%	33
Arizona	30,550	0.62%	12
Arkansas	13,400	0.60%	18
California	218,400	0.76%	2
Colorado	20,850	0.53%	27
Connecticut	12,400	0.44%	37
Delaware	4,550	0.64%	9
District of Columbia[7]	14,550	2.77%	-
Florida	100,300	0.66%	6
Georgia	55,650	0.75%	4
Hawaii	8,450	0.78%	1
Idaho	4,750	0.41%	43
Illinois	49,750	0.51%	30
Indiana	27,600	0.56%	23
Iowa	7,400	0.31%	49
Kansas	9,300	0.43%	41
Kentucky	17,700	0.53%	26
Louisiana	20,900	0.60%	17
Maine	5,350	0.50%	31
Maryland	22,300	0.49%	32
Massachusetts	29,900	0.57%	22
Michigan	32,900	0.43%	40
Minnesota	24,250	0.59%	20
Mississippi	13,650	0.61%	14
Missouri	25,050	0.54%	25
Montana	2,700	0.34%	47
Nebraska	5,400	0.39%	44
Nevada	12,700	0.61%	13

STATE	POPULATION	PERCENT	RANK
New Hampshire	4,500	0.43%	39
New Jersey	30,100	0.44%	36
New Mexico	11,750	0.75%	3
New York	78,600	0.51%	29
North Carolina	44,750	0.60%	16
North Dakota	1,650	0.30%	50
Ohio	39,950	0.45%	34
Oklahoma	18,350	0.64%	8
Oregon	19,750	0.65%	7
Pennsylvania	43,800	0.44%	35
Rhode Island	4,250	0.51%	28
South Carolina	21,000	0.58%	21
South Dakota	2,150	0.34%	46
Tennessee	31,200	0.63%	10
Texas	125,350	0.66%	5
Utah	7,200	0.36%	45
Vermont	3,000	0.59%	19
Virginia	34,500	0.55%	24
Washington	32,850	0.62%	11
West Virginia	6,100	0.42%	42
Wisconsin	19,150	0.43%	38
Wyoming	1,400	0.32%	48

Estimates of Transgender-Identified Adults by Age

Prior research suggests that individuals who identify as transgender are younger, on average, than non-transgender individuals.[8] As expected, we find that younger adults are more likely than older adults to identify as transgender. An estimated 0.7% of adults between the ages of 18 and 24 identify as transgender. Lower percentages of older adults identify as transgender, with 0.6% of adults age 25 to 64 and 0.5% of adults age 65 or older identifying as transgender.

Table 2. Estimated Population of Adults Who Identify as Transgender by Age and State of Residence

STATE	AGE					
	18-24		25-64		65 AND OLDER	
	POPULATION	PERCENTAGE	POPULATION	PERCENTAGE	POPULATION	PERCENTAGE
United States of America	205,850	0.66%	967,100	0.58%	217,050	0.50%
Alabama	3,250	0.67%	15,450	0.61%	3,700	0.53%
Alaska	500	0.60%	1,950	0.48%	250	0.42%
Arizona	4,700	0.72%	20,800	0.63%	4,850	0.50%
Arkansas	1,850	0.65%	9,150	0.61%	2,300	0.52%
California	33,450	0.84%	154,750	0.77%	29,050	0.63%
Colorado	3,200	0.63%	14,900	0.53%	2,750	0.45%
Connecticut	1,750	0.52%	8,450	0.44%	2,100	0.40%
Delaware	700	0.73%	3,050	0.64%	800	0.55%
District of Columbia	2,600	3.14%	9,900	2.66%	1,950	2.72%
Florida	13,450	0.75%	66,750	0.67%	19,350	0.55%
Georgia	8,700	0.86%	39,500	0.75%	7,450	0.66%
Hawaii	1,200	0.89%	5,700	0.77%	1,550	0.72%
Idaho	750	0.47%	3,250	0.41%	750	0.35%
Illinois	7,150	0.57%	34,500	0.50%	7,750	0.46%
Indiana	4,100	0.62%	18,950	0.56%	4,450	0.50%
Iowa	1,100	0.35%	4,900	0.31%	1,350	0.29%
Kansas	1,500	0.49%	6,300	0.43%	1,500	0.38%
Kentucky	2,400	0.57%	12,200	0.52%	3,000	0.49%
Louisiana	3,150	0.66%	14,550	0.60%	3,100	0.52%
Maine	650	0.56%	3,650	0.50%	1,050	0.45%
Maryland	3,200	0.57%	15,650	0.49%	3,300	0.43%
Massachusetts	4,550	0.66%	20,150	0.56%	5,050	0.53%
Michigan	4,800	0.48%	22,400	0.43%	5,600	0.39%
Minnesota	3,450	0.69%	16,750	0.58%	3,950	0.54%
Mississippi	2,100	0.66%	9,400	0.62%	2,150	0.53%
Missouri	3,600	0.60%	17,000	0.54%	4,400	0.50%
Montana	400	0.40%	1,800	0.34%	450	0.30%

STATE	AGE					
	18-24		25-64		65 AND OLDER	
	POPULATION	PERCENTAGE	POPULATION	PERCENTAGE	POPULATION	PERCENTAGE
Nebraska	800	0.44%	3,650	0.39%	900	0.35%
Nevada	1,750	0.70%	9,100	0.61%	1,750	0.49%
New Hampshire	650	0.50%	3,100	0.43%	750	0.39%
New Jersey	3,950	0.51%	21,050	0.44%	5,050	0.41%
New Mexico	1,800	0.85%	8,000	0.75%	1,850	0.62%
New York	11,150	0.56%	54,150	0.51%	12,850	0.47%
North Carolina	6,600	0.68%	31,050	0.60%	7,150	0.53%
North Dakota	300	0.34%	1,050	0.30%	300	0.29%
Ohio	5,550	0.50%	27,150	0.45%	7,000	0.41%
Oklahoma	2,800	0.72%	12,600	0.64%	2,900	0.55%
Oregon	2,800	0.76%	13,700	0.65%	3,150	0.55%
Pennsylvania	6,100	0.48%	29,250	0.44%	8,250	0.40%
Rhode Island	650	0.56%	2,800	0.51%	750	0.46%
South Carolina	3,150	0.64%	14,250	0.58%	3,450	0.50%
South Dakota	350	0.39%	1,400	0.34%	350	0.30%
Tennessee	4,250	0.68%	21,550	0.63%	5,150	0.56%
Texas	19,600	0.73%	88,950	0.66%	15,700	0.55%
Utah	1,350	0.42%	4,950	0.36%	800	0.30%
Vermont	450	0.67%	2,000	0.59%	550	0.53%
Virginia	5,150	0.62%	24,000	0.54%	5,200	0.49%
Washington	4,850	0.73%	23,150	0.62%	4,700	0.52%
West Virginia	750	0.44%	4,150	0.42%	1,200	0.38%
Wisconsin	2,700	0.49%	13,150	0.43%	3,250	0.39%
Wyoming	200	0.37%	1,000	0.32%	200	0.29%

Discussion

Our current best estimate of the percentage of adults who identify as transgender in the United States is double that of the estimate produced by Gary J. Gates in 2011. Several reasons may account for this difference. A perceived increase in visibility and social acceptance of transgender people may increase the number of individuals willing to identify as transgender on a government-administered survey. The Gates estimate was based on data from only two states with very small samples. The current study analyzes population-based data from 19 states that identify transgender individuals. This provides larger samples and a wealth of information about transgender-identified adults not previously available. As a result, more sophisticated estimation procedures are now possible that produce more detailed and robust estimates than were possible in 2011. As new data collection efforts emerge at the state and national levels, estimates can continue to be refined to improve our understanding of the size and characteristics of the transgender population.

Appendix: Methodology and Credible Intervals of Population Estimates

Methodology

The Behavioral Risk Factor Surveillance System (BRFSS) collects state-specific data on health-related factors across the 50 states, the District of Columbia, and the territories of the United States. The survey is designed to be representative within each state. The survey is conducted by an interviewer via landline and cellular telephone. The national response rate for the 2014 BRFSS was 48.7% for landline telephones and 40.5% for cellular telephones (American Association of Public Opinion Research, Response Rate calculation 4).

The BRFSS contains optional module questionnaires in addition to its standard questionnaire for each state.[9] The 2014 BRFSS had 19 optional modules that states were able to opt-into. One of the modules contained the following question:

> Do you consider yourself to be transgender?
> Yes
> No
>
> [If Yes] Do you consider yourself to be male-to-female, female-to-male, or gender non-conforming?
>
> If the interviewer is asked for a definition of transgender, they respond:
> Some people describe themselves as transgender when they experience a different gender identity from their sex at birth. For example, a person born into a male body, but who feels female or lives as a woman would be transgender. Some transgender people change their physical appearance so that it matches their internal gender identity. Some transgender people take hormones and some have surgery. A transgender person may be of any sexual orientation – straight, gay, lesbian, or bisexual.

Since this question is included in an optional module, some states did not ask this question while others did. The 19 states that did ask this question include: Delaware, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Montana, Nevada, New York, Ohio, Pennsylvania, Vermont, Virginia, Wisconsin, and Wyoming. In total, 0.52% of BRFSS respondents in these states identified as transgender, and 151,456 respondents answered this question.

To estimate the population by state, we relied on multilevel regression and post-stratification.[10] The method fits multilevel logistic regression to the data to predict the likelihood that an individual identifies as transgender relying on demographic attributes about the respondents (e.g., race and ethnicity; age cohorts; and educational attainment). State and regional characteristics were accounted for and state-level characteristics were included to add information about how states differ from one another (e.g., racial composition, median income, percentage of households that are of same-sex couples, and percentage of the population that identifies as Evangelical). This method has been applied to measure statewide political attitudes[11] and to measure Jewish populations.[12] Further, the estimation strategy has undergone rigorous evaluation by other scholars, and these evaluations often show the method produces reliable and valid estimates.[13] While the estimation approach is not without its criticisms,[14] the method remains the best available approach to perform this estimation procedure. A recent research grant was awarded by the National Science Foundation to further refine and build upon the method.[15]

We extend the application of the estimation technique by incorporating all of the states in the BRFSS, even though respondents in only 19 states received the gender identity question. By doing so, we impute the states that did not ask the gender identity question by modeling the probability that a respondent identifies as transgender. The hierarchical model still incorporates the statewide covariates to increase precision in the estimation.[16] All models were estimated using a Hamiltonian Monte Carlo as implemented by the Stan probabilistic programming language.[17] The model was evaluated for appropriate diagnostics before results were presented. In the tables below, 95% credible intervals are provided for both the population estimates and the population estimates by age. A credible interval is a Bayesian equivalent of a confidence interval. A 95% credible interval represents the upper and lower bounds where there is a 0.95 probability an estimate falls between them.

Table A1. Estimated Population of Adults Who Identify as Transgender by State of Residence, 95% Credible Intervals

STATE	POPULATION		PERCENT	
	LOWER BOUND	UPPER BOUND	LOWER BOUND	UPPER BOUND
United States of America	854,066	2,293,511	0.36%	0.95%
Alabama	11,487	46,858	0.31%	1.27%
Alaska	1,634	4,323	0.30%	0.80%
Arizona	17,137	53,889	0.35%	1.09%
Arkansas	6,898	25,072	0.31%	1.12%
California	120,074	378,513	0.42%	1.31%
Colorado	12,094	35,295	0.31%	0.89%
Connecticut	7,454	19,824	0.27%	0.71%
Delaware	3,195	6,176	0.45%	0.87%
District of Columbia	2,608	66,391	0.50%	12.63%
Florida	58,364	163,960	0.38%	1.07%
Georgia	31,243	97,981	0.42%	1.32%
Hawaii	6,310	11,215	0.58%	1.03%
Idaho	3,403	6,800	0.29%	0.58%
Illinois	30,519	77,228	0.31%	0.79%
Indiana	21,867	35,060	0.44%	0.71%
Iowa	4,558	10,398	0.19%	0.44%
Kansas	7,183	11,706	0.33%	0.54%
Kentucky	13,092	23,060	0.39%	0.69%
Louisiana	15,582	27,230	0.45%	0.78%
Maine	3,202	8,895	0.30%	0.84%
Maryland	17,177	28,088	0.38%	0.62%
Massachusetts	17,251	49,307	0.33%	0.94%
Michigan	19,132	52,059	0.25%	0.68%
Minnesota	19,368	30,211	0.47%	0.74%
Mississippi	6,731	27,122	0.30%	1.21%
Missouri	13,512	43,611	0.29%	0.94%
Montana	1,880	3,669	0.24%	0.47%
Nebraska	3,247	8,207	0.23%	0.59%
Nevada	8,570	18,018	0.41%	0.86%
New Hampshire	2,693	7,362	0.26%	0.70%
New Jersey	17,981	49,987	0.26%	0.73%
New Mexico	6,613	19,959	0.42%	1.27%
New York	57,043	103,813	0.37%	0.68%

STATE	POPULATION		PERCENT	
	LOWER BOUND	UPPER BOUND	LOWER BOUND	UPPER BOUND
North Carolina	26,299	76,786	0.35%	1.03%
North Dakota	961	2,785	0.18%	0.51%
Ohio	30,705	50,183	0.35%	0.56%
Oklahoma	9,049	37,798	0.31%	1.31%
Oregon	10,774	36,440	0.35%	1.20%
Pennsylvania	33,506	56,799	0.33%	0.57%
Rhode Island	2,493	6,979	0.30%	0.84%
South Carolina	12,139	38,343	0.33%	1.05%
South Dakota	1,279	3,592	0.20%	0.57%
Tennessee	16,601	60,319	0.33%	1.22%
Texas	71,791	212,200	0.38%	1.11%
Utah	3,338	16,157	0.17%	0.82%
Vermont	2,126	4,034	0.42%	0.80%
Virginia	26,945	44,697	0.43%	0.71%
Washington	18,574	57,196	0.35%	1.08%
West Virginia	3,518	10,477	0.24%	0.71%
Wisconsin	13,920	25,364	0.32%	0.58%
Wyoming	945	2,073	0.22%	0.47%

Table A2. Estimated Population of Adults Who Identify as Transgender by Age and State of Residence, 95% Credible Intervals

STATE	AGE					
	18-24		25-64		65 AND OLDER	
	POPULATION [LB, UB]	PERCENTAGE [LB, UB]	POPULATION [LB, UB]	PERCENTAGE [LB, UB]	POPULATION [LB, UB]	PERCENTAGE [LB, UB]
United States of America	[121,074, 354,454]	[0.39%, 1.13%]	[569,753, 1,649,712]	[0.34%, 1.00%]	[132,175, 360,271]	[0.31%, 0.84%]
Alabama	[1,624, 7,089]	[0.33%, 1.46%]	[7,630, 32,564]	[0.30%, 1.29%]	[1,868, 7,887]	[0.27%, 1.13%]
Alaska	[282, 806]	[0.35%, 0.99%]	[1,132, 3,210]	[0.28%, 0.81%]	[157, 434]	[0.25%, 0.69%]
Arizona	[2,562, 8,556]	[0.39%, 1.31%]	[11,120, 37,886]	[0.34%, 1.14%]	[2,708, 8,560]	[0.28%, 0.88%]
Arkansas	[966, 3,550]	[0.34%, 1.23%]	[4,614, 17,456]	[0.31%, 1.16%]	[1,185, 4,384]	[0.27%, 0.99%]
California	[18,464, 60,029]	[0.46%, 1.50%]	[83,407, 274,478]	[0.41%, 1.36%]	[15,871, 51,075]	[0.35%, 1.11%]
Colorado	[1,796, 5,616]	[0.35%, 1.10%]	[8,404, 25,994]	[0.30%, 0.92%]	[1,595, 4,612]	[0.26%, 0.76%]
Connecticut	[1,024, 2,942]	[0.30%, 0.86%]	[4,988, 14,281]	[0.26%, 0.74%]	[1,253, 3,458]	[0.24%, 0.65%]
Delaware	[451, 974]	[0.49%, 1.05%]	[2,061, 4,417]	[0.43%, 0.92%]	[541, 1,074]	[0.38%, 0.76%]
District of Columbia	[470, 11,880]	[0.57%, 14.48%]	[1,786, 47,078]	[0.48%, 12.65%]	[361, 9,351]	[0.51%, 13.10%]
Florida	[7,554, 23,144]	[0.42%, 1.29%]	[37,404, 114,026]	[0.37%, 1.14%]	[11,453, 32,341]	[0.33%, 0.92%]
Georgia	[4,847, 16,177]	[0.48%, 1.59%]	[21,496, 71,304]	[0.41%, 1.35%]	[4,147, 13,309]	[0.37%, 1.17%]
Hawaii	[845, 1,662]	[0.62%, 1.23%]	[4,005, 7,975]	[0.54%, 1.08%]	[1,088, 2,098]	[0.51%, 0.99%]
Idaho	[500, 1,087]	[0.32%, 0.69%]	[2,224, 4,882]	[0.28%, 0.61%]	[525, 1,068]	[0.25%, 0.50%]
Illinois	[4,255, 11,778]	[0.34%, 0.94%]	[20,559, 55,749]	[0.30%, 0.81%]	[4,668, 12,533]	[0.28%, 0.74%]
Indiana	[3,045, 5,579]	[0.46%, 0.84%]	[14,012, 25,792]	[0.41%, 0.76%]	[3,457, 5,802]	[0.39%, 0.65%]
Iowa	[656, 1,617]	[0.21%, 0.52%]	[2,963, 7,376]	[0.19%, 0.47%]	[841, 1,939]	[0.18%, 0.41%]
Kansas	[1,065, 1,978]	[0.36%, 0.66%]	[4,565, 8,465]	[0.31%, 0.58%]	[1,130, 1,919]	[0.29%, 0.49%]
Kentucky	[1,665, 3,374]	[0.39%, 0.80%]	[8,649, 16,904]	[0.37%, 0.73%]	[2,190, 3,949]	[0.36%, 0.64%]
Louisiana	[2,204, 4,371]	[0.46%, 0.92%]	[10,310, 20,236]	[0.43%, 0.84%]	[2,260, 4,181]	[0.38%, 0.71%]
Maine	[378, 1,146]	[0.32%, 0.98%]	[2,120, 6,268]	[0.29%, 0.87%]	[607, 1,739]	[0.27%, 0.77%]
Maryland	[2,303, 4,398]	[0.41%, 0.78%]	[11,347, 21,316]	[0.35%, 0.66%]	[2,461, 4,307]	[0.32%, 0.57%]
Massachusetts	[2,568, 7,807]	[0.37%, 1.13%]	[11,326, 34,087]	[0.31%, 0.95%]	[2,832, 8,391]	[0.30%, 0.88%]
Michigan	[2,655, 7,870]	[0.27%, 0.79%]	[12,593, 37,168]	[0.24%, 0.72%]	[3,240, 8,999]	[0.23%, 0.63%]
Minnesota	[2,541, 4,552]	[0.51%, 0.91%]	[12,539, 22,498]	[0.44%, 0.78%]	[3,043, 5,080]	[0.42%, 0.70%]

STATE	AGE					
	18-24		25-64		65 AND OLDER	
	POPULATION [LB, UB]	PERCENTAGE [LB, UB]	POPULATION [LB, UB]	PERCENTAGE [LB, UB]	POPULATION [LB, UB]	PERCENTAGE [LB, UB]
Mississippi	[1,009, 4,310]	[0.32%, 1.37%]	[4,490, 19,158]	[0.29%, 1.26%]	[1,036, 4,327]	[0.26%, 1.08%]
Missouri	[1,876, 6,423]	[0.32%, 1.08%]	[8,975, 30,421]	[0.29%, 0.97%]	[2,324, 7,535]	[0.26%, 0.85%]
Montana	[266, 572]	[0.27%, 0.58%]	[1,222, 2,592]	[0.23%, 0.49%]	[323, 650]	[0.21%, 0.41%]
Nebraska	[473, 1,264]	[0.25%, 0.68%]	[2,143, 5,820]	[0.23%, 0.61%]	[551, 1,389]	[0.21%, 0.54%]
Nevada	[1,135, 2,646]	[0.45%, 1.04%]	[5,889, 13,545]	[0.40%, 0.92%]	[1,150, 2,547]	[0.32%, 0.71%]
New Hampshire	[356, 1,067]	[0.28%, 0.85%]	[1,798, 5,237]	[0.25%, 0.72%]	[450, 1,244]	[0.23%, 0.64%]
New Jersey	[2,265, 6,732]	[0.29%, 0.86%]	[12,204, 36,508]	[0.25%, 0.76%]	[3,013, 8,517]	[0.24%, 0.68%]
New Mexico	[988, 3,255]	[0.46%, 1.53%]	[4,389, 14,044]	[0.41%, 1.32%]	[1,011, 3,160]	[0.34%, 1.07%]
New York	[7,732, 15,788]	[0.39%, 0.79%]	[37,363, 76,111]	[0.35%, 0.72%]	[9,137, 17,614]	[0.33%, 0.64%]
North Carolina	[3,765, 11,609]	[0.39%, 1.19%]	[17,757, 54,557]	[0.34%, 1.06%]	[4,194, 12,219]	[0.31%, 0.91%]
North Dakota	[170, 531]	[0.19%, 0.59%]	[593, 1,834]	[0.17%, 0.51%]	[170, 498]	[0.17%, 0.50%]
Ohio	[4,001, 7,561]	[0.36%, 0.68%]	[19,701, 36,836]	[0.32%, 0.61%]	[5,251, 9,125]	[0.31%, 0.54%]
Oklahoma	[1,351, 6,063]	[0.35%, 1.56%]	[6,026, 26,649]	[0.31%, 1.36%]	[1,438, 6,011]	[0.27%, 1.13%]
Oregon	[1,512, 5,190]	[0.41%, 1.42%]	[7,380, 25,644]	[0.35%, 1.22%]	[1,714, 5,934]	[0.30%, 1.02%]
Pennsylvania	[4,284, 8,404]	[0.34%, 0.67%]	[21,090, 40,686]	[0.31%, 0.60%]	[6,172, 10,959]	[0.30%, 0.54%]
Rhode Island	[389, 1,143]	[0.32%, 0.95%]	[1,608, 4,817]	[0.29%, 0.87%]	[424, 1,219]	[0.27%, 0.77%]
South Carolina	[1,784, 5,944]	[0.36%, 1.21%]	[7,977, 26,549]	[0.32%, 1.08%]	[1,963, 6,533]	[0.28%, 0.94%]
South Dakota	[188, 577]	[0.22%, 0.69%]	[827, 2,452]	[0.20%, 0.58%]	[217, 631]	[0.18%, 0.52%]
Tennessee	[2,220, 8,664]	[0.36%, 1.39%]	[11,036, 42,384]	[0.32%, 1.24%]	[2,740, 9,962]	[0.30%, 1.09%]
Texas	[10,763, 33,983]	[0.40%, 1.27%]	[49,965, 156,972]	[0.37%, 1.16%]	[8,906, 27,059]	[0.31%, 0.95%]
Utah	[617, 3,133]	[0.19%, 0.96%]	[2,244, 11,329]	[0.16%, 0.83%]	[385, 1,804]	[0.14%, 0.67%]
Vermont	[299, 629]	[0.46%, 0.96%]	[1,364, 2,844]	[0.40%, 0.84%]	[372, 745]	[0.38%, 0.75%]
Virginia	[3,798, 6,980]	[0.46%, 0.85%]	[17,590, 33,074]	[0.40%, 0.75%]	[3,987, 7,026]	[0.38%, 0.66%]
Washington	[2,662, 8,550]	[0.40%, 1.29%]	[12,748, 41,018]	[0.34%, 1.10%]	[2,655, 8,291]	[0.29%, 0.91%]
West Virginia	[427, 1,325]	[0.25%, 0.76%]	[2,347, 7,299]	[0.24%, 0.74%]	[687, 2,040]	[0.22%, 0.66%]
Wisconsin	[1,883, 3,799]	[0.34%, 0.69%]	[9,141, 18,414]	[0.30%, 0.61%]	[2,287, 4,434]	[0.28%, 0.54%]
Wyoming	[135, 328]	[0.23%, 0.57%]	[634, 1,509]	[0.21%, 0.49%]	[141, 308]	[0.19%, 0.41%]

*Note: LB=95% Lower bound; UB=95% Upper bound

ENDNOTES

[1] For a discussion of gender identity data collection in federal population-based surveys and recommended measures, see The GenIUSS Group. (2014). *Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys*. J.L. Herman (Ed.). Los Angeles, CA: The Williams Institute, available at http://williamsinstitute.law.ucla.edu/wp-content/uploads/geniuss-report-sep-2014.pdf.

[2] Gates, G.J. (2011). *How many people are lesbian, gay, bisexual, and transgender?* Los Angeles, CA: The Williams Institute, available at http://williamsinstitute.law.ucla.edu/wp-content/uploads/Gates-How-Many-People-LGBT-Apr-2011.pdf. A more recent report that was released in March 2016 provided estimates of the transgender population ages 13 and above in 15 states ("Estimates of Transgender Populations in States with Legislation Impacting Transgender People, available at http://williamsinstitute.law.ucla.edu/research/census-lgbt-demographics-studies/estimates-of-transgender-populations-in-states-with-legislation-impacting-transgender-people/). These estimates were based on Gates' 2011 study and other estimates of the transgender youth population. We believe the current study provides more robust estimates of the percentage of transgender-identified adults in those 15 states.

[3] A detailed description of the methodology for this study is included in the Appendix and further details will be included in a separate document published alongside this report.

[4] For national and state estimates provided in this report, adult general population figures from the U.S. Census Bureau's American Community Survey, 2011-2013 3-year PUMS, were multiplied by the estimated percentage of transgender-identified adults to yield the estimated number of transgender-identified adults.

[5] The District of Columbia is not included in this range for states. DC had a notably high percentage of transgender-identified adults (2.8%) and is considered an outlier due to its unique geographic (urban) and demographic profile.

[6] See note #5.

[7] See note #5.

[8] See, for instance, Conron, K.J., Scott, G., Stowell, G.S., and Landers, S. J. (2012). Transgender Health in Massachusetts: Results from a Household Probability Sample of Adults. *American Journal of Public Health, 102*(1), 118-122.

[9] For more detailed information on gender identity data collection in the BRFSS, see Baker, K.E. & Hughes, M. (2016). *Sexual Orientation and Gender Identity Data Collection in the Behavioral Risk Factor Surveillance System*. Washington, DC: The Center for American Progress, available at https://cdn.americanprogress.org/wp-content/uploads/2016/03/29090401/BRFSSdatacollect-brief-03.31.16.pdf.

[10] Park, D.K., Gelman, A., & Bafumi, J. (2004). Bayesian multilevel estimation with poststratification: State-level estimates from national polls. *Political Analysis, 12*, 375-385.

[11] Flores, A.R., & Barclay, S. (2015). *Trends in public support for marriage for same-sex couples by state*. Los Angeles, CA: The Williams Institute, UCLA.

[12] Saxe, L., & Tighe, E. (2013). Estimating and understanding the Jewish population in the United States: A program of research. *Contemporary Jewry, 33*(1), 43-62; Tighe, E., Livert, D., Barnett, M., & Saxe, L. (2010). Cross-survey analysis to estimate low-incidence religious groups. *Sociological Methods & Research, 39*(1), 56-82.

[13] Lax, J.R., & Phillips, J.H. (2009). How should we estimate public opinion in the states? *American Journal of Political Science, 53*(1), 107-121; Warshaw, C., & Rodden, J. (2012). How should we measure district-level public opinion on individual issues? *Journal of Politics, 74*(1), 203-219.

[14] Buttice, M.K., Highton, B. (2013). How does multilevel regression and poststratification perform with conventional national surveys? *Political Analysis, 21*(4), 449-467; Toshokov, D. (2015). Exploring the performance of multilevel modeling and poststratification with Eurobarometer data. *Political Analysis, 23*(3), 455-460.

[15] NSF-1424962. (2014-2017). Using multilevel regress and post-stratification to measure and study dynamic public opinion.

[16] See Flores, A.R. (2016). *Estimating the adult population that identifies as transgender in the BRFSS.* Los Angeles, CA: The Williams Institute, UCLA.

[17] Stan Development Team. (2016) RStan: The R interface to Stan, version 2.9.0. http://mc-stan.org.

ABOUT THE AUTHORS

Andrew R. Flores, Ph.D. is Public Opinion and Policy Fellow at the Williams Institute and will enter Mills College as an Assistant Professor of Government in Fall 2016.

Jody L. Herman, Ph.D. is a Scholar of Public Policy at the Williams Institute. She holds a Ph.D. in Public Policy and Public Administration from The George Washington University.

Gary J. Gates, Ph.D. is a retired Distinguished Scholar at the Williams Institute, and studies the demographic, economic, and geographic characteristics of the LGBT population.

Taylor N. T. Brown, M.P.P. is a Public Policy Analyst at the Williams Institute. He holds a Master of Public Policy from The University of Virginia.

FOR MORE INFORMATION

THE WILLIAMS INSTITUTE, UCLA SCHOOL OF LAW
BOX 951476
LOS ANGELES, CA 90095-1476
(310) 267-4382

WILLIAMSINSTITUTE@LAW.UCLA.EDU

WILLIAMSINSTITUTE.LAW.UCLA.EDU

Suggested citation:

Flores, A.R., Herman, J.L., Gates, G.J., & Brown, T.N.T. (2016). *How Many Adults Identify as Transgender in the United States?* Los Angeles, CA: The Williams Institute.