



# State-Specific Assisted Reproductive Technology Surveillance, United States 2020 Data Brief

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**Centers for Disease  
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Health Promotion

# State-Specific Assisted Reproductive Technology Surveillance, United States: 2020 Data Brief

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## Introduction

Since the birth of the first US infant conceived with assisted reproductive technology (ART) in 1981, both the use of ART and the number of fertility clinics providing ART services have increased steadily.<sup>1,2</sup> ART includes fertility treatments in which eggs or embryos are handled in the laboratory (i.e., in vitro fertilization [IVF] and related procedures).<sup>1</sup> Although the majority of infants conceived through ART are singletons, women who undergo ART procedures are more likely than women who conceive without fertility treatments to have multiple births because multiple embryos may be transferred.<sup>3</sup> Multiple births can pose increased risks for both mothers and infants, including obstetric complications, preterm birth, and low birthweight.<sup>4-7</sup> This data brief provides state-specific information on US ART procedures performed in 2020 and compares birth outcomes that occurred in 2020 with outcomes for all infants born in the United States in 2020. It includes data from the 50 states, the District of Columbia, and Puerto Rico.

## Methods

Data for ART procedures and ART birth outcomes were obtained from the Center for Disease Control and Prevention's (CDC) National ART Surveillance System (NASS) for reporting years 2019 and 2020 (1,8).<sup>1,8</sup> See the Technical Notes at the end of this data brief for more information about NASS and the data collected through that system. Data for all infants born in the United States were obtained from CDC's National Vital Statistics System for reporting year 2020.<sup>9,10</sup> To compare ART-conceived births in 2020 to all US births in 2020, ART-conceived births were aggregated from procedures performed in 2019 and 2020. The data are presented nationally and for the 50 States, the District of Columbia, and Puerto Rico, classified by mother's reported state of residence at time of treatment. This data brief presents data on all procedures initiated with the intent to transfer at least one embryo, including procedures that used thawed embryos for transfer. All cycles in which egg or embryo banking (freezing) was performed for future ART cycles were excluded.

The number and outcomes of ART procedures performed in 2020 were first calculated. ART procedures performed per million women 15-49 years of age are presented as a proxy measure of ART use. In previous data briefs, ART procedures performed per million women aged 15-44 years were reported. This change was made given approximately 5% of ART users are older than 44 years; however, estimates from previous data briefs are not directly comparable. Data on the estimated size of the US female population were obtained from the US Census Bureau.<sup>11</sup>

Average number of embryos that were transferred and the proportion of embryo-transfer procedures performed with a single embryo in 2020 were calculated for women <35 years, 35-37 years, and >37 years. The number of infants born in 2020 that were singletons, multiples (twins, triplets and higher order), with low birthweight (<2,500g), or preterm (<37 weeks gestation) was calculated for ART-conceived infants and all infants, as well as the respective percentages for each group. The proportion of ART-conceived infants among all infants with these outcomes was also calculated. The proportion of ART-conceived infants among all US births that had low birthweight, were preterm, or were small for gestational age (born at <10th percentile of birthweight for gestational age) were calculated for singleton births.

## Results

In 2020, a total of 495 fertility clinics in the United States performed ART procedures and 449 (90.7%) provided data to CDC. The states with the largest numbers of fertility clinics that provided data were California (73), New York (44), and Texas (42) (Table 1 and Figure 1).

In 2020, there were 203,164 ART procedures (range: 188 in Wyoming to 24,219 in California) performed at the 449 reporting US fertility clinics (Table 1 and Figure 2). These procedures resulted in 75,023 live-birth deliveries (range: 53 in Puerto Rico to 9,640 in California) and 79,942 infants (range: 62 in Puerto Rico to 10,224 in California) born. Nationally, 2,650 ART procedures were performed per 1 million women aged 15–49 years (range: 482 in Puerto Rico to 6,585 in the District of Columbia) (Table 1 and Figure 3). ART use rates exceeded the national rate in the District of Columbia and the following 14 states: Connecticut, Delaware, Hawaii, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Utah, Vermont, and Virginia. ART use exceeded 1.5 times the national rate in the District of Columbia and the following 6 states: Connecticut, Illinois, Maryland, Massachusetts, New Jersey, and New York.

Nationally, among all ART transfer procedures, the average number of embryos transferred was similar across age groups (1.2 among women aged <35 years, 1.2 among women aged 35–37 years, and 1.3 among women aged >37 years) (Table 2). Single-embryo transfer (SET) rates among all embryo-transfer procedures were 83.5% among women aged <35 years (range: 38.5% in Puerto Rico to 95.8% in the District of Columbia) (Table 2 and Figure 4), 82.4% among women aged 35–37 years (range: 47.3% in Puerto Rico to 96.3% in Delaware), and 75.5% among women aged >37 years (range: 38.3% in Puerto Rico to 85.9% in Delaware).

In 2020, ART contributed to 2.0% of all infants born in the United States (range: 0.4% in Puerto Rico to 5.6% in Massachusetts) (Table 3 and Figure 5). Approximately 87.4% of ART-conceived infants were singleton infants. Approximately 12.6% of ART-conceived infants were multiples (range: 3.0% in Delaware to 43.2% in Puerto Rico) (Table 4 and Figure 6). Approximately 12.3% (9,114 of 74,346) of ART-conceived infants were twins and 0.4% (270 of 74,346) were triplets and higher-order infants. Overall, ART contributed to 8.1% of all multiple births (range: 1.9% in Mississippi to 18.9% in Hawaii) (Table 4 and Figure 7), 8.1% of all twin births and 9.4% of all triplets and higher-order births (Table 4). Almost all (97.1%) of ART-conceived multiple births were twins. The percentage of multiple births was higher among infants conceived with ART (12.6%) (range: 3.0% in Delaware to 43.2% in Puerto Rico) than among all infants born in the total birth population (3.2%) (range: 2.3% in Puerto Rico to 3.8% in Alabama).

Nationally, infants conceived with ART contributed to 3.2% of all low birthweight infants (range: 0.8% in Mississippi to 7.7% in Massachusetts) (Table 5). Among ART-conceived infants, 13.2% were low birthweight compared with 8.2% among all infants. ART-conceived infants contributed to 4.2% of all preterm infants (range: 1.2% in Alaska to 11.4% in Massachusetts) (Table 6 and Figure 8). The percentage of preterm births was higher among infants conceived with ART (20.9%) than among all infants born in the total birth population (10.1%).

The percentage of low birthweight among singletons was 7.5% among ART-conceived infants and 6.7% among all infants born (Table 7). The percentage of preterm births among ART-conceived singleton infants was 14.2% compared with 8.4% among all singleton infants. The percentages of small for gestational age infants was 6.7% among ART-conceived infants compared with 9.3% among all infants.

## Summary

Although singleton infants accounted for the majority of ART-conceived infants, multiple births from ART varied substantially among states and nationally contributed to 8% of all twins, triplets and higher-order infants born in the United States. Variations in SET rates among states (or territory) were noted, which might, in part, account for high multiple birth rates observed in some states (or territory).

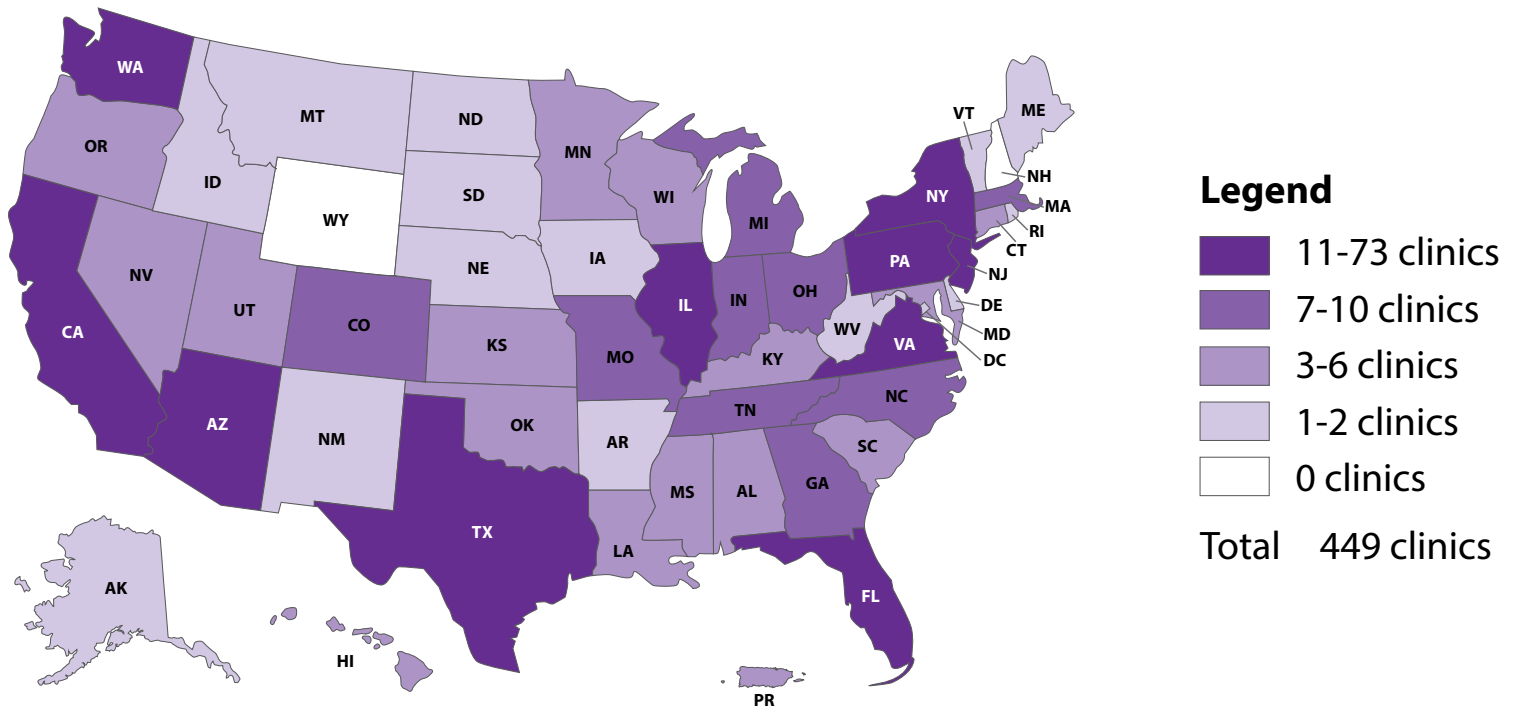
## Public Health Action

Reducing the number of embryos transferred and increasing use of single embryo transfer procedures, when clinically appropriate, can help reduce multiple births and related adverse health consequences for both mothers and infants.<sup>3</sup> While risks to mothers from multiple-birth pregnancy include higher rates of caesarean delivery, gestational hypertension, and gestational diabetes, infants from multiple births are at increased risk for numerous adverse sequelae such as preterm births, birth defects, and developmental disabilities.<sup>4–7</sup> Long-term follow-up of ART-conceived infants through integration of existing maternal and infant health surveillance systems and registries with data available from NASS might be useful for monitoring adverse outcomes on a population basis.<sup>12</sup>

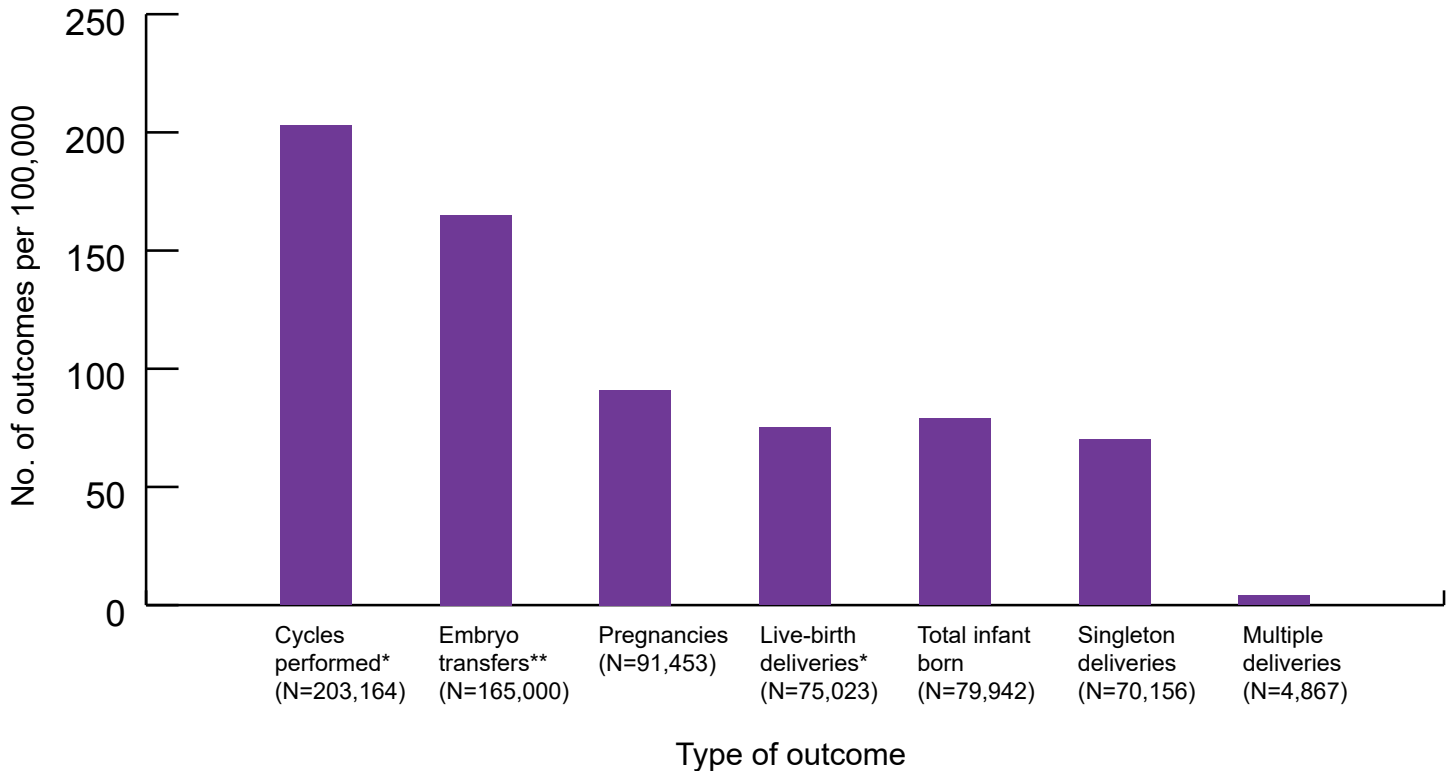
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**Figure 1. Number of assisted reproductive technology clinics in 50 US states, the District of Columbia, and Puerto Rico, 2020**



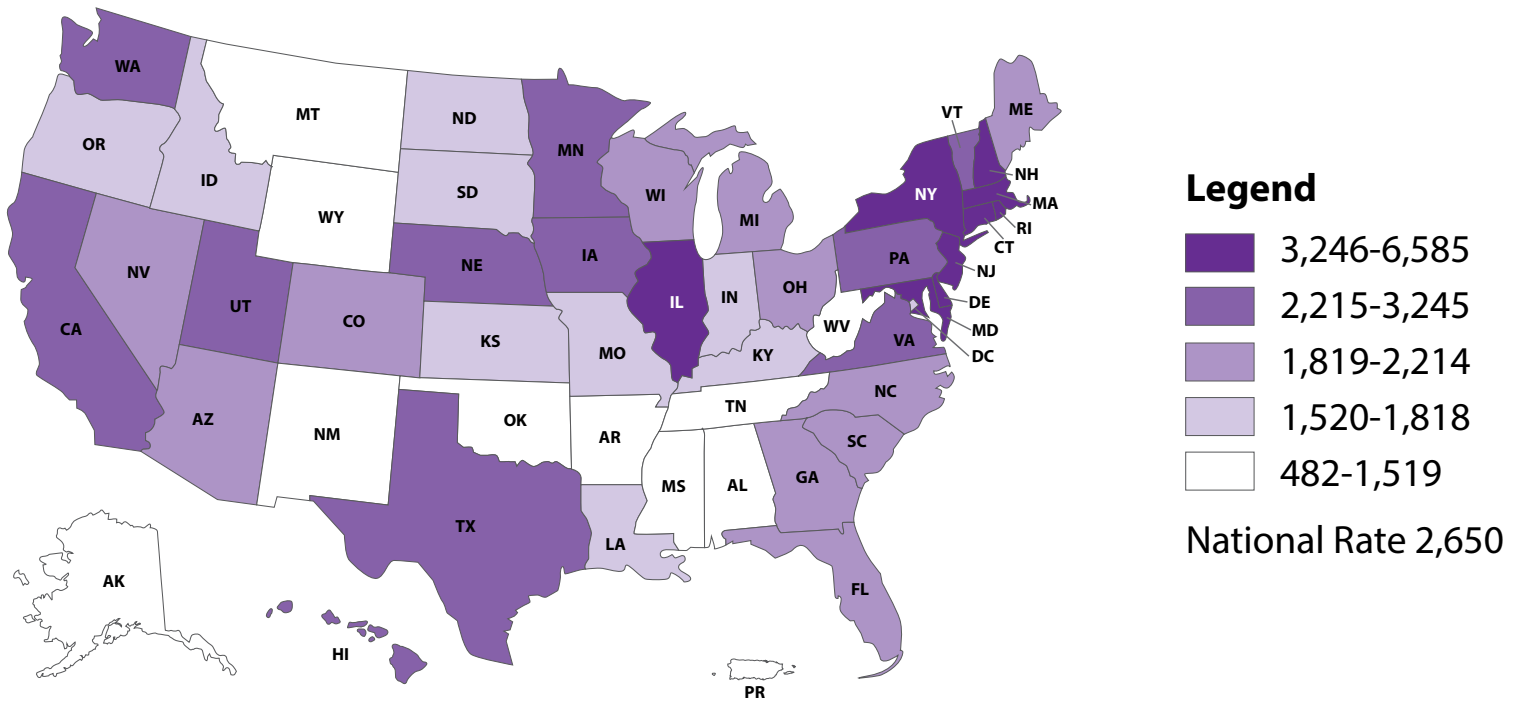
**Figure 2. Number and outcomes of assisted reproductive technology procedures performed in 2020 in 50 US states, the District of Columbia, and Puerto Rico**



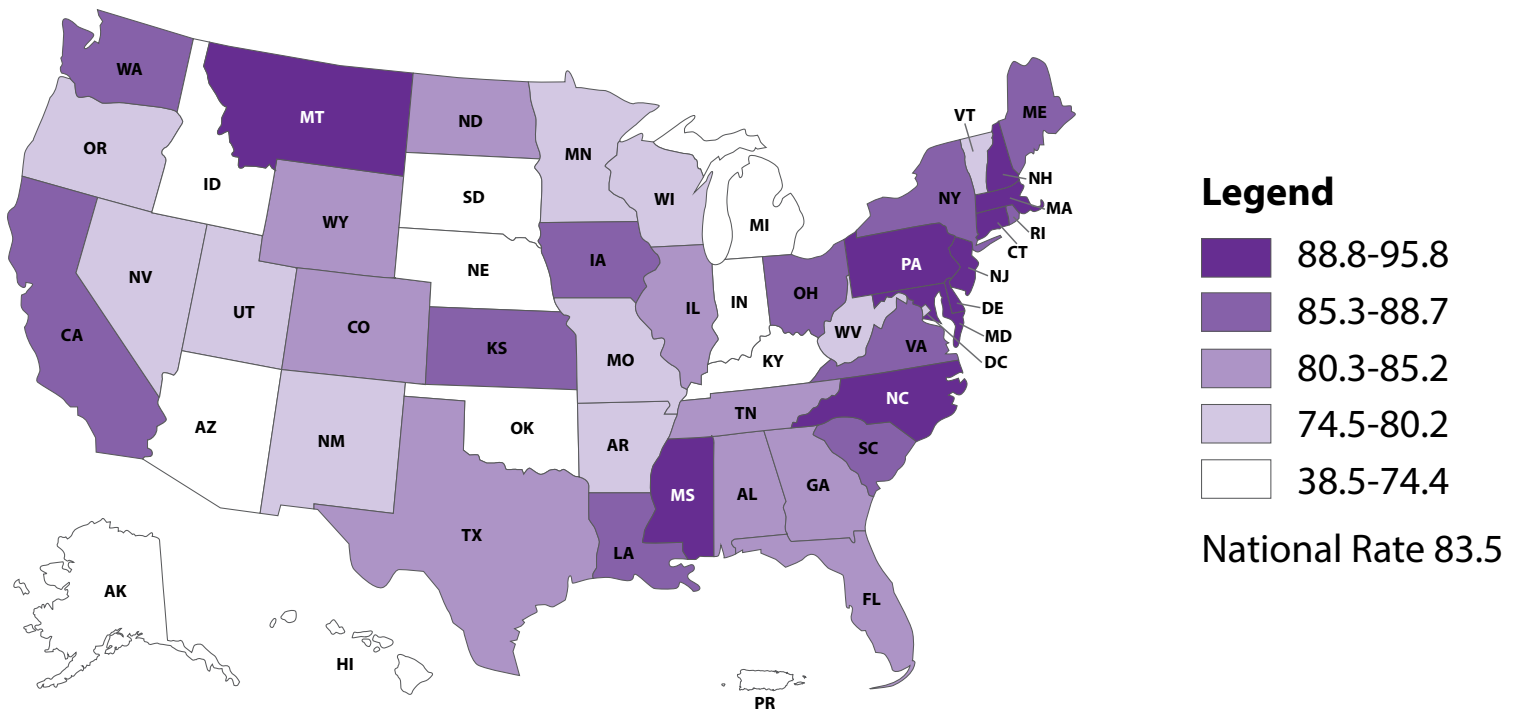
\*Excludes 123,304 cycles in which egg or embryo banking was performed and 7 research cycles.

\*\*Includes all procedures in which at least one embryo was transferred

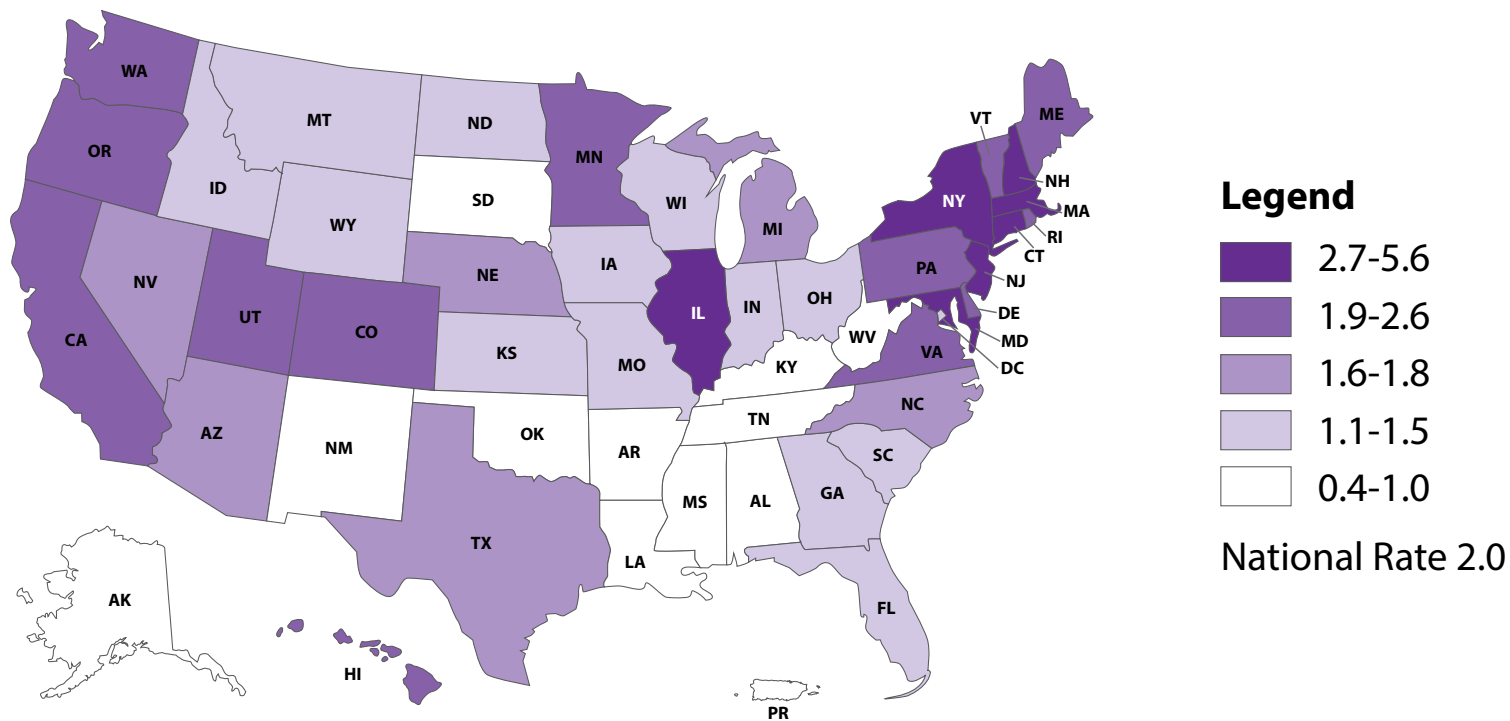
**Figure 3. Assisted reproductive technology procedures performed per 1 million women aged 15-49 years in 50 US states, the District of Columbia, and Puerto Rico, 2020**



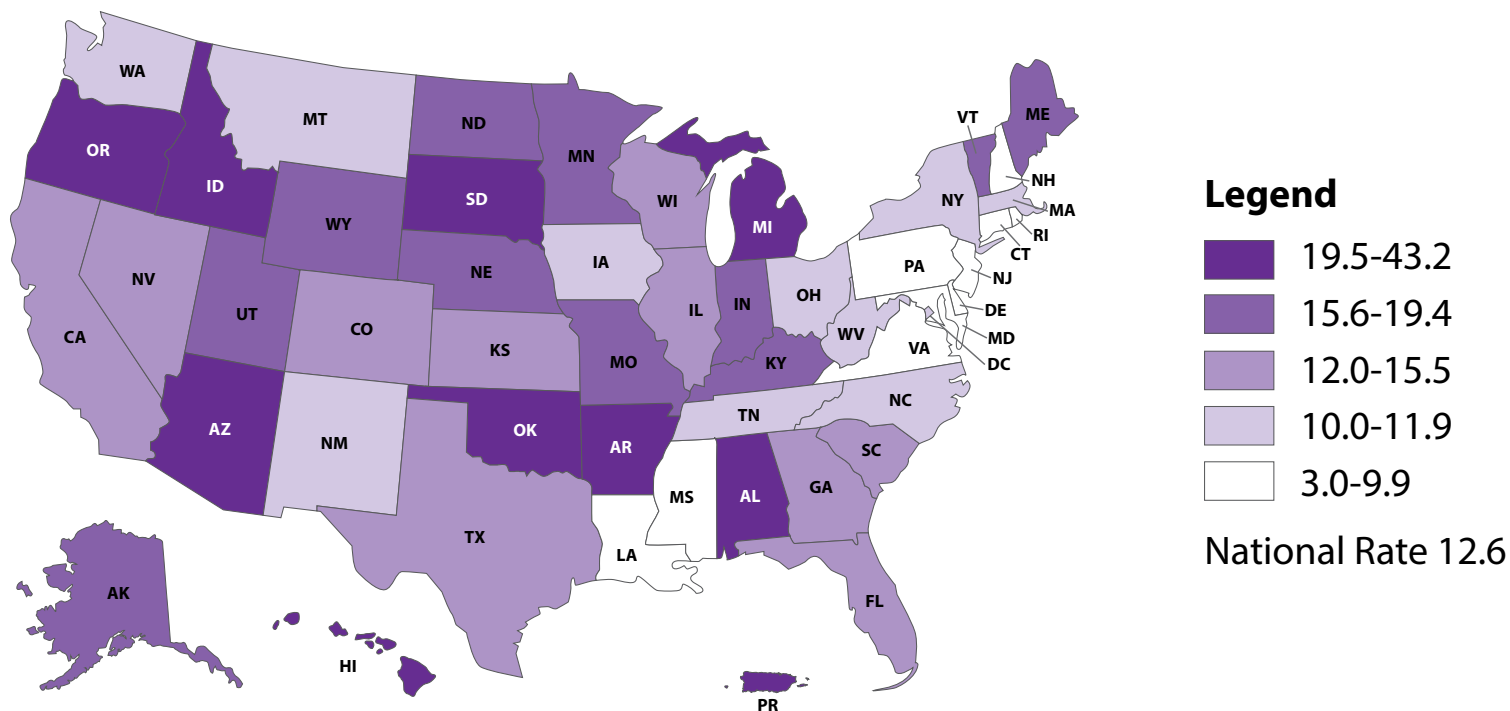
**Figure 4. Percentage of single embryo transfer procedures performed among women aged <35 years in 50 US states, the District of Columbia, and Puerto Rico, 2020**



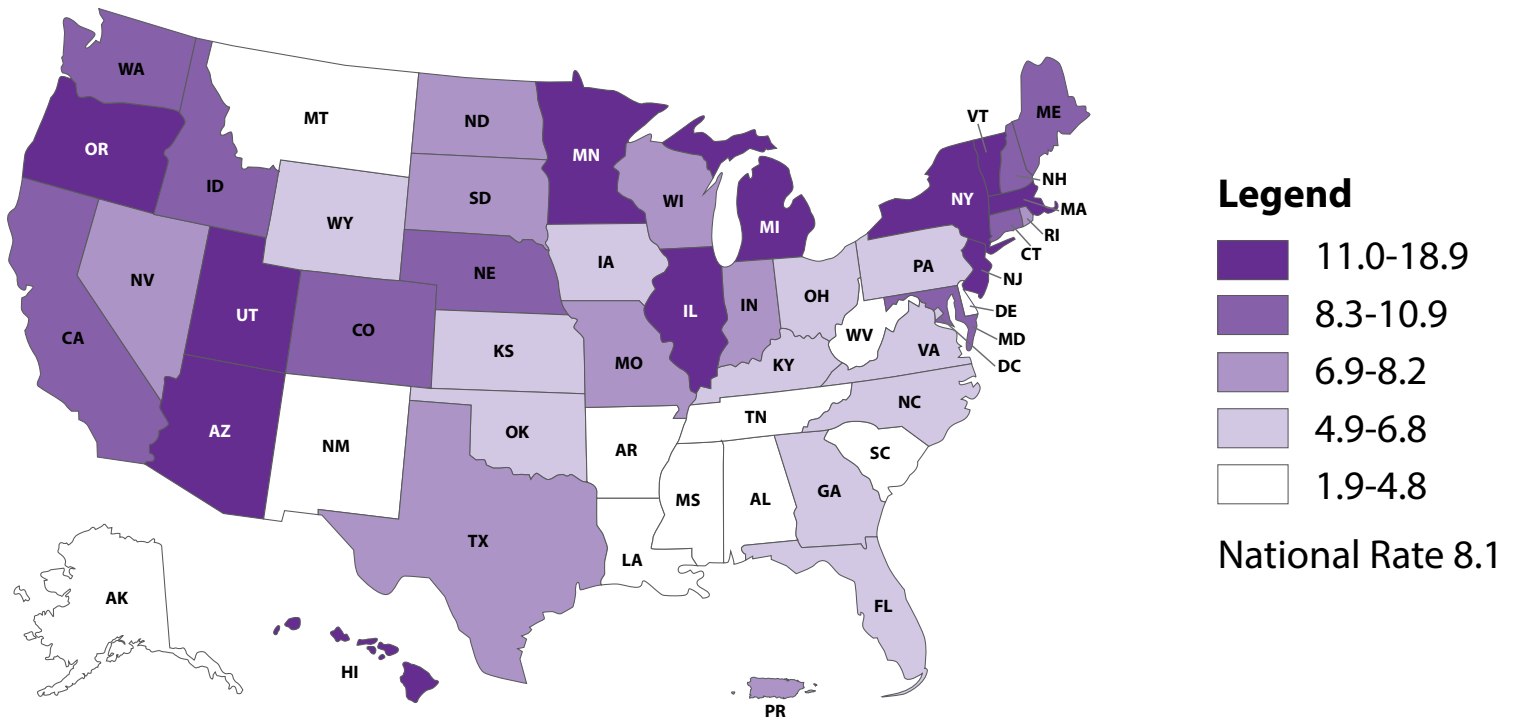
**Figure 5. Proportion of infants conceived through assisted reproductive technology among all infants born in 50 US states, the District of Columbia, and Puerto Rico, 2020**



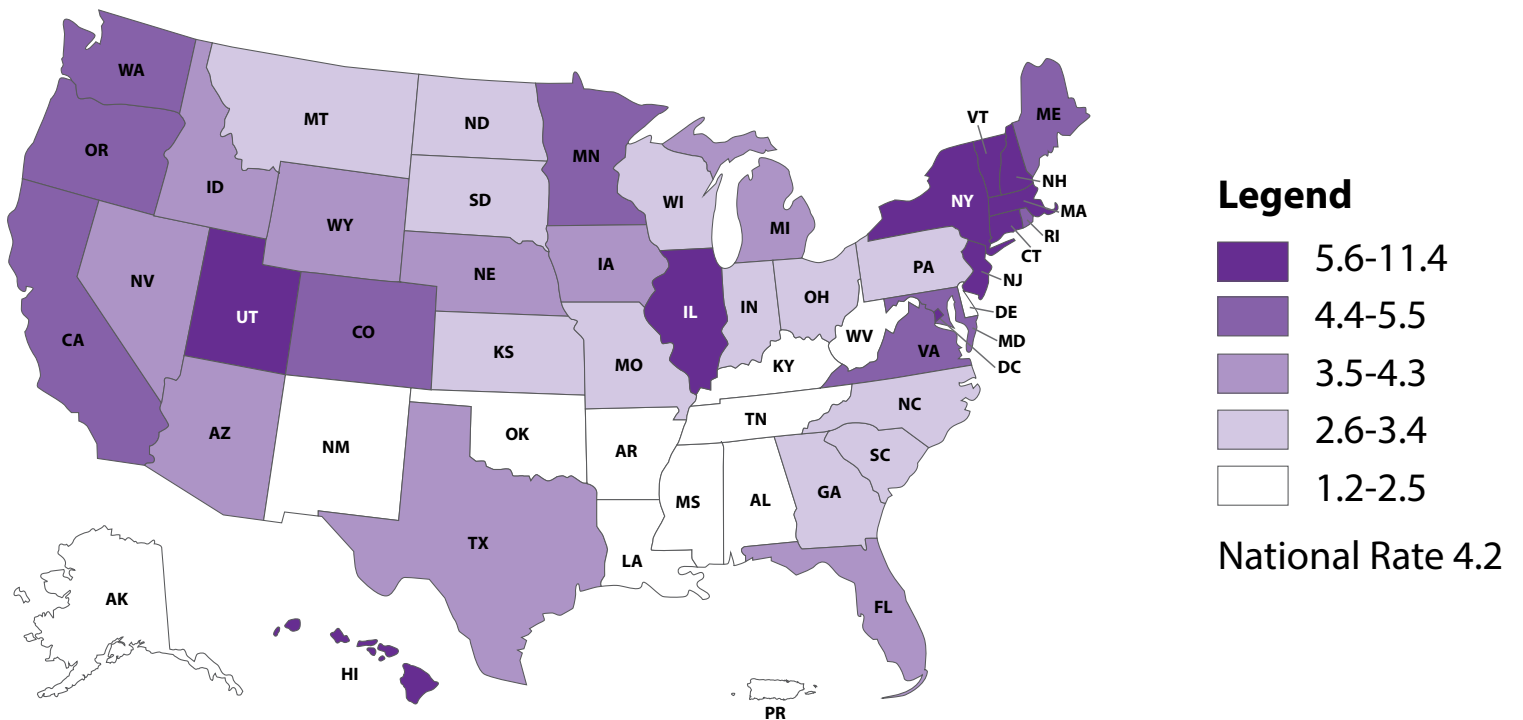
**Figure 6. Percentage of multiples (twins, triplets, and higher order) among infants conceived through assisted reproductive technology in 50 US states, the District of Columbia, and Puerto Rico, 2020**



**Figure 7. Proportion of multiples (twins, triplets, and higher order) conceived through assisted reproductive technology among all multiples in 50 US states, the District of Columbia, and Puerto Rico, 2020**



**Figure 8. Proportion of infants conceived through assisted reproductive technology that were born preterm among all preterm births in 50 US states, the District of Columbia, and Puerto Rico, 2020**





**TABLE 1. Number and outcomes of assisted reproductive technology procedures performed in 2020, by female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence*	No. of ART clinics†	No. of ART procedures performed§	No. of ART embryo-transfer procedures¶	No. of ART pregnancies	No. of ART live-birth deliveries	No. of ART singleton live-birth deliveries	No. of ART multiple live-birth deliveries	No. of ART live-born infants	ART procedures per 1 million women aged 15–49 years**
Alabama	4	1,009	769	408	286	261	25	310	911
Alaska	1	195	147	84	71	63	8	80	1,192
Arizona	13	2,805	2,284	1,311	1,058	949	109	1,170	1,707
Arkansas	1	605	493	244	209	181	28	239	795
California	73	24,219	19,115	11,523	9,640	9,060	580	10,224	2,313
Colorado	8	2,838	2,641	1,786	1,511	1,409	102	1,614	2,071
Connecticut	6	3,373	2,660	1,592	1,307	1,226	81	1,389	4,319
Delaware	2	809	605	319	256	249	7	264	3,836
District of Columbia	2	1,393	1,052	568	453	439	14	467	6,585
Florida	26	8,776	7,218	3,909	3,117	2,895	222	3,342	1,909
Georgia	9	4,844	3,951	2,235	1,839	1,683	156	1,999	1,892
Hawaii	6	978	764	409	308	271	37	345	3,272
Idaho	1	704	572	351	300	264	36	336	1,740
Illinois	26	12,628	9,525	4,979	4,029	3,772	257	4,286	4,402
Indiana	8	2,603	2,127	1,128	931	840	91	1,022	1,715
Iowa	2	1,711	1,429	819	682	634	48	731	2,499
Kansas	5	1,079	903	518	438	411	27	466	1,678
Kentucky	4	1,519	1,258	651	540	482	58	599	1,538
Louisiana	4	1,639	1,286	692	591	571	20	612	1,553
Maine	1	571	451	253	212	197	15	228	2,073
Maryland	6	6,248	4,955	2,619	2,087	1,975	112	2,199	4,524
Massachusetts	7	9,452	7,751	3,906	3,238	3,056	182	3,419	5,876
Michigan	10	4,537	3,713	1,947	1,612	1,410	202	1,815	2,088
Minnesota	5	3,260	2,790	1,619	1,386	1,276	110	1,499	2,616
Mississippi	3	581	527	294	234	224	10	244	863
Missouri	9	2,453	2,044	1,139	967	891	76	1,044	1,802
Montana	1	313	278	169	143	§§	§§	147	1,377
Nebraska	2	1,044	818	435	346	308	38	385	2,435
Nevada	6	1,527	1,211	708	564	512	52	614	2,143
New Hampshire	0	1,104	894	448	370	347	23	393	3,820
New Jersey	17	10,685	9,040	5,342	4,457	4,297	160	4,619	5,451
New Mexico	2	380	339	201	161	149	12	173	826
New York	44	23,652	19,344	9,359	7,379	7,011	368	7,754	5,343
North Carolina	10	4,755	3,973	2,334	1,936	1,824	112	2,047	1,962
North Dakota	1	297	246	130	103	97	6	109	1,772
Ohio	10	5,263	4,289	2,277	1,859	1,751	108	1,970	2,053
Oklahoma	3	1,026	865	425	351	304	47	398	1,146
Oregon	4	1,523	1,384	879	728	653	75	804	1,584
Pennsylvania	12	7,945	6,341	3,330	2,727	2,630	97	2,825	2,882
Puerto Rico	3	343	279	89	53	44	9	62	482
Rhode Island	1	928	735	294	236	222	14	250	3,882
South Carolina	3	2,133	1,693	1,011	822	790	32	856	1,841
South Dakota	1	327	260	129	98	90	8	106	1,751
Tennessee	9	2,143	1,786	1,067	890	824	66	958	1,370
Texas	42	15,941	12,912	7,366	6,151	5,730	421	6,578	2,262
Utah	4	2,518	2,071	1,180	989	909	80	1,071	3,138
Vermont	2	395	295	150	118	101	17	135	2,973

Virginia	11	5,989	4,854	2,708	2,125	2,004	121	2,246	3,042
Washington	11	4,501	3,646	2,260	1,882	1,774	108	1,990	2,548
West Virginia	2	391	333	177	140	128	12	152	1,060
Wisconsin	6	2,347	1,945	982	824	745	79	904	1,864
Wyoming	0	188	162	87	76	68	8	84	1,514
Non-US residents	—	4,677	4,018	2,613	2,193	2,016	177	2,369	¶¶
<b>Total</b>	<b>449</b>	<b>203,164</b>	<b>165,041</b>	<b>91,453</b>	<b>75,023</b>	<b>70,156</b>	<b>4,867</b>	<b>79,942</b>	<b>2,650</b>

ART = assisted reproductive technology.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†The ART procedures and outcomes by patient's residence do not necessarily reflect the procedures and outcomes of the ART clinics within the reporting area because some patients seek treatment at a clinic in a location other than their area of residence.

§Excludes 123,304 cycles in which egg or embryo banking was performed and 7 research cycles.

¶Embryo-transfer procedures include all procedures performed in which at least one embryo was transferred.

\*\*US Census Bureau estimates. Source: US Census Bureau. <https://data.census.gov/cedsci/>.

§§To protect confidentiality, cells with values of 1–4 for ART infants are suppressed. Also suppressed are data that can be used to derive suppressed cell values. These values are included in the totals.

¶¶Non-US residents were excluded from rate because the appropriate denominators were not available.

**TABLE 2. Number of assisted reproductive technology embryo-transfer procedures, average number of embryos transferred, and the percentage of single embryo transfer procedures performed in 2020, by female patient's age group and reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence <sup>a</sup>	<35 years			35–37 years			>37 years		
	No. of embryo-transfer procedures <sup>†</sup>	Average no. of embryos transferred	SET (%)	No. of embryo-transfer procedures	Average no. of embryos transferred	SET (%)	No. of embryo-transfer procedures	Average no. of embryos transferred	SET (%)
Alabama	427	1.2	80.8	135	1.2	82.2	207	1.3	72.5
Alaska	59	1.3	71.2	43	1.1	90.7	45	1.3	77.8
Arizona	1,007	1.3	67.8	499	1.3	67.9	778	1.4	68.9
Arkansas	293	1.2	76.1	90	1.3	73.3	110	1.5	57.3
California	5,600	1.2	82.5	4,653	1.2	83.4	8,862	1.3	78.8
Colorado	1,010	1.2	84.8	691	1.1	86.5	940	1.2	85.6
Connecticut	1,047	1.1	90.9	639	1.2	81.4	974	1.3	72.5
Delaware	271	1.0	95.2	135	1.0	96.3	199	1.2	85.9
District of Columbia	239	1.0	95.8	272	1.1	94.1	541	1.3	81.5
Florida	2,706	1.2	82.1	1,680	1.2	79.8	2,832	1.3	72.4
Georgia	1,577	1.2	81.7	903	1.2	78.0	1,471	1.3	73.1
Hawaii	217	1.4	60.4	165	1.4	66.7	382	1.5	59.9
Idaho	286	1.3	72.0	127	1.3	74.8	159	1.2	84.3
Illinois	3,930	1.2	82.4	2,248	1.2	80.6	3,347	1.4	70.8
Indiana	1,171	1.3	73.4	442	1.3	71.7	514	1.4	64.8
Iowa	826	1.1	85.7	284	1.2	80.3	319	1.3	72.4
Kansas	511	1.1	87.1	191	1.1	88.0	201	1.2	83.1
Kentucky	698	1.3	71.2	286	1.3	69.2	274	1.5	59.9
Louisiana	646	1.1	86.5	287	1.1	87.5	353	1.3	78.8
Maine	199	1.1	87.9	90	1.2	83.3	162	1.3	74.1
Maryland	1,923	1.1	90.5	1,095	1.1	88.0	1,937	1.2	79.3
Massachusetts	2,925	1.1	90.9	2,046	1.2	85.8	2,780	1.4	68.2
Michigan	1,757	1.4	60.7	877	1.4	62.0	1,079	1.5	63.5
Minnesota	1,284	1.2	77.2	680	1.2	78.2	826	1.3	75.1
Mississippi	290	1.1	90.3	114	1.1	89.5	123	1.2	82.9
Missouri	1,136	1.2	77.2	419	1.2	78.0	489	1.4	64.2
Montana	139	1.1	89.9	63	1.1	90.5	76	1.2	84.2
Nebraska	446	1.3	73.5	193	1.2	76.2	179	1.3	75.4
Nevada	489	1.2	77.9	288	1.2	76.7	434	1.2	80.9
New Hampshire	394	1.1	90.4	258	1.2	84.9	242	1.4	69.4
New Jersey	3,531	1.1	92.6	2,235	1.1	90.0	3,274	1.2	81.4
New Mexico	139	1.2	76.3	73	1.1	87.7	127	1.3	76.4
New York	6,653	1.2	85.5	4,311	1.2	82.7	8,380	1.4	72.4
North Carolina	1,753	1.1	88.9	970	1.2	84.3	1,250	1.2	81.2
North Dakota	154	1.2	83.8	46	1.1	87.0	46	1.3	69.6
Ohio	2,132	1.1	86.7	1,054	1.2	81.3	1,103	1.3	71.7
Oklahoma	475	1.3	74.3	196	1.3	68.4	194	1.5	60.8
Oregon	453	1.3	74.6	363	1.2	79.1	568	1.2	79.2
Pennsylvania	2,851	1.1	91.6	1,635	1.1	88.6	1,855	1.3	78.9
Puerto Rico	104	1.6	38.5	55	1.6	47.3	120	1.7	38.3
Rhode Island	310	1.1	87.7	168	1.2	82.1	257	1.4	64.2
South Carolina	818	1.1	87.5	376	1.2	84.3	499	1.3	75.2
South Dakota	164	1.5	54.3	54	1.5	48.1	42	1.5	54.8
Tennessee	833	1.2	83.3	400	1.1	86.5	553	1.3	74.5
Texas	5,724	1.2	83.5	3,065	1.2	82.5	4,123	1.2	77.6
Utah	1,180	1.2	79.8	368	1.2	80.7	523	1.3	75.3
Vermont	104	1.3	75.0	83	1.4	65.1	108	1.7	52.8

Virginia	1,847	1.1	86.0	1,250	1.2	84.4	1,757	1.2	81.4
Washington	1,359	1.1	86.6	907	1.1	86.3	1,380	1.2	83.4
West Virginia	187	1.2	78.6	49	1.3	71.4	97	1.5	60.8
Wisconsin	986	1.2	79.8	435	1.2	77.5	524	1.3	70.8
Wyoming	86	1.2	81.4	38	1.2	84.2	38	1.2	81.6
Non-US residents	1,010	1.2	81.7	753	1.1	88.0	2,255	1.2	83.6
<b>Total</b>	<b>66,356</b>	<b>1.2</b>	<b>83.5</b>	<b>38,777</b>	<b>1.2</b>	<b>82.4</b>	<b>59,908</b>	<b>1.3</b>	<b>75.5</b>

SET = single-embryo transfer. In SET, only one embryo is placed in the uterus per transfer regardless of how many embryos were available.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†Includes all procedures in which at least one embryo was transferred.

**TABLE 3. Number, proportion, and percentage of infants and singleton infants born with use of assisted reproductive technology in 2020, by female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence <sup>c</sup>	Total no. of infants born <sup>†</sup>	No. of ART infants born <sup>§</sup>	Proportion of ART infants among all infants	Singleton infants among ART infants		Singleton infants among all infants		Proportion of ART singletons among all singletons
				(%)	No.	(%)	No.	
Alabama	57,647	392	0.7	312	(79.6)	55,473	(96.2)	0.6
Alaska	9,469	62	0.7	50	(80.6)	9,175	(96.9)	0.5
Arizona	76,947	1,202	1.6	936	(77.9)	74,655	(97.0)	1.3
Arkansas	35,251	234	0.7	185	(79.1)	34,098	(96.7)	0.5
California	420,259	9,866	2.3	8,610	(87.3)	408,023	(97.1)	2.1
Colorado	61,494	1,361	2.2	1,175	(86.3)	59,645	(97.0)	2.0
Connecticut	33,460	1,320	3.9	1,198	(90.8)	32,280	(96.5)	3.7
Delaware	10,392	271	2.6	263	(97.0)	10,068	(96.9)	2.6
District of Columbia	8,874	474	5.3	443	(93.5)	8,579	(96.7)	5.2
Florida	209,671	3,195	1.5	2,761	(86.4)	203,244	(96.9)	1.4
Georgia	122,473	1,826	1.5	1,576	(86.3)	118,337	(96.6)	1.3
Hawaii	15,785	399	2.5	315	(78.9)	15,340	(97.2)	2.1
Idaho	21,533	281	1.3	224	(79.7)	20,867	(96.9)	1.1
Illinois	133,298	4,253	3.2	3,739	(87.9)	128,941	(96.7)	2.9
Indiana	78,616	926	1.2	748	(80.8)	76,070	(96.8)	1.0
Iowa	36,114	612	1.7	548	(89.5)	34,801	(96.4)	1.6
Kansas	34,376	474	1.4	409	(86.3)	33,294	(96.9)	1.2
Kentucky	51,668	485	0.9	406	(83.7)	50,044	(96.9)	0.8
Louisiana	57,328	536	0.9	488	(91.0)	55,375	(96.6)	0.9
Maine	11,539	225	1.9	186	(82.7)	11,156	(96.7)	1.7
Maryland	68,554	2,095	3.1	1,911	(91.2)	66,436	(96.9)	2.9
Massachusetts	66,428	3,740	5.6	3,361	(89.9)	64,306	(96.8)	5.2
Michigan	104,074	1,816	1.7	1,405	(77.4)	100,340	(96.4)	1.4
Minnesota	63,443	1,397	2.2	1,136	(81.3)	61,262	(96.6)	1.9
Mississippi	35,473	243	0.7	221	(90.9)	34,289	(96.7)	0.6
Missouri	69,285	940	1.4	780	(83.0)	66,953	(96.6)	1.2
Montana	10,791	146	1.4	130	(89.0)	10,461	(96.9)	1.2
Nebraska	24,291	381	1.6	307	(80.6)	23,417	(96.4)	1.3
Nevada	33,653	569	1.7	493	(86.6)	32,633	(97.0)	1.5
New Hampshire	11,791	362	3.1	330	(91.2)	11,426	(96.9)	2.9
New Jersey	97,954	4,404	4.5	4,037	(91.7)	94,744	(96.7)	4.3
New Mexico	21,903	178	0.8	158	(88.8)	21,383	(97.6)	0.7
New York	209,338	7,506	3.6	6,689	(89.1)	202,381	(96.7)	3.3
North Carolina	116,730	1,887	1.6	1,683	(89.2)	112,793	(96.6)	1.5
North Dakota	10,059	121	1.2	99	(81.8)	9,740	(96.8)	1.0
Ohio	129,191	1,892	1.5	1,674	(88.5)	124,896	(96.7)	1.3
Oklahoma	47,623	434	0.9	335	(77.2)	46,082	(96.8)	0.7
Oregon	39,820	738	1.9	594	(80.5)	38,552	(96.8)	1.5
Pennsylvania	130,693	2,565	2.0	2,342	(91.3)	126,517	(96.8)	1.9
Puerto Rico	18,933	74	0.4	42	(56.8)	18,496	(97.7)	0.2
Rhode Island	10,101	261	2.6	239	(91.6)	9,797	(97.0)	2.4
South Carolina	55,704	738	1.3	647	(87.7)	53,750	(96.5)	1.2
South Dakota	10,960	113	1.0	85	(75.2)	10,612	(96.8)	0.8
Tennessee	78,689	795	1.0	701	(88.2)	76,120	(96.7)	0.9
Texas	368,190	6,271	1.7	5,490	(87.5)	357,225	(97.0)	1.5
Utah	45,702	980	2.1	803	(81.9)	44,186	(96.7)	1.8
Vermont	5,133	133	2.6	109	(82.0)	4,980	(97.0)	2.2

Virginia	94,749	2,143	2.3	1,931	(90.1)	91,616	(96.7)	2.1
Washington	83,086	1,897	2.3	1,691	(89.1)	80,638	(97.1)	2.1
West Virginia	17,323	146	0.8	130	(89.0)	16,795	(97.0)	0.8
Wisconsin	60,594	904	1.5	767	(84.8)	58,604	(96.7)	1.3
Wyoming	6,128	83	1.4	70	(84.3)	5,936	(96.9)	1.2
<b>Total</b>	<b>3,632,580</b>	<b>74,346</b>	<b>2.0</b>	<b>64,962</b>	<b>(87.4)</b>	<b>3,516,831</b>	<b>(96.8)</b>	<b>1.8</b>

ART = assisted reproductive technology.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†US births exclude births to non-US residents. Source: National Center for Health Statistics, Vital statistics data available. Natality public use file and CD-ROM. Hyattsville, MD, National Center for Health Statistics.

§Includes infants conceived from ART procedures performed in 2019 and born in 2020 and infants conceived from ART procedures performed in 2020 and born in 2020. Total ART births exclude births to non-US residents.

**TABLE 4. Number, percentage, and proportion of multiple births, twins, and triplets and higher order infants born with use of assisted reproductive technology procedures in 2020, by female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence <sup>†</sup>	Multiple-birth infants among ART infants <sup>†§</sup>		Multiple births among all infants <sup>¶</sup>		Proportion of ART multiples among all multiples	Twin infants among ART infants <sup>†§</sup>		Twin infants among all infants <sup>¶</sup>		Proportion of ART twins among all twins	Triplets and higher order among ART infants <sup>†§</sup>		Triplets and higher order among all infants <sup>¶</sup>		Proportion of ART triplets and higher order among all triplets <sup>†</sup>
	No.	(%)	No.	(%)		(%)	No.	(%)	No.		(%)	(%)	No.	(%)	
Alabama	80	20.4	2,174	3.8	(3.7)	80	20.4	2,097	3.6	(3.8)	0	0.0	77	0.1	(0)
Alaska	12	19.4	294	3.1	(4.1)	12	19.4	**	**	(**)	0	0.0	**	**	(**)
Arizona	266	22.1	2,292	3.0	(11.6)	260	21.6	2,238	2.9	(11.6)	6	0.5	54	0.1	(11.1)
Arkansas	49	20.9	1,153	3.3	(4.2)	**	**	1,125	3.2	(**)	**	**	28	0.1	(**)
California	1,256	12.7	12,236	2.9	(10.3)	1,227	12.4	11,975	2.8	(10.2)	29	0.3	261	0.1	(11.1)
Colorado	186	13.7	1,849	3.0	(10.1)	177	13.0	1,810	2.9	(9.8)	9	0.7	39	0.1	(23.1)
Connecticut	122	9.2	1,180	3.5	(10.3)	122	9.2	1,156	3.5	(10.6)	0	0.0	24	0.1	(0)
Delaware	8	3.0	324	3.1	(2.5)	8	3.0	**	**	(**)	0	0.0	**	**	(**)
District of Columbia	31	6.5	295	3.3	(10.5)	**	**	280	3.2	(**)	**	**	††	0.2	(**††)
Florida	434	13.6	6,427	3.1	(6.8)	428	13.4	6,276	3.0	(6.8)	6	0.2	151	0.1	(4)
Georgia	250	13.7	4,136	3.4	(6.0)	238	13.0	4,044	3.3	(5.9)	12	0.7	92	0.1	(13)
Hawaii	84	21.1	445	2.8	(18.9)	**	**	**	**	(**)	**	**	**	**	(**)
Idaho	57	20.3	666	3.1	(8.6)	**	**	651	3.0	(**)	**	**	††	0.1	(**††)
Illinois	514	12.1	4,357	3.3	(11.8)	502	11.8	4,243	3.2	(11.8)	12	0.3	114	0.1	(10.5)
Indiana	178	19.2	2,546	3.2	(7.0)	172	18.6	2,473	3.1	(7.0)	6	0.6	73	0.1	(8.2)
Iowa	64	10.5	1,313	3.6	(4.9)	64	10.5	1,282	3.5	(5.0)	0	0.0	31	0.1	(0)
Kansas	65	13.7	1,082	3.1	(6.0)	**	**	1,049	3.1	(**)	**	**	33	0.1	(**)
Kentucky	79	16.3	1,624	3.1	(4.9)	**	**	1,605	3.1	(**)	**	**	††	0.0	(**††)
Louisiana	48	9.0	1,953	3.4	(2.5)	42	7.8	1,902	3.3	(2.2)	6	1.1	51	0.1	(11.8)
Maine	39	17.3	383	3.3	(10.2)	**	**	**	**	(**)	**	**	**	**	(**)
Maryland	184	8.8	2,118	3.1	(8.7)	**	**	2,064	3.0	(**)	**	**	54	0.1	(**)
Massachusetts	379	10.1	2,122	3.2	(17.9)	**	**	2,072	3.1	(**)	**	**	50	0.1	(**)
Michigan	411	22.6	3,734	3.6	(11.0)	398	21.9	3,624	3.5	(11.0)	13	0.7	110	0.1	(11.8)
Minnesota	261	18.7	2,181	3.4	(12.0)	249	17.8	2,098	3.3	(11.9)	12	0.9	83	0.1	(14.5)
Mississippi	22	9.1	1,184	3.3	(1.9)	22	9.1	1,160	3.3	(1.9)	0	0.0	24	0.1	(0)
Missouri	160	17.0	2,332	3.4	(6.9)	148	15.7	2,280	3.3	(6.5)	12	1.3	52	0.1	(23.1)
Montana	16	11.0	330	3.1	(4.8)	16	11.0	320	3.0	(5.0)	0	0.0	††	0.1	(0.0††)
Nebraska	74	19.4	874	3.6	(8.5)	**	**	825	3.4	(**)	**	**	49	0.2	(**)
Nevada	76	13.4	1,020	3.0	(7.5)	70	12.3	1,001	3.0	(7.0)	6	1.1	††	0.1	(††)
New Hampshire	32	8.8	365	3.1	(8.8)	32	8.8	**	**	(**)	0	**	**	**	(**)
New Jersey	367	8.3	3,210	3.3	(11.4)	355	8.1	3,105	3.2	(11.4)	12	0.3	105	0.1	(11.4)
New Mexico	20	11.2	520	2.4	(3.8)	20	11.2	508	2.3	(3.9)	0	0.0	††	0.1	(††)
New York	817	10.9	6,957	3.3	(11.7)	787	10.5	6,817	3.3	(11.5)	30	0.4	140	0.1	(21.4)

North Carolina	204	10.8	3,937	3.4	(5.2)	**	**	3,820	3.3	(**)	**	**	117	0.1	(**)
North Dakota	22	18.2	319	3.2	(6.9)	22	18.2	308	3.1	(7.1)	0	0.0	††	0.1	(††)
Ohio	218	11.5	4,295	3.3	(5.1)	209	11.0	4,177	3.2	(5.0)	9	0.5	118	0.1	(7.6)
Oklahoma	99	22.8	1,541	3.2	(6.4)	**	**	1,505	3.2	(**)	**	**	36	0.1	(**)
Oregon	144	19.5	1,268	3.2	(11.4)	138	18.7	1,247	3.1	(11.1)	6	0.8	21	0.1	(28.6)
Pennsylvania	223	8.7	4,176	3.2	(5.3)	**	**	4,088	3.1	(**)	**	**	88	0.1	(**)
Puerto Rico	32	43.2	437	2.3	(7.3)	32	43.2	425	2.2	(7.5)	0	0.0	††	0.1	(††)
Rhode Island	22	8.4	304	3.0	(7.2)	22	8.4	**	**	(**)	0	0.0	**	**	(**)
South Carolina	91	12.3	1,954	3.5	(4.7)	82	11.1	1,914	3.4	(4.3)	9	1.2	40	0.1	(22.5)
South Dakota	28	24.8	348	3.2	(8.0)	28	24.8	**	**	(**)	0	0.0	**	**	(**)
Tennessee	94	11.8	2,569	3.3	(3.7)	94	11.8	2,495	3.2	(3.8)	0	0.0	74	0.1	(0)
Texas	781	12.5	10,965	3.0	(7.1)	763	12.2	10,697	2.9	(7.1)	18	0.3	268	0.1	(6.7)
Utah	177	18.1	1,516	3.3	(11.7)	162	16.5	1,447	3.2	(11.2)	15	1.5	69	0.2	(21.7)
Vermont	24	18.0	153	3.0	(15.7)	24	18.0	**	**	(**)	0	0.0	**	**	(**)
Virginia	212	9.9	3,133	3.3	(6.8)	**	**	3,049	3.2	(**)	**	**	84	0.1	(**)
Washington	206	10.9	2,448	2.9	(8.4)	206	10.9	2,387	2.9	(8.6)	0	0.0	61	0.1	(0)
West Virginia	16	11.0	528	3.0	(3.0)	16	11.0	**	**	(**)	0	0.0	**	**	(**)
Wisconsin	137	15.2	1,990	3.3	(6.9)	137	15.2	1,943	3.2	(7.1)	0	0.0	47	0.1	(0)
Wyoming	13	15.7	192	3.1	(6.8)	13	15.7	**	**	(**)	0	0.0	**	**	(**)
<b>Total</b>	<b>9,384</b>	<b>12.6</b>	<b>115,749</b>	<b>3.2</b>	<b>(8.1)</b>	<b>9,114</b>	<b>12.3</b>	<b>112,862</b>	<b>3.1</b>	<b>(8.1)</b>	<b>270</b>	<b>0.4</b>	<b>2,887</b>	<b>0.1</b>	<b>(9.4)</b>

ART = assisted reproductive technology.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†ART totals include infants conceived from ART procedures performed in 2019 and born in 2020 and infants conceived from ART procedures performed in 2020 and born in 2020. Total ART births exclude births to non-US residents.

§Includes only the number of infants live born in a multiple-birth delivery. For example, if three infants were born in a live-birth delivery and one of the three infants was stillborn, the total number of live-born infants would be two. However, the two infants still would be counted as triplets.

¶US births exclude births to non-US residents. Source: National Center for Health Statistics, Vital statistics data available. Natality public use file and CD-ROM. Hyattsville, MD, National Center for Health Statistics.

\*\*To protect confidentiality, cells with values of 1–4 for ART infants and cells with values of 0–9 for all infants are suppressed. Also suppressed are data that can be used to derive suppressed cell values. These values are included in the totals.

††Estimates based on N <20 in the denominator are suppressed because such rates are considered unstable.



**TABLE 5. Number, percentage, and proportion of infants born with use of assisted reproductive technology in 2020 by low birthweight category and female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence	Very low birthweight (<1,500 g)					Moderately low birthweight (1,500–2,499 g)					Low birthweight (<2,500 g)				
	ART infants <sup>†</sup>		All infants <sup>§</sup>		Proportion of ART infants among all infants	ART infants <sup>†</sup>		All infants <sup>§</sup>		Proportion of ART infants among all infants	ART infants <sup>†</sup>		All infants <sup>§</sup>		Proportion of ART infants among all infants
	No.	(%)	No.	(%)		(%)	No.	(%)	No.		(%)	(%)	No.	(%)	
Alabama	23	6.0	1,131	2.0	(2.0)	61	15.8	5,088	8.8	(1.2)	84	21.8	6,219	10.8	(1.4)
Alaska	6	9.7	103	1.1	(5.8)	5	8.1	523	5.5	(1.0)	11	17.7	626	6.6	(1.8)
Arizona	34	2.9	867	1.1	(3.9)	188	16.1	4,799	6.2	(3.9)	222	19.0	5,666	7.4	(3.9)
Arkansas	14	6.1	511	1.4	(2.7)	24	10.4	2,877	8.2	(0.8)	38	16.5	3,388	9.6	(1.1)
California	193	2.0	4,529	1.1	(4.3)	1,033	10.9	24,532	5.8	(4.2)	1,226	13.0	29,061	6.9	(4.2)
Colorado	20	1.6	678	1.1	(2.9)	175	13.7	4,992	8.1	(3.5)	195	15.3	5,670	9.2	(3.4)
Connecticut	17	1.3	437	1.3	(3.9)	114	8.7	2,186	6.5	(5.2)	131	10.0	2,623	7.8	(5.0)
Delaware	7	2.7	154	1.5	(4.5)	22	8.6	774	7.4	(2.8)	29	11.3	928	8.9	(3.1)
District of Columbia	12	2.6	160	1.8	(7.5)	41	8.8	689	7.8	(6.0)	53	11.4	849	9.6	(6.2)
Florida	97	3.1	3,134	1.5	(3.1)	337	10.8	15,068	7.2	(2.2)	434	13.9	18,202	8.7	(2.4)
Georgia	37	2.3	2,142	1.7	(1.7)	202	12.6	9,930	8.1	(2.0)	239	14.9	12,072	9.9	(2.0)
Hawaii	9	2.4	203	1.3	(4.4)	51	13.5	1,078	6.8	(4.7)	60	15.9	1,281	8.1	(4.7)
Idaho	¶	¶	220	1.0	(¶)	¶	¶	1,258	5.8	(¶)	40	14.3	1,478	6.9	(2.7)
Illinois	85	2.1	1,738	1.3	(4.9)	420	10.1	9,272	7.0	(4.5)	505	12.2	11,010	8.3	(4.6)
Indiana	43	4.8	1,093	1.4	(3.9)	100	11.1	5,297	6.7	(1.9)	143	15.9	6,390	8.1	(2.2)
Iowa	7	1.2	411	1.1	(1.7)	56	9.3	2,092	5.8	(2.7)	63	10.5	2,503	6.9	(2.5)
Kansas	8	1.8	419	1.2	(1.9)	46	10.3	2,072	6.0	(2.2)	54	12.1	2,491	7.2	(2.2)
Kentucky	12	2.6	670	1.3	(1.8)	44	9.6	3,720	7.2	(1.2)	56	12.2	4,390	8.5	(1.3)
Louisiana	6	1.1	1,081	1.9	(0.6)	60	11.4	5,164	9.0	(1.2)	66	12.5	6,245	10.9	(1.1)
Maine	¶	¶	126	1.1	(¶)	¶	¶	736	6.4	(¶)	25	11.9	862	7.5	(2.9)
Maryland	51	2.5	1,049	1.5	(4.9)	177	8.6	4,743	6.9	(3.7)	228	11.1	5,792	8.4	(3.9)
Massachusetts	54	1.5	642	1.0	(8.4)	322	8.9	4,241	6.4	(7.6)	376	10.4	4,883	7.4	(7.7)
Michigan	54	3.1	1,504	1.4	(3.6)	236	13.6	7,784	7.5	(3.0)	290	16.7	9,288	8.9	(3.1)
Minnesota	30	2.2	662	1.0	(4.5)	174	12.8	3,567	5.6	(4.9)	204	15.0	4,229	6.7	(4.8)
Mississippi	10	4.4	737	2.1	(1.4)	24	10.6	3,455	9.7	(0.7)	34	15.0	4,192	11.8	(0.8)
Missouri	16	1.8	939	1.4	(1.7)	117	13.0	5,081	7.3	(2.3)	133	14.8	6,020	8.7	(2.2)
Montana	5	3.5	114	1.1	(4.4)	14	9.7	716	6.6	(2.0)	19	13.2	830	7.7	(2.3)
Nebraska	12	3.4	284	1.2	(4.2)	49	13.8	1,509	6.2	(3.2)	61	17.2	1,793	7.4	(3.4)
Nevada	25	4.6	436	1.3	(5.7)	64	11.7	2,586	7.7	(2.5)	89	16.2	3,022	9.0	(2.9)
New Hampshire	5	1.4	117	1.0	(4.3)	31	8.8	684	5.8	(4.5)	36	10.2	801	6.8	(4.5)
New Jersey	77	1.8	1,191	1.2	(6.5)	412	9.5	6,372	6.5	(6.5)	489	11.3	7,563	7.7	(6.5)
New Mexico	¶	¶	291	1.3	(¶)	¶	¶	1,647	7.5	(¶)	20	12.7	1,938	8.8	(1.0)
New York	142	2.0	2,778	1.3	(5.1)	715	10.1	14,301	6.8	(5.0)	857	12.1	17,079	8.2	(5.0)

North Carolina	35	2.0	1,932	1.7	(1.8)	199	11.4	9,158	7.8	(2.2)	234	13.4	11,090	9.5	(2.1)
North Dakota	¶	¶	110	1.1	¶	¶	¶	583	5.8	¶	17	14.3	693	6.9	(2.5)
Ohio	34	1.9	1,803	1.4	(1.9)	208	11.6	9,154	7.1	(2.3)	242	13.4	10,957	8.5	(2.2)
Oklahoma	¶	¶	619	1.3	¶	¶	¶	3,353	7.0	¶	79	18.4	3,972	8.3	(2.0)
Oregon	13	1.8	400	1.0	(3.3)	90	12.5	2,200	5.5	(4.1)	103	14.3	2,600	6.5	(4.0)
Pennsylvania	52	2.1	1,726	1.3	(3.0)	241	9.6	9,076	6.9	(2.7)	293	11.7	10,802	8.3	(2.7)
Puerto Rico	¶	¶	268	1.4	¶	¶	¶	1,653	8.7	¶	31	42.5	1,921	10.1	(1.6)
Rhode Island	¶	¶	116	1.1	¶	¶	¶	659	6.5	¶	26	10.1	775	7.7	(3.4)
South Carolina	20	2.9	945	1.7	(2.1)	80	11.7	4,516	8.1	(1.8)	100	14.7	5,461	9.8	(1.8)
South Dakota	5	4.5	109	1.0	(4.6)	24	21.8	644	5.9	(3.7)	29	26.4	753	6.9	(3.9)
Tennessee	20	2.6	1,205	1.5	(1.7)	67	8.8	5,797	7.4	(1.2)	87	11.4	7,002	8.9	(1.2)
Texas	179	3.0	5,058	1.4	(3.5)	733	12.1	25,241	6.9	(2.9)	912	15.0	30,299	8.2	(3.0)
Utah	24	2.5	470	1.0	(5.1)	147	15.2	2,746	6.0	(5.4)	171	17.6	3,216	7.0	(5.3)
Vermont	0	0.0	42	0.8	(0)	17	13.5	315	6.1	(5.4)	17	13.5	357	7.0	(4.8)
Virginia	44	2.1	1,332	1.4	(3.3)	207	10.0	6,492	6.9	(3.2)	251	12.1	7,824	8.3	(3.2)
Washington	35	1.9	850	1.0	(4.1)	181	9.6	4,708	5.7	(3.8)	216	11.5	5,558	6.7	(3.9)
West Virginia	6	4.3	248	1.4	(2.4)	13	9.4	1,356	7.8	(1.0)	19	13.7	1,604	9.3	(1.2)
Wisconsin	19	2.2	732	1.2	(2.6)	100	11.6	3,933	6.5	(2.5)	119	13.8	4,665	7.7	(2.6)
Wyoming	¶	¶	78	1.3	¶	¶	¶	514	8.4	¶	17	21.0	592	9.7	(2.9)
<b>Total</b>	<b>1,624</b>	<b>2.3</b>	<b>48,594</b>	<b>1.3</b>	<b>(3.3)</b>	<b>7,849</b>	<b>11.0</b>	<b>250,931</b>	<b>6.9</b>	<b>(3.1)</b>	<b>9,473</b>	<b>13.2</b>	<b>299,525</b>	<b>8.2</b>	<b>(3.2)</b>

ART = assisted reproductive technology.

\*In cases of missing patient's residence data (2.3%), the patient's residence was assigned as the location where the ART procedure was performed.

†ART totals include infants conceived from ART procedures performed in 2019 and born in 2020 and infants conceived from ART procedures performed in 2020 and born in 2020. Total ART infants exclude births to non-US residents and include only infants with birthweight data available.

§US births exclude births to non-US residents. Source: National Center for Health Statistics, Vital statistics data available. Natality public use file and CD-ROM. Hyattsville, MD, National Center for Health Statistics.

¶To protect confidentiality, cells with values of 1–4 for ART infants and cells with values of 0–9 for all infants are suppressed. Also suppressed are data that can be used to derive suppressed cell values. These values are included in the totals.

**TABLE 6. Number, percentage, and proportion of infants born with use of assisted reproductive technology in 2020, by preterm gestational age category and female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence <sup>†</sup>	Very preterm birth (<32 weeks)		Early preterm birth (<34 weeks)			Late preterm birth (34–36 weeks)			Preterm birth (<37 weeks)										
	ART infants <sup>†</sup>		All infants <sup>§</sup>		ART infants <sup>†</sup>	All infants <sup>§</sup>		Prop. of ART infants among all infants	ART infants <sup>†</sup>		All infants <sup>§</sup>		Prop. of ART infants among all infants						
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	(%)	No.	(%)	No.	(%)	(%)					
Alabama	30	7.7	1,186	2.1	50	12.8	2,024	3.5	(2.5)	70	17.9	5,418	9.4	(1.3)	120	30.8	7,442	12.9	(1.6)
Alaska	6	9.7	124	1.3	¶	¶	234	2.5	(¶)	¶	¶	692	7.3	(¶)	11	17.7	926	9.8	(1.2)
Arizona	35	2.9	983	1.3	67	5.6	1,809	2.4	(3.7)	247	20.6	5,480	7.1	(4.5)	314	26.1	7,289	9.5	(4.3)
Arkansas	17	7.3	605	1.7	24	10.3	1,127	3.2	(2.1)	51	22.0	3,015	8.6	(1.7)	75	32.3	4,142	11.8	(1.8)
California	256	2.6	5,698	1.4	497	5.1	9,437	2.2	(5.3)	1,350	13.8	27,332	6.5	(4.9)	1,847	18.9	36,769	8.7	(5.0)
Colorado	37	2.7	824	1.3	88	6.5	1,531	2.5	(5.7)	212	15.6	4,088	6.6	(5.2)	300	22.1	5,619	9.1	(5.3)
Connecticut	26	2.0	465	1.4	45	3.4	852	2.5	(5.3)	167	12.7	2,216	6.6	(7.5)	212	16.1	3,068	9.2	(6.9)
Delaware	7	2.6	181	1.7	15	5.5	298	2.9	(5.0)	37	13.7	781	7.5	(4.7)	52	19.2	1,079	10.4	(4.8)
District of Columbia	16	3.4	160	1.8	24	5.1	251	2.8	(9.6)	63	13.3	621	7.0	(10.1)	87	18.4	872	9.8	(10.0)
Florida	134	4.2	3,523	1.7	219	6.9	5,922	2.8	(3.7)	549	17.3	16,016	7.6	(3.4)	768	24.2	21,938	10.5	(3.5)
Georgia	55	3.0	2,337	1.9	109	6.0	3,966	3.2	(2.7)	332	18.3	10,014	8.2	(3.3)	441	24.3	13,980	11.4	(3.2)
Hawaii	9	2.3	213	1.3	18	4.5	393	2.5	(4.6)	76	19.0	1,189	7.5	(6.4)	94	23.6	1,582	10.0	(5.9)
Idaho	8	2.8	258	1.2	17	6.0	488	2.3	(3.5)	48	17.1	1,333	6.2	(3.6)	65	23.1	1,821	8.5	(3.6)
Illinois	128	3.0	2,044	1.5	241	5.7	3,584	2.7	(6.7)	591	13.9	10,157	7.6	(5.8)	832	19.6	13,741	10.3	(6.1)
Indiana	53	5.7	1,292	1.6	84	9.1	2,181	2.8	(3.9)	165	17.9	6,022	7.7	(2.7)	249	26.9	8,203	10.4	(3.0)
Iowa	17	2.8	506	1.4	27	4.4	853	2.4	(3.2)	108	17.7	2,720	7.5	(4.0)	135	22.1	3,573	9.9	(3.8)
Kansas	19	4.0	481	1.4	35	7.4	888	2.6	(3.9)	73	15.5	2,537	7.4	(2.9)	108	22.9	3,425	10.0	(3.2)
Kentucky	17	3.5	789	1.5	33	6.8	1,410	2.7	(2.3)	69	14.3	4,295	8.3	(1.6)	102	21.1	5,705	11.0	(1.8)
Louisiana	14	2.6	1,167	2.0	26	4.9	2,032	3.5	(1.3)	107	20.1	5,354	9.3	(2.0)	133	25.0	7,386	12.9	(1.8)
Maine	4	1.8	147	1.3	9	4.0	245	2.1	(3.7)	41	18.4	791	6.9	(5.2)	50	22.4	1,036	9.0	(4.8)
Maryland	73	3.5	1,150	1.7	114	5.4	1,947	2.8	(5.9)	258	12.3	4,994	7.3	(5.2)	372	17.8	6,941	10.1	(5.4)
Massachusetts	70	1.9	795	1.2	148	4.0	1,511	2.3	(9.8)	514	13.8	4,300	6.5	(12.0)	662	17.8	5,811	8.7	(11.4)
Michigan	57	3.1	1,704	1.6	134	7.4	2,941	2.8	(4.6)	309	17.1	7,698	7.4	(4.0)	443	24.5	10,639	10.2	(4.2)
Minnesota	41	2.9	827	1.3	92	6.6	1,452	2.3	(6.3)	225	16.1	4,321	6.8	(5.2)	317	22.7	5,773	9.1	(5.5)
Mississippi	15	6.2	841	2.4	19	7.9	1,392	3.9	(1.4)	50	20.7	3,640	10.3	(1.4)	69	28.6	5,032	14.2	(1.4)
Missouri	25	2.7	1,061	1.5	75	8.0	1,945	2.8	(3.9)	172	18.3	5,654	8.2	(3.0)	247	26.3	7,599	11.0	(3.3)
Montana	5	3.4	136	1.3	12	8.2	267	2.5	(4.5)	21	14.4	792	7.3	(2.7)	33	22.6	1,059	9.8	(3.1)
Nebraska	19	5.0	348	1.4	33	8.7	640	2.6	(5.2)	68	17.8	1,906	7.8	(3.6)	101	26.5	2,546	10.5	(4.0)
Nevada	34	6.0	512	1.5	58	10.3	951	2.8	(6.1)	91	16.1	2,643	7.9	(3.4)	149	26.4	3,594	10.7	(4.1)
New Hampshire	6	1.7	147	1.2	14	3.9	279	2.4	(5.0)	56	15.5	712	6.0	(7.9)	70	19.3	991	8.4	(7.1)
New Jersey	109	2.5	1,349	1.4	192	4.4	2,425	2.5	(7.9)	594	13.5	6,716	6.9	(8.8)	786	17.9	9,141	9.3	(8.6)
New Mexico	6	3.4	333	1.5	8	4.5	582	2.7	(1.4)	33	18.8	1,520	6.9	(2.2)	41	23.3	2,102	9.6	(2.0)

New York	180	2.4	3,075	1.5	344	4.6	5,422	2.6	(6.3)	1,002	13.4	13,857	6.6	(7.2)	1,346	18.0	19,279	9.2	(7.0)
North Carolina	52	2.8	2,128	1.8	113	6.0	3,663	3.1	(3.1)	263	14.0	8,938	7.7	(2.9)	376	20.0	12,601	10.8	(3.0)
North Dakota	5	4.1	125	1.2	10	8.3	239	2.4	(4.2)	24	19.8	748	7.4	(3.2)	34	28.1	987	9.8	(3.4)
Ohio	54	2.9	2,064	1.6	105	5.6	3,619	2.8	(2.9)	285	15.1	9,692	7.5	(2.9)	390	20.6	13,311	10.3	(2.9)
Oklahoma	10	2.3	718	1.5	31	7.2	1,318	2.8	(2.4)	95	21.9	3,998	8.4	(2.4)	126	29.1	5,316	11.2	(2.4)
Oregon	14	1.9	462	1.2	32	4.3	821	2.1	(3.9)	119	16.2	2,438	6.1	(4.9)	151	20.5	3,259	8.2	(4.6)
Pennsylvania	61	2.4	1,891	1.4	119	4.7	3,324	2.5	(3.6)	338	13.2	9,162	7.0	(3.7)	457	17.9	12,486	9.6	(3.7)
Puerto Rico	¶	¶	335	1.8	6	8.1	580	3.1	(1.0)	22	29.7	1,612	8.5	(1.4)	28	37.8	2,192	11.6	(1.3)
Rhode Island	6	2.3	138	1.4	8	3.1	247	2.4	(3.2)	33	12.7	669	6.6	(4.9)	41	15.8	916	9.1	(4.5)
South Carolina	22	3.0	1,031	1.9	59	8.0	1,790	3.2	(3.3)	124	16.8	4,786	8.6	(2.6)	183	24.9	6,576	11.8	(2.8)
South Dakota	6	5.3	136	1.2	14	12.4	243	2.2	(5.8)	20	17.7	787	7.2	(2.5)	34	30.1	1,030	9.4	(3.3)
Tennessee	32	4.0	1,352	1.7	46	5.8	2,363	3.0	(1.9)	139	17.6	6,231	7.9	(2.2)	185	23.4	8,594	10.9	(2.2)
Texas	259	4.1	6,078	1.7	459	7.3	10,647	2.9	(4.3)	1,092	17.5	29,064	7.9	(3.8)	1,551	24.8	39,711	10.8	(3.9)
Utah	36	3.7	578	1.3	66	6.8	1,037	2.3	(6.4)	171	17.5	3,204	7.0	(5.3)	237	24.3	4,241	9.3	(5.6)
Vermont	¶	¶	50	1.0	8	6.1	101	2.0	(7.9)	22	16.7	290	5.6	(7.6)	30	22.7	391	7.6	(7.7)
Virginia	55	2.6	1,484	1.6	103	4.8	2,564	2.7	(4.0)	320	15.0	6,522	6.9	(4.9)	423	19.8	9,086	9.6	(4.7)
Washington	55	2.9	1,040	1.3	92	4.9	1,925	2.3	(4.8)	272	14.4	5,242	6.3	(5.2)	364	19.2	7,167	8.6	(5.1)
West Virginia	¶	¶	267	1.5	12	8.2	529	3.1	(2.3)	21	14.4	1,553	9.0	(1.4)	33	22.6	2,082	12.0	(1.6)
Wisconsin	30	3.3	845	1.4	63	7.0	1,550	2.6	(4.1)	144	16.0	4,463	7.4	(3.2)	207	23.0	6,013	9.9	(3.4)
Wyoming	7	8.4	101	1.6	7	8.4	161	2.6	(4.3)	15	18.1	456	7.4	(3.3)	22	26.5	617	10.1	(3.6)
<b>Total</b>	<b>2,241</b>	<b>3.0</b>	<b>56,084</b>	<b>1.5</b>	<b>4,232</b>	<b>5.7</b>	<b>98,000</b>	<b>2.7</b>	<b>(4.3)</b>	<b>11,271</b>	<b>15.2</b>	<b>268,679</b>	<b>7.4</b>	<b>(4.2)</b>	<b>15,503</b>	<b>20.9</b>	<b>366,679</b>	<b>10.1</b>	<b>(4.2)</b>

ART = assisted reproductive technology; Prop. = proportion.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†ART totals include infants conceived from ART procedures performed in 2019 and born in 2020 and infants conceived from ART procedures performed in 2020 and born in 2020. Total ART births exclude births to non-US residents and include only infants with gestational age data available.

§US births exclude births to non-US residents. Source: National Center for Health Statistics, Vital statistics data available. Natality public use file and CD-ROM. Hyattsville, MD, National Center for Health Statistics.

¶To protect confidentiality, cells with values of 1–4 for ART infants and cells with values of 0–9 for all infants are suppressed. Also suppressed are data that can be used to derive suppressed cell values. These values are included in the totals.

**TABLE 7. Percentage of low birthweight (<2,500 g), preterm (<37 weeks), and small for gestational age infants among singleton infants born with use of assisted reproductive technology in 2020 and all US infants, by female patient's reporting area of residence at time of treatment in 50 US states, the District of Columbia, and Puerto Rico**

Patient's reporting area of residence	Low birthweight (<2500g) ART infants <sup>†</sup> (%)	Low birthweight (<2500g) All infants <sup>§</sup> (%)	Preterm birth (<37 weeks) ART infants <sup>†</sup> (%)	Preterm birth (<37 weeks) All infants <sup>§</sup> (%)	SGA ART infants <sup>†</sup> (%)	SGA All infants <sup>§</sup> (%)
Alabama	9.2	8.8	19.2	10.7	3.6	10.9
Alaska	¶	5.3	¶	8.1	¶	6.0
Arizona	8.0	5.9	13.7	7.9	9.2	8.6
Arkansas	4.9	7.8	17.5	9.8	¶	10.1
California	7.4	5.5	12.4	7.3	7.8	8.6
Colorado	9.4	7.8	14.5	7.6	8.0	12.9
Connecticut	5.7	6.1	12.7	7.6	5.7	8.6
Delaware	10.5	7.6	19.0	8.9	8.1	9.7
District of Columbia	7.8	8.1	15.4	8.3	7.7	12.4
Florida	7.7	7.1	17.2	8.8	5.3	9.7
Georgia	7.5	8.1	15.7	9.6	6.3	11.3
Hawaii	7.7	6.9	15.2	8.7	8.4	10.1
Idaho	5.0	5.4	13.8	6.9	3.2	8.7
Illinois	7.1	6.7	13.5	8.6	6.6	9.0
Indiana	7.3	6.5	16.8	8.6	5.5	8.7
Iowa	6.5	5.4	16.6	8.1	3.7	6.8
Kansas	6.9	5.7	16.2	8.3	3.3	7.8
Kentucky	4.8	6.9	10.1	9.2	5.9	8.5
Louisiana	8.1	9.1	20.5	11	6.1	11.1
Maine	4.0	5.9	13.4	7.4	¶	7.9
Maryland	7.6	7.0	13.5	8.6	5.9	9.4
Massachusetts	6.0	5.9	12.4	7.2	6.4	8.8
Michigan	7.5	7.2	14.3	8.4	7.3	9.7
Minnesota	6.4	5.0	13.1	7.2	4.9	7.4
Mississippi	10.8	10.0	22.4	12.2	3.0	12.0
Missouri	8.4	7.1	18.6	9.2	5.5	8.9
Montana	7.8	6.2	16.2	8.3	5.5	8.8
Nebraska	8.5	5.8	14.7	8.6	6.7	7.4
Nevada	9.2	7.4	19.1	9.1	9.8	10.5
New Hampshire	6.1	5.4	13.3	6.9	7.4	7.8
New Jersey	7.2	6.2	13.2	7.7	7.4	9.3
New Mexico	6.4	7.6	14.7	8.5	8.7	12.1
New York	7.3	6.5	12.3	7.5	7.8	10.1
North Carolina	8.4	7.8	14.3	9.0	6.6	10.1
North Dakota	6.2	5.4	16.2	8.0	¶	6.8
Ohio	7.8	6.9	14.7	8.6	6.5	9.3
Oklahoma	7.8	6.7	15.9	9.4	3.9	8.7
Oregon	6.3	5.2	12.2	6.7	6.9	8.1
Pennsylvania	7.6	6.8	13.2	8.0	6.5	9.7
Puerto Rico	14.6	8.7	14.3	10.2	12.2	13.7
Rhode Island	5.9	6.1	10.5	7.4	7.2	8.9
South Carolina	8.0	8.1	16.7	9.9	5.5	10.0
South Dakota	15.9	5.4	16.5	7.8	9.8	7.3
Tennessee	5.5	7.3	16.5	9.2	3.6	9.8
Texas	9.0	6.7	17.6	9.1	6.1	9.0
Utah	9.1	5.4	14.8	7.5	8.1	8.0
Vermont	8.4	5.7	11.1	6.4	7.5	9.2

Virginia	7.6	6.7	14.3	7.9	7.3	9.4
Washington	6.3	5.3	13.2	7.1	6.2	7.7
West Virginia	7.3	7.7	16.2	10.4	6.5	9.6
Wisconsin	6.0	6.1	13.6	8.2	4.4	7.9
Wyoming	13.2	8.0	15.7	8.3	7.5	12.8
<b>Total</b>	<b>7.5</b>	<b>6.7</b>	<b>14.2</b>	<b>8.4</b>	<b>6.7</b>	<b>9.3</b>

ART = assisted reproductive technology; SGA = small for gestational age (22-44 weeks), defined as <10th percentile of birthweight for gestational age week.

\*In cases of missing patient's residence data (2.3%), it was assigned as the location where the ART procedure was performed.

†ART totals include infants conceived from ART procedures performed in 2019 and born in 2020 and infants conceived from ART procedures performed in 2020 and born in 2020. Total ART births exclude births to non-US residents and include only infants with gestational age data available.

§US births exclude births to non-US residents. Source: National Center for Health Statistics, Vital statistics data available. Natality public use file and CD-ROM. Hyattsville, MD, National Center for Health Statistics.

¶To protect confidentiality, cells with values of 1–4 for ART infants and cells with values of 0–9 for all infants are suppressed. Also suppressed are data that can be used to derive suppressed cell values. These values are included in the totals.

## Technical notes

In 1995, CDC began collecting data on assisted reproductive technology (ART) procedures performed in fertility clinics in the United States as mandated by the Fertility Clinic Success Rate and Certification Act of 1992 (Public Law 102–493 [October 24, 1992]). For more details about the law, see [www.cdc.gov/art/nass/policy.html](http://www.cdc.gov/art/nass/policy.html).

ART includes all fertility treatments in which either eggs or embryos are handled outside a woman's body. In general, ART procedures involve surgically removing eggs from a woman's ovaries, combining them with sperm in the laboratory, and returning them to a female patient, gestational carrier, or donating them to another patient. They do not include treatments in which only sperm are handled (such as intrauterine insemination) or procedures in which a woman takes drugs only to stimulate egg production without the intention of having eggs surgically retrieved. ART includes but is not limited to in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), tubal embryo transfer, egg and embryo cryopreservation, egg and embryo donation, and gestational surrogacy.

CDC collects ART data through the National ART Surveillance System (NASS), a web-based data collection system developed by CDC ([www.cdc.gov/art/nass/index.html](http://www.cdc.gov/art/nass/index.html)). Data collected include patient demographics, medical history, and infertility diagnoses; clinical information about ART procedure type; and information regarding resultant pregnancies and births. The data file contains one record per ART procedure (i.e., cycle of treatment performed).

Data from 449 fertility clinics that provided and verified information about the outcomes of the ART cycles are reported here. During 2020, data from 46 clinics are not included here because they did not report their data as required. Given the estimated number of ART cycles performed in these nonreporting clinics, we estimate that NASS covered approximately 98% of ART cycles performed in the United States in 2020. For more information about nonreporting clinics, see [www.cdc.gov/art/nass/index.html](http://www.cdc.gov/art/nass/index.html).

Beginning with 2020 data, ART procedures performed per million women 15–49 years of age are presented as a proxy measure of ART use. This change was made given approximately 5% of ART users are older than 44 years. In previous data briefs, ART use was measured as ART procedures performed per million women aged 15–44 years. Therefore, estimates from previous year data briefs are not directly comparable.

The Data Brief reports on the number and outcomes of ART procedures performed in 2020 (Tables 1 and 2 and Figures 2, 3, and 4). To compare ART-conceived births in 2020 to all US births in 2020, ART-conceived births were aggregated from procedures performed in 2019 and 2020 (Tables 3, 4, 5, 6, and 7 and Figures 5, 6, 7, and 8)

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