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Trends and Characteristics of Home and Other Out-of-Hospital Births in the United States, 1990–2006

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Abstract

Objectives—This report examines trends and characteristics of out-of-hospital and home births in the United States.

Methods—Descriptive tabulations of data are presented and interpreted.

Results—In 2006, there were 38,568 out-of-hospital births in the United States, including 24,970 home births and 10,781 births occurring in a freestanding birthing center. After a gradual decline from 1990 to 2004, the percentage of out-of-hospital births increased by 3% from 0.87% in 2004 to 0.90% in 2005 and 2006. A similar pattern was found for home births. After a gradual decline from 1990 to 2004, the percentage of home births increased by 5% to 0.59% in 2005 and remained steady in 2006. Compared with the U.S. average, home birth rates were higher for non-Hispanic white women, married women, women aged 25 and over, and women with several previous children. Home births were less likely than hospital births to be preterm, low birthweight, or multiple deliveries. The percentage of home births was 74% higher in rural counties of less than 100,000 population than in counties with a population size of 100,000 or more. The percentage of home births also varied widely by state; in Vermont and Montana more than 2% of births in 2005–2006 were home births, compared with less than 0.2% in Louisiana and Nebraska. About 61% of home births were delivered by midwives. Among midwife-delivered home births, one-fourth (27%) were delivered by certified nurse midwives, and nearly three-fourths (73%) were delivered by other midwives.

Discussion—Women may choose home birth for a variety of reasons, including a desire for a low-intervention birth in a familiar environment surrounded by family and friends and cultural or religious concerns. Lack of transportation in rural areas and cost factors may also play a role.

Keywords: home birth • out-of-hospital birth • birthing center birth

Introduction

In the last several decades, there have been considerable changes in childbearing patterns in the United States. Historically, the percentage of out-of-hospital births declined from 44% in 1940 to 1% in 1969, and has remained about 1% for several decades (1–3). Out-of-hospital births include those born in a residence (i.e., home births), in a freestanding birthing center (i.e., one that is not part of a hospital), clinic or doctor's office, or other location. Some out-of-hospital births are intentional, whereas others are unintentional due to an emergency situation (i.e., precipitous labor or labor complications, could not get to the hospital in time). This report examines trends and characteristics of home and other out-of-hospital births in the United States from 1990 to 2006.

Methods

Data shown in this report are based on birth certificates for the approximately 4.3 million live births registered in the United States in 2006, and equivalent data from previous years. Descriptive tabulations are presented and analyzed. Records where place of birth was not stated were excluded before percentages were computed. This report includes data on items that are collected on both the 1989 Revision of the U.S. Standard Certificate of Live Birth (unrevised) and the 2003 Revision of the U.S. Standard Certificate of Live Birth (revised); see "Technical Notes." Data on place of delivery were comparable between the two revisions, although the 2003 revision added a new data item on whether a home birth was planned or unplanned. Information from the new item is presented for the 19 states that had adopted the revised birth certificate by January 1, 2006 (California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, New York (excluding New York City), North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming), to provide

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some insight into this important characteristic of home births. However, while the 19 states represent 49% of U.S. births, the results cannot be generalized to all births and could change significantly when data from all states are available; see "Technical Notes."

Results

Trends in home and out-of-hospital births

In 2006, there were 38,568 out-of-hospital births in the United States, including 24,970 home births and 10,781 births occurring in a freestanding birthing center (Table 1). A small number of births occurred either in a clinic or doctor's office (414), in another specified location (2,403), or with place of birth not stated (363). In 2006, out-of-hospital births represented 0.90% of the 4,265,555 births in the United States. After a gradual decline from 1990 to 2004, the percentage of out-of-hospital births increased by 3% from 0.87% in 2004 to 0.90% in 2005 and 2006 (Table 1 and Figure 1). Patterns for home and birthing center births, the majority of out-of-hospital births, mirrored those for all out-of-hospital births, with a gradual decline from 1990 to 2004, followed by an increase in 2005 that was sustained in 2006. Thus, the percentage of home births declined from 0.67% in 1990 to 0.56% in 2004, and then increased by 5% to 0.59% in 2005 and 2006. The percentage of births in a birthing center decreased from 0.36% in 1990 to 0.23% in 2004, and then increased to 0.25% in 2005 and 2006.

Among out-of-hospital births in 2006, nearly two-thirds (64.7%) occurred at home, 28.0% in a freestanding birthing center, 1.1% in a clinic or doctor's office, and 6.2% elsewhere (Figure 2). From 1990 to 2006, the proportion of out-of-hospital births that were home births increased from 59.0% to 64.7%, while the proportion of birthing center births declined slightly from 31.4% to 28.0%. The proportion that occurred in a clinic or doctor's office declined from 2.4% in 1990 to 1.1% in 2006. Most of the rest of this report will focus on home births because they are the largest type of out-of-hospital births, representing nearly two-thirds (65%) of all out-of-hospital births.

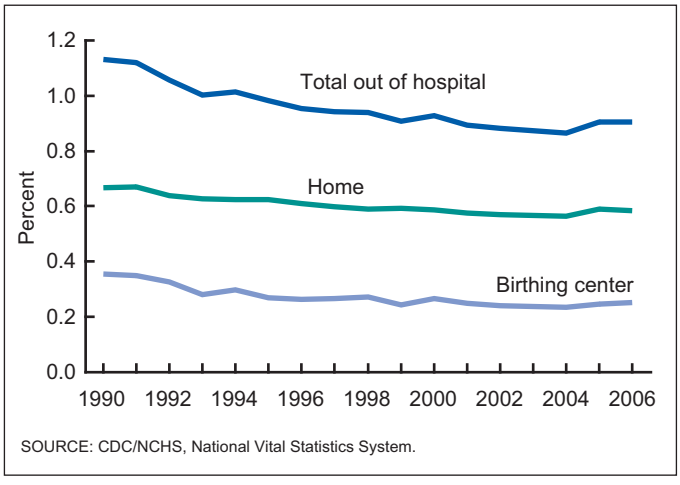


Figure 1. Percentage of all births that were born out of a hospital, at home, or in a birthing center: United States, 1990–2006

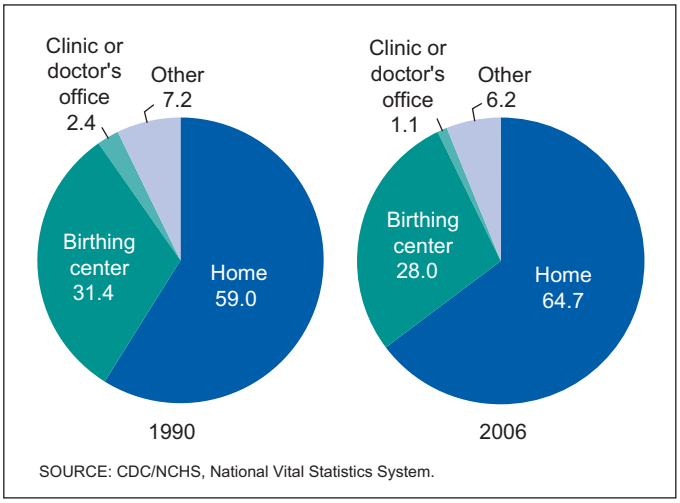


Figure 2. Percentage of out-of-hospital births, by place of delivery: United States, 1990 and 2006

Variations in home births by maternal and infant characteristics

Table 2 shows data on place of birth by a variety of maternal and infant characteristics.

Race and ethnicity—Non-Hispanic white women were more likely to have a home birth than women of other race and ethnic groups. The percentage of home births for non-Hispanic white women (0.86%) was about three times that for non-Hispanic black, American Indian, and Asian or Pacific Islander women (0.25–0.31%), and about four times that for Hispanic women (0.19%) (Table 2).

Overall, 81% of home births were to non-Hispanic white women, compared with 54% of hospital births (Figure 3). Only 8% of home births were to non-Hispanic black women, compared with 15% of hospital births. Hispanic women comprised 8% of home births and 25% of hospital births.

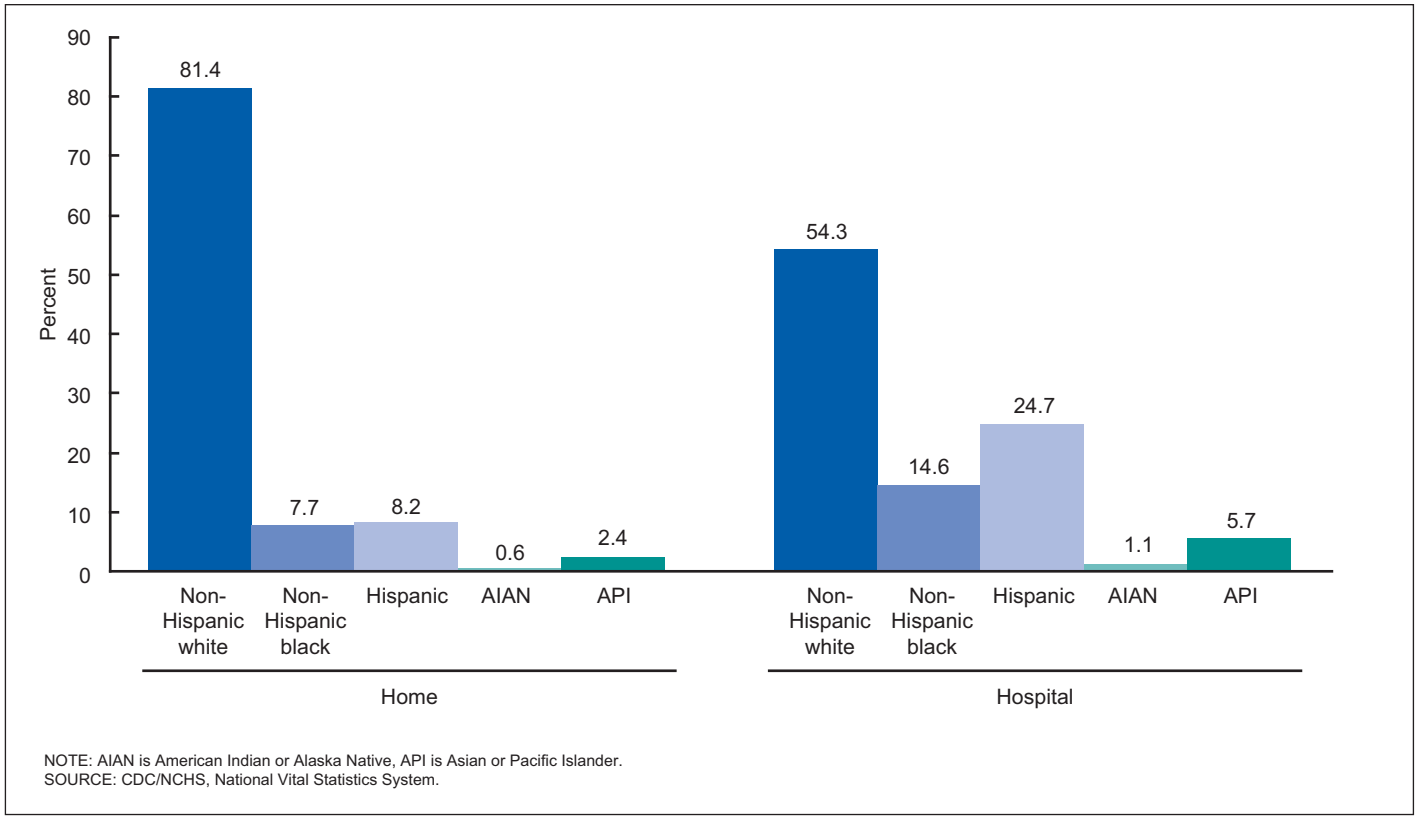
Maternal age—The percentage of home births was lowest for women aged 15–19 years (0.19%), and increased with increasing maternal age to a high of 1.41% for mothers aged 45 years and over (Table 2).

Marital status—The percentage of home births was 2.7 times higher for married women (0.77%) than for unmarried women (0.29%).

Live birth order—The percentage of home births increased rapidly with increasing birth order. Although only 0.3% of first births were home births, this percentage increased rapidly until 7.70% of births with a live birth order of 8 or higher were home births.

Birthplace of mother—Women born in the 50 states and the District of Columbia (D.C.) were 2.6 times more likely to have a home birth than women born outside the 50 states and D.C. However, for women born outside the 50 states and D.C., there was considerable variation by country of origin. Among places of origin with more than 10,000 births to U.S. mothers in 2006, the percentage of home births was low (less than one-half the U.S. average) for women born in Mexico and Puerto Rico. However, 2.4% of births to Canadian-born women were home births—four times the U.S. average.

Plurality, birthweight, and gestational age—The percentage of high-risk births (i.e., multiple pregnancy, low birthweight, and preterm)



NOTE: AIAN is American Indian or Alaska Native, API is Asian or Pacific Islander.
SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 3. Percent distribution of home and hospital births, by race and Hispanic origin of mother: United States, 2006

was lower for home births than for hospital births. In 2006, 1.0% of home births were multiple births, compared with 3.4% of hospital births (Figure 4). Only 5.2% of home births were low birthweight (less than 2,500 grams), compared with 8.3% of hospital births. Preterm (less than 37 weeks of gestation) births comprised 7.2% of home births, and 12.9% of hospital births.

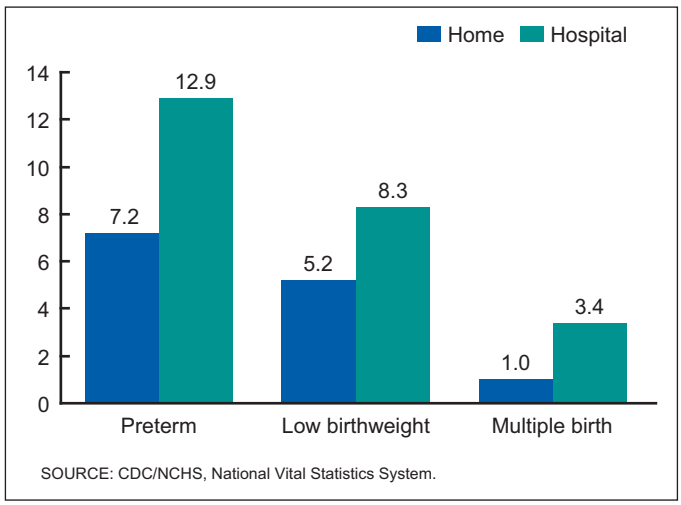
Geographic differences

The percentage of home births was higher in counties of less than 100,000 population than in counties with a population size of 100,000 or greater (Table 2). For counties of less than 100,000 population, 0.87% of births were home births compared with 0.50% for counties of 100,000 population or more.

There were also large differences in the percentage of home births by state. For the state analysis, 2 years of birth data were combined to produce more stable estimates (Tables 3 and 4 and Figures 5 and 6). In 13 states (Alaska, Colorado, Hawaii, Idaho, Maine, Montana, Nevada, Oregon, Pennsylvania, Utah, Vermont, Washington, and Wisconsin) more than 1% of births were home births; for Montana and Vermont more than 2% were home births. In contrast, in eight states (Alabama, Louisiana, Mississippi, Nebraska, New Jersey, Rhode Island, South Dakota, and West Virginia) less than 0.3% of births were home births.

Eleven states (Alabama, California, Kansas, Kentucky, Maryland, Minnesota, New Hampshire, North Carolina, Ohio, Virginia, and Wisconsin) had statistically significant increases in the percentage of home births from 2003–2004 to 2005–2006; for nine of these states the increase was 15% or more (Table 4 and Figure 6). In contrast, five states (Arkansas, Florida, Indiana, Nevada, and Wyoming) had statistically significant decreases in the percentage of home births from 2003–2004 to 2005–2006; for two of these states the decrease was 15% or more.

The percentage of births occurring in a freestanding birthing center was strongly influenced by the availability of such facilities in particular states. Several states did not have a freestanding birthing center (4), and thus reported no births within a birthing center. The states with the highest percentage of births in a birthing center were Alaska (3.2%), Idaho (1.2%), D.C. (0.9%), Washington (0.8%), and Pennsylvania (0.7%) (Tables 3 and 4).



SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 4. Percentage of home and hospital births with selected characteristics: United States, 2006

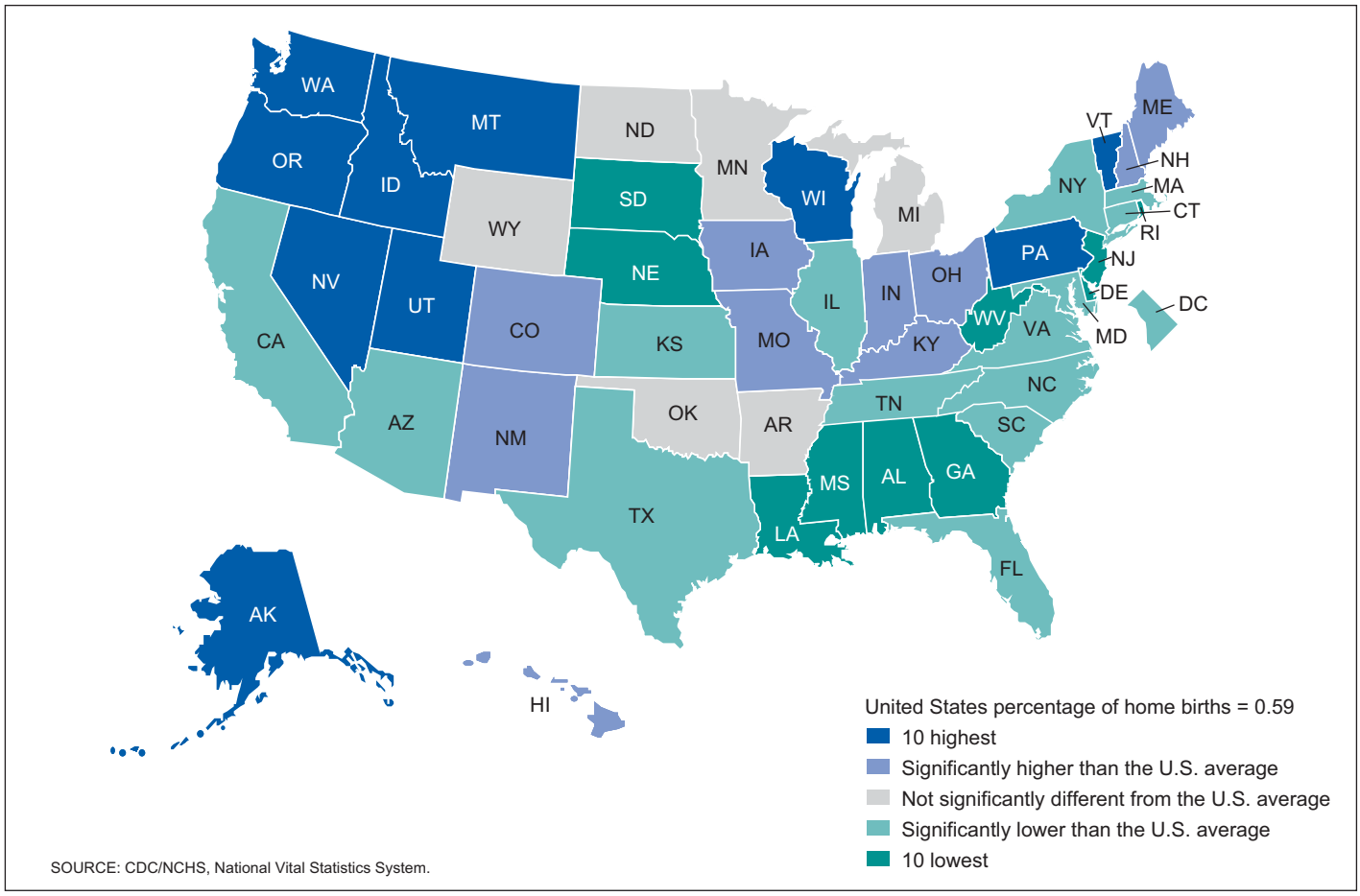


Figure 5. Percentage of home births, by state: United States, 2005–2006

Attendant at birth

In 2006, 61% of home births were delivered by midwives—16% by certified nurse midwives (CNMs), and 45% by other midwives (Figure 7). Other midwives refer to midwives who are not CNMs or certified midwives, and, for example, may include certified professional midwives, or lay midwives (5). In 1990, 43% of home births were delivered by midwives, 13% by CNMs, and 30% by other midwives.

In 2006, only 7.6% of home births were delivered by physicians, a sharp decline from 1990, when 21.6% of home births were delivered by physicians (Figure 7). In both 1990 and 2006, a large proportion of home births were delivered by "other" birth attendants (31% and 36%, respectively). "Other" refers to any other person who delivered the baby—such as a family member, emergency medical technician, or taxi driver.

In 2006, 99.9% of physician deliveries occurred in a hospital, 0.02% in a birthing center, and 0.05% in a home (Table 5). For CNMs, 96.7% of deliveries occurred in a hospital, 2.0% in a birthing center, and 1.2% in a home. In contrast, for other midwives, only 24.7% were hospital births, while 17.7% were birthing center births and 56.5% were home births. For births with an "other" birth attendant, 57.8% were born in hospital (they may have been born en-route to the hospital; see "Technical Notes"), and 35.3% were born at home.

Planned and unplanned home births

The 2003 Revision of the U.S. Standard Certificate of Live Birth added an item which asks, for home births, whether the home birth was planned or unplanned. For 2006, these data are available for 19 states, comprising 2.1 million births or 49% of all U.S. births. This area is not representative of the overall U.S. population so these results are not generalizable to the total population; see "Technical Notes." Table 6 shows the number of births by birth attendant and place of birth for the 19-state area; 0.61 percent of births in the 19-state area were home births, compared with 0.59 percent of births for the United States as a whole (Table 5), and the percentage of home and out-of-hospital births by birth attendant were similar between the two areas.

In 2006, 83% of home births in the 19-state area were planned home births; however, this percentage varied greatly by attendant at birth (Table 6). Of home births delivered by medical doctors, only 31% were planned to deliver at home. In contrast, for home births delivered by doctors of osteopathy, 79% were planned home births. For certified nurse midwives and other midwives, nearly all, 98% and 99%, respectively, of home births were planned home births, whereas almost two-thirds (65%) of home births attended by "other" attendants were reported as planned.

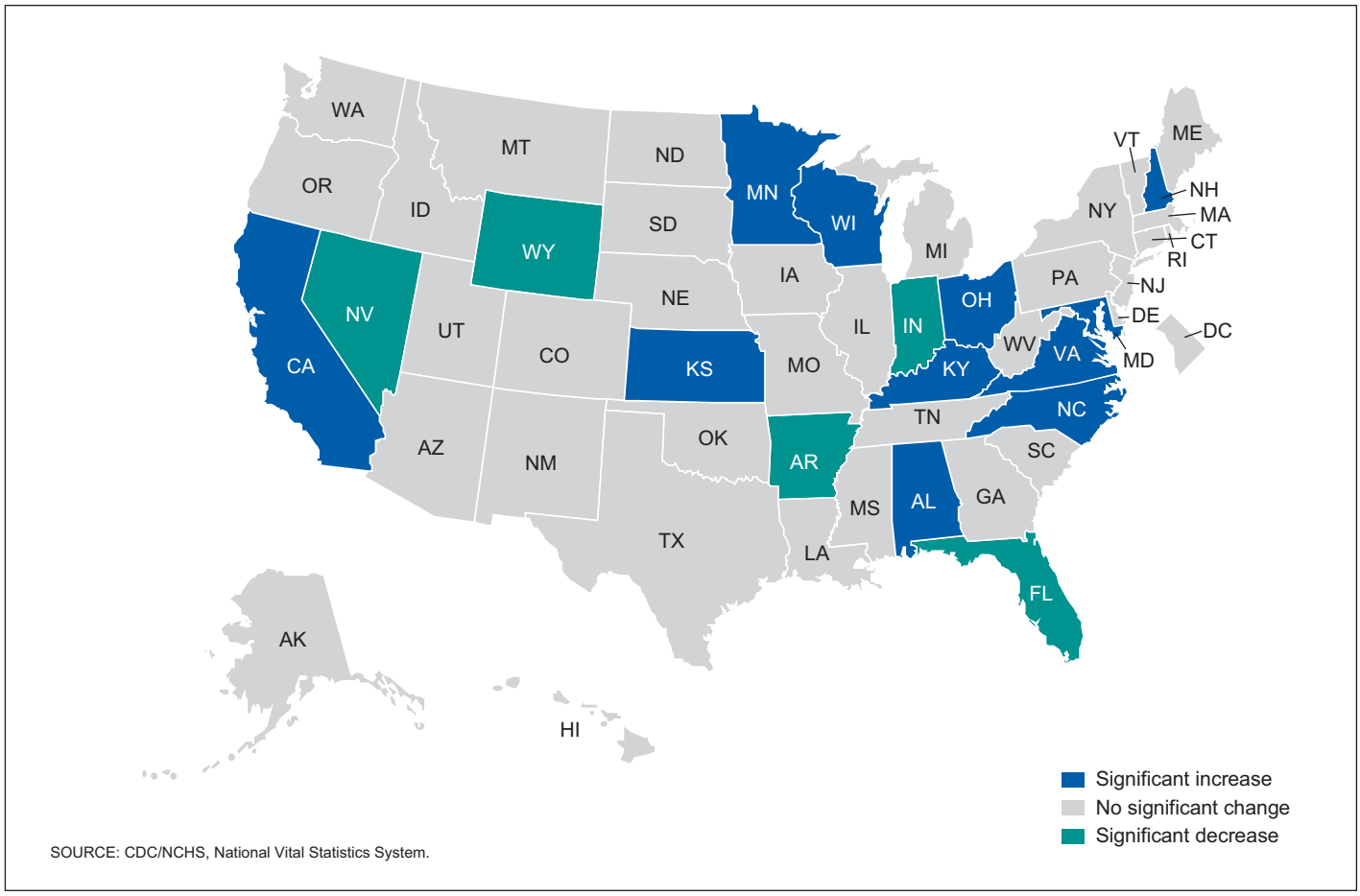


Figure 6. Change in the percentage of home births by state, 2003–2004 to 2005–2006

About 17% of home births in the 19-state reporting area were unplanned in 2006 (Table 6). Unplanned home births are likely emergencies perhaps involving precipitous labor or other complications that might result in poorer-than-average outcomes when occurring in a setting unprepared for this type of delivery.

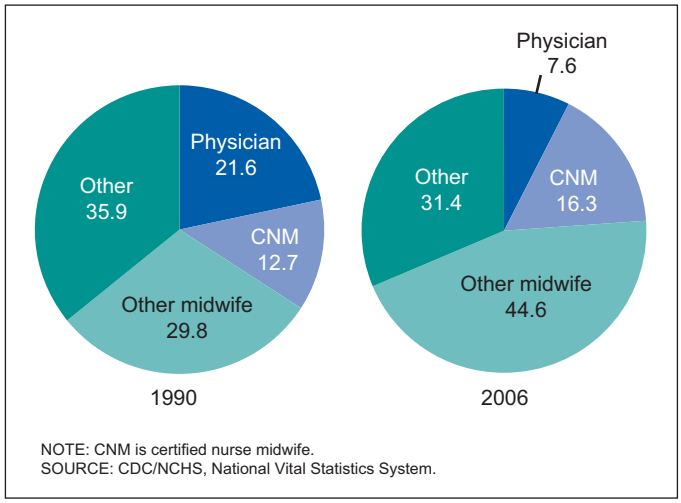


Figure 7. Percentage of home births, by birth attendant: United States, 1990 and 2006

Discussion

In 2006, there were 38,568 out-of-hospital births in the United States; of these, 24,970 were home births. After a gradual decline from 1990 to 2004, the percentage of out-of-hospital births increased by 3% from 0.87% in 2004 to 0.90% in 2005 and 2006. A similar pattern was found for home births, which comprised nearly two-thirds (65%) of all out-of-hospital births in 2006. After a gradual decline from 1990 to 2004, the percentage of home births increased by 5% to 0.59% in 2005 and remained steady in 2006. Home births differ from hospital births with respect to many characteristics. Home births are more prevalent for non-Hispanic white women, married women, and women aged 25 years and over. Women with several previous children are also more likely to have a home birth, and home birth may be favored by some select populations within the United States that tend to have larger families (6). Women born outside the 50 states and D.C. were less likely to have a home birth than women born in the 50 states and D.C. with the exception of Canadian-born women, who were more likely to have a home birth. It is interesting to note that the increase in home and out-of-hospital births in the United States was paralleled by an increase in out-of-hospital births in Canada (from 0.8% of births in 2003 and 0.4% 2004 to 1.1% in 2005 and 2006) (7).

The lower percentages of multiple, low-birthweight, and preterm deliveries for home births, compared with hospital births, suggest that

prenatal risk assessments are being done to identify low-risk women as candidates for home birth. Because the home birth category contains both planned home births and unplanned home births due to an emergency situation (i.e., precipitous labor, could not get to the hospital in time) it is unlikely that higher-risk low-birthweight, preterm, and multiple births can be completely eliminated from the home birth category.

There was also a large variation in the percentage of home births by state. Differences in the percentage of home births by state may be influenced by variations in state laws regarding midwifery practice (as midwives deliver the majority of home births) or home births (8,9). Factors related to the availability of birthing facilities may also play a role in the choice of birth place. For example, Alaska had the highest percentage of out-of-hospital (5.3%), and freestanding birthing center (3.2%) births, and the third highest percentage of home births (1.9%). The long distances and severe weather in Alaska may mean that women living in rural areas may not always have easy access to a hospital birth. Cultural factors and personal preferences may also influence women's choice of birth place (6, 9–11).

The 2003 revised birth certificate has an item on whether a home birth was planned or unplanned. While these data were only available for 19 states in 2006, and were not generalizable to the total U.S. population, about 17% of home births were unplanned. Unplanned home births may represent a previously unidentified high-risk population.

Home and out-of-hospital birth is the subject of ongoing controversy in the United States. In 2007, the American College of Obstetricians and Gynecologists, citing concerns about the safety of home birth for mothers and infants, issued a policy statement opposing home birth (12), a statement supported by a resolution passed at the 2008 American Medical Association annual meeting (13). In contrast, the World Health Organization, the American College of Nurse Midwives, and the American Public Health Association all support home and out-of-hospital birth options for low-risk women (14–16).

The percentage of home births in the United States is comparable to that in most other industrialized countries (17). However, in the Netherlands, about 30% of births occur at home (17). In addition, England has experienced an increase in its home birth rate from 1.0% in 1983 to 2.9% in 2007 (18), while home births in New Zealand have increased to 2.5% of births in 2004 (19). The increase in home births in England has been linked to support for home birth by Britain's Royal College of Obstetricians and Gynaecologists and Royal College of Midwives (20).

Women may prefer home over hospital birth for a variety of reasons, including a desire for a low-intervention birth in a familiar environment surrounded by family and friends, and cultural or religious concerns (6, 9–11). Lack of transportation in rural areas and cost factors may also play a role in the decision to have a home birth (6, 9–11).

References

1. Curtin SC, Park MM. Trends in the attendant, place and timing of births, and in the use of obstetric interventions: United States, 1989–97. National vital statistics reports vol. 47 no 27. Hyattsville, Maryland: National Center for Health Statistics. 1999.
2. Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2006. National vital statistics reports; vol 57 no 7. Hyattsville, MD: National Center for Health Statistics. 2009.
3. National Center for Health Statistics. Vital statistics of the United States, 1993, vol 1, natality. Hyattsville, MD. 1999.
4. American Association of Birth Centers. Find A Birth Center. Accessed September 14, 2009. Available from: http://www.birthcenters.org.
5. Midwives Alliance of North America, North American Registry of Midwives, Midwifery Education Accreditation Council, and National Association of Certified Professional Midwives. Certified professional midwives in the United States. Issue Brief, June 2008. Accessed September 14, 2009. Available from: http://mana.org/pdfs/CPMIssueBrief.pdf.
6. Showalter A. Birthing among the Amish. International Journal of Childbirth Education vol 15 no 4. 2000.
7. Statistics Canada. Table 102–4516—Live births and fetal deaths (stillbirths), by place of birth (hospital and non-hospital), Canada, provinces and territories, annual CANSIM database. Accessed April 30, 2009. Available from: http://cansim2.statcan.gc.ca.
8. Midwives Alliance of North America. Direct-entry midwifery state-by-state legal status. Accessed June 22, 2009. Available from: http://mana.org/statechart.html.
9. Declercq ER, Stotland N. Home Birth. In UpToDate, Rose, BD (Ed), UpToDate, Waltham, MA. 2009. Accessed September 15, 2009. Available from: www.uptodate.com.
10. Boucher D, Bennett C, McFarlin B, Freeze R. Staying home to give birth: Why women in the United States choose home birth. J Midwifery Women's Health 54:119–26. 2009.
11. Wesson N. Home birth: A practical guide. Pinter and Martin: London. 2006.
12. American College of Obstetricians and Gynecologists. ACOG Statement of Policy as issued by the ACOG executive board. Home Births in the United States. Washington, DC: ACOG. May 4, 2007.
13. American Medical Association House of Delegates. Resolution: 205 (A–08). Home Deliveries. April 28, 2008.
14. World Health Organization. Care in normal birth: A practical guide. Department of Reproductive Health and Research, World Health Organization. Geneva, Switzerland. 1996. Accessed September 14, 2009. Available from: http://whqlibdoc.who.int/hq/1996/WHO_FRH_MSM_96.24.pdf.
15. American College of Nurse Midwives. Position Statement on Home Birth. Washington, DC: American College of Nurse Midwives. December 2005.
16. American Public Health Association. Increasing access to out-of-hospital maternity care services through state-regulated and nationally-certified direct-entry midwives. APHA Policy Statement #20013. January 1, 2001.
17. EURO-PERISTAT Project, with SCPE, EUROCAT, EURONEOSTAT. European Perinatal Health Report—Data from 2004. 2008. Accessed September 14, 2009. Available from: www.europeristat.com.
18. Office for National Statistics. Birth statistics. Review of the national statistician on births and patterns of family building in England and Wales, 2007. Series FM1 no 36. 2008.
19. New Zealand Health Information Service. Report on maternity: Maternal and newborn information. New Zealand Ministry of Health, Wellington, New Zealand. 2007. Accessed September 14, 2009. Available from: http://www.nzhis.govt.nz/moh.nsf/pagesns/73/$File/maternityreport04.pdf.
20. Royal College of Obstetricians and Gynaecologists and Royal College of Midwives. Home births. Royal College of Obstetricians and Gynaecologists and Royal College of Midwives Joint Statement No 2. London, England: April 2007.

21. National Center for Health Statistics. 2003 revision of the U.S. Standard Certificate of Live Birth. 2003. Accessed September 14, 2009. Available from: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm.

22. National Center for Health Statistics. Report of the Panel to Evaluate the U.S. Standard Certificates and Reports. National Center for Health Statistics. 2000. Accessed September 14, 2009. Available from: http://www.cdc.gov/nchs/data/dvs/panelreport_acc.pdf.

23. Osterman MJK, Martin JA, Menacker F. Expanded Health Data from the New Birth Certificate, 2006. National vital statistics reports vol 58 no 5. Hyattsville, MD: National Center for Health Statistics. 2009.

24. Walker D, Brooks-Schmunk S, Summers L. Do birth certificate data accurately reflect the number of CNM-attended births? An exploratory study. J Midwifery Women's Health, 49(5): 443–48. 2004.

List of Detailed Tables

Table 1. Number and percent distribution of births, by place of birth: United States, 1990–2006

Year	Total	In hospital	Out of hospital					Not stated
			Total	Home	Birthing center	Clinic or doctor's office	Other	
	Number							
2006	4,265,555	4,226,624	38,568	24,970	10,781	414	2,403	363
2005	4,138,349	4,100,608	37,402	24,468	10,217	350	2,367	339
2004	4,112,052	4,075,709	35,578	23,150	9,620	469	2,339	765
2003	4,089,950	4,053,987	35,723	23,221	9,779	397	2,326	240
2002	4,021,726	3,986,190	35,416	22,980	9,683	385	2,368	120
2001	4,025,933	3,989,662	35,944	23,245	9,978	494	2,227	327
2000	4,058,814	4,020,877	37,635	23,843	10,738	466	2,588	302
1999	3,959,417	3,923,059	35,977	23,518	9,642	464	2,353	381
1998	3,941,553	3,903,770	37,049	23,232	10,693	857	2,267	734
1997	3,880,894	3,843,506	36,521	23,236	10,264	705	2,316	867
1996	3,891,494	3,853,728	37,085	23,784	10,278	778	2,245	681
1995	3,899,589	3,860,555	38,314	24,276	10,524	876	2,638	720
1994	3,952,767	3,912,195	40,119	24,694	11,787	923	2,715	453
1993	4,000,240	3,959,266	40,030	25,084	11,238	977	2,731	944
1992	4,065,014	4,021,608	43,017	25,923	13,255	900	2,939	389
1991	4,110,907	4,064,153	45,835	27,480	14,228	1,010	3,117	919
1990	4,158,212	4,109,634	46,946	27,678	14,759	1,128	3,381	1,632
	Percent distribution[1]							
2006	100.00	99.10	0.90	0.59	0.25	0.01	0.06	. . .
2005	100.00	99.10	0.90	0.59	0.25	0.01	0.06	. . .
2004	100.00	99.13	0.87	0.56	0.23	0.01	0.06	. . .
2003	100.00	99.13	0.87	0.57	0.24	0.01	0.06	. . .
2002	100.00	99.12	0.88	0.57	0.24	0.01	0.06	. . .
2001	100.00	99.11	0.89	0.58	0.25	0.01	0.06	. . .
2000	100.00	99.07	0.93	0.59	0.26	0.01	0.06	. . .
1999	100.00	99.09	0.91	0.59	0.24	0.01	0.06	. . .
1998	100.00	99.06	0.94	0.59	0.27	0.02	0.06	. . .
1997	100.00	99.06	0.94	0.60	0.26	0.02	0.06	. . .
1996	100.00	99.05	0.95	0.61	0.26	0.02	0.06	. . .
1995	100.00	99.02	0.98	0.62	0.27	0.02	0.07	. . .
1994	100.00	98.98	1.02	0.62	0.30	0.02	0.07	. . .
1993	100.00	99.00	1.00	0.63	0.28	0.02	0.07	. . .
1992	100.00	98.94	1.06	0.64	0.33	0.02	0.07	. . .
1991	100.00	98.88	1.12	0.67	0.35	0.02	0.08	. . .
1990	100.00	98.87	1.13	0.67	0.36	0.03	0.08	. . .

. . . Category not applicable.

[1]Not stateds were subtracted from totals before percentages were computed.

Table 2. Number and percentage of births, by place of birth and selected characteristics: United States, 2006

			Out of hospital				
	Total[1]	In hospital	Total[2]	Home	Freestanding birthing center	Percent home births[3]	Percent birthing center births
Total	4,265,555	4,226,624	38,568	24,970	10,781	0.59	0.25
Race and Hispanic origin of mother							
Non-Hispanic white	2,308,640	2,278,520	29,871	19,893	8,396	0.86	0.36
Non-Hispanic black	617,247	614,307	2,898	1,878	534	0.30	0.09
American Indian	47,721	47,418	300	150	79	0.31	0.17
Asian or Pacific Islander	241,045	240,074	966	593	242	0.25	0.10
Hispanic total	1,039,077	1,035,136	3,920	2,006	1,479	0.19	0.14
Mexican	718,146	715,707	2,427	1,202	965	0.17	0.13
Puerto Rican	66,932	66,614	315	170	117	0.25	0.17
Cuban	16,936	16,846	90	43	39	0.25	0.23
Central or South American	165,321	164,586	731	366	262	0.22	0.16
Other and unknown Hispanic	71,742	71,383	357	225	96	0.31	0.13
Origin not stated	30,396	29,619	730	525	78	- - -	- - -
Maternal age (in years)							
Under 15	6,396	6,353	43	33	6	0.52	0.09
15–19	435,436	433,955	1,463	835	432	0.19	0.10
15–17	138,943	138,475	466	288	108	0.21	0.08
18–19	296,493	295,480	997	547	324	0.18	0.11
20–24	1,080,437	1,072,824	7,573	4,483	2,361	0.41	0.22
25–29	1,181,899	1,170,014	11,807	7,451	3,589	0.63	0.30
30–34	950,258	940,125	10,048	6,698	2,745	0.70	0.29
35–39	498,616	492,725	5,807	4,098	1,309	0.82	0.26
40–44	105,539	103,799	1,697	1,274	316	1.21	0.30
45 or over	6,974	6,829	130	98	23	1.41	0.33
Marital status							
Married	2,623,609	2,592,287	31,070	20,288	9,039	0.77	0.34
Unmarried	1,641,946	1,634,337	7,498	4,682	1,742	0.29	0.11
Live birth order							
1st	1,696,989	1,687,644	9,255	5,220	3,492	0.31	0.21
2nd	1,354,414	1,343,884	10,453	6,582	3,169	0.49	0.23
3rd	716,670	709,809	6,790	4,500	1,740	0.63	0.24
4th	288,768	284,515	4,214	2,851	976	0.99	0.34
5th	105,832	103,286	2,523	1,808	521	1.71	0.49
6th	42,064	40,493	1,565	1,137	312	2.70	0.74
7th	18,448	17,348	1,093	827	186	4.48	1.01
8 or more births	18,674	16,706	1,963	1,438	351	7.70	1.88
Not stated	23,696	22,939	712	607	34	- - -	- - -
Birthplace of mother							
Born in the 50 states and D.C.	3,190,407	3,157,066	33,200	21,988	8,999	0.69	0.28
Born outside the 50 states and D.C.	1,058,706	1,053,527	5,160	2,866	1,748	0.27	0.17
Mexico	464,991	463,424	1,563	696	689	0.15	0.15
Puerto Rico	20,830	20,749	81	45	30	0.22	0.14
Canada	11,499	11,063	434	271	133	2.36	1.16
Rest of the world	561,386	558,291	3,082	1,854	896	0.33	0.16
Not stated	16,442	16,031	208	116	34	- - -	- - -
Plurality							
Single	4,121,930	4,083,344	38,237	24,724	10,758	0.60	0.26
Multiple	143,625	143,280	331	246	23	0.17	0.02
Birthweight (in grams)							
2499 or less	351,974	350,158	1,781	1,290	114	0.37	0.03
2500 or more	3,908,874	3,872,166	36,401	23,355	10,655	0.60	0.27
Not stated	4,707	4,300	386	325	12	- - -	- - -

See footnotes at end of table.

Table 2. Number and percentage of births, by place of birth and selected characteristics: United States, 2006—Con.

			Out of hospital				
	Total[1]	In hospital	Total[2]	Home	Freestanding birthing center	Percent home births[3]	Percent birthing center births
Gestational age (in weeks)							
Under 37	542,893	540,314	2,519	1,738	312	0.32	0.06
37 and over	3,697,010	3,661,568	35,181	22,506	10,439	0.61	0.28
Not stated	25,652	24,742	868	726	30	- - -	- - -
County size							
County of 100,000 or more population	3,307,490	3,280,856	26,431	16,654	8,023	0.50	0.24
County of less than 100,000 population	958,065	945,768	12,137	8,316	2,758	0.87	0.29

- - - Category not applicable.

[1]Includes place of birth not stated not shown separately.

[2]Includes births in a clinic or doctor's office, other, or unknown place of birth not shown separately.

[3]Percentages of total births that occurred at home for each category. Not stated place of delivery was excluded before percentages were computed.

Table 3. Number of births, by place of birth: United States and each state, 2005–2006

State of residence	Total	In hospital	Out of hospital					Not stated
			Total	Home	Freestanding birthing center	Clinic or doctor's office	Other	
Total	8,403,904	8,327,232	75,970	49,438	20,998	764	4,770	702
Alabama	123,685	123,263	419	318	19	7	75	3
Alaska	21,455	20,298	1,147	401	680	51	15	10
Arizona	198,628	196,443	2,169	888	1,192	41	48	16
Arkansas	80,169	79,567	600	471	87	1	41	2
California	1,111,322	1,105,153	6,146	4,445	741	7	953	23
Colorado	139,695	138,175	1,519	1,465	9	16	29	1
Connecticut	83,538	83,105	432	292	119	11	10	1
Delaware	23,632	23,308	324	72	165	2	85	0
District of Columbia	16,494	16,231	263	74	149	0	40	0
Florida	463,042	458,083	4,944	2,196	2,354	22	372	15
Georgia	290,833	289,726	1,075	859	187	11	18	32
Hawaii	36,906	36,445	461	401	0	14	46	0
Idaho	47,246	45,932	1,301	708	589	1	3	13
Illinois	359,592	358,088	1,480	1,393	3	6	78	24
Indiana	175,824	172,983	2,822	1,185	941	6	690	19
Iowa	79,918	79,196	721	674	22	3	22	1
Kansas	80,856	79,968	887	406	426	41	14	1
Kentucky	114,694	113,464	956	872	5	19	60	274
Louisiana	124,313	123,999	310	227	6	2	75	4
Maine	28,263	27,882	378	286	88	2	2	3
Maryland	152,474	151,036	1,437	646	766	6	19	1
Massachusetts	154,541	153,507	1,031	564	463	2	2	3
Michigan	255,189	253,320	1,855	1,515	209	26	105	14
Minnesota	144,444	143,504	937	858	3	4	72	3
Mississippi	88,451	88,220	230	206	1	1	22	1
Missouri	160,003	158,460	1,541	1,301	110	73	57	2
Montana	24,091	23,404	686	549	121	8	8	1
Nebraska	52,872	52,749	122	103	1	2	16	1
Nevada	77,295	76,346	949	866	20	1	62	0
New Hampshire	28,798	28,480	317	255	57	4	1	1
New Jersey	228,796	227,938	781	576	32	4	169	77
New Mexico	58,771	58,089	682	464	192	8	18	0
New York	496,455	492,835	3,601	2,586	464	57	494	19
North Carolina	250,955	249,345	1,609	840	485	16	268	1
North Dakota	17,011	16,909	100	93	0	7	0	2
Ohio	298,981	295,449	3,506	1,888	1,483	13	122	26
Oklahoma	105,817	104,990	820	582	203	1	34	7
Oregon	94,611	92,430	2,180	1,599	482	9	90	1
Pennsylvania	294,473	287,339	7,114	4,750	2,167	64	133	20
Rhode Island	25,069	24,992	75	64	2	4	5	2
South Carolina	119,882	119,263	619	429	141	2	47	0
South Dakota	23,381	23,312	68	53	0	4	11	1
Tennessee	166,102	164,522	1,575	914	580	26	55	5
Texas	785,518	779,546	5,964	2,932	2,959	4	69	8
Utah	105,060	103,234	1,822	1,314	479	3	26	4
Vermont	12,806	12,492	307	303	1	0	3	7
Virginia	212,372	211,059	1,313	1,008	219	0	86	0
Washington	169,579	165,813	3,763	2,284	1,406	4	69	3
West Virginia	41,767	41,569	150	114	30	3	3	48
Wisconsin	143,324	140,975	2,349	2,050	136	145	18	0
Wyoming	14,911	14,796	113	99	4	0	10	2

Table 4. Percentage of births, by place of birth 2005–2006, and percent change in home births 2003–2004 to 2005–2006: United States and each state

State of residence	In hospital	Out of hospital			Percentage change in home births 2003–2004 to 2005–2006
		Total[1]	Home	Freestanding birthing center	
Total	99.10	0.90	0.59	0.25	†3.5
Alabama	99.66	0.34	0.26	0.02	†18.2
Alaska	94.65	5.35	1.87	3.17	0.5
Arizona	98.91	1.09	0.45	0.60	–2.2
Arkansas	99.25	0.75	0.59	0.11	†–14.5
California	99.45	0.55	0.40	0.07	†5.3
Colorado	98.91	1.09	1.05	0.01	2.9
Connecticut	99.48	0.52	0.35	0.14	12.9
Delaware	98.63	1.37	0.30	0.70	–21.1
District of Columbia	98.41	1.59	0.45	0.90	2.3
Florida	98.93	1.07	0.47	0.51	†–6.0
Georgia	99.63	0.37	0.30	0.06	–6.3
Hawaii	98.75	1.25	1.09	0.00	1.9
Idaho	97.25	2.75	1.50	1.25	–2.6
Illinois	99.59	0.41	0.39	0.00	–4.9
Indiana	98.39	1.61	0.67	0.54	†–21.2
Iowa	99.10	0.90	0.84	0.03	6.3
Kansas	98.90	1.10	0.50	0.53	†16.3
Kentucky	99.16	0.84	0.76	0.00	†26.7
Louisiana	99.75	0.25	0.18	0.00	–10.0
Maine	98.66	1.34	1.01	0.31	–5.6
Maryland	99.06	0.94	0.42	0.50	†35.5
Massachusetts	99.33	0.67	0.36	0.30	9.1
Michigan	99.27	0.73	0.59	0.08	–1.7
Minnesota	99.35	0.65	0.59	0.00	†25.5
Mississippi	99.74	0.26	0.23	0.00	0.0
Missouri	99.04	0.96	0.81	0.07	2.5
Montana	97.15	2.85	2.28	0.50	10.1
Nebraska	99.77	0.23	0.19	0.00	–17.4
Nevada	98.77	1.23	1.12	0.03	†–10.4
New Hampshire	98.90	1.10	0.89	0.20	†21.9
New Jersey	99.66	0.34	0.25	0.01	–3.8
New Mexico	98.84	1.16	0.79	0.33	0.0
New York	99.27	0.73	0.52	0.09	2.0
North Carolina	99.36	0.64	0.33	0.19	†32.0
North Dakota	99.41	0.59	0.55	0.00	27.9
Ohio	98.83	1.17	0.63	0.50	†37.0
Oklahoma	99.23	0.77	0.55	0.19	–5.2
Oregon	97.70	2.30	1.69	0.51	6.3
Pennsylvania	97.58	2.42	1.61	0.74	2.5
Rhode Island	99.70	0.30	0.26	0.01	36.8
South Carolina	99.48	0.52	0.36	0.12	–7.7
South Dakota	99.71	0.29	0.23	0.00	–23.3
Tennessee	99.05	0.95	0.55	0.35	5.8
Texas	99.24	0.76	0.37	0.38	2.8
Utah	98.27	1.73	1.25	0.46	3.3
Vermont	97.60	2.40	2.37	0.01	–7.8
Virginia	99.38	0.62	0.47	0.10	†20.5
Washington	97.78	2.22	1.35	0.83	4.7
West Virginia	99.64	0.36	0.27	0.07	17.4
Wisconsin	98.36	1.64	1.43	0.09	†7.5
Wyoming	99.24	0.76	0.66	0.03	†–25.8

† Indicates statistically significant change at the $p < 0.05$ level.

[1]Includes births in a freestanding birthing center, clinic or doctor's office, home, and other places.

NOTE: Not stateds are excluded before percentages are computed.

Table 5. Number and percent distribution of births, by place of birth and birth attendant: United States, 2006

Place of birth	Total[1]	Birth attendant					
		Physician					
		Total	Medical doctor	Doctor of osteopathy	Certified nurse midwife	Other Midwife	Other
	Number						
Total[2]	4,265,555	3,905,146	3,698,641	206,505	317,168	19,179	21,798
Hospital	4,226,624	3,901,518	3,695,492	206,026	306,629	4,735	12,469
Out of hospital	38,568	3,565	3,090	475	10,502	14,435	9,112
Home	24,970	1,849	1,682	167	3,951	10,823	7,623
Freestanding birthing center	10,781	882	620	262	6,244	3,397	218
Clinic or doctor's office	414	273	252	21	58	31	50
Other	2,403	561	536	25	249	184	1,221
	Percent distribution[3]						
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Hospital	99.10	99.91	99.92	99.77	96.69	24.70	57.78
Out of hospital	0.90	0.09	0.08	0.23	3.31	75.30	42.22
Home	0.59	0.05	0.05	0.08	1.25	56.46	35.32
Freestanding birthing center	0.25	0.02	0.02	0.13	1.97	17.72	1.01
Clinic or doctor's office	0.01	0.01	0.01	0.01	0.02	0.16	0.23
Other	0.06	0.01	0.01	0.01	0.08	0.96	5.66

[1]Not stated birth attendant included in totals but not shown separately.
[2]Not stated place of delivery included in totals but not shown separately.
[3]Not stated place of delivery was subtracted from totals before percentages were computed.

Table 6. Number and percent distribution of home births by birth attendant, and percent distribution of home births by planning status and birth attendant: 19 states, 2006

	Total[1]	Birth attendant					
		Physician					
		Total	Medical doctor	Doctor of osteopathy	Certified nurse midwife	Other Midwife	Other
Number of home births	12,475	592	515	77	2,411	5,283	3,660
Percent of total births	0.61	0.03	0.03	0.08	1.64	57.64	30.25
Home births[2]	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Planned home births	83.2	37.3	31.0	78.6	97.8	98.9	64.9
Unplanned home births	16.8	62.7	69.0	21.4	2.2	1.1	35.1

[1]Not stated birth attendant included in totals but not shown separately.
[2]Not stated planning status was subtracted from totals before percents were computed.

NOTE: Data from the 2003 Revision of the U.S. Standard Certificate of Birth. Includes data from California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, New York (excluding New York City), North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming.

Technical Notes

Sources of data

This report contains 2006 data on items that are collected on both the 1989 Revision of U.S. Standard Certificate of Live Birth (unrevised) and the 2003 Revision of U.S. Standard Certificate of Live Birth (revised). The 2003 revision is described in detail elsewhere (21, 22). The 2003 revision was seen as an important opportunity to improve data quality, primarily through the development of detailed, standardized data collection techniques (23).

Place of birth

The place of birth variable is comparable between the 1989 and 2003 revisions of the U.S. Standard Certificate of Birth. This variable includes separate categories for hospital, freestanding birthing center, home, clinic or doctor's office, other, and unknown. Hospital births may include births occurring en-route or upon arrival at a hospital (24). Place of birth, a legal item on the birth certificate, is very well reported. In 2006, this information was not reported for only 363 out 4,265,555 births (0.01% of births) (2).

The 2003 revision of the birth certificate added an item for home births: "Planned to deliver at home? (yes, no)." Data on whether a home birth was planned or unplanned are available for the 19 states that implemented the 2003 Revision of the U.S. Standard Certificate of Birth on or before January 1, 2006: California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, New York (excluding New York City), North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming. The 2,073,368 births to residents of the 19 states comprise 49 percent of all U.S. births in 2006. Results for this limited reporting area are not generalizable to the United States as a whole because they are not a random sample of births. Because California and Texas are included in the 19-state area, this area has a higher percentage of Mexican (and overall Hispanic) births than the United States as a whole and this Hispanic population may not be representative of all Hispanics in the United States; see "Expanded Health Data from the New Birth Certificate, 2006" for further information (23).

Planning status of home birth is a relatively new variable on the birth certificate, so less is known about the quality of these data when compared with most other birth certificate variables. For home births in the 19 revised states, the planning status was unknown for 5.5% of births. However, 424 of a total of 688 births with unknown planning status were from a single state (Pennsylvania); when data from this state were excluded, the percentage of births with unknown planning status dropped to 2.6%. Several states (Idaho, New Hampshire, Ohio, Vermont, and Wyoming) had no home births with unknown planning status. In contrast, 17.4% of home births in Pennsylvania, and 20.4% of home births in North Dakota had unknown planning status, although the latter figure was based on only 10 births with unknown planning status. Patterns of home births by planning status were similar when data from Pennsylvania and North Dakota were excluded, with 81% of home births being planned, compared with 83% when data from Pennsylvania and North Dakota were included in the estimates (see Table 6). Although 2006 marks the first year of implementation of the new certificate for seven of the states included in this report, the use of the new certificate is relatively new for all states (23) and data quality may improve over time as home birth attendants become more familiar with the new data items. More assessment is needed of the accuracy of reporting of planning status for home births, as the percentage of unknowns is just one measure of data quality.

Attendant at birth

For both the revised and unrevised certificates, birth attendants are classified to one of the following categories: medical doctor (MD), doctor of osteopathy (DO), certified nurse midwife/certified midwife (CNM/CM), other midwife, other, and unknown. There is evidence that the number of births by CNMs is understated (24), largely due to difficulty in correctly identifying the birth attendant when more than one provider is present at the birth. Anecdotal evidence suggests that some hospitals require that a physician be reported as the birth attendant even when no physician is physically present at a midwife-attended birth (24).

Random variation in natality data

The number of births reported for an area is essentially a complete count because more than 99 percent of all births are registered. Although this number is not subject to sampling error, it may be affected by nonsampling errors such as mistakes in recording the mother's residence or age during the registration process. When the number of births is used for analytic purposes (that is, the comparison of numbers, rates, and percentages over time, for different areas, or between different groups), the number of events that *actually* occurred can be thought of as one outcome in a large series of possible results that *could have* occurred under the same (or similar) circumstances. When considered in this way, the number of births is subject to random variation according to certain statistical assumptions. For further information see the "Technical Notes" of "Births: Final Data for 2006" (2). Statements in the text that a given number or percentage is higher or lower than another indicate that the difference is statistically significant.

Contents

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