

Trends in Midwife-Attended Births, 1989 to 2007

Eugene Declercq, PhD

Introduction: Rates of births attended by certified nurse-midwives (CNMs) rose throughout the 1990s and into the early part of this century, when rates leveled at about 7%.

Methods: The data in this report are based on records gathered as part of the US National Standard Certificate of Live Birth from the public use Web site, VitalStats, that allows users to create and download specialized tables.

Results: For the first time since such data were available in 1989, births attended by CNMs declined from the previous year in absolute terms, as a proportion of all births, and as a proportion of vaginal births. After an all-time high of 317,168 in 2006, CNM-attended births declined marginally to 316,811 in 2007. With total births reaching a US record of 4,316,233 births, the CNM proportion of total births declined for the fifth straight year to 7.3%, the same proportion as in 1999. Births attended by "other midwives" rose substantially to 23,943 although some of that increase may be the result of misclassification of CNM births in some states into the other midwife category.

Discussion: The proportion of CNM births has remained steady at between 7.3% and 7.6% since 1999. However, when the number of births attended by CNMs is combined with the number attended by other midwives, their number reached an all-time high in 2007.

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INTRODUCTION

This report examines trends in midwife-attended births in the United States as a whole and in individual states through 2007, the most recent year of data available. Since 1989, US birth certificates have provided data on births attended by certified nurse-midwives (CNMs), and during that period there has been a substantial increase in the number and proportion of CNM-attended births.¹ The steady increase documented through the 1990s has slowed in recent years as the number of cesarean births has increased. In part as a response, this report presents rates of CNM births as a proportion of all births and as a proportion of vaginal births.²

METHODS

The data in this report are based on records gathered as part of the US National Standard Certificates of Live Birth.³ In former years, these data were made available in the form of CD-ROMs that could be purchased from the Government Printing Office, but in recent years the Centers for Disease Control and Prevention through the National Center for Health Statistics has established a public use Web site, VitalStats (<http://www.cdc.gov/nchs/VitalStats.htm>), that allows users to create and download specialized tables.⁴ These data have been collected and organized by the author into a series of data files that are used to prepare these reports.

RESULTS

National Trends

For the first time since such data were available in 1989, the number of births attended by CNMs declined from the pre-

vious year in absolute terms, as a proportion of all births, and as a proportion of vaginal births (information regarding births attended by certified midwives is combined with that of births attended by CNMs in birth certificate data). After an all-time high of 317,168 in 2006, the number of CNM-attended births declined marginally to 316,811 in 2007,⁵ although as explained in the following, this finding may be a bit misleading. With the total number of births reaching a US record of 4,316,233 births, the CNM proportion of total births declined for the fifth straight year to 7.3%, the same proportion as in 1999.

Perhaps more notably, from 2006 to 2007 the proportion of vaginal births attended by CNMs declined very slightly for the first time (Figure 1). The difference (10.83%-10.81%) is trivial, but interesting because it represents the first break in more than a decade of consistent increases in the proportion of vaginal births attended by CNMs. Between 1989 and 2001, this proportion more than doubled (from 4.6% to 10.1%) but since then has increased only marginally.

State Trends

States with the highest proportion of CNM-attended births in 2007 were once again led by New Mexico (28.5% of all births) followed by Vermont (18.3%), New Hampshire (15.4%), Oregon (15.3%), and Maine (15.1%). The states with the smallest proportion of CNM-attended births were Arkansas (0.6%), Louisiana (1.4%), Alabama (1.9%), and Mississippi (2.0%). Table 1 presents the proportion of births attended by CNMs in each state.

The states with the biggest positive change between 1998 and 2007 were New Mexico (+6.6 percentage points), West Virginia (+6.0), Wyoming (+5.0), Maine (+3.8), North Carolina (+3.2), Pennsylvania (+3.1), and South Dakota (+3.1). States that experienced declines in the proportion of births

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Table 1. CNM-Attended Births, by State, 1998 and 2007^a

State	% of All Births			% of Vaginal Births	
	1998	2007	1998-2007 Difference	1998	2007
Total	7.1	7.3	0.2	9.0	10.6
Alabama	2.7	1.9	-0.8	3.6	2.9
Alaska	14.2	13.0	-1.2	16.7	16.4
Arizona	8.9	5.2	-3.7	10.8	7.1
Arkansas	1.4	0.6	-0.8	1.9	1.0
California	8.8	7.6	-1.2	11.2	11.1
Colorado	8.6	7.8	-0.8	10.2	10.0
Connecticut	8.0	9.7	1.7	10.5	14.8
Delaware	7.6	4.8	-2.8	9.9	7.0
District of Columbia	2.4	4.3	1.9	3.0	5.8
Florida	11.7	10.8	-0.9	15.1	17.0
Georgia	15.8	14.7	-1.1	20.0	21.4
Hawaii	4.1	5.1	1.0	5.8	6.9
Idaho	2.9	4.3	1.4	3.4	5.5
Illinois	3.2	5.9	2.7	4.1	8.4
Indiana	2.7	5.2	2.5	3.4	7.2
Iowa	2.9	5.4	2.5	3.6	7.5
Kansas	1.6	4.5	2.9	2.1	6.3
Kentucky	3.9	4.8	0.9	5.3	7.3
Louisiana	1.5	1.4	-0.1	2.1	2.1
Maine	11.3	15.1	3.8	14.1	21.3
Maryland	7.9	6.7	-1.2	10.1	9.8
Massachusetts	13.6	13.4	-0.2	17.3	20.1
Michigan	5.9	5.3	-0.6	7.5	7.6
Minnesota	8.4	9.1	0.7	10.8	12.3
Mississippi	1.5	2.0	0.5	2.1	3.2
Missouri	0.8	3.1	2.3	1.1	4.4
Montana	9.1	9.7	0.6	11.2	13.5
Nebraska	2.8	5.1	2.3	3.6	7.0
Nevada	4.9	4.2	-0.7	6.3	6.3
New Hampshire	16.0	15.4	-0.6	19.7	22.0
New Jersey	5.5	8.2	2.7	7.4	13.4
New Mexico	21.9	28.5	6.6	26.3	36.5
New York	11.0	9.9	-1.1	14.2	14.8
North Carolina	7.5	10.7	3.2	9.6	15.2
North Dakota	5.9	4.0	-1.9	7.4	5.5
Ohio	4.9	7.1	2.2	6.0	10.1
Oklahoma	3.7	3.3	-0.4	6.5	4.9
Oregon	13.3	15.3	2.0	16.2	20.9
Pennsylvania	6.5	9.6	3.1	8.1	13.4
Rhode Island	12.5	12.9	0.4	15.6	18.9
South Carolina	5.3	4.9	-0.4	7.0	7.1
South Dakota	4.0	7.1	3.1	5.1	9.4
Tennessee	4.2	5.2	1.0	5.5	7.6

Table 1. Continued

State	% of All Births			% of Vaginal Births	
	1998	2007	1998-2007 Differences	1998	2007
Texas	4.3	2.6	-1.7	5.7	3.9
Utah	6.2	8.1	1.9	7.4	10.3
Vermont	16.0	18.3	2.3	19.2	24.9
Virginia	5.2	4.5	-0.7	6.6	6.7
Washington	8.0	9.1	1.1	9.8	12.5
West Virginia	7.9	13.9	6.0	10.5	21.3
Wisconsin	4.6	7.4	2.8	5.5	9.7
Wyoming	2.5	7.5	5.0	3.0	8.8

^aBirths attended by certified midwives are combined with those attended by certified nurse-midwives in birth certificate data. Source: National Center for Health Statistics.⁴

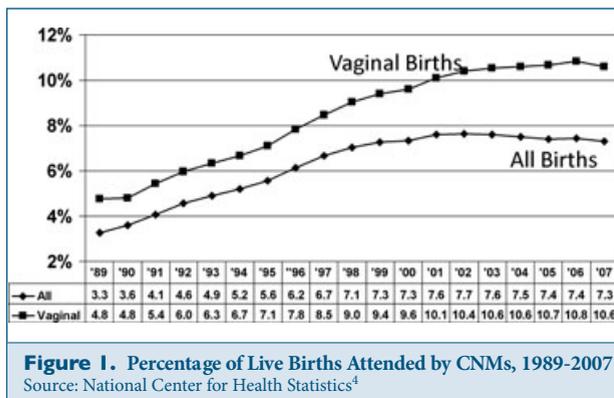


Figure 1. Percentage of Live Births Attended by CNMs, 1989-2007
Source: National Center for Health Statistics⁴

attended by CNMs were led by Arizona (-3.7 percentage points), Delaware (-2.8), North Dakota (-1.9), and Texas (-1.7). Overall, in the past decade, 30 states (including the District of Columbia) have experienced an increase, and 21 states have seen a decline in the proportion of CNM-attended births. Figure 2 presents these changes graphically, with the

diagonal line representing no change between a state's rate of CNM-attended births in 1998 and 2007. States noted above the line have increased the rate, and states noted below the line represent decreases. States with notable changes are identified by name. Including New Mexico would substantially shrink the scale and make it more difficult to identify the remaining states, thus New Mexico is excluded from the figure.

Births Attended by Other Midwives

Although the number of CNM-attended births declined slightly, the overall number of births attended by midwives in the United States rose in absolute numbers in 2007 to its highest total ever, 340,754. The difference is accounted for by a rapid rise in births attended by "other midwives", or midwives in a birth certificate category that is assumed to largely represent certified professional midwives (CPMs), although which birth attendants are included in the other midwife category can vary by state. Although births attended by other midwives represent a small fraction (7.0% in 2007) of all midwife-attended births, the number of births in this category has been increasing steadily in recent years and in 2007

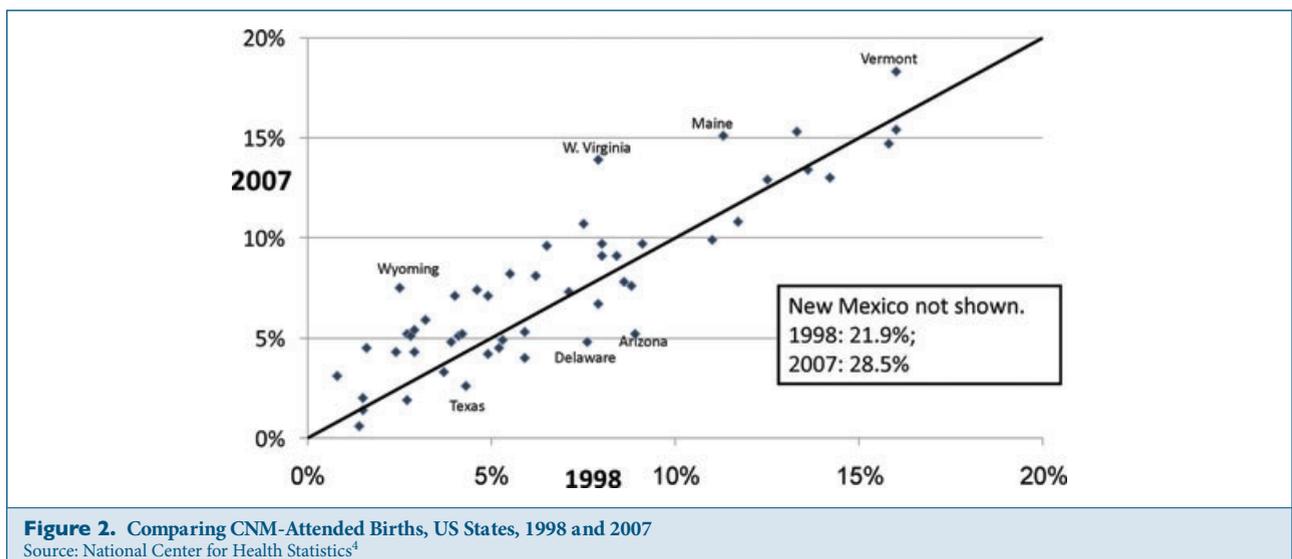


Figure 2. Comparing CNM-Attended Births, US States, 1998 and 2007
Source: National Center for Health Statistics⁴

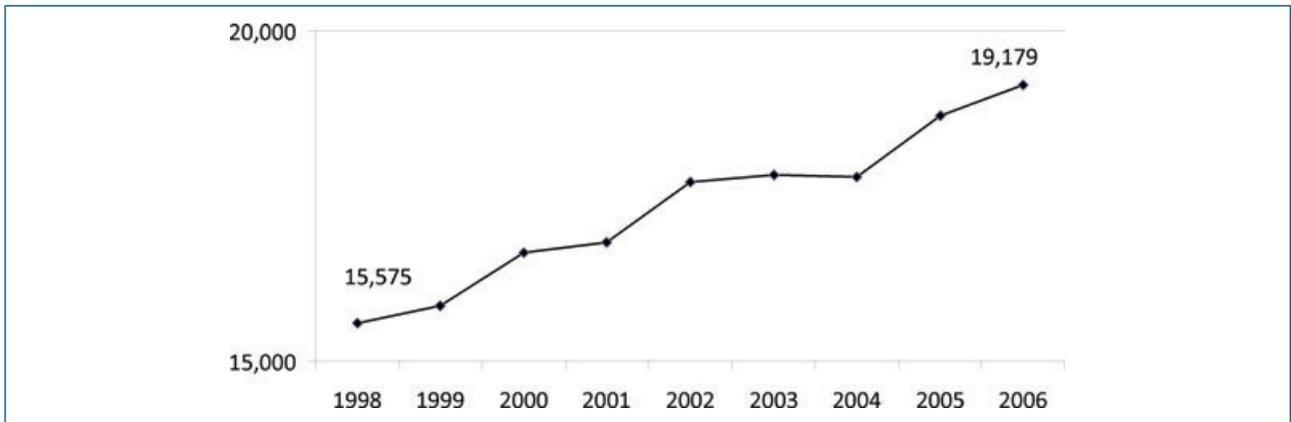


Figure 3. Births Attended by Other Midwives, 1998-2006
Source: National Center for Health Statistics⁴

appeared to take a major jump, from 19,179 in 2006 to 23,943, an increase of 24.8% in a single year. The size of that increase seemed anomalous, suggesting the possibility of coding errors with misclassification of some of the CNM births into the other midwife category. The author contacted National Center for Health Statistics officials who indicated that such a result is a possibility because the unpublished notes from some of the states indicated coding problems. As a result, the increase in the number of other midwife births may not be as large as would seem apparent, and the decrease in CNM births is perhaps smaller than officially reported. It is hoped that the 2008 data will clarify these differences. Even excluding 2007, the number of births attended by other midwives has been increasing steadily as seen in Figure 3. Because CPMs predominantly attend home births,⁶ some of this may be related to an increase in the number of home births in the United States. In 2007, the number of home births reached 26,667 (0.62% of all births), their highest number since 1991, a 16% increase from 2002, when the total was 22,980 (0.57% of all births), the lowest recorded total since such data collection began.

DISCUSSION

Assuming the best case for CNMs—that there was some misclassification and that a portion of other midwife births are actually miscoded CNM births—there is some good news for CNMs in this report. The combined total of CNM and other midwife births in 2007—340,754—represents the highest absolute number of midwife-attended births and was 7.9% of all births in the United States, a marginal increase from the previous 2 years, although a proportion no higher than in 2001 when midwives attended 8.0% of US births. As a proportion of vaginal births, this combined total also reached a new high of 11.6%, but the seemingly inexorable rise in the number of cesarean births⁵ continues to restrict the pool

of births that midwives can attend. The strong performance in those states that have experienced notable increases in CNM-attended births—New Mexico, Wyoming, and West Virginia—can hopefully provide lessons that can be adapted to other states. Also, the more positive results seen when total midwife-attended births are reported reinforces the value of efforts by CNMs and CPMs to identify ways to work together to increase midwife-attended births in the United States.

AUTHOR

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CONFLICT OF INTEREST

The author has no conflicts of interest to disclose.

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