

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Study cohort characteristics

	Canada (2006-2014)		Denmark (2006-2010)		Finland (2006-2015)		Norway (2006-2013)		Sweden (2006-2012)		United States (2006-2014)	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Total births included in analyses	2,415,432		305,947		571,937		468,954		737,754		25,788,558	
Births excluded from analyses due to missing gestational age, missing birth weight, or implausible birth weight for gestational age	2,243		4,332		3,135		6,092		2,759		651,591	
Labor induction												
Labor induced	557,749	(23.1)	44,289	(14.5)	109,660	(19.2)	80,002	(17.1)	91,687	(12.4)	6,179,072	(24.0)
No labor induction	1,857,683	(76.9)	261,658	(85.5)	462,277	(80.8)	388,952	(82.9)	643,244	(87.2)	19,534,637	(75.7)
Missing	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2,823	(0.4)	74,849	(0.3)
Total	2,415,432		305,947		571,937		468,954		737,754		25,788,558	
Prelabor cesarean delivery												
Prelabor cesarean delivery/elective cesarean delivery	301,151	(12.5)	26,346	(8.6)	35,299	(6.2)	28,404	(6.1)	60,564	(8.2)	5,609,610	(21.8)
Cesarean delivery with trial of labor/emergency cesarean delivery	362,848	(15.0)	36,698	(12.0)	55,131	(9.6)	45,639	(9.7)	60,939	(8.3)	2,210,926	(8.6)
Cesarean delivery, unknown whether elective or emergency	0	(0.0)	0	(0.0)	0	(0.0)	233	(0.05)	1,414 ^a	(0.2)	185,436	(0.7)
Vaginal	1,751,433	(72.5)	242,903	(79.4)	481,505	(84.2)	394,678	(84.2)	614,837	(83.3)	17,761,513	(68.9)
Missing	0	(0.0)	0	(0.0)	2	(0.0003)	0	(0.0)	0	(0.0)	21,073	(0.1)
Total	2,415,432		305,947		571,937		468,954		736,340		25,788,558	
Clinician-initiated intervention												
Intervention	858,900	(35.6)	70,326	(23.0)	144,624	(25.3)	108,337	(23.1)	152,251	(20.6)	11,499,677	(44.6)
No intervention	1,556,532	(64.4)	235,621	(77.0)	427,312	(74.7)	360,617	(76.9)	582,680	(79.0)	14,208,009	(55.1)
Missing	0	(0.0)	0	(0.0)	1	(0.0002)	0	(0.0)	2,823	(0.4)	80,872	(0.3)
Total	2,415,432		305,947		571,937		468,954		737,754		25,788,558	

Mother's age at delivery												
<=17 years	32,084	(1.3)	875	(0.3)	2,107	(0.4)	1,801	(0.4)	2,555	(0.3)	700,573	(2.7)
18-19 years	71,113	(2.9)	3,703	(1.2)	10,548	(1.8)	8,040	(1.7)	9,646	(1.3)	1,589,955	(6.2)
20-24 years	364,820	(15.1)	32,268	(10.5)	87,542	(15.3)	68,580	(14.6)	96,570	(13.1)	6,201,917	(24.0)
25-34 years	1,484,142	(61.4)	209,241	(68.4)	363,458	(63.5)	301,164	(64.2)	466,225	(63.2)	13,598,825	(52.7)
>=35 years	463,273	(19.2)	59,860	(19.6)	108,281	(18.9)	89,313	(19.0)	159,740	(21.7)	3,697,288	(14.3)
Missing	0	(0.0)	0	(0.0)	1	(0.0002)	56	(0.01)	3,018	(0.4)	0	(0.0)
Total	2,415,432		305,947		571,937		468,954		737,754		25,788,558	
Parity												
First live birth	819,935	(33.9)	134,172	(43.9)	238,137	(41.6)	198,211	(42.3)	331,716	(45.0)	10,355,727	(40.2)
Second or third live birth	919,380	(38.1)	156,299	(51.1)	277,405	(48.5)	240,704	(51.3)	364,942	(49.5)	12,296,882	(47.7)
Fourth or above live birth	156,199	(6.5)	15,476	(5.1)	56,260	(9.8)	30,039	(6.4)	41,096	(5.6)	3,135,949	(12.2)
Missing	519,918	(21.5)	0	(0.0)	135	(0.02)	0	(0.0)	0	(0.0)	0	(0.0)
Total	2,415,432		305,947		571,937		468,954		737,754		25,788,558	

NOTE: The purpose of this table is to provide supplementary descriptive data on the analytic variables, including a description of missing data.

^a All of these births were also missing labor induction.

eTable 2. Temporal trends in U.S. gestational age distribution, restricting to states that reported on 2003 revision of live birth certificate starting in 2006, 2006-2011

	2006		2007		2008		2009		2010		2011		All years	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
United States														
Very/moderately preterm (22 to <34 weeks)	31,833	(2.2)	41,415	(2.1)	42,356	(2.0)	40,929	(2.0)	39,823	(2.0)	38,845	(2.0)	235,201	(2.0)
Late preterm (34 to <36 weeks)	98,270	(6.8)	127,700	(6.4)	132,573	(6.3)	124,251	(6.0)	118,789	(6.0)	114,382	(5.8)	715,965	(6.2)
Early term (37 to <39 weeks)	453,138	(31.2)	609,715	(30.3)	640,019	(30.3)	592,541	(28.8)	551,628	(27.7)	512,741	(26.0)	3,359,782	(29.0)
Term (39 to <41 weeks)	860,288	(59.2)	1,218,484	(60.6)	1,282,952	(60.8)	1,287,010	(62.6)	1,275,043	(63.9)	1,295,074	(65.7)	7,218,851	(62.3)
Post term (42 weeks and later)	8,547	(0.6)	12,464	(0.6)	11,666	(0.6)	10,576	(0.5)	9,715	(0.5)	8,879	(0.5)	61,847	(0.5)
All singleton live births	1,452,076		2,009,778		2,109,566		2,055,307		1,994,998		1,969,921		11,591,646	

NOTE: U.S. births reported on the 2003 revision of the live birth certificate were included in the main analyses due to the availability of information on whether there was a trial of labor in cesarean deliveries. Due to the variable time of adoption of the 2003 revised birth certificate, the proportion of total U.S. births included in the main analyses increased each year from 49% in 2006 to 96% in 2014 as additional states adopted the revised birth certificate. The purpose of this sensitivity analysis was to restrict U.S. analyses to births in states that reported on the 2003 revision of the live birth certificate for all study years, to ensure that changes to the states included in the analyses did not drive the results of the main analyses. These states are: California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, North Dakota, New York (excluding New York City), Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, Wyoming. The investigators had access to state of occurrence for birth records for 2006 through 2011; therefore, the analyses presented in this table are limited to that time period. This table demonstrates that the gestational age distribution among births in states that reported on the 2003 revision of the live birth certificate for all study years was similar to the gestational age distribution among all births included in the main analyses (Table 1).

eTable 3. Temporal trends in U.S. rates of late preterm and early term birth, restricting to states that reported on 2003 revision of live birth certificate starting in 2006, 2006-2011.

	Model 0 ^a	Model 1 ^b	Model 2 ^c	Model 3 ^d		p-value for interaction
	RR (95% CI)	RR (95% CI)	RR (95% CI)	Intervention	No intervention	
				RR (95% CI)	RR (95% CI)	
Outcome: Late preterm birth rate						
United States (all states)						
1-year change ^e	0.985 (0.977, 0.992)	0.984 (0.977, 0.991)	0.985 (0.977, 0.992)	0.984 (0.975, 0.994)	0.986 (0.974, 0.998)	0.802
8-year change (2006 to 2014) ^f	0.884 (0.831, 0.941)	0.881 (0.832, 0.933)	0.885 (0.833, 0.940)	0.879 (0.813, 0.951)	0.894 (0.811, 0.984)	
United States (only states reporting on 2003 revision for entire study period)^g						
1-year change	0.979 (0.964, 0.994)	0.979 (0.965, 0.992)	0.980 (0.966, 0.994)	0.976 (0.958, 0.993)	0.987 (0.965, 1.009)	0.442
8-year change (2006 to 2014)	0.859 (0.772, 0.956)	0.898 (0.838, 0.963)	0.904 (0.842, 0.969)	0.883 (0.807, 0.967)	0.934 (0.837, 1.043)	
Outcome: Early term birth rate						
United States (all states)						<.0001
1-year change	0.962 (0.958, 0.966)	0.963 (0.959, 0.966)	0.961 (0.957, 0.964)	0.947 (0.942, 0.951)	0.982 (0.977, 0.987)	
8-year change (2006 to 2014)	0.734 (0.709, 0.760)	0.738 (0.717, 0.759)	0.724 (0.704, 0.745)	0.644 (0.622, 0.667)	0.865 (0.829, 0.902)	
United States (only states reporting on 2003 revision for entire study period)						
1-year change	0.961 (0.953, 0.969)	0.962 (0.956, 0.969)	0.962 (0.956, 0.969)	0.947 (0.939, 0.955)	0.986 (0.976, 0.996)	<.0001
8-year change (2006 to 2014)	0.820 (0.785, 0.856)	0.826 (0.799, 0.853)	0.826 (0.800, 0.853)	0.761 (0.731, 0.792)	0.932 (0.887, 0.979)	

NOTE: U.S. births reported on the 2003 revision of the live birth certificate were included in the main analyses due to the availability of information on whether there was a trial of labor in cesarean deliveries. Due to the variable time of adoption of the 2003 revised birth certificate, the proportion of total U.S. births included in the main analyses increased each year from 49% in 2006 to 96% in 2014 as additional states adopted the revised birth certificate. The purpose of this sensitivity analysis was to restrict U.S. analyses to births in states that reported on the 2003 revision of the live birth certificate for all study years, to ensure that changes to the states included in the analyses did not drive the results of the main analyses. These states are: California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, North Dakota, New York (excluding New York City), Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee,

Texas, Vermont, Washington, Wyoming. The investigators had access to state of occurrence for birth records for 2006 through 2011; therefore, the analyses presented in this table are limited to that time period. This table demonstrates that estimated trends in late preterm and early term birth rates among births in states that reported on the 2003 revision of the live birth certificate for all study years were similar to the estimated trends in late preterm and early term birth rates among all births included in the main analyses (Table 2).

^a Unadjusted

^b Adjusted for age and parity

^c Adjusted for age, parity, and clinician-initiated obstetric intervention

^d Adjusted for age, parity, and clinician-initiated obstetric intervention, and includes interaction between year of delivery and clinician-initiated obstetric intervention

^e Rate ratio (RR) represents the annual rate of change in late preterm or early term birth rate over the years of data available for each country.

^f Rate ratio (RR) represents the total estimate change in late preterm or early term birth rate over the entire specified study period.

^g Includes only singleton live births in states that reported on the 2003 revision of the live birth certificate for the entire study period (California, Delaware, Florida, Idaho, Kansas, Kentucky, Nebraska, New Hampshire, North Dakota, New York (excluding New York City), Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, Wyoming).

eTable 4. Temporal trends in country-level rates of labor induction, prelabor cesarean delivery, and clinician-initiated obstetric intervention, 2006-2015.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	All years
	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total(%)	Cases / Total (%)	Cases / Total(%)
Canada											
Labor induction											
Late preterm	2,760 / 12,622 (21.9)	2,871 / 12,894 (22.3)	3,122 / 13,608 (22.9)	3,175 / 13,216 (24.0)	3,312 / 13,028 (25.4)	3,294 / 12,743 (25.8)	3,405 / 13,089 (26.0)	3,451 / 12,972 (26.6)	3,560 / 12,971 (27.4)		28,950 / 117,143 (24.7)
Early term	11,109 / 63,009 (17.6)	11,560 / 65,711 (17.6)	12,369 / 69,838 (17.7)	13,698 / 68,141 (20.1)	14,699 / 68,443 (21.5)	14,996 / 68,729 (21.8)	15,684 / 70,129 (22.4)	16,132 / 67,968 (23.7)	17,697 / 69,323 (25.5)		127,944 / 611,291 (20.9)
Missing	0	0	0	0	0	0	0	0	0		0
Prelabor cesarean delivery											
Late preterm	7 / 1 / 121.622 (6.1)	396 / 12,894 (3.1)	393 / 13,608 (2.9)	963 / 13,216 (7.3)	1,228 / 13,028 (9.4)	1,256 / 12,743 (9.9)	1,304 / 13,089 (10.0)	1,268 / 12,972 (9.8)	1,358 / 12,971 (10.5)		8,937 / 117,143 (7.6)
Early term	16,268 / 63,009 (25.8)	17,246 / 65,711 (26.2)	17,741 / 69,838 (25.4)	17,179 / 68,141 (25.2)	16,959 / 68,443 (24.8)	16,751 / 68,729 (24.3)	16,227 / 70,129 (23.1)	15,076 / 67,968 (22.2)	14,633 / 69,323 (21.1)		148,060 / 611,291 (24.2)
Missing	0	0	0	0	0	0	0	0	0		0
Clinician-initiated intervention											
Late preterm	3,531 / 12,622 (28.0)	3,267 / 12,894 (25.3)	3,515 / 13,608 (25.8)	4,138 / 13,216 (31.3)	4,540 / 13,028 (34.8)	4,550 / 12,743 (35.7)	4,709 / 13,089 (36.0)	4,719 / 12,972 (36.4)	4,918 / 12,971 (37.9)		37,887 / 117,143 (32.3)
Early term	27,377 / 63,009 (43.4)	28,806 / 65,711 (43.8)	30,110 / 69,838 (43.1)	30,877 / 68,141 (45.3)	31,658 / 68,443 (46.3)	31,727 / 68,729 (46.2)	31,911 / 70,129 (45.5)	31,208 / 67,968 (45.9)	32,330 / 69,323 (46.6)		276,004 / 611,291 (45.2)
Missing	0	0	0	0	0	0	0	0	0		0
Denmark											
Labor induction											
Late preterm	361 / 2,306 (15.7)	321 / 2,300 (14.0)	336 / 2,179 (15.4)	369 / 2,131 (17.3)	379 / 2,130 (17.8)						1,766 / 11,046 (16.0)
Early term	1,734 / 11,954 (14.5)	1,735 / 12,002 (14.5)	1,960 / 11,537 (17.0)	2,053 / 11,070 (18.5)	2,093 / 10,982 (19.1)						9,575 / 57,545 (16.6)
Missing	0	0	0	0	0						0
Prelabor cesarean delivery											
Late preterm	161 / 2,306 (7.0)	175 / 2,300 (7.6)	159 / 2,179 (7.3)	150 / 2,131 (7.0)	154 / 2,130 (7.2)						799 / 11,046 (7.2)
Early term	2,876 / 11,954 (24.1)	3,164 / 12,002 (26.4)	2,965 / 11,537 (25.7)	2,816 / 11,070 (25.4)	2,733 / 10,982 (24.9)						14,554 / 57,545 (25.3)
Missing	0	0	0	0	0						0
Clinician-initiated intervention											
Late preterm	511 / 2,306 (22.2)	490 / 2,300 (21.3)	492 / 2,179 (22.6)	515 / 2,131 (24.2)	533 / 2,130 (25.0)						2,541 / 11,046 (23.0)
Early term	4,594 / 11,954 (38.4)	4,882 / 12,002 (40.7)	4,903 / 11,537 (42.5)	4,854 / 11,070 (43.8)	4,808 / 10,982 (43.8)						24,041 / 57,545 (41.8)
Missing	0	0	0	0	0						0
Finland											
Labor induction											
Late preterm	325 / 1,929 (16.8)	331 / 1,822 (18.2)	380 / 1,891 (20.1)	381 / 1,852 (20.6)	453 / 1,958 (23.1)	417 / 1,851 (22.5)	473 / 1,907 (24.8)	429 / 1,896 (22.6)	514 / 1,957 (26.3)	562 / 1,811 (31.0)	4,265 / 18,874 (22.6)
Early term	1,768 / 9,620 (18.4)	1,768 / 9,313 (19.0)	1,785 / 9,615 (18.6)	2,077 / 9,706 (21.4)	2,070 / 9,518 (21.7)	2,353 / 9,663 (24.4)	2,485 / 9,595 (25.9)	2,494 / 9,634 (25.9)	2,718 / 9,871 (27.5)	3,015 / 9,369 (32.2)	22,533 / 98,904 (23.5)
Missing	0	0	0	0	0	0	0	0	0	0	0
Prelabor cesarean delivery											
Late preterm	161 / 1,929 (8.3)	124 / 1,822 (6.8)	151 / 1,891 (8.0)	144 / 1,852 (7.8)	153 / 1,958 (7.8)	135 / 1,851 (7.3)	130 / 1,907 (6.8)	152 / 1,896 (8.0)	169 / 1,957 (8.6)	139 / 1,811 (7.7)	1,458 / 18,874 (7.7)
Early term	1,106 / 9,620 (11.5)	1,020 / 9,313 (11.0)	974 / 9,615 (10.1)	925 / 9,706 (9.5)	847 / 9,518 (8.9)	880 / 9,663 (9.1)	865 / 9,594 (9.0)	830 / 9,634 (8.6)	852 / 9,871 (8.6)	762 / 9,369 (8.1)	9,061 / 95,903 (9.4)
Missing	0	0	0	0	0	0	1	0	0	0	1
Clinician-initiated intervention											
Late preterm	485 / 1,929 (25.1)	455 / 1,822 (25.0)	529 / 1,891 (28.0)	521 / 1,852 (28.1)	603 / 1,958 (30.8)	550 / 1,851 (29.7)	600 / 1,907 (31.5)	581 / 1,896 (30.6)	680 / 1,957 (34.7)	697 / 1,811 (38.5)	5,701 / 18,874 (30.2)
Early term	2,867 / 9,620 (29.8)	2,784 / 9,313 (29.9)	2,756 / 9,615 (28.7)	2,992 / 9,706 (30.8)	2,912 / 9,518 (30.6)	3,226 / 9,663 (33.4)	3,344 / 9,595 (34.9)	3,320 / 9,634 (34.5)	3,562 / 9,871 (36.1)	3,761 / 9,369 (40.1)	31,524 / 98,904 (32.9)
Missing	0	0	0	0	0	0	1	0	0	0	1
Norway											
Labor induction											
Late preterm	475 / 2,237 (21.2)	478 / 2,274 (21.0)	549 / 2,285 (24.0)	478 / 2,266 (21.2)	523 / 2,205 (23.7)	489 / 2,084 (23.5)	522 / 2,192 (23.8)	478 / 2,043 (23.4)			3,992 / 17,586 (22.7)
Early term	1,615 / 9,971 (16.2)	1,743 / 10,183 (17.1)	1,889 / 10,802 (17.5)	1,833 / 10,474 (17.5)	1,833 / 10,009 (18.3)	1,833 / 9,591 (19.1)	1,968 / 9,914 (19.9)	2,016 / 9,689 (20.8)			14,730 / 80,633 (18.3)
Missing	0	0	0	0	0	0	0	0			0
Prelabor cesarean delivery											
Late preterm	178 / 2,237 (8.0)	193 / 2,274 (8.5)	193 / 2,285 (8.4)	161 / 2,266 (7.1)	156 / 2,205 (7.1)	160 / 2,084 (7.7)	163 / 2,192 (7.4)	132 / 2,043 (6.5)			1,336 / 17,586 (7.6)

<i>Early term</i>	1,657 / 9,971 (16.6)	1,691 / 10,183 (16.6)	1,814 / 10,802 (16.8)	1,750 / 10,474 (16.7)	1,625 / 10,009 (16.2)	1,458 / 9,591 (15.2)	1,414 / 9,914 (14.3)	1,326 / 9,689 (13.7)			12,735 / 80,633 (15.8)
<i>Missing</i>	0	0	0	0	0	0	0	0			0
Clinician-initiated intervention											
<i>Late preterm</i>	651 / 2,237 (29.1)	671 / 2,274 (29.5)	741 / 2,285 (32.4)	639 / 2,266 (28.2)	678 / 2,205 (30.7)	649 / 2,084 (31.1)	684 / 2,192 (31.2)	609 / 2,043 (29.8)			5,322 / 17,586 (30.3)
<i>Early term</i>	3,268 / 9,971 (32.8)	3,433 / 10,183 (33.7)	3,698 / 10,802 (34.2)	3,581 / 10,474 (34.2)	3,458 / 10,009 (34.5)	3,287 / 9,591 (34.3)	3,382 / 9,914 (34.1)	3,341 / 9,689 (34.5)			27,448 / 80,633 (34.0)
<i>Missing</i>	0	0	0	0	0	0	0	0			0
Sweden											
Labor induction											
<i>Late preterm</i>	335 / 3,663 (9.1)	348 / 3,620 (9.6)	375 / 3,742 (10.0)	368 / 3,771 (9.8)	385 / 3,837 (10.0)	364 / 3,788 (9.6)	405 / 3,711 (10.9)				2,580 / 26,132 (9.9)
<i>Early term</i>	2,245 / 19,515 (11.5)	2,350 / 19,691 (11.9)	2,428 / 19,455 (12.5)	2,537 / 19,513 (13.0)	2,868 / 20,159 (14.2)	2,992 / 19,431 (15.4)	3,028 / 19,518 (15.5)				18,448 / 137,282 (13.4)
<i>Missing</i>	187	198	118	162	181	121	54				1,021
Prelabor cesarean delivery											
<i>Late preterm</i>	580 / 3,703 (15.7)	540 / 3,663 (14.7)	530 / 3,766 (14.1)	508 / 3,799 (13.4)	560 / 3,872 (14.5)	563 / 3,809 (14.8)	552 / 3,719 (14.3)				3,813 / 26,330 (14.5)
<i>Early term</i>	5,153 / 19,662 (26.2)	5,091 / 19,846 (25.7)	4,793 / 19,550 (24.5)	4,579 / 19,647 (23.3)	4,624 / 20,305 (22.8)	4,076 / 19,531 (20.9)	3,894 / 19,564 (19.9)				32,210 / 138,105 (23.3)
<i>Missing</i>	0	0	0	0	0	0	0				0
Clinician-initiated intervention											
<i>Late preterm</i>	915 / 3,663 (25.0)	888 / 3,620 (24.5)	905 / 3,742 (24.2)	876 / 3,771 (23.2)	945 / 3,837 (24.6)	927 / 3,788 (24.5)	937 / 3,711 (25.2)				6,393 / 26,132 (24.5)
<i>Early term</i>	7,398 / 19,515 (37.9)	7,441 / 19,691 (37.8)	7,221 / 19,455 (37.1)	7,116 / 19,513 (36.5)	7,492 / 20,159 (37.2)	7,068 / 19,431 (36.4)	6,922 / 19,518 (35.5)				50,658 / 137,282 (36.9)
<i>Missing</i>	187	198	118	162	181	121	54				1,021
United States											
Labor induction											
<i>Late preterm</i>	17,350 / 98,048 (17.7)	22,780 / 144,306 (15.8)	25,805 / 165,301 (15.6)	25,441 / 162,624 (15.6)	28,250 / 177,770 (15.9)	29,136 / 189,440 (15.4)	29,111 / 195,516 (15.0)	29,754 / 195,922 (15.3)	32,700 / 209,945 (15.6)		240,327 / 1,534,872 (15.7)
<i>Early term</i>	110,382 / 452,204 (24.4)	143,679 / 684,966 (21.0)	161,409 / 788,004 (20.5)	152,355 / 768,217 (19.8)	156,130 / 809,044 (19.3)	151,295 / 836,889 (18.1)	143,183 / 837,716 (17.1)	143,064 / 834,174 (17.2)	160,325 / 902,121 (17.8)		1,321,820 / 6,913,335 (19.1)
<i>Missing</i>	1,156	4,166	6,832	4,460	3,291	3,216	2,216	1,350	1,070		27,737
Prelabor cesarean delivery											
<i>Late preterm</i>	26,626 / 98,192 (27.1)	42,214 / 145,046 (29.1)	48,365 / 166,402 (29.1)	48,131 / 163,394 (29.5)	52,151 / 178,249 (29.3)	55,001 / 189,964 (29.0)	57,413 / 193,875 (29.6)	58,934 / 194,124 (30.4)	64,573 / 210,100 (30.7)		453,408 / 1,539,346 (29.5)
<i>Early term</i>	115,254 / 452,810 (25.5)	187,010 / 687,541 (27.2)	209,644 / 792,556 (26.5)	199,865 / 771,136 (25.9)	198,966 / 810,981 (24.5)	193,178 / 838,306 (23.0)	186,875 / 838,926 (22.3)	183,386 / 834,770 (22.0)	196,380 / 902,495 (21.8)		1,670,558 / 6,930,021 (24.1)
<i>Missing</i>	406	851	1,179	771	875	775	647	552	541		6,597
Clinician-initiated intervention											
<i>Late preterm</i>	42,803 / 98,031 (43.7)	63,324 / 144,328 (43.9)	72,320 / 165,293 (43.8)	71,835 / 162,661 (44.2)	78,430 / 177,727 (44.1)	82,189 / 189,436 (43.4)	84,384 / 193,478 (43.6)	86,453 / 193,878 (44.6)	94,798 / 209,929 (45.2)		676,336 / 1,534,761 (44.1)
<i>Early term</i>	220,978 / 452,167 (48.9)	323,872 / 684,971 (47.3)	363,260 / 788,002 (46.1)	344,563 / 768,252 (44.9)	347,386 / 808,895 (42.9)	337,476 / 836,743 (40.3)	322,870 / 837,493 (38.6)	319,052 / 833,991 (38.3)	348,628 / 901,833 (38.7)		2,928,085 / 6,912,347 (42.4)
<i>Missing</i>	1,210	4,139	6,842	4,388	3,483	3,366	2,477	1,577	1,374		28,856

NOTE: The purpose of this table is to present supplementary/supporting data for Figure 1. This table provides annual rates of clinician-initiated obstetric intervention, labor induction, and prelabor cesarean delivery among late preterm births and among early term births for each country.

eTable 5. Temporal trends in gestational age distribution in Canada and the United States, stratified by presence of clinician-initiated obstetric intervention, 2006-2014.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	All years
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Canada										
Births with clinician-initiated obstetric intervention										
<i>Very or moderately preterm (22 to <34 weeks)</i>	540 (0.7)	479 (0.6)	430 (0.5)	762 (0.8)	839 (0.8)	807 (0.8)	733 (0.7)	762 (0.8)	849 (0.8)	6,201 (0.7)
<i>Late preterm (34 to <36 weeks)</i>	3,531 (4.3)	3,267 (3.8)	3,515 (4.0)	4,138 (4.2)	4,540 (4.5)	4,550 (4.5)	4,709 (4.7)	4,719 (4.7)	4,918 (4.7)	37,887 (4.4)
<i>Early term (37 to <39 weeks)</i>	27,377 (33.6)	28,806 (33.8)	30,110 (34.4)	30,877 (31.6)	31,658 (31.4)	31,727 (31.4)	31,911 (32.0)	31,208 (30.9)	32,330 (31.0)	276,004 (32.1)
<i>Term (39 to <41 weeks)</i>	49,326 (60.6)	52,143 (61.1)	52,942 (60.4)	61,041 (62.6)	62,999 (62.5)	63,291 (62.6)	61,667 (61.9)	63,729 (63.0)	65,604 (62.9)	532,742 (62.0)
<i>Post term (42 weeks and later)</i>	599 (0.7)	628 (0.7)	658 (0.8)	757 (0.8)	798 (0.8)	682 (0.7)	596 (0.6)	699 (0.7)	649 (0.6)	6,066 (0.7)
<i>All singleton live births</i>	81,373	85,323	87,655	97,575	100,834	101,057	99,616	101,117	104,350	858,900
Births without clinician-initiated obstetric intervention										
<i>Very or moderately preterm (22 to <34 weeks)</i>	3,464 (2.0)	3,635 (2.0)	3,771 (2.0)	3,419 (1.9)	3,134 (1.9)	3,134 (1.9)	3,220 (1.9)	3,165 (1.9)	3,157 (1.9)	30,099 (1.9)
<i>Late preterm (34 to <36 weeks)</i>	9,091 (5.3)	9,627 (5.4)	10,093 (5.4)	9,078 (5.2)	8,488 (5.0)	8,193 (4.9)	8,380 (4.9)	8,253 (4.9)	8,053 (4.8)	79,256 (5.1)
<i>Early term (37 to <39 weeks)</i>	35,632 (20.8)	36,905 (20.7)	39,728 (21.4)	37,264 (21.2)	36,785 (21.7)	37,002 (21.9)	38,218 (22.5)	36,760 (21.9)	36,993 (21.9)	335,287 (21.5)
<i>Term (39 to <41 weeks)</i>	122,741 (71.6)	127,834 (71.6)	131,124 (70.8)	125,812 (71.5)	120,550 (71.2)	119,983 (71.1)	119,773 (70.5)	119,386 (71.1)	120,659 (71.3)	1,107,862 (71.2)
<i>Post term (42 weeks and later)</i>	593 (0.3)	635 (0.4)	533 (0.3)	460 (0.3)	382 (0.2)	363 (0.2)	366 (0.2)	356 (0.2)	340 (0.2)	4,028 (0.3)
<i>All singleton live births</i>	171,521	178,636	185,249	176,033	169,339	168,675	169,957	167,920	169,202	1,556,532
United States										
Births with clinician-initiated obstetric intervention										
<i>Very or moderately preterm (22 to <34 weeks)</i>	15,824 (2.4)	24,165 (2.4)	27,172 (2.3)	28,187 (2.3)	31,315 (2.3)	33,713 (2.3)	35,034 (2.4)	36,348 (2.4)	39,496 (2.4)	271,254 (2.4)
<i>Late preterm (34 to <36 weeks)</i>	42,803 (6.4)	63,324 (6.2)	72,320 (6.2)	71,835 (6.0)	78,430 (5.9)	82,189 (5.7)	84,384 (5.7)	86,453 (5.7)	94,798 (5.7)	676,536 (5.9)
<i>Early term (37 to <39 weeks)</i>	220,978 (33.0)	323,872 (32.0)	363,260 (31.2)	344,563 (28.6)	347,386 (26.0)	337,476 (23.3)	322,870 (21.8)	319,052 (20.9)	348,628 (21.1)	2,928,085 (25.5)
<i>Term (39 to <41 weeks)</i>	386,062 (57.6)	595,328 (58.8)	694,792 (59.7)	753,799 (62.6)	871,081 (65.3)	990,514 (68.3)	1,033,919 (69.7)	1,074,575 (70.6)	1,165,908 (70.4)	7,565,978 (65.8)
<i>Post term (42 weeks and later)</i>	4,230 (0.6)	6,574 (0.6)	6,886 (0.6)	6,468 (0.5)	6,619 (0.5)	6,879 (0.5)	6,561 (0.4)	6,583 (0.4)	7,024 (0.4)	57,824 (0.5)
<i>All singleton live births</i>	669,897	1,013,263	1,164,430	1,204,852	1,334,831	1,450,771	1,482,768	1,523,011	1,655,854	11,499,677
Births without clinician-initiated obstetric intervention										
<i>Very or moderately preterm (22 to <34 weeks)</i>	15,899 (2.0)	22,441 (1.8)	25,368 (1.7)	24,990 (1.7)	28,168 (1.7)	30,599 (1.7)	31,367 (1.7)	30,948 (1.6)	32,792 (1.6)	242,572 (1.7)
<i>Late preterm (34 to <36 weeks)</i>	55,228 (7.1)	81,004 (6.4)	92,973 (6.3)	90,826 (6.1)	99,297 (6.1)	107,247 (6.0)	109,094 (5.9)	107,425 (5.7)	115,131 (5.6)	858,225 (6.0)
<i>Early term (37 to <39 weeks)</i>	231,189 (29.7)	361,099 (28.7)	424,742 (29.0)	423,689 (28.5)	461,509 (28.3)	499,267 (27.7)	514,623 (27.6)	514,939 (27.2)	553,205 (27.1)	3,984,262 (28.0)
<i>Term (39 to <41 weeks)</i>	472,336 (60.6)	784,505 (62.4)	913,329 (62.4)	937,663 (63.2)	1,032,287 (63.4)	1,155,229 (64.2)	1,201,639 (64.5)	1,229,919 (65.1)	1,331,514 (65.3)	9,058,421 (63.8)
<i>Post term (42 weeks and later)</i>	4,292 (0.6)	7,776 (0.6)	8,033 (0.5)	7,465 (0.5)	7,351 (0.5)	7,431 (0.4)	7,499 (0.4)	7,084 (0.4)	7,598 (0.4)	64,529 (0.5)

<i>All singleton live births</i>	778,944	1,256,825	1,464,445	1,484,633	1,628,612	1,799,773	1,864,222	1,890,315	2,040,240	14,208,009
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NOTE: The purpose of this table is to provide supplementary data to support the two findings of significant interaction between year of delivery and clinician-initiated obstetric intervention (Table 2). In Canada, it was found that there was a significant difference in estimated change in late preterm birth rate between births with and without clinician-initiated obstetric intervention. This table shows that the late preterm birth rate increased from 4.3% in 2006 to 4.7% in 2014 among births without clinician-initiated obstetric intervention, whereas it decreased from 5.3% in 2006 to 4.8% in 2014 among births with clinician-initiated obstetric intervention. In the United States, it was found that there was a significant difference in estimated change in early term birth rate between births with and without clinician-initiated obstetric intervention. This table shows that the early term birth rate decreased from 33.0% in 2006 to 21.1% in 2014 among births with clinician-initiated obstetric intervention, whereas it decreased from 29.7% in 2006 to 27.1% in 2014 among births without clinician-initiated obstetric intervention.

eTable 6. Comparison of main findings for Canada based on births with complete data versus entire cohort with imputed values for births missing parity, 2006-2014.

	Model 0 ^a	Model 1 ^b	Model 2 ^c	Model 3 ^d		p-value for interaction
	RR (95% CI) ^e	RR (95% CI)	RR (95% CI)	Intervention	No intervention	
				RR (95% CI)	RR (95% CI)	
Outcome: Late pre term birth rate						
Canada (complete cases)						
1-year change ^e	0.998 (0.982, 1.014)	0.995 (0.978, 1.013)	0.999 (0.982, 1.015)	1.014 (0.992, 1.037)	0.979 (0.955, 1.004)	0.041
8-year change (2006 to 2014) ^f	0.982 (0.865, 1.114)	0.964 (0.835, 1.112)	0.988 (0.865, 1.129)	1.119 (0.936, 1.337)	0.846 (0.694, 1.033)	
Canada (imputed parity)						
1-year change	0.997 (0.979, 1.016)	0.998 (0.982, 1.015)	1.002 (0.986, 1.017)	1.018 (0.998, 1.039)	0.981 (0.957, 1.004)	0.017
8-year change (2006 to 2014)	0.980 (0.836, 1.125)	0.988 (0.854, 1.121)	1.012 (0.889, 1.136)	1.158 (0.993, 1.322)	0.855 (0.670, 1.040)	
Outcome: Early term birth rate						
Canada (complete cases)						
1-year change	1.004 (0.994, 1.014)	1.001 (0.991, 1.012)	1.002 (0.993, 1.012)	0.995 (0.982, 1.008)	1.013 (0.998, 1.028)	0.072
8-year change (2006 to 2014)	1.030 (0.950, 1.118)	1.011 (0.927, 1.103)	1.020 (0.944, 1.102)	0.960 (0.868, 1.062)	1.108 (0.984, 1.248)	
Canada (imputed parity)						
1-year change	1.003 (0.992, 1.015)	1.003 (0.993, 1.014)	1.004 (0.995, 1.013)	0.997 (0.985, 1.009)	1.014 (1.000, 1.028)	0.060
8-year change (2006 to 2014)	1.027 (0.934, 1.120)	1.027 (0.943, 1.111)	1.034 (0.959, 1.108)	0.978 (0.881, 1.075)	1.118 (1.003, 1.232)	

NOTE: Data were missing on parity for 22% (n = 519,918) of Canadian births. In this sensitivity analyses, parity was multiply imputed using the monotone discriminant function method based on observed values of the other analytic variables. The purpose of this sensitivity analysis was to compare the main findings for Canada (excluding births with missing values for parity) to analyses utilizing multiple imputation for missing parity data. This table demonstrates that the results were similar, thus supporting the use of analyses based on non-missing cases in Table 2.

^a Unadjusted

^b Adjusted for age and parity

^c Adjusted for age, parity, and clinician-initiated obstetric intervention

^d Adjusted for age, parity, and clinician-initiated obstetric intervention, and includes interaction between year of delivery and clinician-initiated obstetric intervention

^e Rate ratio (RR) represents the annual rate of change in late preterm or early term birth rate over the years of data available for each country.

^f Rate ratio (RR) represents the total estimated change in late preterm or early term birth rate over the entire specified study period.

eTable 7. Comparison of main findings for Norway and the United States based on different treatment of births with unknown elective versus emergency status for cesarean deliveries, 2006-2014.

	Model 0 ^a	Model 1 ^b	Model 2 ^c	Model 3 ^d		p-value for interaction
	RR (95% CI)	RR (95% CI)	RR (95% CI)	Intervention	No intervention	
				RR (95% CI)	RR (95% CI)	
Outcome: Late preterm birth rate						
Norway						
1-year change ^e						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.971 (0.946, 0.996)	0.971 (0.947, 0.996)	0.970 (0.946, 0.995)	0.953 (0.922, 0.986)	0.990 (0.955, 1.027)	0.135
<i>Assuming unknown cesarean deliveries were elective</i>			0.970 (0.946, 0.994)	0.955 (0.923, 0.987)	0.988 (0.953, 1.026)	0.171
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.969 (0.945, 0.994)	0.953 (0.922, 0.986)	0.988 (0.953, 1.026)	0.158
7-year change (2006 to 2013) ^f						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.811 (0.678, 0.969)	0.814 (0.684, 0.970)	0.810 (0.680, 0.964)	0.716 (0.564, 0.907)	0.934 (0.724, 1.205)	0.135
<i>Assuming unknown cesarean deliveries were elective</i>			0.807 (0.677, 0.960)	0.722 (0.570, 0.914)	0.922 (0.712, 1.193)	0.171
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.804 (0.674, 0.958)	0.715 (0.564, 0.907)	0.922 (0.712, 1.194)	0.158
United States						
1-year change						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.985 (0.977, 0.992)	0.984 (0.977, 0.991)	0.985 (0.977, 0.992)	0.984 (0.975, 0.994)	0.986 (0.974, 0.998)	0.802
<i>Assuming unknown cesarean deliveries were elective</i>			0.984 (0.976, 0.991)	0.984 (0.975, 0.993)	0.984 (0.970, 0.999)	0.950
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.984 (0.976, 0.992)	0.984 (0.974, 0.994)	0.984 (0.970, 0.999)	0.998
8-year change (2006 to 2014)						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.884 (0.831, 0.941)	0.881 (0.832, 0.933)	0.885 (0.833, 0.940)	0.879 (0.813, 0.951)	0.894 (0.811, 0.984)	0.802
<i>Assuming unknown cesarean deliveries were elective</i>			0.877 (0.824, 0.933)	0.876 (0.814, 0.942)	0.880 (0.782, 0.989)	0.950
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.880 (0.824, 0.940)	0.880 (0.812, 0.953)	0.880 (0.783, 0.988)	0.998
Outcome: Early term birth rate						
Norway						
1-year change						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.978 (0.960, 0.997)	0.977 (0.960, 0.995)	0.979 (0.964, 0.994)	0.969 (0.950, 0.989)	0.991 (0.969, 1.015)	0.156
<i>Assuming unknown cesarean deliveries were elective</i>			0.981 (0.966, 0.996)	0.967 (0.948, 0.986)	1.001 (0.978, 1.025)	0.025
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.983 (0.968, 0.998)	0.969 (0.950, 0.989)	1.001 (0.978, 1.025)	0.041
7-year change (2006 to 2013)						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.857 (0.750, 0.980)	0.851 (0.750, 0.965)	0.861 (0.773, 0.958)	0.804 (0.697, 0.927)	0.940 (0.799, 1.107)	0.156
<i>Assuming unknown cesarean deliveries were elective</i>			0.875 (0.786, 0.973)	0.788 (0.686, 0.906)	1.007 (0.856, 1.185)	0.025
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.886 (0.796, 0.986)	0.804 (0.698, 0.926)	1.007 (0.856, 1.186)	0.041
United States						
1-year change						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.962 (0.958, 0.966)	0.963 (0.959, 0.966)	0.961 (0.957, 0.964)	0.947 (0.942, 0.951)	0.982 (0.977, 0.987)	<.0001
<i>Assuming unknown cesarean deliveries were elective</i>			0.959 (0.956, 0.963)	0.947 (0.943, 0.951)	0.991 (0.984, 0.997)	<.0001
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.961 (0.957, 0.964)	0.947 (0.942, 0.951)	0.991 (0.985, 0.997)	<.0001
8-year change (2006 to 2014)						
<i>Assuming unknown cesarean deliveries were emergency (primary analysis)</i>	0.734 (0.709, 0.760)	0.738 (0.717, 0.759)	0.724 (0.704, 0.745)	0.644 (0.622, 0.667)	0.865 (0.829, 0.902)	<.0001

<i>analysis)</i>						
<i>Assuming unknown cesarean deliveries were elective</i>			0.717 (0.696, 0.739)	0.648 (0.627, 0.670)	0.929 (0.881, 0.979)	<.0001
<i>Setting unknown cesarean deliveries to missing intervention</i>			0.726 (0.703, 0.749)	0.644 (0.622, 0.667)	0.928 (0.883, 0.976)	<.0001

NOTE: In 0.3% of the 74,276 cesarean deliveries in Norway and 2.3% of the 8,005,972 cesarean deliveries in the U.S., information was missing on whether labor was attempted prior to delivery (U.S.) or whether it was an elective or emergency cesarean delivery (Norway). In the primary analyses, these births were treated as emergency cesarean deliveries. This was a conservative approach that potentially underestimated the proportion of births with clinician-initiated obstetric intervention. The purpose of this sensitivity analysis was to assess the impact of this assumption on the results of the main analyses. In this sensitivity analysis, cesarean deliveries for which information was missing on whether labor was attempted prior to delivery or whether it was an elective or emergency cesarean delivery were treated first as all involving clinician-initiated obstetric intervention (i.e., elective) and second as missing mode of delivery (i.e., excluded from Model 2 and Model 3 analyses). This table demonstrates that the results were similar, thus supporting the use of the conservative approach treating these births as not involving clinician-initiated obstetric intervention in Table 2.

^a Unadjusted

^b Adjusted for age and parity

^c Adjusted for age, parity, and clinician-initiated obstetric intervention

^d Adjusted for age, parity, and clinician-initiated obstetric intervention, and includes interaction between year of delivery and clinician-initiated obstetric intervention

^e Rate ratio (RR) represents the annual rate of change in late preterm or early term birth rate over the years of data available for each country.

^f Rate ratio (RR) represents the total estimated change in late preterm or early term birth rate over the entire specified study period.