

US birth weights drop due to rise in cesarean births, inductions

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U.S. birth weights have fallen significantly in recent decades due to soaring rates of cesarean deliveries and inductions which have shortened the average pregnancy by about a week, new CU Boulder research

shows.

"Our data indicate that there has been a dramatic shift in [birth timing](#) in this country, it is resulting in birthweight decline, and it is almost entirely due to changes in obstetric practices," said Ryan Masters, a social demographer with the Institute of Behavioral Science and senior author of the study published January 29 in the journal *Demography*.

Previous research has shown that, after decades of rising, [birth](#) weights began to fall in 1990, a trend that has puzzled scientists and alarmed [public health officials](#) well aware of the long-term adverse health effects that can arise from low birthweight.

Masters and lead author Andrea Tilstra, a Ph.D. candidate in the Department of Sociology, set out to pinpoint what's driving the trend, using records from the National Vital Statistics System.

They analyzed more than 23 million single births to healthy mothers from 1990 to 2013, using demographic techniques to plot: birthweight; week at which each birth occurred; and whether the baby was born via vaginal delivery, induced vaginal delivery, cesarean delivery, or induction and cesarean.

Then they ran a simulation to see what would have happened if cesarean and induction rates hadn't increased.

"We found that the decline in birth [weight](#) would not have happened if it were not for the rapid increase in these obstetric interventions," said Tilstra. "In fact, birth weights would have gone up."

Medical interventions on rise

Among the study population, the incidence of cesarean deliveries grew

from 25% in 1990 to 31.2% in 2013, with rates rising fastest among healthy women in weeks 37 to 39. Labor induction more than doubled from 12% of deliveries to 29%.

Meanwhile, the average length of pregnancy decreased from 40 weeks to 39 weeks, and overall births became increasingly concentrated between 37 and 39 weeks, with far fewer stretching into 42.

About 18% of births in 2013 would have happened later, via a vaginal delivery that was not induced, had they occurred in 1990. That matters, the researchers note, because a fetus can put on significant weight in the final weeks of pregnancy.

Over the 23 years, the average weight of a baby born in the United States declined 67 grams (about 2.4 oz). Had rates of interventions stayed level, the average birth weight would have risen by 12 grams.

"By intervening in the pregnancy instead of allowing it to reach its natural finality we are shifting when birth happens, and that can have public health consequences," said Tilstra, noting that [low birth weight](#) has been linked to poorer long-term health and lower educational attainment.

The authors stress that inductions and cesarean deliveries are, in many instances, medically necessary. But they raise concerns that the greatest rise in such interventions is among healthy women who are at full-term yet not overdue.

Because U.S. physicians have more latitude than in other areas of the world to determine whether a cesarean delivery is necessary, they suspect cultural and institutional factors, including [financial incentives](#) at the hospital or insurance level, are driving the trend.

"The American College of Obstetricians and Gynecologists guidelines permit physicians and/or birth attendants a great deal of discretion in their decision to obstetrically intervene in a pregnancy, whereas the international guidelines from the World Health Organization use strong language to discourage it," they wrote.

Tilstra stresses that she is in no way telling clinicians not to perform cesarean deliveries or inductions or advising mothers to decline them. But she hopes her study offers new information that helps both practitioners and parents weigh costs and benefits.

"I hope it prompts physicians to take a step back and realize there can be broader public health impacts from these individual decisions, and I hope it reminds mothers that they have more autonomy in the birth process than they sometimes feel they do," she said. "If something is not obviously medically necessary it is important to ask why it's happening."

More information: Andrea M. Tilstra et al, Worth the Weight? Recent Trends in Obstetric Practices, Gestational Age, and Birth Weight in the United States, *Demography* (2020). [DOI: 10.1007/s13524-019-00843-w](https://doi.org/10.1007/s13524-019-00843-w)

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