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Heavier Babies Do Better in School

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Like so many other parts of health care, childbirth has become a more medically intense experience over the last two decades. The use of drugs to induce labor has become far more common, as have cesarean sections. Today, about half of all births in this country are hastened either by drugs or surgery, double the share in 1990.

Crucial to the change has been a widely held belief that once fetuses pass a certain set of thresholds — often 39 weeks of gestation and five and a half pounds in weight — they’re as healthy as they can get. More time in the womb doesn’t do them much good, according to this thinking. For parents and doctors, meanwhile, scheduling a birth, rather than waiting for its random arrival, is clearly more convenient.

But a huge new set of data, based on every child born in Florida over an 11-year span, is calling into question some of the most basic assumptions of
our medicalized approach to childbirth. The results also play into a larger issue: the growing sense among many doctors and other experts that Americans would actually be healthier if our health care system were sometimes less aggressive.

The new data suggest that the thresholds to maximize a child’s health seem to be higher, which means that many fetuses might benefit by staying longer in the womb, where they typically add at least a quarter-pound per week. Seven-pound babies appear to be healthier than six-pound babies — and to fare better in school as they age. The same goes for eight-pound babies compared with seven-pound babies, and nine-pound babies compared with eight-pound babies. Weight, of course, may partly be an indicator of broader fetal health, but it seems to be a meaningful one: The chunkier the baby, the better it does on average, all the way up to almost 10 pounds.

“Birth weight matters, and it matters for everyone,” says David N. Figlio, a Northwestern University professor and co-author of the study, which will soon be published in the American Economic Review, one of the field’s top journals.

Mr. Figlio — 5 pounds, 15 ounces at birth — is quick to add that birth weight is not destiny. Its effects are considerably smaller than those of social class, for example. A lighter baby of well-educated parents is likely to do much better in life than a heavier baby of high-school dropouts.

Yet within every group the researchers studied, birth weight appeared to have a noticeable effect, even after controlling for a long list of other factors. Mr. Figlio estimates that, all else equal, a 10-pound baby will score an average of 80 points higher on the 1,600-point SAT than a six-pound baby. Another way to see the pattern is to look only at top-scoring students: Among the top 5 percent of test scorers in elementary school, one in three weighed at least eight pounds at birth, compared with only one in four of all babies.

The Florida study will not be the last word on birth weight and timing. As the authors acknowledge, they cannot rule out the possibility that weight
is a proxy for other aspects of fetal health that more time in the womb would not improve. And late and heavy babies also bring some risks. Still, the results are sufficiently striking — across a very large population, and present in every subgroup — that they’re likely to influence the debate about the medicalization of birth.

In 2011, the American Congress of Obstetricians and Gynecologists and other groups began pushing to eliminate induced labor before the 39th week of pregnancy absent a clear medical reason. The induction rate has since fallen. If further research confirms the Florida findings, it will be easy to see an argument for further declines, as well as for a serious look at whether the induction rate is also too high in the 40th week. Many inductions today are elective, rather than coming after a woman’s water has broken or after a medical problem.

The notion that fetuses may benefit from being in the womb beyond the 39th week, says Dr. Brent C. James, who runs the Institute for Health Care Delivery Research in Salt Lake City, “makes perfect clinical sense.” As in much of biology, he added, “You don’t have a hard cutoff, a cliff edge.”

These issues are part of a debate that extends well beyond childbirth. The notion that Mother Nature should more often trump Pitocin and other induction drugs fits with a broad questioning of the American health care system, famously the world’s most intensive and expensive. Starting about a decade ago, an inchoate group of reformers — doctors, nurses, hospital executives, social scientists and others — began pushing the idea that there was a better way. Yes, intensive medicine can bring lifesaving benefits, but technologically advanced treatments often don’t work any better than more basic forms.

In particular, treatments that work wonders on a small group of patients often spread to a much wider group of people, including many who don’t benefit from them. Induced labor, which does indeed help women and babies facing health risks, is one example. Others include cardiac stents, back surgery and prostate treatment.

Armed with reams of evidence, the reformers began pushing hospitals
and insurers, including Medicare, to change. In the private market, among other things, insurers have excluded some high-cost doctors from their networks. For all the problems and waste that still exist, the effort has had an effect: Health costs have slowed sharply in the last several years, surprising nearly every expert. Remarkably, per-person spending in Medicare is on a pace to be about 6 percent lower this year than it was three years ago.

It’s impossible to know whether the trend will last. But Obamacare, while not the main reason for the slowdown, may be sustaining it. Even as the law has added people to the health-insurance rolls, which increases costs, it has also targeted unnecessary, expensive care.

Whether the slowdown will continue is among today’s biggest economic questions. Yet the economic implications aren’t even the most important ones. The health implications are. The idea that we can be healthier with less health care is no longer just wishful thinking; it’s a serious theory, with growing evidence.

Childbirth makes for a crucial case study. It affects everyone, and for centuries was among the biggest dangers women confronted. The maternal death rate per childbirth long approached 1.5 percent, historians estimate.

So the notion that modern medicine should be removed from childbirth altogether is clearly wrong. In the United States today, the death rate for mothers in childbirth is less than 0.02 percent. Modern medicine saves the lives of millions of childbearing women — and their infants — every year.

Yet as with stents, back surgery and prostate treatments, many believe the medicalization of childbirth almost certainly went too far. “Too much intervention is not a good thing,” said Dr. Barbara S. Levy, vice president for health policy at the American Congress of Obstetricians and Gynecologists. Researchers now agree that nonmedical inductions before 39 weeks are a problem. The next question is whether fetuses continue to get substantial benefits from being in the womb — without much additional risk, for mother or baby — after 39 weeks.

It’s a question that affects a lot of births. In 2012, 30 percent of births
came between 39 and 40 weeks, 20 percent came between 40 and 41 weeks and 14 percent came after 41 weeks.

Florida offers a window on the issue because the state tracks children from birth through college. (Historically, most databases that follow individuals over time have been small.) The authors of the new study — Mr. Figlio; Jonathan Guryan and Krzysztof Karbownik, also of Northwestern; and Jeffrey Roth, of the University of Florida College of Medicine — used the data to compare birth weight with test scores from third through eighth grades, as well as with kindergarten readiness scores. They controlled for, among other factors, the health and sex of the baby, the length of the pregnancy and the health, age, race and education of the mother.

To test their results, the researchers also looked at twins. Twins are a frequent subject of research, because they share many unobservable environmental conditions. And the effect of birth weight on twins was similar to its effect on single babies. Importantly, the effect was also very similar for same-sex twins (who can be identical twins, with the same genes) and different-sex twins (who cannot be identical). That similarity suggests that birth weight was not merely a proxy for hidden genetic factors — or hidden fetal conditions — that would remain unaffected by an extra pound or two.

The relationship between birth weight and test scores was present by the time children enrolled in kindergarten and remained fairly constant throughout elementary and middle school. Other research has found that children who do better in elementary school are more likely to graduate from college, earn more as adults and live longer.

This pattern would fit with the so-called Barker hypothesis. It is the once controversial theory proposed by the late British epidemiologist Dr. David Barker — now largely accepted — that conditions in the womb and infancy cast a lifelong shadow. Many forms of cancer and heart disease, among other conditions, have roots in the earliest stages of life, Dr. Barker argued.

The authors of the new paper are continuing to study Florida children
and say other researchers should try to confirm or cast doubt on the findings. Without more research, many doctors may be skeptical of changing their habits. Dr. Wendy M. White of the Mayo Clinic said that she would want to make sure that often unobserved health problems, including those unconnected to genes or fetal conditions, weren’t causing both lower birth weights and cognitive gaps.

Whatever the uncertainty, the prevalence of the effects across so many groups, in one of the nation’s largest, most diverse states, offers reason to take the results seriously. Some of the implications seem straightforward. Other studies, for example, have found that anti-poverty programs, like food stamps, can increase the weight of babies born to poor mothers. By extension, those programs, which are often derided as wasteful, may have very large health, education and economic benefits.

The issue of how to time births is thornier. If the results hold up, we are probably inducing too many babies too soon. On the other hand, there are some risks for babies, and pain for mothers, with longer pregnancies, especially beyond 41 weeks. “There are two patients here, and you want to optimize the outcome for both,” as Dr. Levy says. It is conceivable that fewer inductions could bring better overall results while also making some rare newborn complications slightly more common.

The trade-offs are sometimes unavoidable. But acknowledging and grappling with those trade-offs would still represent a significant shift. For a long time, we have fooled ourselves into thinking that more health care meant better health. The truth may actually be more reassuring.

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