The Cost of a Teen Birth: What the Study Measures and How

Determining the cost of a teen birth is a complex research task. It is particularly important, therefore, to be clear about what is being measured and how it is being measured. Different measures of costs are appropriate for different purposes. The primary goal is to measure the costs that could be averted if today's teen mothers delayed their first birth to their early 20s. The focus is on public sector costs—that is, those costs paid for by the state, local, or federal government with revenue provided by federal, state and local taxpayers.

The first step in measuring the costs of a teen birth is to determine how giving birth as a teen alters subsequent life outcomes for the teen mother (e.g., her educational attainment, earnings, and welfare receipt), the father (e.g. earnings), as well as the life course of the child born to the teen mother (e.g., health, educational attainment, and earnings). The second step is to determine the cost per person of providing specific public services that result from these altered outcomes. Combining the impact of a having a birth as a teen with the per person cost of program services and summing up all relevant outcomes and programs yields a measure of the costs of teen childbearing.

While this procedure is straightforward in principle, executing it is difficult. The major challenge is that it is often difficult to determine how much of the poorer outcomes of teen mothers, their partners, and their children are due to the early age of first birth and how much is due to other risk factors. The young women who become teen mothers often face many disadvantages arising from the families and communities in which they live. Their families may have lower average income, their communities may have fewer public amenities and support systems, and their public school systems may be weaker. Each of these disadvantages, including the early age of their first birth, contributes uniquely to the poorer outcomes for these women, their partners, and their children. If too much weight is assigned to giving birth as a teen, there is a very real risk of overstating what can be accomplished by a delay in the age at first birth.

Therefore, in measuring the impact of a teen birth, it is particularly important to attempt to identify the unique or causal role that age alone plays in whatever poor outcomes are noted. The causal role corresponds to this thought experiment: "If we could change a young woman's age at first birth, but not change anything else about her, what

impact would that have on her subsequent life outcomes and the life outcomes of her child and partner?" The resulting impact of a teen birth is its *net* effect, that is, its effect above and beyond the impact of other risk factors that are not changed. The net effect represents a causal impact, not just a correlation.

To compute the net effect of teen childbearing, it is necessary to compare young women who are as similar as possible in all respects except for the age at which they first had a birth. This is done using a variety of statistical techniques that *control for* or *adjust for* all the other risk factors that contribute to the outcome being studied. The specific way in which this is done varies from study to study, depending on the data source that is used and the measures of family and community available in that data. The result is equivalent to finding the average difference in outcomes between young women who are identical except for the ages at which they first had births.

The cost of a teen birth is then the *increased* costs associated with the net effect of a teen birth on a wide range of outcomes. This cost measure—referred to throughout the report as the *net cost* of a teen birth—includes the costs that could potentially be averted if a first birth were delayed. Alternatively, these are the benefits or cost savings of delaying the age of first birth.

Consider, for example, the foster care system in the United States, which, along with associated child welfare programs, costs federal, state, and local taxpayers more than $23 billion annually. What is the impact of the mother's age at birth on the costs of maintaining the foster care system in the United States? To answer that question, it is necessary to first determine the causal impact of a teen birth on the probability that a child will enter the foster care system. How much more likely are children of teen mothers to enter foster care than

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the children of women who are 20 or 21 at the time of their first birth? In measuring this, it is important to carefully account for other risk factors that also affect the probability that a young child enters foster care in order to identify the causal effect of a teen birth. Second, it is necessary to determine the annual cost of a typical foster care case by combining detailed cost and caseload data. Combining these two quantitative estimates—the net impact of a mother's age at birth and the cost per case—and multiplying by the number of teen births in 2004 yields an estimate of the impact of a teen birth on foster care costs.[1]

It is important to understand that this approach yields a conservative measure of the cost of a teen birth in the sense that it does not attribute to teen childbearing the impact of other correlated family and community factors.[2] A less conservative measure is the *gross* cost of a teen birth. This measure is based on the full or unadjusted difference between teen mothers and mothers aged 20-21 in the many outcomes that lead to public sector costs. The concept of gross costs of a teen birth corresponds to this thought experiment: "If we could change a young woman's age at first birth *and* all other differences between her and the average women who has a later birth, how much lower

1 See the Appendix for detailed information about how all cost estimates are constructed.

2 This measure might be too conservative in one way. A successful teen pregnancy intervention program will almost always change *something* about a young woman that enables her to delay her first birth. If that "something" is valuable in the labor market or elsewhere, it may improve her prospects. The statistical practice of "holding everything else constant" does not typically allow for this indirect effect.

would public sector costs be for her and her children?" The gross costs reflect the correlation between a teen birth and the various outcomes, rather than a causal relationship.

Typically, the gross cost of a teen birth is larger than the net cost and sometimes much larger.[3] As already noted, the young women who become teen mothers usually differ in many ways from the women who delay their first birth and those other differences are sometimes important contributors to the outcomes that are being analyzed. It is always possible that teen mothers may do poorly for reasons other than the age at which they have a child. A comparison of gross and net costs reveals the impact of other risk factors on the outcomes of interest. The gross costs themselves are also a meaningful measure of costs that could be avoided by a comprehensive and aggressive intervention program that addressed all the disadvantages of potential teen mothers.

The costs measured in this study are based on the total number of teen births in 2004. There were 422,043 teen births in 2004 of which 140,761 were births to girls age 17 and younger, (including 6,781 to girls age 10-14), and another 281,282 were births to girls age 18 and 19. The costs are those associated with a specific number of years of motherhood, beginning either with a teen birth or a birth delayed to ages 20 or 21. In some instances, the costs are measured through the first 15 years of motherhood; in other cases the costs are measured for a shorter or longer period of time. Readers should note that in all cases, however, the specific ages are noted throughout the paper. Age 20-21 was chosen as the age for delay of first birth because it is long enough to make a meaningful difference in the life options of the young mothers and their children and because it is potentially attainable through aggressive and effective efforts to prevent teen pregnancy. The costs measured here are the annual costs of a teen birth, based on the characteristics of government programs and taxes as of 2004 and measured in 2004 dollars. The appendix explains exactly how the births in 2004 are used to estimate the annual cost of teen births.

The public sector costs included in this analysis are limited to those linked to outcomes that have dollar costs associated with them *and* for which there are reliable national estimates of the net impact of a mother's age at birth on that outcome. Some things, such as life satisfaction, are important, but do not have measurable and explicit dollar costs. Others do have measurable dollar costs, but reliable net impact estimates from representative samples are not available. For example, the children of teen mothers may have educational issues that cause them to disproportionately use costly public school services for special education, but there are no reliable national estimates of the net impact of teen childbearing on this outcome. Again, because not all costs can be measured and included, it is certain that the full costs of a teen birth are greater than the cost estimates presented here.

The costs that are examined fall into two broad categories: those for this generation (the teen mother and the father of her child) and those for the next generation (the children of teen mothers). For the mother and father, the public costs are the difference in the taxes that they pay due to lower earnings as compared to older mothers and their partners. Also for the mothers, the public costs are the difference in the cost of public assistance they receive—TANF, Food Stamps, and housing assistance—compared to mothers who delay childbearing until age 20-21. For the children, the costs are those associated with publicly-provided health care, foster care and other child welfare services, incarceration as adults (sons only), and the lower taxes associated with their lower earnings when they enter the job market (due to lower educational attainment).

3 A third and yet larger measure of the costs of a teen birth includes the costs of all the services consumed by teen mothers and their families. This measure implies that it is possible to eliminate *all* of the costs of teen childbearing by delaying a young woman's age at first birth. That, unfortunately, is unlikely to be true. There are also public sector costs for some older mothers and their children.

The cost estimates presented here are based on the average impact of a mother's age at birth on the mothers, fathers, and their children. Because teen mothers, their partners, and their children are individuals, each one is unique in some way. Their life experiences after a birth will vary considerably. Certainly, some will have lives that are very different from this average. Undoubtedly, some may fare much better than the average and some much worse. Nothing in the analysis implies or requires that each teen birth will impose the costs that we describe.

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