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## Poor Health, Poor Women: How Reproductive Health Affects Poverty

By Margaret E. Greene

Does poor reproductive health prevent poor women from escaping poverty? Despite the plethora of survey data showing that poor households tend to be larger and that poor women tend to have higher rates of fertility, experts have debated whether these conditions cause poverty or are symptoms of poverty. In research funded by the MacArthur Foundation and published by the World Bank, Thomas Merrick and I found that poor reproductive health outcomes—early childbearing, maternal mortality/morbidity, and unintended/mistimed pregnancy—have negative effects on overall health, and, under certain circumstances, on education and household well-being.

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## Shifting Priorities, Falling Funding

At the September 1994 International Conference on Population and Development (ICPD) in Cairo, Egypt, the reproductive health field underwent a major shift. Instead of viewing family planning solely as a way to “control” population growth, policy-makers and practitioners re-envisioned it as part of a comprehensive approach that sought to empower women, meet men and women’s stated health needs, and improve sexual health and quality of life. This shift spurred donor pledges, although contributions still fell short.

Since the ICPD, many in the donor community have changed their approach to development financing, diverting funds away from projects that focus primarily on reproductive health. Donor agencies and development banks have shifted support from specific health services (e.g., maternal health or family planning) to entire health sector programs, with some funding targeted for high-priority problems such as HIV/AIDS and infectious diseases.

These donors—and the parliaments that approve their budgets—grew impatient with “traditional” approaches to aid that produced limited results or benefited the rich more than the poor. They now favor results-oriented programs that seek to address the underlying structural problems of poverty or broad international development goals, rather than provide specific health services. Current health funding is more likely to be tied to broader grants or the Millennium Development Goals (MDGs), which do not include family planning and reproductive rights.

To respond to this shift in donor priorities, the reproductive health sector needs to demonstrate that poor reproductive health does, in fact, make it more difficult for a woman and her family to escape poverty. Common sense suggests that poor reproductive health outcomes—such as early pregnancies, unintended pregnancies, excess fertility (when actual births exceed desired fertility), and poorly managed obstetric complications—would increase the chances of remaining poor. While many researchers have demonstrated the effects of poverty on reproductive health outcomes, fewer have focused on the reverse relationship. Robust, compelling evidence linking good reproductive health to poverty reduction would support efforts to include it in country-level poverty reduction strategies and in the allocation of international poverty reduction funding.

## Results: Reproductive Health Matters

We grouped reproductive health outcomes under three broad headings: early childbearing; maternal mortality and morbidity; and unintended/mistimed pregnancy and large family size. Clearly, these groupings overlap; early childbearing may be unintended, for example. Similarly, we grouped household-level poverty indicators into three categories: overall health; education; and other household activities (including work, household spending decisions, and resource allocation).

Rather than relying strictly on economic measures (such as household income) in our poverty assessment, we used economist Amartya Sen’s wider

A nurse weighs an infant at a Rotary International Child Spacing and Family Health Center, where women are encouraged to receive pre- and post-natal care. © 2000 Liz Gilbert/David and Lucile Packard Foundation, Courtesy of Photoshare





## FOCUS Online

The complete report, *Poverty Reduction: Does Reproductive Health Matter?*, by Margaret E. Greene and Thomas Merrick, is available on the World Bank website. The reference section includes a complete list of studies analyzed by the authors.

<http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/GreenePovertyReductionFinal.pdf>

Greene and Merrick presented their work at the Woodrow Wilson Center in January 2006. Video, summary, and a PowerPoint presentation are available on the Wilson Center website.

[http://www.wilsoncenter.org/index.cfm?fuseaction=events.event\\_summary&event\\_id=162270](http://www.wilsoncenter.org/index.cfm?fuseaction=events.event_summary&event_id=162270)

“Progres, Early Childbearing, and the Intergenerational Transmission of Educational Inequality in Rural Mexico,” by Merrick and Greene, was presented at the annual meeting of the Population Association of America in New York City in April 2007. To obtain a copy, please email [tmerrick@worldbank.org](mailto:tmerrick@worldbank.org)

A Bolivian woman reads a pamphlet about reproductive health and family planning. © 1989 CCP, Courtesy of Photoshare

**Table 1: Adolescent Fertility Rates by Wealth Quintile and Region (per 1000)**

Region	No. of countries	Regional average	Poorest quintile	Richest quintile	Poor/rich difference
East Asia	4	46.0	76.5	15.8	60.8
Europe/Central Asia	4	52.7	73.0	31.3	52.7
L. America, Caribbean	9	94.7	172.6	36.9	135.7
Middle East, N. Africa	3	62.7	111.7	99.0	12.7
South Asia	4	108.8	146.3	56.0	90.3
Sub-Saharan Africa	29	131.9	169.6	79.5	90.0
<b>All countries</b>	<b>55</b>	<b>106.5</b>	<b>148.6</b>	<b>62.6</b>	<b>86.1</b>

Source: Gwatkin et al. (2004)

“capacity” approach to poverty and factored in data on health, education, and household consumption and production (Sen, 1999). Traditional measures of poverty rely on reports of income, consumption, and expenditures, setting monetary levels of a dollar a day or two dollars a day. These quantitative cut-offs help make international comparisons but miss much of the context and the impact of poverty on people’s life chances; those using these cut-offs often struggle to interpret exactly what the differences mean. Instead, Sen argues for looking directly at some of the key correlates like health and education, as the UN Development Programme does in its Human Development

Index. In our view, this approach produces a richer understanding of the links between poverty, reproductive health, and life chances.

Examining the results reported by a wide range of studies, we analyzed the links between each of the three reproductive health measures and each of the three poverty measures we selected. Our results show that reproductive health outcomes—particularly very early pregnancy—most strongly affect overall health, followed by education. Household well-being was the most weakly affected, although these findings were likely influenced by the scarcity of data on the links between reproductive health and household well-being.

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### Early Childbearing

Early pregnancy and childbearing—likely both causes and effects of poverty—are widespread in poor countries, although their prevalence varies by country and region. A review of Demographic and Health Surveys (DHS) for 43 countries found that levels of early childbearing were highest in Africa, where 47 to 75 percent of women had given birth before age 20 (Singh, 1998). About one-third of

Latin American women had given birth by age 20, while the proportion in North Africa, the Near East, and Asia ranged from 20 to 30 percent.

Early childbearing is more prevalent among poorer women, as shown in Table 1. In the 55 countries surveyed, the average fertility rate among the poorest women is more than twice that of women in the richest group; in Latin America and the Caribbean, the poorest women's fertility rate is nearly five times greater than that of the richest women. The poor/rich differential is lowest in the three Middle East/North African countries and in Europe/Central Asia and East Asia, which have the lowest adolescent fertility rates.

**Overall Health:** Early pregnancy and childbearing negatively affect the overall health of young women and their children. In poor countries, adolescent mothers are twice as likely to die from pregnancy- or childbirth-related causes as older mothers. Data from 15 developing countries reveal that adolescents under the age of 17 are far less likely to receive skilled prenatal and delivery care than women between the ages of 19 and 23 (Reynolds et al., 2003). Moreover, children of young mothers are more likely to be born prematurely and at low birth weights, as well as more likely to be stillborn or die within the first four weeks of birth (Save the Children, 2004; Jejeebhoy, 1995).

**Education:** Early childbearing significantly reduces a young woman's ability to obtain an education. Unmarried young women have much to lose if they become pregnant, given the frequent expulsion of pregnant girls from school (Meekers, 1994). A survey study in Botswana demonstrated that these negative effects extend over several years: For instance, it is difficult for school-age girls to return to school after a pregnancy—either because school policies require expelling pregnant girls or due to the challenges of continuing formal education during motherhood—thus amplifying early childbearing's impact on education (Meekers & Ahmed, 1999). Early childbearing not only disrupts school, but also ruptures girls' connections to mentoring adults and peers who could provide connections to useful information and institutions (Save the Children, 2004).



**Household Well-Being:** While there is little research on the effects of early childbearing on household well-being, most very young mothers work in the informal sector, perform unpaid economic activity in the home, or serve as unpaid domestic laborers (Population Council & International Center for Research on Women, 2000). Research in Mexico among poor women suggests that early childbearing is associated with poor living conditions, lower monthly earnings, and decreased child nutrition (Buvinic, 1998).

## Maternal Mortality and Morbidity

High fertility is positively associated with maternal mortality because each pregnancy increases a woman's lifetime risk of dying due to pregnancy-related causes. Every year, more than half a million mothers in low- and middle-income countries die giving birth, more than 9 million suffer pregnancy-related illnesses, and 10-20 million develop long-term disabilities as a result of complications related

A Vietnamese woman, whose hands are blue from indigo dye, nurses her baby. © 2007 Caryl Feldacker

## Maternal mortality and morbidity have an adverse impact on the education of children, but this impact is mediated by other contextual factors.

to delivery and poor obstetric management (Filippi et al., 2006). Most of these deaths and disabilities are preventable, but in many instances, the interventions are either not available to poor women or are too low-quality to be effective. Global, regional, and country-level estimates of maternal mortality show a clear connection between high rates of maternal mortality and poverty. More than 99 percent of maternal deaths occur in developing regions, and more than 85 percent occur in the poorest countries of sub-Saharan Africa and southern Central Asia (AbouZahr & Wardlaw, 2004).

**Overall Health:** Maternal mortality and morbidity not only affect mothers, but also their children. A study in Tanzania showed that children who lost their mothers were much more likely to be stunted than children whose parents were both alive (Ainsworth & Semali, 1998). Similarly, children whose mothers have died have higher rates of mortality and malnutrition, and are much more likely to die themselves (Gertler et al., 2003; Strong, 1992).

**Education:** Maternal mortality and morbidity have an adverse impact on the education of children, but this impact is mediated by other contextual factors. Research in Indonesia and Mexico revealed that children whose mothers died had lower school enrollment and higher dropout rates (Gertler et al., 2003). In Rwanda and Zaire (now the Democratic Republic of the Congo), children who lost a parent

often postponed their education—however, this relationship may be hard to untangle from the loss of an adult breadwinner, as poor families are more vulnerable to interruptions in education (D’Souza, 1994).

**Household Well-Being:** There is virtually no data on the impacts of maternal mortality and morbidity on the well-being of households. Although studies have documented the indirect costs of HIV/AIDS, tuberculosis, and malaria (e.g., reduced labor productivity), our literature review did not find any similar documentation for poor maternal health. In a survey conducted in Tanzania, the death of adult women had the most impact on household consumption in the poorest households, which, unsurprisingly, suffered the most from reduced consumption (Over et al., 1997). Also, costs associated with childbirth—including user fees, transport costs, and companion time—sometimes reach catastrophic amounts, pushing families into poverty (Filippi et al., 2006).

## Large Family Size and Unintended/Mistimed Pregnancy

Economists and other social scientists have long investigated the “quantity-quality” tradeoff between the number of children in a family and the investments



Female students at a school in the tribal district of Jhabua, Madhya Pradesh, India. ©2007 Anil Gulati, Courtesy of Photoshare

**Table 2: Summary of Negative Impacts**

	Health	Education	Household well-being
<b>Early childbearing</b>	Fairly strong evidence of adverse health effects of very early pregnancy, including lifelong morbidities	Some evidence of lower levels of education, but reasons other than pregnancy (e.g., poor performance or cost) are often more important	Stronger evidence of negative effects in Latin America (where marriage age is later) than in Africa and Asia, where early marriage and childbearing are more common and closely linked
<b>Maternal mortality and morbidity</b>	Some evidence of negative impacts on children’s health; very limited evidence for longer-term pregnancy-related morbidities	Limited evidence of adverse impacts on children’s education; mediated by other household factors (e.g., fosterage or family position)	Little or no evidence on impacts on household well-being; some evidence suggests poor maternal health can lead to catastrophic health care expenses
<b>Unintended/mistimed pregnancy, large family size</b>	Short birth intervals negatively affect child survival, but the number of births has a greater impact on maternal mortality; unsafe abortion is associated with unwanted pregnancy	In some cases, large family size reduces investment in children’s education	Some evidence that large family size leads to unequal spending on children, with potentially adverse effects on girls

made in each child’s health, education, and well-being (Blake, 1981; Schultz, 2005). Yet Cynthia Lloyd and Mark Montgomery’s (1996, p. 2) decade-old observation that “remarkably little research has addressed the consequences of unwanted or unintended childbearing for developing-country mothers and children” is still true—with two exceptions: There is significant research on the effects of childbearing on the health of mothers and children, and on the links between overall family size and children’s health and schooling. They attribute the dearth of research to difficulties in measuring key concepts and to differences in how economists and sociologists interpret those concepts—particularly “unwantedness.”

**Overall Health:** The adverse health effects of unintended and mistimed pregnancies are appar-

ent in child survival and maternal mortality rates. A study of infants in Hungary, Sweden, and the United States shows that those conceived less than six months after the preceding birth are approximately 50-80 percent more likely to die in the first four weeks of life (Miller, 1991). Research conducted in Latin America and the Caribbean found that women who had pregnancies less than six months apart had significantly higher odds of death and serious complications (Conde-Agudelo & Belizán, 2000).

**Education:** Many contextual factors influence the impact of unintended and mistimed pregnancies on education. For instance, Thailand’s rapid fertility decline contributed to increased school enrollment (Knodel et al., 1990). Another study linked



Two students at a school in Ho, Ghana, point to their homeland on their new map of the world, painted on an outside wall of their school. © 2002 Todd Shapera, Courtesy of Photoshare

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unwanted and excess births to reduced educational attainment in the Dominican Republic and the Philippines but did not find the same effect in Kenya and Egypt (Montgomery & Lloyd, 1999). The sex and birth order of the child appear to influence the linkages between education and unintended/mis-timed pregnancies; girls and younger children often suffer the most (Lloyd & Gage-Brandon, 1994; Foster & Roy, 1997; Merrick, 2001).

**Household Well-Being:** Large families tend to distribute household spending unequally among children, often to the detriment of girls. Indeed, “high fertility may be one of the mechanisms which deny [sic] the benefits of economic development to some social groups and to some members within the family” (Desai, 1995, p. 209). Across generations, lower rates of parental fertility ease the budget constraints that can lead to discrimination against girls (Lloyd, 1994). Similarly, in Thailand, researchers found that high fertility has strong negative effects on some children, but that smaller families were far more likely to have savings than larger families, making them less vulnerable to income fluctuations (Knodel, Havanon, & Sittitrai, 1990).

## Recommendations

Simple, clear-cut causality between reproductive health and poverty reduction is very difficult to demonstrate. Existing research has not thoroughly addressed the effects of poor reproductive health on household poverty, and further research is needed to clarify these links. Specifically, we need microanalysis to analyze these complex, context-specific household-level relationships. For example, if we had individual-level longitudinal data on household members, we could directly test whether a mother’s pregnancy or birth-related illness reduces her children’s schooling.

Longitudinal surveys offer greater promise than using survey data from a single point in time. We do not have to reinvent the wheel to expand the evidence base: Rather than conducting new survey research, researchers should use existing data resources. For example, Mexico’s Oportunidades (formerly Progresá) program collected longitudinal

I recommend that longitudinal studies currently underway add survey questions that elucidate the relationships between reproductive health and poverty.

data to evaluate its efforts to improve the nutrition and education of the country’s poorest families by using cash transfers to mothers who kept their children in school and used health and nutritional services. Working with the limited reproductive health information gathered in the surveys, Thomas Merrick and I (2007) examined the relative educational disadvantages transmitted to daughters of mothers who started having children at an early age. We found that between 1997 and 2000, these cash transfers nearly eliminated the educational deficit of daughters of early-childbearing mothers.

In addition, I recommend that longitudinal studies currently underway add survey questions that elucidate the relationships between reproductive health and poverty. The Progresá survey, for example, had few questions on reproductive health-related matters, limiting our ability to explore the full range of poverty and reproductive health relationships.

We intuitively understand that poor reproductive health has negative long-term consequences for health, education, and household well-being. Researchers in the population and reproductive health fields must field-test this intuition by analyzing the empirical relationships and publicizing the results. The most logical place to start would be to use specific measures of maternal ill-health or closely spaced pregnancies to analyze their effects on children’s schooling and health. Such research efforts would help pave the way for incorporating reproductive health into poverty reduction programs.

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