


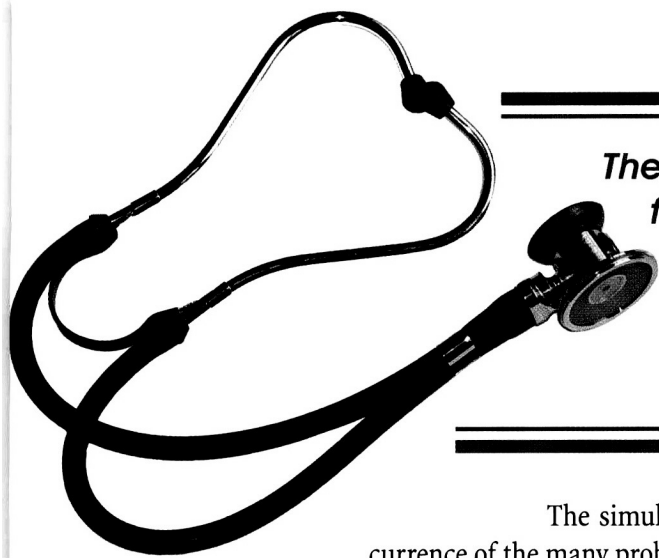
The Critical Role of Health in the Economic Development of the

by
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Lower Mississippi River Delta



The Mississippi River Delta presents significant challenges in virtually every area of social and economic development. Having some of the worst health and economic conditions in the nation, low educational attainment, and limited social cohesion aggravated by ongoing racial segregation and racism, the Delta has many of the characteristics of an underdeveloped nation within the midst of the most highly developed and wealthiest country in the world.



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The simultaneous occurrence of the many problems facing the Delta is not coincidental. Rather, the problems are the net result of the complex interaction of many personal, social, and societal factors that must be addressed if change is to be successful and longstanding. For example, efforts at economic development must consider these interactions if change is to be meaningful and long lasting.

In this brief summary, we will address one of these interactions, namely the linkage between health and the economic conditions of a population. As we will document, economic conditions impact health and health status impacts economic development. Thus, the potential for economic development in the Delta will be tightly connected to health improvement.

Several statistics demonstrate the severity of the problem in these domains.

- *The Delta is one of three persistently unhealthy regions of the United States* (Cosby and Bowser 2008). Overall mortality rates in the Delta region are considerably higher than those in the rest of the United States for all major causes of death. A person in the Delta region is 24 percent more likely to die than is a person in the rest of the U.S.
- *The Delta is one of the poorest regions of the nation* (Gnuschke et al. 2008). Of the 10 states with the highest poverty rates and lowest income levels in 2004, 6 were Delta states, including all of the lower Mississippi River Delta states, and 12 of the 25 lowest income counties in the nation were Delta counties.

While there has been improvement in economics and in health during the past two decades, the overall situation remains dire. As noted by Gnuschke et al., with “this long-standing record of low-income levels, high poverty rates, and persistent income inequality, the Delta counties have had nowhere to go but up” (79).

The Interrelationships Between Health and Economic Development

The relationship between health and economics is compelling and powerful. It is bidirectional, with economic conditions impacting health and health status impacting economic conditions (Bloom and Canning 2000; Mirvis, Chang, and Cosby 2008; and Mirvis and Bloom 2008). These health and economic interactions occur in the broader context of public policy, history, and culture. Thus, improving health and improving economic conditions are linked in many, often unappreciated, ways.

Health as a Function of Wealth

Across nations, wealthier nations exhibit better population health (Bloom and Canning 2000), and within nations including the United States, people with higher incomes have better health outcomes than do less affluent persons. For example, men in the United States with family incomes in the top 5 percent of the income distribution have life expectancies that are 25 percent longer than do those in the bottom 5 percent (Sorlie, Backlund, and Keller 1995).

Two major paths lead to the following results:

- *Persons with higher incomes have greater access to material resources that promote health*, including better access to healthcare, less exposure to environmental health hazards, and greater opportunity to develop better health behaviors; and
- *Lower socioeconomic conditions lead to psychological vulnerabilities*, including lack of social participation and altered future time perspective which are associated with reduced health status. (Marmot 2005)

Wealth as a Function of Health

The relationships between wealth and health may also be examined in the opposite direction, that is, improved health

spurs increases in wealth (Bloom and Canning 2000; Mirvis, Chang, and Cosby 2008; and Mirvis and Bloom 2008). In this paradigm, health is an economic engine.

Although these connections have been known for many years, their importance has recently been emphasized by the World Health Organization (WHO), and health improvement strategies have been incorporated into the economic development objectives of the World Bank and the International Monetary Fund (Commission on Macroeconomics and Health 2001). The mechanisms for this linkage have been reviewed in detail elsewhere (Bloom and Canning 2000; Mirvis, Chang, and Cosby 2008; and Mirvis and Bloom 2008) and include impacts on personal income, business productivity, and regional macroeconomic forces.

At an individual level, the duration and quality of life directly impact a person's ability to generate income. According to WHO, illness or death is the main cause of new or increasing poverty in the world. Health improvements that extend life may result in an increase in working years and, thereby, prolong the duration of economic productivity. These effects have been quantified; the value of an additional life-year is estimated to be worth as much as \$300,000 around age 50, declining to \$100,000 by age 80 (Murphy and Topel 2003).

Interventions that enhance quality of life increase economic value by raising the economic output of each year of life, that is, by increasing productivity. This includes reducing both missing work (or absenteeism) and reduced productivity while at work (or presenteeism).

For businesses, the productivity losses due to illness are very large. In 2003, U.S. workers took 407 million sick days, and workers with chronic health problems were 2.5 times more likely to miss six or more days of work per year because of illness than were those without chronic diseases (Davis et al. 2005). Workers with depression have an average of 5.6 lost hours of productive work per week, with an annual cost to employers of \$44 billion per year (Stewart et al. 2003); over three-fourths of the lost productivity is related to presenteeism.

In addition to the impact of personal health on personal or business finances, improved health of the overall

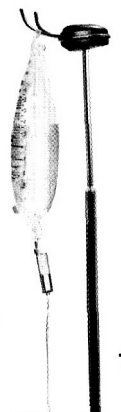
population has substantial macroeconomic effects (Bloom and Canning 2000; Mirvis, Chang, and Cosby 2008; and Mirvis and Bloom 2008). These effects, although less commonly appreciated than the personal consequences, are large in magnitude and impact everyone in a community—not just those who are ill (Mirvis and Bloom 2008).

Improved population health promotes macroeconomic development by:

- *Increasing savings* that provide financial capital for investment, as healthier people with greater longevity are more concerned with future financial needs;
- *Requiring a smaller proportion of available funds for current healthcare*, making more funds available for savings, investment, and other needed services and infrastructure projects;
- *Encouraging outside investment*, as poor health conditions raise concerns about the capability of the local workforce to meet the needs of outside investors; and
- *Reducing birth rates*, as lower childhood death rates reduce the perceived need for families to have more children to compensate for higher infant mortality rates, with a resulting increase in parental investment per child (i.e., education).

The magnitude of these macroeconomic impacts of population health is substantial. Historical studies have concluded that half of the overall economic growth in the United States during the last century can be attributed to improvements in health (Nordhaus 2002). It has been estimated that the increase in longevity between 1970 and 2000 added \$3.2 trillion per year to the national wealth, after accounting for the increase in healthcare costs during that period (Murphy and Topel 2002). Cross national studies have estimated that a one-year increase in a population's life expectancy contributes a 4 percent annual increase in overall economic output, and more than half of the difference in the rate of economic growth between the least developed nations in Africa and that of the

Health gains in childhood and among the poor—two groups particularly relevant to health and economic improvement in the Delta—represent the greatest opportunity for economic growth. Deaths in childhood or young adulthood (before individuals enter the economic markets as productive workers) represent large economic losses as the returns on investments in education and development are forgone.



high-growth countries of east Asia can be attributed to Africa's greater disease burden, demography, and geography (Bloom, Canning, and Sevilla 2004).

Impacts on Children and the Poor

Health gains in childhood and among the poor—two groups particularly relevant to health and economic improvement in the Delta—represent the greatest opportunity for economic growth. Deaths in childhood or young adulthood (before individuals enter the economic markets as productive workers) represent large economic losses as the returns on investments in education and development are forgone. This has been recognized as far back as 1842 when Edwin Chadwick in Great Britain argued for more spending on sanitation because it would reduce the economic loss created by the early death of poor children.

Poor infant and childhood health also leads to deleterious health, with resulting economic consequences later in life. For example, lower birth weights are associated with higher rates in adults of cardiovascular disease, stroke, obesity, and diabetes mellitus, as well as lower educational attainment and lower annual earnings (Currie et al. 2008). It has been estimated that low birth weight reduces later income by as much as 17 percent (Currie et al. 2008).

Poor childhood health also impacts economic productivity by its effect on education. The relationship between education and health is, as in the relationship between health and economic development, both powerful and bidirectional. Unhealthy children attend school for fewer years, miss more school, and learn less while in school. And, children of sick parents are often forced to miss school, perform poorly in school, or leave school to help support the family. This, in turn, translates to lower economic productivity later in life. One additional year of education, that may result from improved health status,

leads to a 15 percent higher starting wage and a doubling of the rate of subsequent salary increases (Sala-i-Martin 2005).


The impacts of education on health are also very strong (Low et al. 2005). Better educated children and adults are healthier, have lower rates of mortality and morbidity, and spend less on healthcare than do less educated people. As one example, Medicaid recipients with the lowest level of literacy spend five times as much on healthcare as does the overall Medicaid population.

A second group for which health improvement efforts may substantially increase economic growth is the poor. They have the highest disease burden and are less likely to have personal or family resources to improve their health. The poor are also more dependent upon physical labor for income and, hence, are more economically dependent upon health. As noted by Angus Deaton, “when low income and poor health go together, the poor are doubly deprived and thus have a greater claim on our attention than is warranted from their incomes alone” (2002). Recognizing these basic aspects of poverty, the WHO has promoted a “pro-poor” approach to improving health in which even modest investments targeted specifically toward health conditions of the poor can lead to large economic gains (WHO 2004).

Health as Human Capital in Economic Development

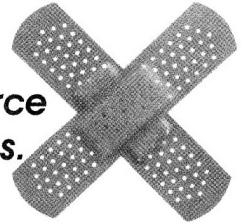
The relationships between health and education and economic development reflect the importance of health as a part of human capital. As summarized by Adam Smith in 1776, human capital includes “all of the useful abilities of people” that lead to real income. According to Nobel Laureate Theodore Schultz, its magnitude is “vastly larger than all other forms of wealth taken together” (1961).

A major implication of this “health as an economic engine” paradigm described here is that population health is



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The success of an initial economic intervention may, however, be dependent upon the health of the population, as an unhealthy workforce may be unable to support the needs of an economic industrial stimulus. Thus, both types of interventions may be needed simultaneously.



also a major contributor of human capital in the form of health capital. The Institute of Medicine defines health capital as “the present value of the stock of health a person is expected to have over the course of his or her lifetime” (Institute of Medicine 2003). The output of the use of this capital is productive time. Indeed, the economic gains from health equal or exceed those due to increases in education and on-the-job training—the two most commonly considered components of human capital.

Because health is a form of capital, the costs of improving health are investments, and they are similar to other investments made by businesses or governments to build industrial or public infrastructure. The rate of return on health investments is high. A 10 percent reduction in heart disease mortality is estimated to be worth over \$4 trillion, and a 1 percent reduction in cancer death is estimated to be worth over \$400 billion to current and future generations (Murphy and Topel 2003). Detrimental behaviors, similarly, have high economic costs; the overall economic cost of cigarette smoking may be as high as \$222 per pack (Viscusi and Hersch 2007).

Challenges to Health Improvement in the Delta

We have shown that poverty and poor health conditions are interconnected with each other as well as with other social and societal problems. These connections have been summarized by Gнусchke et al., as follows:

“It is difficult to separate the demographic, social, and economic changes that have occurred in the Delta. The complex fabric that forms the Delta cannot be broken into parts for simple analysis. Healthcare issues cannot be separated from economic issues, and neither of these issues can be separated from social, political, and other factors of race and power that form the fabric of the Delta...” (2008).

Although efforts to improve health and related conditions in the Delta have been longstanding, the challenges have proven intractable. One cause for this low success rate of past interventions, we suggest, is the limited attention to the interaction among the factors considered here.

These interactions all too often produce vicious cycles. Poor health leads to low income, and low income then leads to poor health. The net result is a trap that is difficult to escape.

One example of this trap is telling: poor health itself inhibits health improvement. The sick are less able to access and to participate in health improvement activities that require transportation, personal expenses, etc. Thus, poor health status, such as in the Delta, tends to be self-perpetuating.

On the other hand, even small improvements in any one factor can lead to improvements in the others. Health improvements contribute to greater economic development, with the resulting increase in wealth contributing to a further increase in health that leads, *pari passu*, to greater economic development, etc., to produce a sustained virtuous cycle.

One implication of this virtuous cycle is that one may start with either a primary health or a primary economic intervention and expect the other to follow. The success of an initial economic intervention may, however, be dependent upon the health of the population, as an unhealthy workforce may be unable to support the needs of an economic industrial stimulus. Thus, both types of interventions may be needed simultaneously. As described by Schultz, investment in infrastructure not balanced by investment in human capital means that “human capabilities do not stay abreast of physical capital, and they become limiting factors in economic growth” (1961).

The net conclusion is that success of projects focusing on economic development in the Delta may be enhanced or, indeed, may be dependent upon including health improvement strategies in the effort. Thus, critical to effective economic development is a change in paradigm to one that:

- Understands that poor health impacts the entire community, not just those who are ill;
- Directly supports population health improvement efforts in addition to direct investments in economic development; and
- Recognizes that health expenditures are sound economic investments rather than simply expenditures on consumption goods.

The Role of Public Policy

A final comment about the importance of public policy in improving conditions in the Delta is important. Public policies can influence health by impacting the multiple deter-

minants of health, including access to care and environmental toxicities as well as personal behaviors (Ryan et al. 2006). They are perhaps the most important approach to widespread improvement in health, and their impact may be either through direct governmental intervention or by facilitating private sector efforts. Conversely, inappropriate public policy may be a major limiting factor in improvement, often because of the unintentional consequences of well-intentioned actions. The WHO Commission on Social Determinants of Health has emphasized that “nations that have high life expectancies and low infant mortality rates are also those where city government leaders and policies address the key social determinants of health” (Our Cities, Our Health, Our Future 2008).

Public policies aimed at improving population health have not been widely developed in the United States, although they have been implemented in many Western nations. Public policy interventions aimed at health improvement fall into several general categories. These include the following:

- *Policies that promote socio-structural improvement* including policies that address social and societal determinants of health, including poverty and poor educational attainment; increase employment and earnings; improve housing conditions; reduce environmental pollution; and improve childhood and adult nutrition.
- *Policies that focus on the disadvantaged*, including targeted attention to issues facing the poor, mothers and young children, and minorities to form a “pro-poor” policy approach (Investing in Health of the Poor 2004).
- *Policies that promote access to effective care and reduce the financial burden of care and the financial consequences of illness.*

While improving health is a critical, perhaps necessary condition for economic growth, it is not the sole solution, and health gains are not an inevitable solution for poverty. Other factors must also be present, such as jobs must be available for those now able to work because of better health. What is essential is that direct efforts to improve health be part of a thoughtful, strategic, and comprehensive economic development plan. As summarized by Schultz, “Granted that (the elements of human capital) seem amorphous compared to brick and mortar, and hard to get at compared to the investment accounts of corporations, they are assuredly not a fragment; rather they are rather like the contents of Pandora’s box, full of difficulties and hope” (1961). ●

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