



The Impact of Child and Maternal Survival Programs on Socio-Economic Development

August 1993
(pdf version November 2000)

Ahmed A. Moen, Dr.PH.
Health Services Administration
School of Business Administration
Howard University

Abstract

In the past five decades, the world has witnessed tremendous advances in biomedical sciences and technology which have led to unprecedented improvement in morbidity, mortality, average life expectancy, productivity and quality of life. However, Africa has not kept pace with these advances because of the shift in priorities. The disproportionate investment in curative health care most of which is located in urban areas made it both unaffordable and inaccessible to the poor and especially mothers, children and elderly. In order to offset these deficiencies, several African governments have launched child survival programs which focus on children's health, protection and development in the context of national primary health care agenda and health for all by the year 2000. The child survival programs come at a time when projects and programs financed by multilateral organizations such as the World Bank and International Monetary Fund prematurely focused on fixing the economy and structural adjustments with little attention to human development and deteriorated infrastructures some of which date back to colonial days. The austerity policy and inadequate distribution of resources between the urban and rural areas drove many African nations into unmanageable political, social and economic crisis.

Technical Assistance in the preparation of the current version of this document has been provided by Claudia Mocanasu, graduate assistant in the Department of Economics and Finance of the School of Business, Montclair State University.

1. Health Status Indicators in African Countries

In Africa, UNICEF estimates that less than 30% of the rural population have access to modern health care delivery, safe water and sanitation systems. In 1990, 142 million children were born into the world. Of 100 born in 1990, 94 survived to age one 91 will survive to age five. Of these, 85 children start primary school and only 55 children finish primary school, and 32 children finish secondary school. Worldwide, 40,000 children die every day from preventable infectious diseases, hunger and malnutrition.

About half of these deaths occur in Africa. Many die from lack of clean drinking water and essential medical care, or from the effects of wrongly prescribed or administered drugs. At least half of the deaths among children less than five of age occur among infants less than one year of age. In Africa, on the average, 109 of every 1,000 newborns die before age one compared to less than 10 of every 1,000 newborns in developed countries such as the United States.¹

In Africa the health status of mothers is deplorable. In some parts of the continent, over 640 of every 100,000 mothers die from preventable pregnancy and childbirth related medical causes such as hemorrhages, induced abortion, infection, toxemia and obstructed labor, compared to less than 5 per 100,000 mothers in the United States and 30 for all industrialized countries.

The highest death tolls occur for childbearing women between the ages of 13 and 25 who are denied access to prenatal health care. Worldwide, thousands of deaths are related to unwanted pregnancy which could have been reduced if appropriate contraceptive methods and suitable health education strategies had been employed.²

Demographic Status

The population's age structure plays a large role in death trends. Africa has both relatively high birth and high death rates, which result in low mean and median ages for the overall population, as well as high fertility rates. About half of all deaths occur among children under age five, largely caused by infectious diseases, hunger and malnutrition whereas fewer than 5 percent of deaths are among the elderly over age 60. About three-quarters of all deaths of mothers occur because of lack of prenatal and perinatal health care, malnutrition and inappropriate health education.³

¹ UNICEF. *The State Of The World's Children. 1991.* Oxford University Press. Oxfordshire, UK.

² UNICEF. *The State Of The World's Children. 1993.* Oxford University Press, Oxfordshire, UK.

³ Cowley, Peter and Mosley, W. Henry. *The Challenge of World Health.* Population Bulletin. Population Reference Bureau, Inc. Washington, D.C. December, 1991

Several studies show that the risk of dying before age 60 for 15 years old males and females is associated with discrepancy in socio-economic standards. Countries with low per capita income and inadequate health care delivery systems have the lowest life expectancy even after the age of 15. UNICEF's report to the World Summit for Children showed that the under-five death rate in Sub-Sahara Africa is the highest in the world. In 27 Sub-Saharan African countries, the under-five mortality rate has been reduced from 283/1000 in 1960 to 197/1000 in 1991. In contrast, low-fertility, low-mortality developed countries with an older age structure such as the United States, approximately less than 2% of deaths are among children under age five. Their death rate has been reduced from 8/1000 in 1960 to 1/1000 in 1991. Almost two-thirds of deaths occur among elderly people above 75.^{4,5}

The Cultural Value Of Children

Several studies have shown that in societies characterized by high child mortality rates, people tend to place a high cultural value on large families, thereby developing qualified attachments to children and greater veneration for the few elderly. This discrepancy can be observed in high-mortality rate African villages where death among infants, mothers and youth occur 10 times more frequently than among the aged.⁶ Under such conditions, it has become a common view in African villages and small towns for parents to carry coffins of children in their arms on their way to crowded cemeteries.

High rates of infant mortality cause traumatic psychological burden and risks to any population. Yet it falls excessively on women who bear large number of children to replace dead ones, knowing that survival prospects are limited. Beyond the physical and emotional stress on women, high mortality societies face the additional burdens of burying so many of their kin. Most families spend excessive financial resources on funeral arrangements and time consuming mourning ceremonies.⁷ In contrast, in the United States, a country with comparative low fertility and low infant mortality rates, the death of children from preventable diseases is both rare and socially unacceptable.⁸

⁴ *ibid.*

⁵ UNICEF. *Facts and Figures*. United States Committee For UNICEF. New York, 1992.

⁶ Cowley, *op. cit.*

⁷ *ibid.*

⁸ *ibid.*

The Impact Of Famine And Armed Conflicts

Beyond the underlying dynamics of population dynamics in Africa, the continent has also experienced a debilitating cycle of famine and civil wars. Data on the impact of famine and civil war in Africa on mortality rates have been difficult to compile, both for reasons of civil disorder as well as for the political implications which such figures carry for affected populations. At the same time, some data have been gathered by international development agencies such as the United Nations High Commission for Refugees and by UNICEF. What studies undertaken by these and other agencies have shown is that famine, and to an even greater extent, civil war, has a multidimensional and cumulative effect on affected populations. Civil wars interrupt the flow of food supplies, the operation of schools and clinics, the abandonment and dispersion of parents, as well as the destruction of homes, roads, and crops. It is no coincidence that countries with some of the weakest levels of health and survival prospects are precisely those countries where civil disorders have become pervasive. Liberia, Ethiopia, and Somalia are but three examples that have received a measure of international publicity wrought by ongoing civil disorders.

To this unsettling portrait, one should also note that when family and social structure have been broken by war and disease, surviving children often face the harsh conditions of economic survival. In 1992, UNICEF reported that an estimated 80 million children faced exploitative conditions in the workplace. UNICEF also noted that some 30 million parentless children must fend for themselves on city streets.⁹

Numerous studies have demonstrated that child survival in primary life has a tremendous influence on fertility and health of the mother. Parents who are not assured of child survival tend to invest much more in each child emotionally and financially, often to their socio-economic detriment. The cultural desire to produce large number of children under normal conditions is to replace children who died from diseases and an adverse environment.

Adult demand for children is reinforced even more during civil wars and natural catastrophes such as drought cycles. Without meaningful health and socio-economic intervention programs to control population growth in countries subject to decades of civil wars, drought and famine, once these areas regain a modicum of health and stability, fertility rates are likely to rise significantly. Thus, while civil wars and natural disasters produce a Malthusian check on population growth in the short-run, in the absence of any

⁹ UNICEF, 1993, *op. cit.*

change in the underlying rate of child survival, such populations often return to relatively high rates of population growth to replace those lost from past catastrophes.

International Patterns of Health Care Strategies

Cultural and socio-economic perceptions usually create a different set of demands on health systems. In Africa, treatment for infectious and parasitic diseases has expanded rapidly in the past several decades, largely through efforts of national health care institutions as well as through international aid programs. Given the demand for health care and given the scarce resources which African societies have had available to respond, increasing emphasis has been placed on primary health care prevention strategies. African governments, which are the primary source of funding for health-care systems, are thus placing growing emphasis on cost-effective programs of preventive health care. Such strategies encompass disease prevention education programs, health awareness and promotion initiatives, as well as the creation of mobile health clinics connected to mid-level and district health care delivery systems.

In contrast, because of the age structure and longevity in the developed countries such as the United States the utilization pattern of health services distinctly vary because of long series of chronic diseases associated with prolonged life expectancy. The demand for health services is geared towards high technology, high-cost hospitalization and long-term care for chronic illnesses and aged people.

Notwithstanding this technological advancement in medical care and technology in the United States, there are still pockets of endemic health and socio-economic disparities characterized by high infant mortality, high morbidity, drug abuse, and unintentional accidents which manifest signs and symptoms of poverty and underdevelopment. The unavailability of and inadequate access to primary health care for over 40 million Americans expose mothers, children and elderly people to high risks of permanent disabilities and death. Although parasitic infectious diseases and diarrhea are not common health problems in the United States, increasing number of children are born to unwed mothers and grow in single-parent families. Widespread substance abuse, low birth weights, and malnutrition are among the major causes of infant, child and maternal mortality, as well as low life expectancy at birth among ethnic minorities. Furthermore, women who are the highest users of health services during childbearing years are likely to live longer and to be more vulnerable to health and financial risks because of their socioeconomic status.¹⁰

¹⁰ Cowley, *op. cit.*

Low Cost Child Survival Programs

In Africa, where child survival programs have been accepted by many governments as part of the national health care system in the context of "Health For All By Year 2000," there are profound implications for health care organization and financing. UNICEF, USAID and other bilateral and multilateral funding agencies are the driving forces behind child survival programs. Child survival programs focus on growth monitoring, oral rehydration, breast-feeding, immunization, female literacy, family planning, and appropriate feedings and vitamin A supplements.

It is well established that aggressive immunization, oral rehydration therapy coupled with a cost-effective primary health care package can avert unnecessary child deaths as well as improve the socioeconomic conditions of poor areas. According to UNICEF, the average annual cost to combat mass child malnutrition is US \$10 per capita. The average initial investment required to provide both safe water and sanitation is now less than US \$30 per person, and the recurring cost can be as low as US \$1 or US \$2 per person per year. The estimated cost of the total package of immunization against the six deadly childhood diseases (whooping cough, polio, tuberculosis, tetanus, diphtheria, and measles) and anti-diarrheal oral rehydration therapy (ORT) is less than US \$25.00 per capita per year.¹¹ If immunization and primary health care programs are implemented within the 1990s, the cost of curative care will be reduced, while productivity and the quality of life will improve by a factor on the order of tenfold.

The 1993 State of the World's Children Report issued by UNICEF shows a great dividends are gained from child survival programs. Several African countries are now experiencing a significant reduction in birth and death rates, and which in the short-run lies behind changing population growth rates.¹² When the benefits of child survival programs trickle down to the average family in Africa, it will result in a growing number of infants who survive. This, in turn, will induce families to reduce fertility and accept smaller sized families as a norm. The implication of this transition from high child death rates to [high survival rates is that health services must adapt to new sets of health care demands, and which may require more complex intervention technologies than the low-cost ones now being pursued. By the end of the century, health delivery services must provide for built-in momentum that accommodates a growing number of children, as well as a growing adult and elderly population with more classic chronic diseases.

¹¹ UNICEF. *The State Of The World's Children*. 1988. Oxford University Press, Oxfordshire, UK.

¹² UNICEF. *The State Of The World's Children*. 1988. Oxford University Press, Oxfordshire, UK.

Despite this somewhat promising prognosis, because mortality rates decline at rates faster than birth rates, Africa's population in term at least, continues to grow at some of the highest rates in the world. The challenge to policymakers is thus to effect a transition from a high birth high death pattern to a low birth low death pattern while at the same time moderating the overall rate of population growth to levels consistent with sustainable patterns of economic growth.

Women's Role In Health

One way to understand the large differences in child survival across countries is to look at the family, particularly mothers, as the primary providers of health. The survival of infants and young children is critically dependent upon the care provided by their mothers both during pregnancy and childhood. Recent studies by the Population Reference Bureau show worldwide reductions in mortality of children under age five for selected countries between 1970 and 1980. Both North Africa and Sub-Saharan African countries have shown significant declines in mortality rates. However, Mali, Senegal and Nigeria have higher death rates in comparison to Egypt, Tunisia and Zimbabwe. The Infant and Child Mortality Rate (ICMR) range from 1:1% in Northern America to 16.3% in Africa in 1990. Among individual countries it ranged from 0.7 in Iceland and Finland to 31.8% in Afghanistan and 29.1% in Mali. After adjustment for population size, mortality rates declined in North Africa by 46%, and by 12% in Sub-Saharan Africa. Mali experienced a decline from 36% to 25%, and Senegal experienced a decline from 29% to 19% over the same period.¹³

Numerous studies have found that infants are at high risk of death if they are born to mothers who are adolescents, over age 40, or have had more than seven births, and when the interval between births is less than two years. The Demographic and Health Survey Project data have shown that compared with children born to women in their 20s, children of teenage mothers were 35% more likely to die before age 1, while children born to women in their 40s were 47% more likely to die by age 1 compared with second third-born children. The interval between births is the most consistent reproductive factor associated with high infant and child mortality.

Regardless of the country, economic and social conditions are the primary determinants of health risk. As in Africa, poor children, women, and the elderly face relatively higher health risks than the population as a whole. In relative terms, this is also

¹³ Cowley, *op. cit.*

just as true in developed countries such as the United States as it is in African countries. Family planning programs coupled with child survival programs can substantially reduce infant and child mortality by preventing birth to high-risk mothers in both developing countries and under serviced poor population in the United States. When a woman gains control of her reproduction, it is possible that few births will give her more time and energy to recover her own health and to give more attention to the care of the few children.¹⁴

Maternal Education And Child Survival

At present, UNESCO estimates over 900 million adults in the world who cannot read or write. Two thirds of them are women and most of them are in Africa. In almost every country where it has been studied, children's chances of surviving improve as their mothers' education increases.¹⁵ There is striking difference in mortality among children of women with differing levels of education. Although variations exist between world regions, as little as three years of education is associated with 20% to 30% declines in the mortality of children under age five.¹⁶

Education levels are related to living standards - a more educated mother is more likely to have a higher income and live in better housing. Maternal education appears to affect child health in a number of ways. Educated mothers often have been introduced to good diets and hygiene in school or by their own educated parents. A more educated mother also may have enough status and power in her family to take appropriate action when her child needs health care. The more educated a mother is, the more likely she is to use maternal and child health services - specifically prenatal care, delivery care, childhood immunizations, and oral rehydration therapy for diarrhea.¹⁷

This strong and consistent link between maternal education and child survival has important implications for health policy and socio-economic development. In the United States, in 1990 average white family size was 2.0, with a 1987 infant mortality rate of 8.6/1000, giving this group a ranking of 13th among selective developed countries. The corresponding family size for blacks in 1990 was 2.48, with a 1987 infant mortality rate of 17.9/1000, and a ranking of 28 among selected developed countries.¹⁸

¹⁴ *ibid*

¹⁵ *ibid*

¹⁶ *ibid*

¹⁷ *ibid*

¹⁸ *ibid*

As these comparative numbers show, large social inequalities in survival exist not only between but also within countries, even the most developed countries. More importantly, if equal opportunity is given, it reveals that even in poor countries with egalitarian health and socio-economic policies, some families can produce a level of child survival that approaches that seen in much wealthier countries. The challenge is to extend these health gains to all people in all countries.¹⁹

External Development Assistance

At a time when global economic conditions are characterized by excessive indebtedness, shortages of foreign exchange, as well as by declines in economic and technical assistance, Africans must look to their creativity and vast untapped human and economic resources to devise suitable strategies for the period ahead. According to the 1989 World Development Report issued by the World Bank, the percentage of Gross Domestic Product allocated to debt servicing as compared to expenditure on health and education in 95 low and middle income developing countries ranked by income and under five mortality rate during 1987 shows the following patterns of expenditures: 1.1% on health, 2.5% on education and 4.5% on debt servicing. Although health and education are two important sectors that would improve the quality of life in these countries, expenditure on debt serving is 2 times as great as education and 4 times as great as Health.²⁰

In 1986-1991 period, the Ethiopian government, which was engaged in the final stages of a bloody civil war, spent the following shares of its Gross Domestic Product: 4% on health, 13% on education, and 48% on national defense. In neighboring Somalia, which was about to experience its own collapse soon thereafter, the following percentages are equally indicative of where priorities lay: 1% on health, 2% on education, and 38% on national defense. As a point of comparison, in the United States, health care expenditures account for 13% of GDP, while education accounts for 12%, and defense accounts for 6%. Given that the American health care is mostly in the private sector, and that primary and secondary education is the responsibility of states and local governments, Ethiopia and Somalia spent a far greater share of national resources on national defense than did the United States.²¹

¹⁹ Hale, Christiane B. *Infant Mortality: An American Tragedy*. Population Reference Bureau Bulletin Number 18. April, 1990.

²⁰ Cowley, *op. cit.*

²¹ UNICEF, 1993, *op. cit.*

The proportion of ODA going to basic health and education as well as on water and sanitation in urban and rural areas in 1989 shows that less than 25% of the foreign aid is devoted to health and education. For reasons relating the shifting international priorities, this proportion has fallen by about 1/3 since the 1970s decade. Furthermore, it shows the disproportionate allocation of resources. Three of the most basic elements of human development - primary health care, primary education rural water supply and sanitation - receive only just over 3% of all aid.²²

The Relationship Of Health To Gross National Product Per Capita

The single most important factor determining human survival is income. However, the United Nations Development Program, through its recently inaugurated Human Development Report, has proposed a combination of income, education, life expectancy at birth as a more accurate measurement of quality of life than the World Bank's than income, *per se*. Given Gross National Product as a single predictor of status of health it was found that at one extreme, Africa, with a per capita income of US\$ 600, has a life expectancy of 52 years while North America, with a per capita income of almost US \$20,000, has a life expectancy of 75 years. While a high gross national product per capita is usually related to a high life expectancy, a number of low-income developing countries have managed to raise their average life expectancies closer to the levels of wealthier countries. Conversely, some countries with high per capita incomes such as oil producing countries still rank relatively low on measures of health and survival.²³ In our view, while income continues to play an important role in shaping life expectancy, how countries set national spending priorities is an equally important consideration. Thus, the UNDP's human development index adds an important dimension to our understanding of international comparisons of living standards, and of the determinants which shape them.

Conclusion

The September, 1990 World Summit for Children was the largest gathering in the history of the United Nations. Seventy-one Heads of State, and over 150 governments endorsed the Declaration of Children Rights and a Plan of Action in 20 specific targets to ensure the survival, protection, and development of children. The Declaration requires all participating nations to provide children with the basic elements of life: improved health and nutrition, basic education for both children and mothers, equal rights for women, improved maternal health and family planning services, a safe and supportive environment, and sustainable economic growth.²⁴

²² WHO. *Women. Health and Development*. A Report by the Director-General. WHO, Geneva, 1985.

²³ Cowley, *op. cit.*

²⁴ UNICEF, 1992.

The challenge of 1990s resides in understanding the demographic transition of Africa from developing to developed stage. Africa's quality of life index, as measured by prevailing child mortality rates, life expectancy at birth, and literacy, stands among the lowest in the world. Africa today is characterized by high infant and child mortality, high maternal mortality, high illiteracy, low life expectancy at birth, high youth unemployment, low health related productivity coupled with sick and disabled elderly who lack social security, financial support or organized health and social services. It is this challenge that must be faced directly if African countries are to advance in the twenty-first century.

Obviously, the constraints to achieve a better standard of health and quality of life are socioeconomic and political in nature. At the same time, it is now well known that cost-effective health care strategies can make a difference. These strategies need to be focused toward child and maternal segments of the population. As they do so, it will be possible to reduce disparities in life expectancy within developing countries, as well as between developing and developed countries within a meaningful period of time.

The discrepancy in health status of the African countries reflects the dynamics of political, economic, social and demographic changes which occurred during the post-colonial period. With this in mind, any change in the health and demographic status of the population will be determined by the choices made by the public and private sectors involved in health and development. It is possible to improve the health and social standards of Africa provided socio-economic disparities are not allowed to persist and communities are empowered and involved in deciding on matters that affect their lives. It is possible to ensure social justice, peace, stability and reconciliation, if and when man-made ecological and environmental disasters are contained, and when armed struggle and civil wars are not considered as viable options for conflict resolution. Positive changes in socio-economic status of the poorest of the poor can occur, if African governments promote democratic decision making processes which empower local communities to assume greater role in self-sufficiency and self-governance.