H N P   D I S C U S S I O N   P A P E R

Who Would Gain most from Efforts to Reach the Millennium Development Goals for Health?

An Inquiry into the Possibility of Progress that Fails to Reach the Poor

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Health, Nutrition and Population (HNP) Discussion Paper

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Who Would Gain most from Efforts to Reach the Millennium Development Goals for Health?

An Inquiry into the Possibility of Progress that Fails to Reach the Poor

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Abstract: This paper is an inquiry into the possibility of progress toward the Millennium Development Goals (MDGs) targets for health that does not significantly benefit the disadvantaged people whom the MDGs are intended to serve. The possibility arises because the MDGs health targets, unlike most other prominent MDGs targets, are stated in terms of improvement in societal averages rather than in terms of gains among poor groups within societies. Since improvements in any group, including the better-off, would produce improvements in societal averages, progress toward targets expressed in those terms does not necessarily reflect improvements in conditions among the poor.

The inquiry begins by examining the implications of two alternative scenarios for progress toward the MDGs under-five mortality target: a "top-down" scenario, with gains highly concentrated among the better-off; and a converse, "bottom-up" scenario, under which gains flow primarily to the poor. Quantitative illustrations for typical countries in Latin America and the Caribbean, South and Southeast Asia, and Sub-Saharan Africa indicate that the amount of benefit accruing to the poor would vary greatly according to the scenario followed.

The second part of the inquiry examines the plausibility the two scenarios. The conclusion is that, while the "pure" top-down scenario is unlikely, some approximation of it is considerably less improbable than a bottom-up scenario. The implication is that special efforts will be required to ensure that health and development initiatives reach poor people if they are to gain significantly from progress toward the MDGs health targets.

Keywords: Millennium Development Goals; health targets; poor; disadvantaged population groups.

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FOREWORD

This Discussion Paper examines the implications of the recent heightened emphasis on the Millennium Development Goals (MDGs) targets for the poor.

The total number of people throughout the world living in absolute poverty (defined as having an income of less than US$1 a day) has a fallen by an estimated 200 million since 1980. Advances in health during the past few decades are also impressive. The increase in life expectancy and the decrease in fertility throughout the world have been greater in the past 100 years than during the previous 1,000. Life expectancy is almost 25 years longer today than at similar income levels in 1900.

These gains in health are partly the result of improvements in income and education, with accompanying improvements in nutrition, access to contraceptives, hygiene, housing, water supplies, and sanitation. The achievements in health during the 20th Century are also the result of new knowledge about the causes, prevention, and treatment of disease, and policies that make known interventions more accessible.

Unfortunately many of the poorest in the world have not benefited from these improvements in health and wealth. They almost always have worse health and nutrition at lower income levels and higher fertility rates. They are unable to contribute equally to the financing of health care. As a result, they usually do not have effective insurance protection against the cost of illness. Yet, scarce public resources continue to be spent disproportionately on the rich even at very low-income levels where improved targeting of the poor would have the greatest payoff.

Extensive work has been done recently on policies and measure that governments can introduce to improve the impact of public spending and programs on the poor. Usually, this requires a combination of targeted and non targeted approaches.

In developed and many middle-income countries, universal coverage is one of the most effective ways to ensure that the poor have equal access to high quality services. But such non-targeted approaches can be wasteful at low income levels where any public money spent on the non poor is less money available for the poor. The following four approaches to targeting the poor have been successful in these settings:

- *Focus specifically on the poor individuals or households most vulnerable to illness, malnutrition, and high fertility*, by applying a means test to identify the neediest and providing free or subsidized services to only those qualifying for preferential access on this basis. In most low-income countries this technique is not administratively feasible on a large scale.

- *Focus on poor regions within a country or on population groups that are particularly vulnerable to poverty* (e.g., women, children, and ethnic minorities). At the global level, most of the world's 1.3 billion poor live in South Asia, Sub-Saharan Africa, and a few countries in other regions (see Annex A for country groupings). Within countries, the emphasis can be on the states, rural areas, and urban areas where the poor live, or on specific sub-groups within these areas — such as when nutrition programs are targeted at mothers and young children in disadvantaged areas.

- *Emphasize health, nutrition, and reproductive problems of the poor.* The old enemies of the poor — malnutrition, communicable diseases, childhood illnesses, high fertility, and maternal and perinatal conditions — can be specifically targeted in this way (see Figure 1.5). More than half of the disease burden in Sub-Saharan Africa and South Asia can be addressed effectively through local adaptation of interventions such as immunization, food fortification, targeted nutrition programs, integrated management of childhood illness, family planning, maternal and perinatal health, and school health (see Annex C). As populations age, non-communicable conditions and injuries increase rapidly. The poor and less well educated are particularly vulnerable to the adverse effects of mass marketing of tobacco, alcohol products, and unhealthy foods.

- *Give greater attention to the types of service providers from whom the poor receive most of their care.* This often requires upgrading and extending the health, nutrition, and reproductive services (public and private) in low density rural areas and urban slums. This would include improving the supply of consumables and drugs, the management of facilities, and the skills of staff.

These lessons on non targeted and targeted approaches are particularly pertinent to the current debate on the MDGs. During recent years, MDGs have become a set of quantitative targets for development policy by the year 2015 in terms of poverty reduction and improvements in health, education, gender equality, the environment, and other aspects of human development. Progress since 1990 in achieving the health-related MDGs has, however, been uneven across countries and regions and uneven among the goals themselves. As the deadline for achieving the goals approaches, this has led to a recent heightened focus by the international development community in supporting low- and middle-income countries achieve these targets.

This Discussion Paper suggests that that the recent heightened focus on accelerating progress towards achieving the MDGs could leave many of the world's poor behind, if not worse off. This risk arises because the MDGS health targets, unlike most other prominent MDGs targets, are stated in terms of improvement in societal averages rather than in terms of gains among poor population groups within societies. Improvements in any population group, including the better-off, will lead to progress toward the health targets.

The author of the Discussion paper even raises the possibility that attention and spending focused on the middle-income countries and population groups might lead to more rapid improvements in the aggregate MDGs targets than similar efforts focused on the poor. To support this argument, he draws on data about health conditions among different socioeconomic groups in 28 countries of Africa, Asia, and Latin America to demonstrate which groups would gain and how much under alternative scenarios. He finds plausible scenarios under which most gains would flow to the better-off rather than the poor, especially during the early stages of progress.

To avoid this undesirable outcome, the author concludes that international and national development policy should remain solidly focused on benefiting the poor, even if this requires a longer and more difficult development path. The race to achieve the most rapid improvements in global and national averages should not unwittingly sacrifice the underlying commitment to serve the poor – one of its important underpinning principles.

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WHO WOULD GAIN MOST FROM EFFORTS TO REACH THE MILLENNIUM DEVELOPMENT GOALS FOR HEALTH?

The purpose of this paper is to ask and answer one question in order to focus attention on a second:

- The question to be asked and answered is that of the title: "how much would the poor gain from faster progress toward the Millennium Development Goals (MDGs) targets for health?"

- The answer to be presented is that "it all depends." That is, how much or little the poor gain is not fixed, but will vary widely depend upon the strategies adopted in order to bring about the faster progress desired.

- The second question, to be posed but not answered, is "what kinds of strategies are needed in order to ensure that the poor gain as much as possible?"

The effort to deal with such questions will take the form of a two-phase inquiry into how much or little the poor might benefit from progress toward the MDGs health targets. The presentation of the inquiry will be in five parts:

- The first will be an introduction to the MDGs, and to the reason for uncertainty about how much the poor would gain from progress toward the MDGs health targets.

- The second and third will present the approach and findings of the inquiry's initial phase, which features the construction of two very different scenarios concerning the distribution of benefits from progress toward the targets among different socio-economic groups.

- The fourth will put forward the inquiry's second phase, which is a consideration of which of the scenarios presented is the more plausible – or more, accurately, the less implausible.

- The fifth will be a brief conclusion.

I. THE MILLENNIUM DEVELOPMENT GOALS (MDGs)

The Millennium Development Goals (MDGs or Goals), contained in a declaration adopted unanimously in September 2000 by the countries belonging to the United Nations,[1] drew together and enlarged a set of development objectives agreed upon during a series of global conferences over the preceding decade. After review and editing by the United Nations secretariat, the IMF, the OECD, and the World Bank, the objectives were published in September 2001 as a set of eight goals, each expressed in very general terms and accompanied by one to six considerably

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[1] http://www.un.org/millenium/declaration/ares552e.pdf, p.5.

more specific targets and by a larger number of indicators for measuring progress toward the target.[2]

For example, the first goal is to "eradicate extreme poverty and hunger." The two accompanying targets call for halving, by 2015, the proportion of people with daily incomes of less than a dollar and suffering from hunger in 1990. The other goals deal with education, gender, health, the environment, and development partnerships.

While all of the MDGs are highly relevant for health, in the sense that faster progress toward any one of them could be expected to produce health gains, three of the eight refer to health explicitly. Each of the three calls for significant improvements by the year 2015:

- Goal four is to reduce child mortality; and its accompanying target is to reduce the 1990 under-five mortality rate by two thirds.

- Goal five calls for improving maternal health, with the specific target of reducing the 1990 maternal mortality ratio by three quarters.

- Goal six deals with combating HIV/AIDS, malaria, and other diseases. The two accompanying targets call for a halt and reversal in the spread/incidence of HIV/AIDS, and of malaria and other diseases (especially tuberculosis).

The overall theme of the MDGs as a whole is poverty alleviation. This can be seen from the emphasis on the reduction of poverty and hunger in the first and most prominent goal, and also from the copious documentation that accompanied the MDGs' issuance. For example, in presenting the MDGs to the General Assembly for consideration, United Nations Secretary General Kofi Annan, advocated their adoption because, "we must spare no effort to free our fellow men and women from the abject and dehumanizing poverty in which more than 1 billion of them are currently confined."[3] In a similar vein, the United Nations press release on the edited 2001 goals referred to their major focus as being "on eliminating poverty;"[4] the World Bank's press release quoted Bank President James Wolfensohn expressing support for them as "concrete targets for everyone to rally around in the global fight against poverty;"[5] and the presentation of the goals on the United Nations Development Programme website refers to them "an ambitious agenda for reducing poverty…;"[6]

While statements like these little doubt that the improvement of conditions among the poor is the intent underlying all of the MDGs and accompanying targets, the goals and targets vary greatly in the degree to which they are expressed in terms specific to the circumstances of that population

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[2] http://www.un.org/documents/ga/docs56/a56326.pdf, pp. 55-8.

[3] Kofi A. Annan, We the Peoples: The Role of the United Nations in the 21st Century (New York, United Nations, 2000), p. 77.

[4] http://www.un.org/News/Press/docs/2001/pil380.doc.htm, p. 2.

[5] http://lnweb18.wo rldbank.org/news/pressrelease.nsf/cf78b21e6f253ae985256b9d004ce8fb/f02c5a35 aff0bae885256acc006d0a6c?OpenDocument

[6] http://www.undp.org/mdg/

group. Two examples, from opposite ends of the specificity spectrum, can serve to illustrate the point:

- At the most specific end of the spectrum is the economic target of the first Goal, as described above. That target, calling for a reduction in the proportion of people whose income is less than a dollar a day, refers unambiguously to improvements in conditions among a clearly-defined group of especially poor people: that is the poorest 1.2 billion of the global population that falls below that income level. Given the way this target is formulated, only improvements among this particular population group matter. Any acceleration in overall global economic conditions that affect other, higher population groups – say, the middle or upper income groups in a more advanced developing countries – doesn't count in assessing progress toward the target.

- At the other, least specific end of the spectrum are the goals and targets like those for health. These refer only to the degree of improvement to be achieved in overall societal averages, with no reference to the particular population group in which the improvement occurs. For example, the targets for the under-five mortality rate and the maternal mortality ratio call simply for reductions of two-thirds and three-quarters, respectively. There is no stipulation that these reductions need to be among the poor. It is thus possible to count as progress toward those health targets improvements in conditions among any population group, no matter how well off it might be – not just improvements among people below some specified level of well-being, as under the income target.

This raises the possibility of considerable progress toward the health MDGs through improvements concentrated primarily in upper-income groups, without significantly benefiting the disadvantaged people whom the MDGs are intended to serve. What follows is an inquiry into that possibility.

II. TWO SCENARIOS

2.1. SCENARIOS

The inquiry's initial phase will feature the development of two quantitative scenarios, designed to provide an initial sense of the range of possible benefits to the poor, and of poor-nonpoor inequalities, from alternative ways of proceeding toward the MDGs health targets. To this end, the scenarios will incorporate two of the many possible combinations of gain among the poor and among the better-off as societal average mortality rates decline. One of the combinations will be much more favorable to the better off than to the poor; the other will favor the poor much more than the better off. A comparison of the conditions among the poor and the better-off under the two scenarios will then be made in order to assess the potential quantitative significance for the poor and for health equity of following different distributional trajectories toward MDGs attainment.

The specific characteristics of the two scenarios are as follows:

- A "top-down" scenario favorable to the better-off. All benefits from improved overall health conditions accrue first among the better-off, and begin flowing to the poor only after the better-off have attained the most favorable level possible. In particular, as overall societal mortality declines toward the MDGs goal, the rate among people below

the poverty line is held constant until the rate among people above the line reaches the low level currently prevailing in the industrialized world. Only then does the rate among people below the poverty line begin to fall.

- A "bottom-up" scenario favorable to the poor. This is the converse of the scenario just presented. Using the same definitions of the lowest attainable mortality rate and of the proportion of people living above and below the poverty line, it features a pattern under which all gains go initially to those below the line, with the better-off starting to benefit only once the poor have reached the best possible level.

These are not the most extreme scenarios that might be envisaged, since it would be computationally possible to construct ones under which mortality of the poor rises as that of the better-off declines, or vice versa.[7] But they are nonetheless quite extreme and are presented, for initial diagnostic purposes, simply as schematic representations of possibilities lying close to the outermost boundaries of the conceivable range of results.

2.2. DATA

To construct the two scenarios just described, one needs two kind of information. The first is a specification of the proportion of the population that is be considered poor, and to be regarded as better-off. The second consists of data concerning health conditions in each of the two groups.

Information of the former sort is available through the poverty line estimates prepared by and for many countries. The set of estimates most suitable for present purposes is that for the percentage of a country's population earning below approximately $ 1.00 daily, as compiled for 82 countries by the World Bank.[8] These data appear as reliable as any, offer greater cross-country comparability than figures from other sources, and have the further advantage of being stated in a manner consistent with the first and most prominent MDGs, as described above, which also refers to daily incomes of below a dollar a day.

Information concerning health conditions among people above and below the poverty line is much less well developed. For many conditions referred into the MDGs – such as maternal mortality and specific diseases like HIV/AIDS, malaria, and tuberculosis – they do not exist. However, there are data that can be used to examine several of the intermediate indicators for some of these variables (e.g. attended delivery rates) and also for the most prominent single health MDGs target: namely, under-five mortality.

These data are to be found in a set of 45 country studies on socio-economic differences in health, nutrition, and population recently produced by the World Bank.[9] The source of the figures in the studies is the well-known Demographic and Health Surveys (DHS) program sponsored by the U.S. Agency for International Development. The DHS program featured use of approximately

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[7] Thanks go to Eduard Bos for noting this possibility.
[8] The World Bank, 2002 World Development Indicators (Washington: International Bank for Reconstruction and Development, 2002), pp. 68-71.

[9] Davidson R. Gwatkin, Shea Rutstein, Kiersten Johnson, Rohini P. Pande, and Adam Wagstaff. Socio-Economic Differences in Health, Nutrition, and Population (Washington: Health, Nutrition, and Population Department of the The World Bank, 2000).

comparable questionnaires in large-scale household surveys in each of the countries covered, in order to obtain information about fertility, maternal and child health, and related issues.

The questionnaire did not cover household income or expenditure. However, it did include numerous questions about household assets or attributes, such as type of flooring, source of water, availability of electricity, and the presence of such possessions as watches or radios. And previous research had shown that the responses to questions like these could be weighted using principal components analysis and combined to produce a composite household wealth index that approximated household expenditures with an acceptable degree of accuracy.[10]

So, in the World Bank studies, a household wealth index was computed for each country, and used to divide the country's population into quintiles. Then, the quintile-specific values were computed for each of approximately thirty health, nutrition, and population status and service use indicators – including under-five mortality rates.

28 of the 45 countries with information about the under-five mortality rates among children at different economic levels are also among the 82 countries covered by the World Bank's data bank of information about percentage of the population above and below the dollar-a-day poverty line. This makes these 28 countries, listed in table 1, the only ones with both types of information referred to at the outset.

As can be seen in table 2, the relevant characteristics of these countries are broadly representative of the three regions of the developing world in which they are located: Latin America and the Caribbean, South and Southeast Asia, and Sub-Saharan Africa. That is, both the proportion of population below the poverty line and the average under-five mortality rate in the countries covered (weighted for population size) are within three to six percentage points of the corresponding regional figures. This makes it possible to consider the pooled figures of the countries covered as a reasonable approximation – albeit no more than an approximation, to be sure – for overall regional conditions.

Thus, in brief, the data needed to construct the two scenarios referred to above are available for:

- One particularly prominent MDGs health indicator (under-five mortality)

- In 28 countries that are reasonably representative of three major regions
of the developing world (Latin America and the Caribbean, South and Southeast Asia, and Sub-Saharan Africa).

2.3. PROCEDURE

Three illustrations are to be developed, each featuring the two scenarios noted above for one of the three regions for which data are available. Preparation of the illustrations involves four steps:

- First, merging the data from the countries listed in table one with the figures for the other

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[10] Deon Filmer and Lant Pritchett, "Estimating Wealth Effects with Expenditure Data – or Tears: An Application to Educational Enrollments in States of India." Demography, vol. 38, no. 1 (February 2001), pp. 115-32.

countries in the same region in order to produce three regional population-weighted averages: one each for Latin America and the Caribbean, South and Southeast Asia, and Sub-Saharan Africa.

• Second, adjusting the under-five mortality rates based on DHS data in order bring them into line with the 1990 rates published by the World Bank, which are the figures most frequently cited in MDR discussions. This is done by calculating the ratio of the weighted average DHS and 1990 World Bank under-five mortality rates for the countries covered in each region, and multiplying each DHS-based quintile rate by this ratio.[11]

Table 1: Names of Countries Covered

Latin America and the Caribbean	Sub-Saharan Africa	South and Southeast Asia
Bolivia	Burkina Faso	Bangladesh
Brazil	Cameroun	India
Colombia	Central African Republic	Indonesia
Dominican Republic	Côte d'Ivoire	Nepal
Guatemala	Ghana	Pakistan
Paraguay	Kenya	
Peru	Madagascar	
	Mali	
	Mozambique	
	Namibia	
	Niger	
	Nigeria	
	Senegal	
	Tanzania	
	Zambia	
	Zimbabwe	

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[11] The resulting adjustments ranged from 0.5 to 8.0%.

Table 2: **Characteristics of Countries Covered**

Name of Region	Population Size (Millions)			% of Population below Poverty Line		Average Under-Five Mortality Rate	
	of Countries Covered	of Entire Region	% of Region Population Covered (col.2/col.3)	in Countries Covered	in Entire Region	in Countries Covered	in Entire Region
Latin America and the Caribbean	270	516	52.3%	13%	16%	43	37
Sub-Saharan Africa	347	659	52.7%	50%	46%	156	162
South and Southeast Asia	1,518	1,948	77.9%	36%	31%	85	81

Notes:

     1. Figures for percentage of the regional population below the poverty line refer to 1998 and are from The World Bank, World Development Report, 2000/2001: Attacking Poverty (Washington: The World Bank, 2001), p. 23. All other figures are taken or calculated from data provided in the World Bank, 2002 World Development Indicators (Washington, D.C.: The World Bank, 2002), pp. 18-20 (for population size), pp. 68-70 (for percentage of the population under the poverty line in the countries covered), pp. 22-24 (for average under-five mortality rate. Figures concerning population size and the average under-five mortality rate are for the year 2000. The reference year for data concerning the percentage of country population below the poverty line varies from country to 1994 to 1999, depending upon the date of the survey from which the data were derived for the country concerned.

     2. In calculating figures for South and South East Asia, that region was defined as the World Bank's East Asia and Pacific Region, minus China, plus the Bank's South Asia Region.

- Third, establishing a baseline situation. This situation has two parameters: the percentage of the population above and below the poverty line, and the 1990 under-five mortality rate of each group.

  --Figures for percentage of the population below and above the poverty line were produced by merging the country World Bank country poverty line as described under step one, above.[12]

  --1990 under-five mortality rates for people below and above the poverty line were derived by merging the adjusted quintile-specific DHS rates into two groups. In the first instance, this involved the use of linear interpolation between quintile midpoints to estimate a suitable rate for the portion of population below and above the poverty line in the quintile where the line occurs. Those estimates were then merged with the figures for the other, higher and lower quintiles, whose members live entirely above or below the line.

- Fourth, estimating the under-five mortality prevailing among people below and above the poverty line under each of the two scenarios discussed earlier at different points along the path to full MDGs target achievement. Like step three, this step also has two components. One is the selection of suitable points en route to target achievement at which to measure mortality rates among the two population groups of interest (i.e. those below and above the poverty line). The other is the estimation of the rate prevailing at each point for each of the population groups, under each of the two scenarios.

  --The first is selection of the suitable points en route to target achievement at which to measure mortality rates. Four points were arbitrarily selected: 25%, 50% 75%, and 100% of full MDGs achievement. Since 100% of MDGs target achievement involves a two-thirds (or four-sixths) reduction in a society's overall under-five mortality rate, 25%, 50%, and 75% achievement of that target implies reductions in overall rate of one-sixth, two-sixths (one-third), and three-sixths (one-half) of the average rate, respectively

  --In calculating the appropriate rates, the under-five mortality level of one of the population groups (people below the poverty line under the "top-down" scenario, people above the line under the "bottom up" scenario) is held constant, while the mortality rate in the other population group was reduced. The first reduction is by the amount necessary to produce a one-sixth reduction in the overall societal rate – that is, the overall societal rate corresponding to 25% achievement of the MDGs target. The reductions in this same population group are then continued until the group's mortality rate reached the lowest attainable level – set at seven deaths per 1,000 live births, which is the average level attained in 2000 by the industrialized countries according to the World Bank data set on which the other parts of the current exercise are based. Then, and only then, mortality rates in the other group are allowed to fall. In this first instance, the magnitude of the fall in this other group is set at the amount required to produce the overall societal average rate equaling that pertaining to at the next point of progress toward the MDGs goal. The fall in that group is then allowed to continue until a societal average mortality rate corresponding to the level "MDGs Fully Achieved" had been reached – until, in

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[12] For ease of presentation, the percentage of the population considered poor held constant at its initial level during the entire period covered by the scenarios. Should there be progress toward the MDG poverty reduction target, the proportion people regarded as poor for the purpose of the current exercise who earn less than a dollar a day would decline progressively during that period.

other words, a total fall in the average mortality rate of two-thirds from the baseline has been attained.[13]

III. IMPLICATIONS OF THE SCENARIOS

3.1. INTRODUCTION

The findings produced by applying the procedure just described can be viewed from either of two different perspectives. The first the poverty perspective, which involves looking at the implications of the two scenarios for people below the poverty line. This is the perspective most directly relevant to the poverty orientation of the MDGs and for answering the question immediately at hand, as posed at the outset – namely, the amount that the poor would gain from faster progress toward the MDGs health targets. However, the second perspective, on inequality, is also of great interest – some would say of even greater interest – because of its implications for social justice. From an inequality perspective, what matters are the consequences of the two scenarios for differences between people below and above the poverty line.

Given the importance of both the poverty and the inequality perspective, the findings are to be presented in a manner designed to facilitate a comparison of the two scenarios from each one. Thus, the six annex tables that present the full set of findings are divided into two sections:

- The first section, consisting of the initial three tables (nos. A.1 through A.3) presents the findings in the format most relevant for the poverty perspective. That is, each table is organized in a manner designed to facilitate comparisons of people within a particular socio-economic group – especially for people living below the poverty line – under different scenarios. Each of the tables has three principal parts. At the left is an indication of the societal average under-five mortality rate that would prevail at each stage of progress toward the MDGs target. The middle part shows the rates that would prevail, at each of these same stages of progress, among people below the poverty line under the top-down and bottom-up strategies, respectively. Also shown in this middle section is the magnitude of the difference between the rates produced by the top-down and bottom-up scenario. The table's third, right-hand part provides the analogous information for people above the poverty line.

The format of the six tables in the second section (nos. A.4 through A.6) is intended to facilitate an examination of the findings from the second, inequality perspective. For this purpose, they provide comparisons between people in different socio-economic groups – that is, between people living below and above the poverty line – under a given scenario. Each of these tables, too, is organized in three sections. The left-hand section, presenting societal averages, is identical to that of tables A.1 through A.3; but the columns in the other two sections are organized differently. In tables A.4 through A.6., the columns containing rate data in each of those section compare the rates prevailing among people below and above the poverty line under a given scenario, rather than the rates under different scenarios for the same group of people as was the case in tables A.1 through A.3. In the center section of tables A.4 through A6, the focus is on the

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[13] At each stage, the calculation procedure used takes into account inter-group differential fertility and thus differences in the per capita number of births in each group.

top-down scenario. The right-hand section provides comparable information for the bottom-down scenario.

## 3.2. CONDITIONS AMONG THE POOR

The data from tables A.1 through A.3 that are most relevant for conditions among people below the poverty line are summarized in figure one. The numbers appearing there, reproduced from columns 3 and 4 of those tables, show the under-five mortality rate that would prevail among those people at different points in progress toward the MDGs target under the top-down and bottom-up scenarios

The data show that under neither scenario would it be possible to achieve fully the under-five mortality MDGs target without a reduction of 25-50% in the baseline rate among people below the poverty line. But the timing and amount of the gains to the poor under the two scenarios would differ greatly. For example:

- Under the top-down scenario, there would be no improvement at all in conditions among the poor for the first half to three quarters of progress toward the target. Before that, all gains would be concentrated among the better-off. Under the bottom-up scenario, benefits would begin flowing immediately to the poor.

- By the mid-point of progress toward the MDGs targets, the different results produced by the two scenarios would be clearly visible. At that point, the difference would be especially large in Latin America and the Caribbean. There, the under-five mortality rate among the poor would be 105.6 under the top-down scenario; 7.0 under the bottom-up scenario. The comparable figures for South and Southeast Asia and Sub-Saharan Africa would be 143.3-50.1 and 183.6-86.4, respectively.

- Upon full attainment of the MDGs target, the under-five mortality rate among people below the poverty line in each region would be over ten times as high if the target were achieved through a top-down rather than through a bottom-up scenario. The rate among the poor in Latin America and the Caribbean would be 75.0 under the top-down scenario, 7.0 under the bottom-up scenario; in South and Southeast Asia, the

Figure 1
**Under-Five Mortality among People Below the Poverty Line under
Alternative Scenarios of Progress toward the
Millennium Development Goals Targets**

A. Latin America and the Caribbean
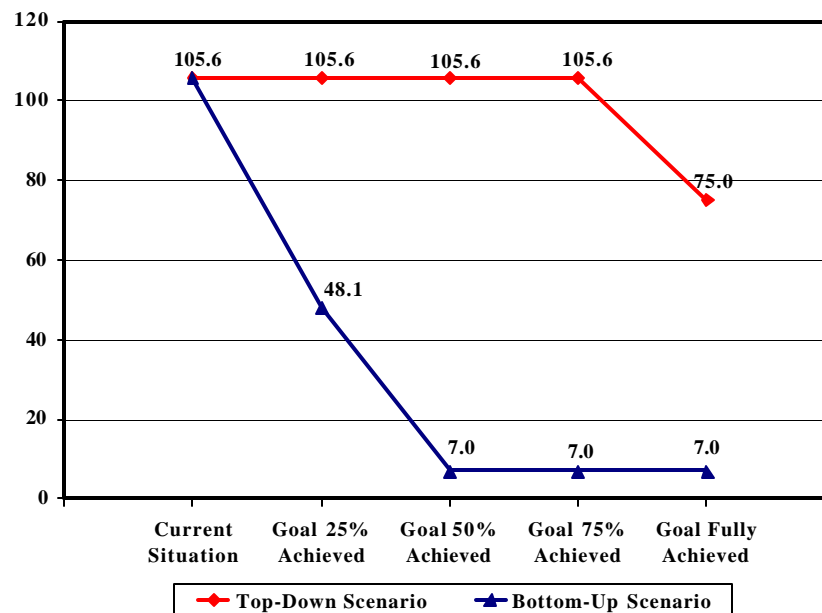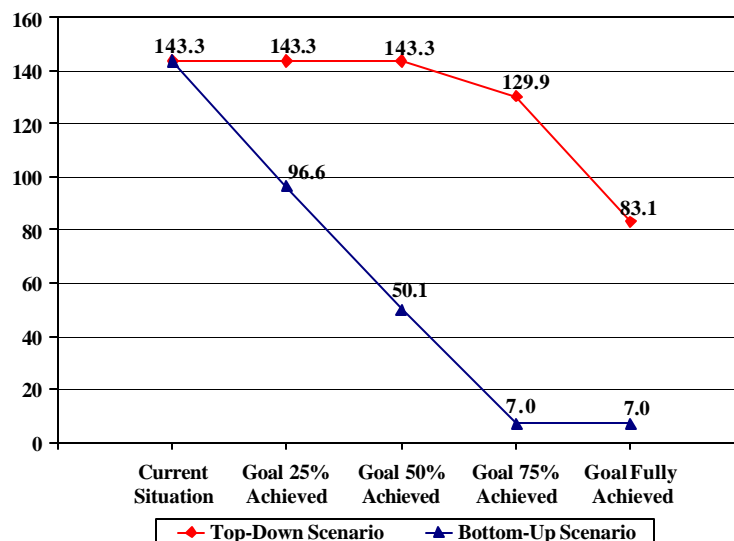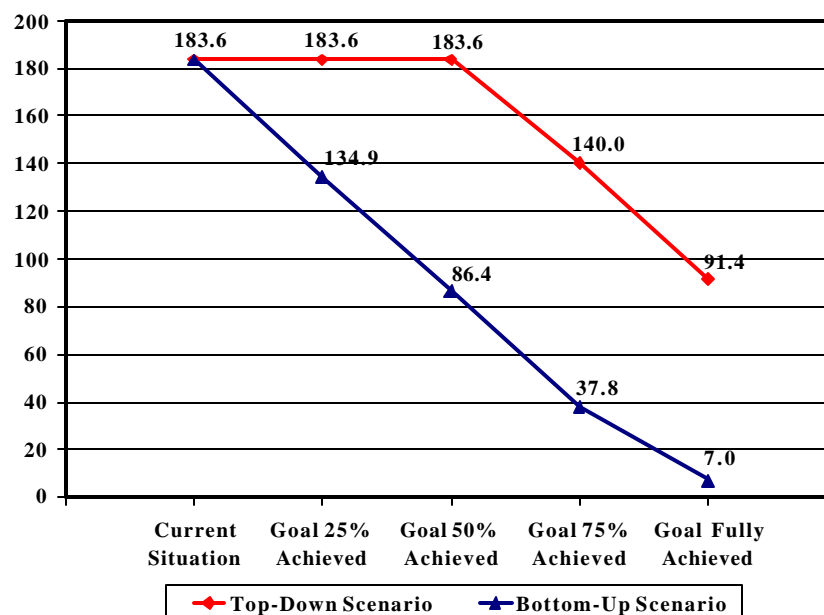

B. South and Southeast Asia

Figure 1 (Continued)

Under-Five Mortality among People Below the Poverty Line under
Alternative Scenarios of Progress toward the
Millennium Development Goals Targets

C. Sub-Saharan Africa

comparable rates would be 83.1 and 7.0; in Sub-Saharan Africa, they would be 91.4 and 7.0.

3.3. INEQUALITIES BETWEEN POOR AND NONPOOR

The disparity data presented in tables A.4 through A.6 permit an examination of inequalities between people below in either relative or absolute terms. A comparison of relative differences can be made through the rate ratios appearing in column 5 (for the top-down scenario) and in column 9 (for the bottom-up scenario). Absolute differences between the two groups can be seen by the rate differences shown in columns 6 and 10 for the top-down and bottom-up scenarios, respectively.

The relative differences represented by the rate ratios of columns 5 and 9 are summarized in figure 2. Figure 3 presents a comparable summary of the rate differences presented in columns 6 and 10. The numbers in those figures show that:

- Under the top-down scenario, the ratio of poor to nonpoor under-five mortality rises from 2.16 (Latin America and the Caribbean), 1.53 (South and Southeast Asia), or 1.44 (Sub-Saharan Africa) at the starting, baseline situation, to above 10:1 in each of the three regions upon full achievement of the MDGs target. There is also increase in the absolute difference between the poor and nonpoor under-five mortality rates in each region. In other words, while it is not possible to achieve fully the under-five mortality MDGs target without improving conditions among people below the poverty line, it is quite feasible to do so with an increase in that group which is much smaller than that experienced among people above the line.

- Pursuit of the bottom up scenario would soon lead to a reversal in poor-nonpoor inequalities. About a quarter of the way toward the MDGs under-five mortality target in each region, mortality among people below the poverty line would have fallen to a level approximately equal to that among people above the line. From that point onwards, mortality among the poor would be lower than that among the nonpoor, with the difference rising sharply there after. About three-quarters of the way to the MDGs target, the difference would stabilize with rates among the poor being somewhere between roughly one-tenth to one-third as high – or, in absolute terms, roughly 30-90 points lower – among the poor as among the better-off, and then fall slightly in two of the three areas. Upon full attainment of the MDGs, under-five mortality among people below the poverty-line would be about one-third as great, or around 15 points lower among the poor in Latin America and the Caribbean; the comparable figures for South and Southeast Asia would be about one-eighth and approximately 52 points; for Subsaharan Africa, they would be roughly one-fifteenth and 99 points. In brief, regardless of whether one measures disparities in relative or absolute terms, poor-rich inequalities would not disappear under the bottom-up scenario. Rather, the disparities would be reversed, with people below the poverty line enjoying sharply lower rates than people above the line, especially during the later stages of progress toward the MDGs target.

Figure 2

Relative Disparities (Rate Ratios) in Under-Five Mortality among People Below and Above the Poverty Line under Alternative Scenarios of Progress toward the Millennium Development Goals Targets

A. Latin America and the Caribbean
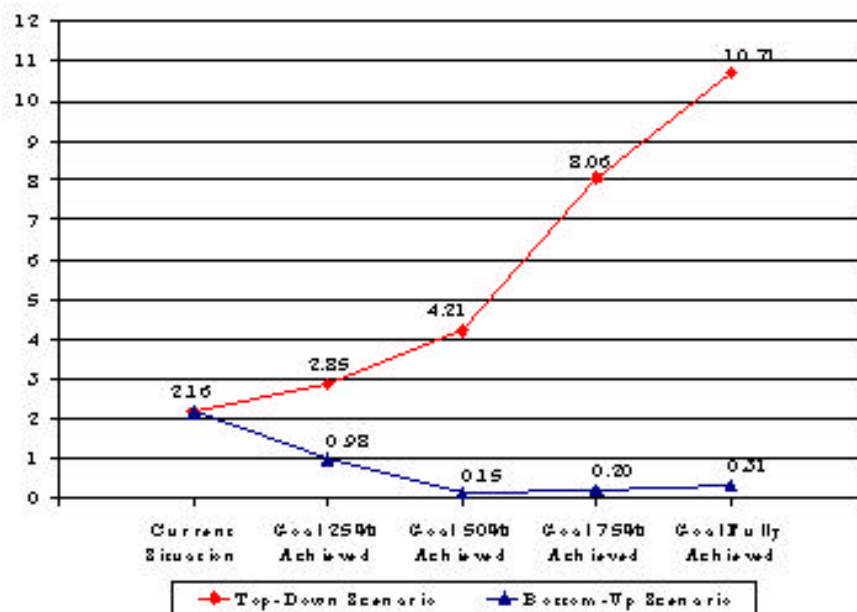
B. South and Southeast Asia

Figure 2 (Continued)

Relative Disparities (Rate Ratios) in Under-Five Mortality among People Below and Above the Poverty Line under Alternative Scenarios of Progress toward the Millennium Development Goals Targets

C. Sub-Saharan Africa

Figure 3

**Absolute Disparities (Rate Differences) in Under-Five Mortality among
People Below and Above the Poverty Line under
Alternative Scenarios of Progress toward the
Millennium Development Goals Targets**

A. Latin America and the Caribbean

B. South and Southeast Asia
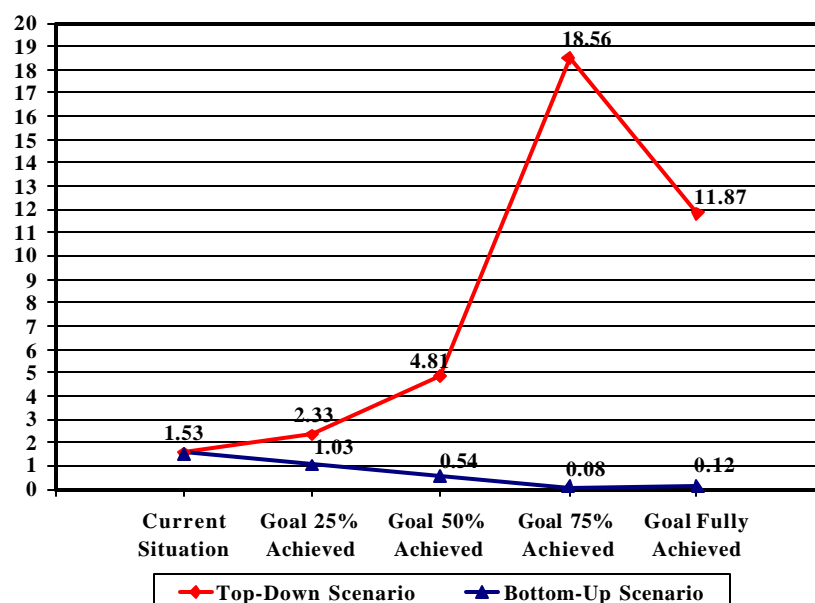
Figure 3(Continued)

Absolute Disparities (Rate Differences) in Under-Five Mortality among People Below and Above the Poverty Line under Alternative Scenarios of Progress toward the Millennium Development Goals Targets
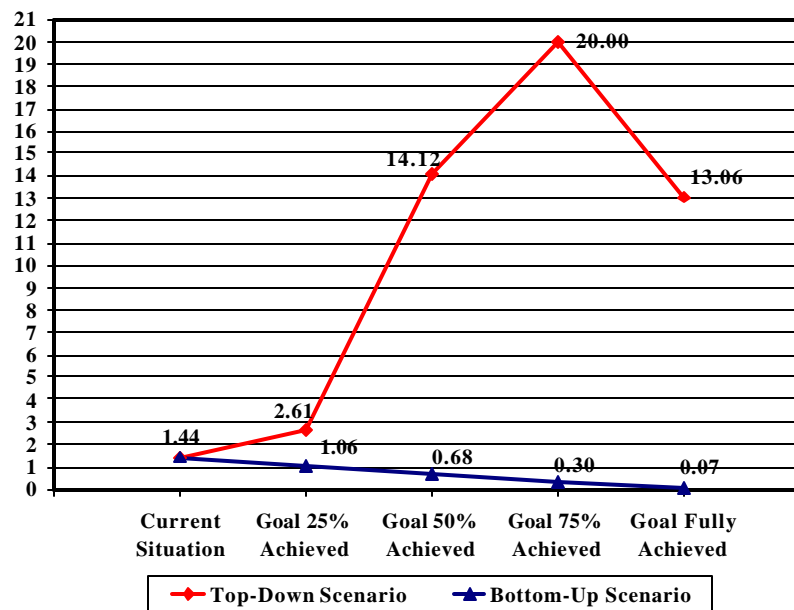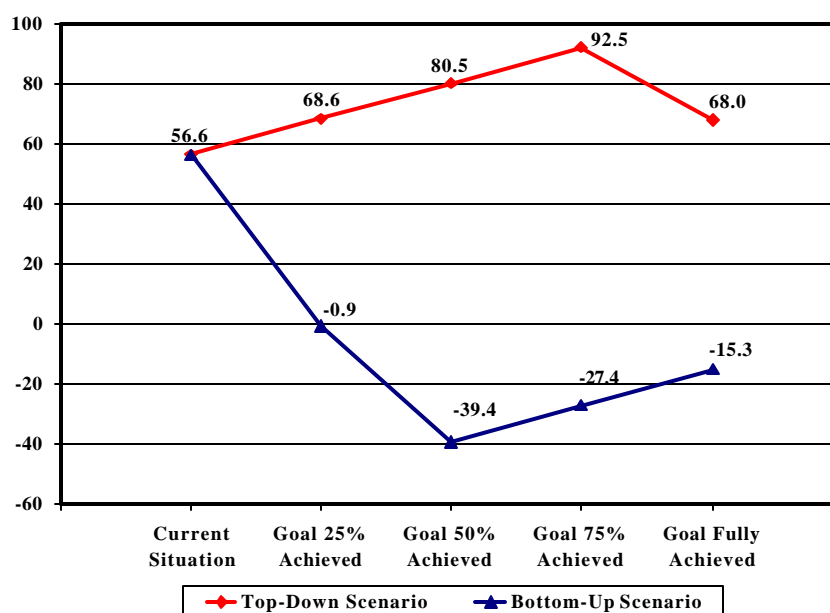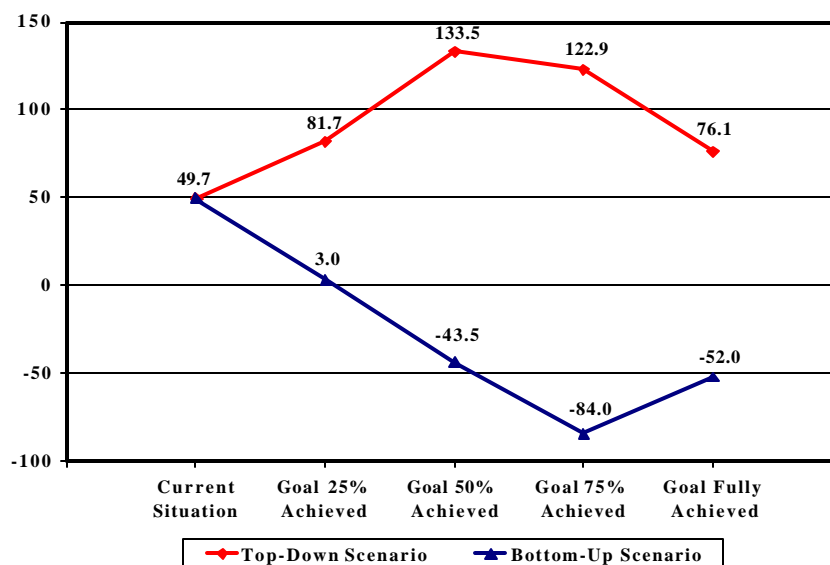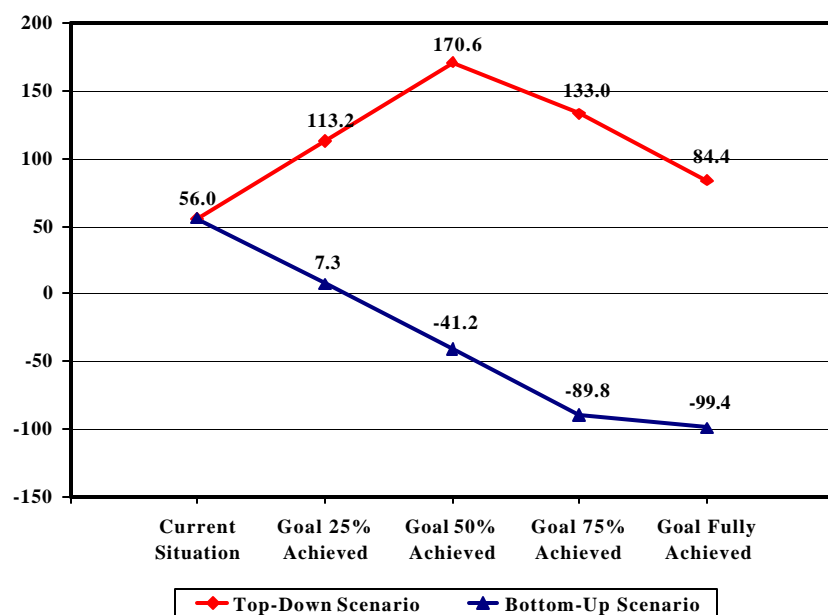
C. Sub-Saharan Africa

IV. PLAUSIBILITY OF THE SCENARIOS

The main conclusion from the inquiry's first phase is that the amount of benefit accruing to the poor from progress toward the under-five mortality MDGs target is neither fixed nor necessarily large. Rather, the amount gained by the poor will depend heavily upon the strategies through which the progress is achieved.

But for policy purposes, this conclusion suffers from two major limitations. First, it is based on findings from two rather extreme quasi-hypothetical scenarios of unknown validity in illustrating the range of likely outcomes. Second, there is no indication of which scenario might be more likely in the natural course of events. Thus, once cannot dismiss the possibility that the differences between a pair of more realistic boundary scenarios would be too small to merit concern, or that the likelihood of the less favorable scenario's coming to pass is so low that it can safely be dismissed.

It thus becomes necessary to examine the plausibility of the two scenarios posed.
The available empirical evidence is not adequate to support any definitive finding, so that one must rely to a regrettable degree on intuition and speculation. Fortunately, however, there is enough relevant information available for the intuition and speculation to be relatively well informed – arguably better informed than that on which the great majority of major policy decisions are made.

This information points toward three conclusions:

4.1. DIFFERENCES BETWEEN PLAUSIBLE SCENARIOS

First, while the extreme nature of the scenarios presented may well place them outside the range of plausible possibilities, the findings produced through them are adequately striking to suggest that the differences for the poor produced by using less extreme, more plausible scenarios would still be large enough to merit close attention. Take, for example, the under-five mortality rates that would prevail among the poor under the two upon full achievement of the MDGs. In each of the three regions, the result of reaching the MDGs through a "top down" approach would be an under-five mortality rate among people below the poverty line over ten times as high than the rate prevailing after achieving the goal via a "bottom-up" strategy. Even if these figures are thought to be two- or three-fold exaggerations because of the implausibility of the scenarios used, the implications for the poor of using the "top down" or "bottom-up" strategies would still be large enough to justify concern.

4.2. GREATER PLAUSIBILITY OF A TOP-DOWN SCENARIO

Second, in the absence of special efforts to reach the poor, the more plausible – or perhaps more accurately, the less implausible – path of under-five mortality decline would be closer to that suggested in the preceding discussion of the top-down scenario than that laid out in discussing the bottom-up possibility. It would no doubt be extreme to suggest that the poor will receive no benefit whatsoever from movement toward the under-five mortality MDGs until conditions among the better-off have reached the very best possible level. But that is surely far less extreme than the converse view that all the benefit will initially accrue to those below the poverty line, completely bypassing those above the line.

This view concerning the greater likelihood of some variant of the top-down strategy can be supported by two types of information. The first comes from a growing number of studies suggesting that health interventions typically benefit the better-off more than the disadvantaged. The second is a bit of simple, illustrative arithmetic suggesting that the impact of poverty-oriented development projects is not likely to be large enough to be fully off-setting.

Concerning health initiatives, it is becoming increasing clear that the that the well-know "inverse care law" is alive and well in developing countries. This law, coined by Julian Tudor Hart some thirty years ago, holds that, "the availability of good medical care tends to vary inversely with the need for it in the population served."[14] Among the findings pointing in this direction are:

- World Bank country health and poverty studies indicating that the rates of use for such standard primary health care interventions as immunization, oral rehydration therapy, medical treatment for diarrhea and acute respiratory infection, antenatal care and attended deliveries are consistently higher among upper socio-economic groups than among lower ones. This occurs despite emerging evidence that the need for such services is considerably greater among the disadvantaged.[15]

- A growing body of literature concerning who benefits from government health expenditures in poor countries. Notwithstanding the pro-poor rhetoric that normally surrounds government statements about such services, in most (but not all) cases the better-off benefit considerably more than the disadvantaged.[16] Included in this literature is a recent look at seven countries of sub-Saharan Africa, where even government expenditures on primary health care benefited people in the top socio-economic quintile around 50% more than they did people of the lowest quintile.[17]

- An examination of treatment for fever in the countries of sub-Saharan Africa where malaria is endemic, which showed while that fever rates were higher among the poor than among the better-off, the likelihood of receiving treatment was considerably lower.[18]

- An investigation of who benefits from health initiatives in Brazil and other Latin American countries, whose results led its authors to put forward an "inverse equity

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[14] Julian Tudor Hart, "The Inverse Care Law," The Lancet, 27 February 1971, pp. 405-12.
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[15] Gwatkin, Ruststein, Johnson, Pande, and Wagstaff, op. cit.

[16] Deon Filmer, Jeffrey S. Hammer, Lant H. Pritchett, "Weak Links in the Chain II: A Prescription for Health Policy in Poor Countries," The World Bank Research Observer, vol. 17, no. 1 (Spring 2002), p. 57. Davidson R. Gwatkin, "Reducing Health Inequalities in Developing Countries," in Roger Detels, James mcEwen, Robert Beaglehole, and Heizo Tanaka, eds. Oxford Textbook of Public Health, Fourth Edition (2002), p. 1799. Adam Wagstaff, "Inequalities in Health in Developing Countries: Swimming Against the Tide?," paper presented at the British Society for Population Studies Conference, September 2001, p. 36.

[17] Florencia Castro-Leal, Julie Dayton, Lionel Demery, and Kalpana Mehra, "Public Spending on Health Care in Africa: Do the Poor Benefit?," Bulletin of the World Health Organization, vol. 78, no. 1 (January 2000), pp. 66-74.
.
[18] Deon Filmer, "Fever and its Treatment among the More and Less Poor in Sub-Saharan Africa (mimeographed), August 2001.
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hypothesis" to explain them – a hypothesis that is quite similar to and a source of inspiration for the top down scenario laid out earlier.[19]

To some extent, progress among the other, progress toward the more explicitly poverty oriented social and economic development MDGs targets could be expected to offset to some degree the regressive impacts just described. But the magnitude of such progress can easily be overstated.

Take the example of the poverty alleviation target cited at the outset. This target, the most explicitly "pro-poor" of all those set forth in connection with the MDGs, calls for a reduction by one-half the proportion of people living in poverty. Suppose this goal is achieved, that half the people originally subject to the under-five mortality rates shown in the annex tables for persons below the poverty line are instead subject to the rates among people in the group immediately above the line. The result would be a reduction in under-five mortality among people initially below the poverty line of just under 9% in Latin America and the Caribbean, around 3.5% in South and Southeast Asia, and about 5.5% in Sub-Saharan Africa.

To be sure, such improvements constitute only part of the health benefit that would come from progress toward the other MDGs socio-economic targets could be expected to contribute as well. But still, it would be unrealistic to rely with any confidence on progress in the sectors outside health for the major impact upon health conditions among the poor that seems unlikely to come from health initiatives as currently oriented.

4.3. IMPLICATIONS OF ACCELERATED PROGRESS

Third, there are two reasons for anticipating that a strong push toward accelerated progress toward the under-five mortality MDGs as currently formulated might increase the probability of an outcome favoring the better-off more than the poor. One is the incentive to give highest priority to population groups most easily reached that is created by pressure for a faster decline in overall mortality rates. The second is the frequently inverse relationship between the intensity and duration of global initiatives.

With respect to the first of these two reasons, Any sensible program manager pressed to show overall results quickly would focus on saving those lives that can most easily be saved. These are rarely likely to be the lives of people living below the poverty line. For the poor typically take much greater effort to serve because of their limited resources and resulting limited ability to use even heavily subsidized health services, lower understanding of health problems and what services can do to alleviate them, distant geographic locations, and other factors. So the harder one presses toward improvements in an overall societal average, the less likely the poor are to gain from those improvements.

The second reason – the frequently inverse relationship between the intensity and duration of global initiatives – raises the prospect of an initial enthusiasm and pressure for quick results leading to the increased likelihood of a top-down scenario, for the reason just presented; followed by a drop-off of interest as the attention of the global community shifts to some other issue. Were this to happen, the result would be a halt or sharp slowing of progress well before full attainment of the MDGs health targets – at which point, under the top-down scenario, conditions among the

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[19] Cesar Victora et al. "Explaining Trends in Inequities: Evidence from Brazilian Child Health Studies," The Lancet, vol. 356 (September 23, 2000), pp. 1093-1098.

better-off would have improved greatly, and those among the very poor would have changed very little.

One cannot be sure that this will occur, of course. But a comparison of the amount of time likely to be required for full attainment of the MDGs targets with the duration of commitment to recent global health initiatives suggests that it is a distinct possibility.

While only time will tell how much time will be required to reach fully the MDGs targets; but the amount will clearly be considerable. The hope expressed in the United Nations' year 2000 Millennium Declaration was that all targets would be fully achieved by the year 2015, which was then 15 years and is now 13 years away. But according to the most recent World Bank estimates, recent progress has been adequate to permit full achievement by this date in only in around a quarter of the world's 150 or so developing and transition countries, with reductions in poor countries being especially slow.[20] So for many, perhaps most, countries, 15-20 years would seem to a more realistic estimate concerning the minimum amount of time likely to be required.

This is well beyond the decade or so that recent history suggests to the natural life span of international health initiatives. For instance, the equity-oriented "Health for All" movement launched at the 1978 Alma Ata Conference quickly gave way to an increased concern for health system efficiency initiated following the 1987 publication of the World Bank's influential health financing study.[21] This concern for efficiency was in turn significantly modified by the World Bank's 1997 health, nutrition, and population policy paper that once again gave highest priority to conditions among the poor.[22] The UNICEF "Child Survival Revolution" of the early to mid-1980s had begun to fade well before the 1995 death of Executive Director James Grant. Enthusiasm for the International Water Decade that began in 1990 was shorter still.

V. CONCLUSION

In brief, it cannot be taken for granted that the poor will benefit significantly from faster progress toward the MDGs health targets. Rather, there is a very wide range of outcomes for the poor – and the better-off – consistent with any given reduced society-wide average rate of death or illness. While the future obviously remains uncertain, it appears probable that some scenario notably less favorable to the poor than to the better-off would emerge in the natural course of events. This argues for the greater efforts to reach the poor that are likely to be required if they are to benefit significantly from overall improvements resulting from current efforts directed toward MDGs target attainment.

Unfortunately, this conclusion simply calls attention to an issue without providing any guidance on how to deal with it. That is, while it argues for special attention to reaching the poor in order to ensure that they benefit to the greatest degree possible, it says nothing about the kind of strategies and interventions needed.

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[20] World Bank, 2002 World Development Indicators (Washington: The World Bank, 2002), p. 10.

[21] World Bank, Financing Health Services in Developing Countries: An Agenda for Reform (Washington: The World Bank, 1987).

[22] World Bank, Sector Strategy: Health, Nutrition, and Population (Washington: The World Bank, 1997).

This is the next question to be addressed if movement to the MDGs health targets is to be of significant value for the poor. An answer lies far beyond the scope of the present paper. Rather, the paper's much more modest objective has been simply to call attention to the question's existence and importance, in the hope that the resulting increased awareness will give rise to further inquiries and thereby increase the likelihood of finding a satisfactory response.

ANNEX TABLES

Section I: Poverty Tables
Comparison of Under-Five Mortality Rates within Each Population Group under
Different Scenarios of Progress toward the MDGs Target

Table A1:   Latin America and the Caribbean
Table A2:   South and Southeast Asia
Table A3:   Sub-Saharan Africa

Section II: Inequality Tables
Comparison of Under-Five Mortality Rates between Different Population Groups under
Each Scenario of Progress toward the MDGs Target

Table A4:   Latin America and the Caribbean
Table A5:   South and Southeast Asia
Table A6:   Sub-Saharan Africa

An Explanatory Note

The annex tables show the findings that result from applying the procedure described in part II.C of the text to the data presented in part II.B. The tables' contents can be illustrated through reference to some of the figures appearing in the tables for one of the three regions: say, from the figures for Latin America and the Caribbean presented in tables A.1 and A.4.

- The overall outcome of the calculations can most easily be demonstrated through reference to table A.4. From the headings and first row of that table, one can see that the baseline situation involves a population average under-five mortality rate of 58.6, a mortality rate of 105.6 among the 13% of the population living below the poverty line, and a rate of 49.0 among the 87% of people above the line. Full achievement of the under-five MDGs target would require a two-thirds reduction in the baseline average of 58.6 – i.e. attainment of a new population average rate of around 19.5, as shown in the left-hand section of the bottom row in that table. The rate figures on bottom line of the center section show that under the top-down scenario this 19.5 average would be achieved with a rate of 75.0 among people below the poverty line, and 7.0 among people above the line. Achievement of this same target under the bottom-up scenario would result in rates of 7.0 and 22.3 among people below and above the poverty line, respectively. 50% attainment of the target would involve reaching an average rate of around 39.1 (a one-third reduction in the baseline). This would be achieved under the top-down scenario with rates of 105.6 and 25.1 among people below and above the line, respectively; or under the bottom-up scenario with rates of 7.0 or 46.4 among those same two groups. And so on.

- The implications of the two scenarios for conditions among people below the poverty line can most easily be seen from the data presented in the center section of table A.1. A look at the rate data on the bottom line of the center section of that table shows that upon full achievement of the MDGs target, under-five mortality among the poor would be 75.0 under the top-down scenario, 7.0 under-the bottom up scenario The disparity figures appearing in italics immediately

to the right of the rate data shows that the rate among the poor produced by a top-down scenario is about 10.7 times or 68 points higher than that resulting from a bottom-up scenario. Analogous figures the poor at different points en route to the MDGs targets appear on the higher lines; comparable information for the nonpoor is in the table's right-hand section.

- The implications of the scenarios for inequalities between people above and below the poverty line can be observed from the rate disparity information presented in the middle and right-hand sections of table A.4. From the italicized disparity data shown on the middle row of the central section of that table, for example, one can see that 50% of the way toward the MDGs target, under-five mortality would be 4.21 times as high or 80.5 points higher among the better-off than among people below the poverty line. This represents an increase from the corresponding figures of about 2.16 times or 49.0 points of the baseline scenario shown on the table's top line. The comparable numbers for full achievement of the MDGs target, presented on the bottom line are about 10.71 times or 68.0 points. And so on. The table's right-hand section presents analogous information for the bottom-up scenario

TABLE A1: COMPARISON OF UNDER-FIVE MORTALITY RATES WITHIN EACH POPULATION GROUP UNDER DIFFERENT SCENARIOS OF PROGRESS TOWARD THE MDGs TARGET

LATIN AMERICA AND THE CARIBBEAN

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	13% of Population **Below** the Poverty Line				87% of Population **Above** the Poverty Line			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3-Col.4)*	Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7-Col.8)*
Baseline Situation	58.6	105.6	105.6	*1.00*	*0.0*	49.0	49.0	*1.00*	*0.0*
MDGs Target 25% Achieved	48.8	105.6	48.1	*2.20*	*57.5*	37.0	49.0	*0.76*	*-12.0*
MDGs Target 50% Achieved	39.1	105.6	7.0	*15.09*	*98.6*	25.1	46.4	*0.54*	*-21.3*
MDGs Target 75% Achieved	29.3	105.6	7.0	*15.09*	*98.6*	13.1	34.4	*0.38*	*-21.3*
MDGs Target Fully Achieved	19.5	75.0	7.0	*10.71*	*68.0*	7.0	22.3	*0.31*	*-15.3*

TABLE A2: COMPARISON OF UNDER-FIVE MORTALITY RATES WITHIN EACH POPULATION GROUP UNDER DIFFERENT SCENARIOS OF PROGRESS TOWARD THE MDGs TARGET

SOUTH AND SOUTHEAST ASIA

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	36% of Population **Below** the Poverty Line				64% of Population **Above** the Poverty Line			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3- Col.4)*	Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7- Col.8)*
Baseline Situation	113.8	143.3	143.3	*1.00*	*0.0*	93.6	93.6	*1.00*	*0.0*
MDGs Target 25% Achieved	94.8	143.3	96.6	*1.48*	*46.7*	61.6	93.6	*0.66*	*-32.0*
MDGs Target 50% Achieved	75.9	143.3	50.1	*2.86*	*93.2*	29.8	93.6	*0.32*	*-63.8*
MDGs Target 75% Achieved	56.9	129.9	7.0	*18.56*	*122.9*	7.0	91.0	*0.08*	*-84.0*
MDGs Target Fully Achieved	37.9	83.1	7.0	*11.87*	*76.1*	7.0	59.0	*0.12*	*-52.0*

TABLE A3: COMPARISON OF UNDER-FIVE MORTALITY RATES WITHIN EACH POPULATION GROUP UNDER DIFFERENT SCENARIOS OF PROGRESS TOWARD THE MDGs TARGET

SUB-SAHARAN AFRICA

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	50% of Population **Below** the Poverty Line				50% of Population **Above** the Poverty Line			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3- Col.4)*	Under **TOP-DOWN** Scenario	Under **BOTTOM-UP** Scenario	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7- Col.8)*
Baseline Situation	157.9	183.6	183.6	*1.00*	*0.0*	127.6	127.6	*1.00*	*0.0*
MDGs Target 25% Achieved	131.6	183.6	134.9	*1.36*	*48.7*	70.4	127.6	*0.55*	*-57.2*
MDGs Target 50% Achieved	105.3	183.6	86.4	*2.13*	*97.2*	13.0	127.6	*0.10*	*-114.6*
MDGs Target 75% Achieved	79.0	140.0	37.8	*3.70*	*102.2*	7.0	127.6	*0.05*	*-120.6*
MDGs Target Fully Achieved	52.6	91.4	7.0	*13.06*	*84.4*	7.0	106.4	*0.07*	*-99.4*

TABLE A4: COMPARISON OF UNDER-FIVE MORTALITY RATES BETWEEN DIFFERENT POPULATION GROUPS UNDER EACH SCENARIO OF PROGRESS TOWARD THE MDGs TARGET

LATIN AMERICA AND THE CARIBBEAN

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	**Top-Down** Scenario				**Bottom-Up** Scenario			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		13% of Pop. **BELOW** the Poverty Line	87% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3- Col.4)*	13% of Pop. **BELOW** the Poverty Line	87% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7- Col.8)*
Baseline Situation	58.6	105.6	49.0	*2.16*	*56.6*	105.6	49.0	*2.16*	*56.6*
MDGs Target 25% Achieved	48.8	105.6	37.0	*2.85*	*68.6*	48.1	49.0	*0.98*	*-0.9*
MDGs Target 50% Achieved	39.1	105.6	25.1	*4.21*	*80.5*	7.0	46.4	*0.15*	*-39.4*
MDGs Target 75% Achieved	29.3	105.6	13.1	*8.06*	*92.5*	7.0	34.4	*0.20*	*-27.4*
MDGs Target Fully Achieved	19.5	75.0	7.0	*10.71*	*68.0*	7.0	22.3	*0.31*	*-15.3*

TABLE A5: COMPARISON OF UNDER-FIVE MORTALITY RATES BETWEEN DIFFERENT POPULATION GROUPS UNDER EACH SCENARIO OF PROGRESS TOWARD THE MDGs TARGET

SOUTH AND SOUTHEAST ASIA

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	**Top-Down** Scenario				**Bottom-Up** Scenario			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		36% of Pop. **BELOW** the Poverty Line	64% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3- Col.4)*	36% of Pop. **BELOW** the Poverty Line	64% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7- Col.8)*
Baseline Situation	113.8	143.3	93.6	*1.53*	*49.7*	143.3	93.6	*1.53*	*49.7*
MDGs Target 25% Achieved	94.8	143.3	61.6	*2.33*	*81.7*	96.6	93.6	*1.03*	*3.0*
MDGs Target 50% Achieved	75.9	143.3	29.8	*4.81*	*113.5*	50.1	93.6	*0.54*	*-43.5*
MDGs Target 75% Achieved	56.9	129.9	7.0	*18.56*	*122.9*	7.0	91.0	*0.08*	*-84.0*
MDGs Target Fully Achieved	37.9	83.1	7.0	*11.87*	*76.1*	7.0	59.0	*0.12*	*-52.0*

TABLE A6: COMPARISON OF UNDER-FIVE MORTALITY RATES BETWEEN DIFFERENT POPULATION GROUPS UNDER EACH SCENARIO OF PROGRESS TOWARD THE MDGs TARGET

SUB-SAHARAN AFRICA

Col. 1	Col. 2	Col. 3	Col. 4	Col.5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
	Population Average Rate	**Top-Down** Scenario				**Bottom-Up** Scenario			
		Rates		*Rate Disparities*		Rates		*Rate Disparities*	
		50% of Pop. **BELOW** the Poverty Line	50% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.3/ Col. 4)*	*Rate Difference (Col. 3- Col.4)*	50% of Pop. **BELOW** the Poverty Line	50% of Pop. **ABOVE** the Poverty Line	*Rate Ratio (Col.7/ Col. 8)*	*Rate Difference (Col. 7- Col.8)*
Baseline Situation	157.9	183.6	127.6	*1.44*	*56.0*	183.6	127.6	*1.44*	*56.0*
MDGs Target 25% Achieved	131.6	183.6	70.4	*2.61*	*113.2*	134.9	127.6	*1.06*	*7.3*
MDGs Target 50% Achieved	105.3	183.6	13.0	*14.12*	*170.6*	86.4	127.6	*0.68*	*-41.2*
MDGs Target 75% Achieved	79.0	140.0	7.0	*20.00*	*133.0*	37.8	127.6	*0.30*	*-89.8*
MDGs Target Fully Achieved	52.6	91.4	7.0	*13.06*	*84.4*	7.0	106.4	*0.07*	*-99.4*

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