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POVERTY AND HEALTH MONITORING REPORT

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Health, Nutrition and Population (HNP) Discussion Paper

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Health, Nutrition and Population (HNP) Discussion Paper

Poverty and Health Monitoring Report

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Abstract: Health data at the national level do not reveal the inequalities associated with poverty within a country; therefore national progress toward health goals can be made without much improvement in the health status of the poor. Poverty quintile analysis is useful here: it disaggregates data on health indicators by the socioeconomic status of households. In this report it is used to study the levels and trends in health inequalities in developing countries. Narrower gaps were evident between the rich and poor on knowledge-related indicators than on practice-related ones. Preventive interventions such as immunization were more equitable across quintiles, while there were more inequities in curative care. Reproductive health indicators showed some of the largest gaps between the rich and poor. Geographically, some regions such as Europe and Central Asia had more equitable health indicators, while others such as South Asia and Sub-Saharan Africa reported larger gaps between the rich and poor. The current levels of progress are insufficient for adequately reducing inequalities, and the poor are at risk of being left behind unless countries take the necessary steps to expand health care to socioeconomically disadvantaged groups.

Keywords: Inequalities, poverty, quintiles, health survey, health indicators, World Bank.

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ABBREVIATIONS

ARI	Acute Respiratory Infection
DHS	Demographic and Health Surveys
EAP	East Asia and Pacific
ECA	Europe and Central Asia
LAC	Latin America and the Caribbean
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MNA	Middle East and North Africa
ORS	Oral Rehydration Salts
RHS	Recommended Home Solution
SAR	South Asia
SSA	Sub-Saharan Africa

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EXECUTIVE SUMMARY

Health survey data at the national level do not reveal the inequalities within a country that are associated with poverty. Progress toward health goals, including the Millennium Development Goals, has mainly been measured nationally. The problem is, countries can show national progress toward these goals even if it is only their rich who benefit from health gains, with the result that the health disadvantage due to poverty does not receive the required attention.

In recent years, poverty quintile analysis has emerged as a useful method for disaggregating data by socioeconomic status. Poverty quintiles can be constructed from data on household assets collected from household surveys. When disaggregated by poverty quintiles, health data can provide information on disparities between the rich and the poor, and this information can inform policy decisions for reducing inequalities and improving health status, especially among the poor. Changes in health indicators across poverty quintiles show whether inequalities have widened or narrowed over time.

This *Poverty and Health Monitoring Report* has used poverty quintile analysis to present global health data. Using household survey data from countries in all regions of the world, it has applied inequality measures to poverty quintile data. Some of the key indicators in the analysis are on disease prevalence, use of health interventions, reproductive health, and child mortality.

Globally, a varied pattern of contractions and expansions in rich-poor gaps emerged from analysis of quintile data. At the aggregate level, the disparities between the rich and the poor have narrowed slightly, but there is a wide variation in gaps when indicators are examined separately.

There are narrower gaps between rich and poor for knowledge-related indicators than for practice-related ones, suggesting that knowledge may be easier to transmit and change than behaviors.

Certain health behaviors fared better than others, particularly for preventive care. Gaps in immunization across regions, for example, were relatively small. Preventive interventions like immunization tend to be more equitable across socioeconomic levels. They can be delivered more easily than curative care, which requires functioning health systems.

Larger gaps were seen in reproductive health indicators, such as contraceptive use, antenatal care, and skilled delivery care. Use of family planning and reproductive health among the poor remains dismally low in many parts of the world.

By World Bank region, gaps between rich and poor were narrower in Europe and Central Asia (ECA), which includes more upper-middle-income countries, than in South Asia (SAR) and Sub-Saharan Africa (SSA), which consist mainly of low-income and lower-middle-income countries. Latin America and the Caribbean, Middle East and North

Africa, and East Asia and Pacific regions have larger gaps than ECA but smaller than SAR and SSA.

The poor fared almost as well as the rich in ECA, but SAR and SSA had some of the worst disparities. In these two regions the poor were particularly disadvantaged in using health care, and experienced worse health outcomes than the rich. In SAR and SSA, the disparities were especially pronounced in maternal health indicators, including antenatal care and skilled delivery care.

Trends in health indicators between survey rounds showed that, overall, improvements in health outcomes and health care utilization occurred among the rich and the poor for most indicators. But gaps remain. Faster progress is still needed among the poorest to reduce persistent disparities.

Progress on some indicators has been better than on others. Clear gains were seen in vaccination coverage across all regions, among the richest and poorest. The nutritional status of children also improved among the rich and poor. As a result, trends in child survival show notable declines in infant and under-five mortality in all regions. The poor, however, continue to bear a higher mortality burden than the rich.

Among reproductive health indicators, acceptance of family planning, and antenatal and skilled delivery care has improved. Coverage of antenatal care improved much more among the poorest than among the richest in SSA. Still, the gaps in skilled delivery care between the rich and poor remained wide. Limited availability of professional delivery care and financial and cultural barriers hamper the ability of the poor to seek care for childbirth.

Unfortunately, the overall trends revealed that although some countries and regions are performing well, their gains are insufficient to meet the Millennium Development Goal targets by 2015.

Moreover, the poor are likely to be left behind as countries increase coverage of health interventions and improve health outcomes. A greater focus on the poor and on reducing disparities is required if countries are to meet their public health goals.

The data in this report are from STATcompiler or the final reports of the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS). Gwatkin et al. (2007) and the team producing the Health Equity and Financial Protection datasheets and reports used the same datasets; however, they re-analyzed them, which in some cases produced different results.

1. INTRODUCTION

Over the past few decades, the World Bank and other development institutions have monitored improvements in health and demographic indicators through survey data. But most of the statistics on levels and trends in health status and determinants are national averages, as reported in publications such as the World Bank's *World Development Indicators*, the World Health Organization's *World Health Statistics*, UNICEF's *State of the World's Children*, as well as in electronic databases. Disaggregation by age, sex, or urban/rural residence is less common.

Many of the Millennium Development Goals (MDGs), which include health outcomes and determinants of health status, are defined as aggregate national objectives (although global health institutions are attempting to disaggregate them by sex and urban/rural residence).

Countries can make progress toward the health MDGs nationally by improving the health status of mainly upper-income groups without benefiting the poor, thus potentially increasing inequities in health outcomes between richer and poorer quintiles (Gwatkin 2005).

Since the late 1990s, especially as a result of the efforts of Gwatkin et al. (2007), more health data are being disaggregated by quintile, looking beyond averages to the status of households at different income levels. Gwatkin's work has been welcomed widely, and surveys including the Demographic and Health Surveys (DHS) have mainstreamed quintile tabulations in country reports.

The development of methods for creating economic quintiles from DHS household asset data has been instrumental in bringing poverty quintile analysis to the fore. Researchers can now use these methods to analyze health data by poverty levels and identify the nature of the inequality problem, identify the causes of inequality in health service use, design policies, and set targets for addressing inequalities (Yazbeck 2009).

Health services all too often fail poor people in access, quality, and affordability (World Bank 2004). Analyzing rich-poor variations is therefore important for health policy planning as data disaggregated by poverty quintiles provide insights into health differentials by socioeconomic status. It becomes possible—and important—to track the differential impact of health strategies on population subgroups of different income levels.

Logically, if the poor have a greater disease burden than the rich, programs should focus on reaching the poor. But this is rare: case studies from 21 countries show that on average about 25 percent of the subsidy from government health care spending benefits the richest quintile, and only about 15 percent, the poorest quintile (Gwatkin et al. 2005).

The size of the rich-poor differential also matters for policy planning, and some indicators show a wider gap than others. Two indicators can have the same national prevalence for a given service or outcome, but the rich-poor gap can be vastly different.

The implications for policies and programs would therefore differ for the two indicators. Poverty quintile–disaggregated data would help inform decisions.

This *Poverty and Health Monitoring Report* aims to strengthen the focus on monitoring progress in health by poverty level.

1.1 STRUCTURE OF THE REPORT

Section 2 provides an overview of the variations in the gaps between the rich and poor for different indicators at the global level and identifies the best and worst performing countries.

Section 3 presents data by region on key health indicators, including disease prevalence, knowledge, and use of interventions, nutritional status, sexual and reproductive health, as well as infant and childhood mortality.

Section 4 analyzes trends in inequalities in health status and use of services, comparing gaps between the poorest and the richest quintiles over multiple survey rounds. It aims to ascertain whether health status and access to services have improved differentially for the poor and rich.

Section 5 presents an analysis of indicators related to the MDGs. The analysis is intended to capture trends in progress toward the three MDGs related to nutrition, child mortality, and maternal mortality.

The report presents the findings of the descriptive analysis for each indicator by contrasting levels and trends for the poorest and richest quintiles, and by comparing gaps, ratios, and differences in absolute values.

A large part of the report consists of figures and tables of data on individual countries. They are intended for use in further analysis, and for targeting and monitoring interventions.

1.2 METHODOLOGY AND DATA SOURCES

The analysis of health indicators by household wealth quintiles is based on data from the DHS (http://www.measuredhs.com/) and the Multiple Indicator Cluster Surveys (MICS) (http://www.childinfo.org/mics.html). Data are available by quintile in the DHS and the MICS but not in many other surveys; (the DHS tabulates more indicators by quintile than the MICS). The data used in this report were obtained from STATcompiler or the final reports of DHS and MICS.

Data from the most recent surveys available for a country have been used for reporting levels for all indicators. Trend data are derived from countries that had surveys in two periods: 1995–2000 and 2001–07. Countries without surveys in both periods were excluded from the trend analyses.

More updated data are available at the World Bank's public database, available through the Open Data Site at http://databank.worldbank.org/ddp/home.do and HNPStats at http://go.worldbank.org/GCWMPTYTS0.

1.2.1 Household assets

Obtaining reliable data on socioeconomic status of households or individuals is challenging, and methods have evolved over time. Earlier measurements relied on indicators such as household income and consumption. These indicators are prone to bias, however, and are time and labor intensive when included in survey questionnaires. Consumption data can also be unstable over time. Moreover, in surveys that collect data on health indicators retrospectively (going back five years in the case of birth histories), current income or expenditure data lose relevance.

DHS and MICS do not collect information on household income or consumption but capture detailed information on households' ownership of consumer goods and access to a variety of goods and services.[1] The World Bank's Living Standards Measurement Study collects consumption data in detail, but has only limited health information.

Recent analyses of poverty data have used household asset indexes. Measures of household assets are less subject to systematic misstatements than income or consumption data. This report uses quintiles derived from household assets included in the DHS and the MICS, and uses quintile data available on the DHS and MICS websites. These quintile data may be slightly different from those used by Gwatkin et al. (2007), who constructed quintiles from original datasets.

1.2.2 Quintile construction

Quintiles used in poverty analysis, including this report, are derived from scores assigned to specific household assets, which are then summed into an asset index. Weights for each asset in the index are derived from principal component analysis. Based on the ranking of scores, the sample of all individuals included in the survey is then divided into five quintiles consisting of an equal number of individuals. The 20 percent with the lowest total asset scores constitute the lowest wealth quintile, and are referred to in this report as individuals from the poorest households. The 20 percent with the highest total asset score are the wealthiest or richest quintile.

Since the household asset scores are based on different assets and relate to different levels of wealth in countries at different levels of development, they are not identical to national poverty rates, but are comparable to income and expenditure quintiles.

Regional aggregates were calculated by averaging data from two or more countries in the region for which data were available. The availability of quintile data varied by indicator. If a country did not have quintile data for a particular indicator, it was excluded from the analysis. Regional averages are not weighted by the size of countries' populations (that is, countries have equal weight).

1. http://www.measuredhs.com, accessed June 2011.

1.2.3 Measurement of inequality

The inequalities between the wealth quintiles ("health inequalities") can be measured in several ways. Some common measures include the following:

Rich-poor ratio. A ratio of the values for the richest and poorest quintiles is calculated for each indicator. In this report, the ratio has been calculated as rich versus poor or poor versus rich depending on the indicator and what it implies. The quintile expected to have the larger value was considered the numerator and the one with the smaller value, the denominator. The larger the ratio, the greater the disparity between the quintiles.

Rich-poor difference. The difference in absolute values for the richest and poorest quintiles provides another measure of the magnitude of the health inequality between the two quintiles. In this report, the difference is calculated by subtracting the values for the rich from those for the poor, or vice versa depending on the indicator. The absolute value of the quintile expected to have the smaller value was subtracted from the one with the larger value.

Trends in inequality can be assessed by computing the following statistics:

Rate of change. Comparing rate of change in the value of an indicator from one survey round to another, along different quintiles, provides a measurement of differences in the rate of improvement or deterioration for each quintile.

Change in rich-poor ratios. The change in the rich-poor ratio captures the change in the size of the gap from one survey to another.

Absolute change in values. The difference in absolute values is a measure of the change in the absolute gap between rich and poor. Unlike the previous measures, this is an absolute, not a relative, measure.

Concentration index. This allows a comparison of differences in indicator values across all five quintiles (unlike measures such as the rich-poor ratio, which are based on comparisons of the richest and poorest quintiles only). The concentration index and the slope of inequality are considered the most informative measures of inequality (Wagstaff et al. 1991). The concentration index is more complex and difficult to interpret than the more common measures of inequality.

Concentration curves. Concentration curves are another measure of inequality that are frequently applied to health data as they allow a visual representation of the disparities across the poverty quintiles. Concentration curves capture the full distribution of inequality in outcomes or outputs of the health sector in a cumulative form (Yazbeck 2009).

All measurement methods have pros and cons. The rich-poor ratio and the rate of change tend to be affected by the size of the indicator. The absolute change in values treats all percentage points the same. The concentration index and curves are more complex and difficult to interpret.

The first five measurement methods (that is, excluding the concentration index and the concentration curves) were used for the analysis presented in this report. These methods were chosen for their simplicity, clarity, and ease of understanding.

1.2.4 Poverty analysis tools

Poverty quintile analysis allows one to examine variations in health indicators across the socioeconomic spectrum.

Several methods for analyzing data by poverty levels have emerged in recent years. Analysis of health indicator data by wealth quintiles is one. This report has relied on this method for presenting data on disease, health care utilization, and mortality indicators by poverty quintiles. As said, the quintiles are constructed from household survey data on ownership of assets, which form the basis for constructing the household asset index.

Several other methods for poverty analysis, which were not used for this report, include poverty mapping, benefit incidence analysis, progressivity analysis, and out-of-pocket expenditure analysis.

Poverty and poor health vary by geography. Poverty maps are useful for capturing variations in this dimension and for understanding geography's impact on health. Poverty maps are used for spatially plotting data on health and other inequalities on geographic maps. They can then be used for targeting health interventions in specific areas.

The ADePT software, produced by the World Bank, largely automates analysis of inequality, enabling people without programming or advanced technical skills to use poverty data and easily analyze inequalities. ADePT can rank households and individuals by wealth quintile. Statistics generated by ADePT can also be used to compare inequalities across countries and over time.

Benefit incidence analysis investigates the extent to which different population groups benefit from public spending on health services. It can address questions such as who gains most from public spending on health and can help identify whether the poor or rich benefit disproportionately. Simulations of benefit incidence analysis can be produced to assess the potential impact of various interventions on the level of inequity.

Progressivity analysis compares the distribution of households' spending on health care relative to their share of income or consumption. A health financing system is considered equitable if households make payments according to their ability to pay.

An analysis of out-of-pocket expenditure provides an assessment of households' spending on health, usually relative to their income and to the poverty line. Out-of-pocket expenditure is considered catastrophic if it exceeds a specific threshold share of households' total expenditure or consumption (or nonfood expenditure or consumption). Impoverishing expenditure measures the effect of health care payments on household welfare relative to poverty indicators.

2. PATTERNS OF RICH-POOR DISPARITIES

Whether health disparities are increasing or decreasing around the world remains a question that is central to discourse among policy makers and researchers. Disparities can vary by region and country, influenced by macro and micro factors.

A commonly used measure of the size of disparities between the richest and poorest quintiles is the rich-poor ratio. This ratio provides a sensitive measure of the health gaps associated with the socioeconomic status of households. The countries were grouped or indicators were combined to obtain a composite measure (in this section) and were also examined separately (see later sections).

2.1 VARIATIONS IN DISPARITIES BY INDICATOR

At an aggregate level, the patterns of progress in reducing disparities varied by type of indicator. Better progress was noted on some indicators than others. The indicators with the lowest and the highest rich-poor ratios were extracted for further examination.

Indicators with the smallest rich-poor ratios included knowledge and attitudinal indicators, for example, knowledge of contraception, knowledge of diarrhea care, and desire to stop childbearing. Preventive care indicators also tended to have smaller disparities, for example, child immunization and micronutrient intake.

The largest disparities existed in health care access indicators, exposure to family planning messages, fertility and health outcomes, especially women and children's nutritional status, and child mortality (table 1).

Table 1. Indicators with Smallest and Largest Rich-Poor Ratios

Indicators with small rich-poor ratios, most recent survey, 1990–2007	All countries (rich-poor ratios)
Desire to stop childbearing	1.1
Knowledge of contraception (any method)	1.1
Knowledge of contraception (% of married women, any modern method)	1.1
Prevalence of children with fever	1.2
Vaccination coverage of children (BCG)	1.2
Attitudes toward family planning (married women who approve of family planning)	1.2
Treatment of diarrhea (oral rehydration salts [ORS], rehydration salts [RHS], or increased fluids)	1.2
Knowledge of diarrhea care (ORS)	1.2
Treatment of diarrhea (ORS or RHS)	1.2
Micronutrient intake among children (vitamin A)	1.3
Indicators with large rich-poor ratios, most recent survey, 1990–2007	**All countries (rich-poor ratios)**
Have heard family planning on radio or television	4.7
Have seen family planning messages in print	4.6
Have problems in accessing health care (distance to health facility)	3.2
Have problems in accessing health care (need transport)	3.1
Teenage pregnancy and motherhood	2.7
Use of insecticide-treated mosquito nets by pregnant women	2.4
Have problems in accessing health care (knowing where to go for treatment)	2.3
Nutritional status of children (underweight)	2.1
Nutritional status of women (% of women whose body mass index is less than 18.5)	2.1
Nutritional status of children (stunting)	2.1

Source: Authors' calculations based on DHS and MICS.

Variations in the size of the rich-poor ratio were also examined for each indicator (table 2). The indicators were tabulated by three levels of rich-poor ratio. The lowest ratios (<1.3) were seen in some knowledge indicators, prevalence of diseases, preventive care such as immunization, and breastfeeding.

Table 2. Health Indicators by Level of Rich-Poor Ratio, Average for All Countries, Most Recent Survey, 1990–2007

Indicator	Rich-poor ratio <1.3	Rich-poor ratio 1.4–1.7	Rich-poor ratio >1.8
Use of services	Knowledge about diarrhea care Diarrhea care Prevalence of fever Prevalence of ARI Vaccinations (BCG, DPT3, measles)	Diarrhea prevalence Antimalarial drugs taken by children with fever Children with ARI taken to health facility Vaccinations (all) Problems in accessing health care (any, female provider)	Problems in accessing health care (distance, money, permission, transport, knowledge)
Family planning and reproductive health	Antenatal care (any skilled personnel) Desire to limit childbearing Knowledge of contraception Acceptability of message about family planning Women who approve of family planning	Iron tablets or syrup during pregnancy Contraceptive use Husband who approves of family planning Unmet need for family planning	Antenatal care (doctor) Birth attendance (any skilled personnel, doctor) Total fertility rate Teenage pregnancy Exposure to family planning messages
Nutrition	Vitamin A supplements for children	Malnourished children (wasting) Vitamin A supplements for postpartum women	Malnourished children (underweight, stunting) Malnourished women
Mortality	No indicator in this category	Infant mortality rate	Under-five mortality rate
Other issues	Breastfeeding Household possession of mosquito net (any, ITN)	Mosquito net use by children (any, ITN) Mosquito net use by pregnant women (any) Any antimalarial drug use by pregnant women Antimalarial drug (SP/Fansidar) use by pregnant women	Mosquito net use by pregnant women (ITN) Smoking

Source: Authors' calculations based on the DHS and MICS.
ITN = insecticide-treated net.

Indicators with ratios in the middle (1.4–1.7), included access to health care, family planning use, malaria prevention and treatment, as well as the infant mortality rate.

The highest ratios (>1.8) existed for problems in accessing health care, maternal health care, total fertility rate, and under-five mortality rate.

For a comprehensive understanding of progress in reduction of health disparities, complete lists of indicators were compiled—one showing the proportion of countries by size of rich-poor ratio and another showing the type of change in rich-poor ratio over time (figures 1 and 2 in the appendix).

The distribution revealed that a large proportion of countries had smaller disparities on knowledge and attitudinal indicators such as knowledge of contraception, knowledge of diarrhea care, approval of family planning, and approval of media messages about family planning. Certain health behaviors, particularly those related to diarrhea treatment and immunization, also had narrow gaps. The prevalence of diseases such as acute respiratory infection (ARI) and fever was also equitable across quintiles.

Larger rich-poor ratios were seen for indicators such as problems in accessing health care among women, indicating that poverty affects women's abilities to seek health care. Women's reproductive health indicators, such as assistance during delivery, teenage pregnancy, total fertility rate, and contraceptive use had larger disparities than knowledge-related indicators.

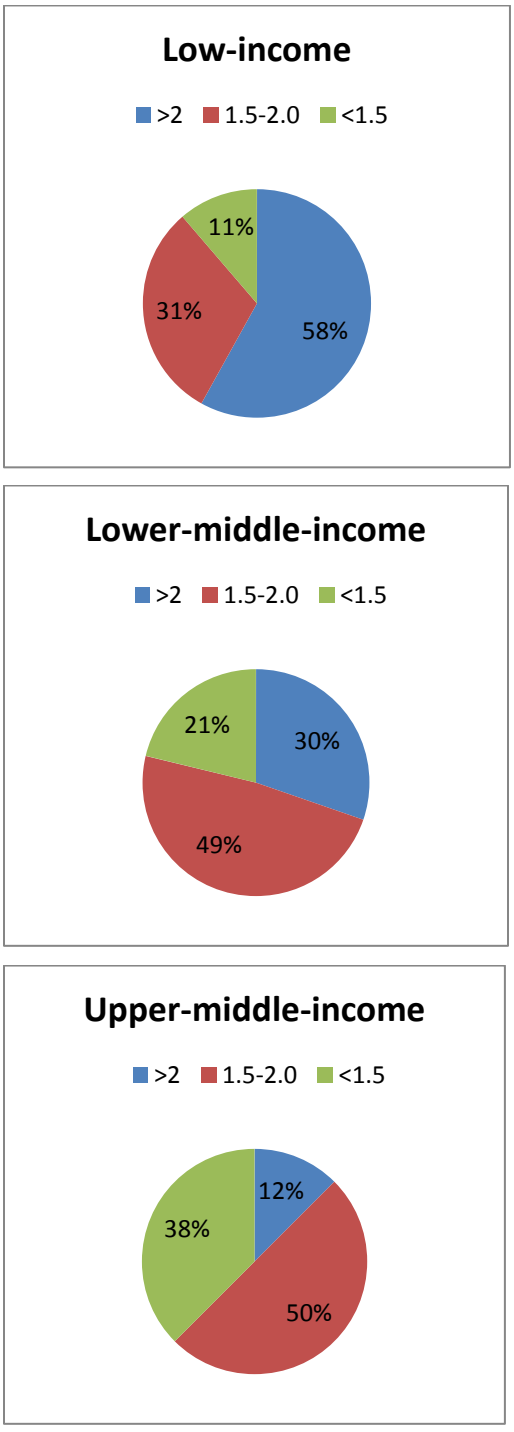
2.2 DISPARITIES AND ECONOMIC GROWTH

To examine the distribution of rich-poor ratios across World Bank country income groups, 13 key health indicators[2] were selected, and countries were assigned to low-, lower-middle, or upper-middle-income categories. Within each income level, the proportion of countries with large (>2.0), medium (1.5–2.0), and small (<1.5) rich-poor ratios was calculated (figure 1).

A larger share of low-income countries had rich-poor ratios above 2 than the higher-income countries. In contrast, lower levels of disparities existed in the richer countries. The proportion of countries with an average rich-poor ratio of less than 1.5 was the largest in the upper-middle-income category.

2. The 13 key indicators are diarrhea prevalence, diarrhea treatment, ARI prevalence, ARI treatment, all vaccinations, problems in accessing health care (any specified problems), antenatal care (any skilled personnel), birth attendant (any skilled personnel), total fertility rate, contraceptive prevalence (any method), knowledge of contraception, underweight children, and under-five mortality rate. The selection of these indicators was determined by data availability and familiarity among researchers. Countries with data for more than half (8) the indicators from surveys in or after 2000 were included.

Figure 1. Distribution of Rich-Poor Ratios of 13 Key Indicators by World Bank Country Income Classifications



Source: Authors' calculations based on DHS and MICS.

2.3 TEN BEST AND WORST PERFORMING COUNTRIES

Countries were then ranked by the average rich-poor ratio into the ten worst and best performing (tables 3 and 4).

At a glance, the rankings show that the average rich-poor gap varied by a country's income level. Many of the countries with large rich-poor ratios were low-income countries such as Chad, Lao People's Democratic Republic (Lao PDR), and Somalia, while countries with lower ratios tended to be middle-income countries, for example, Turkmenistan, Bosnia and Herzegovina, and Serbia.

Table 3. Ten Worst Performing Countries by Average Rich-Poor Ratio for 13 Key Indicators

Worst 10 countries	Average of rich-poor ratios	GDP per capita (same year, current US$)
Chad 2004	8.0	466
Lao PDR 2006	5.4	599
Somalia 2006	4.1	—
Nigeria 2003	3.7	508
Cameroon 2006	3.4	1,000
Eritrea 2002	3.4	170
Mauritania 2007	3.0	883
Niger 2000	3.0	165
Haiti 2000	3.0	424
Bangladesh 2006	2.9	435

Source: Authors' calculations based on DHS and MICS, and World Development Indicators database (http://databank.worldbank.org/ddp/home.do), accessed November 2011.

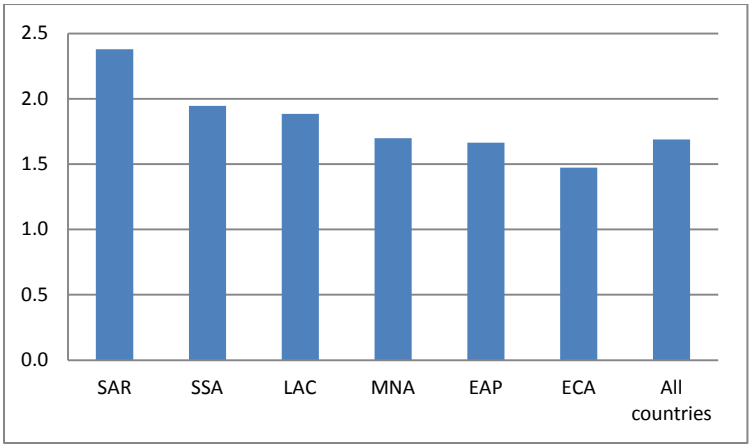
Table 4. Ten Best Performing Countries by Average Rich-Poor Ratios for 13 Key Indicators

Best 10 countries	Average of rich-poor ratios	GDP per capita in corresponding year
Turkmenistan 2000	1.0	645
Bosnia and Herzegovina 2006	1.0	3,241
Serbia 2005–06	1.1	3,391
Jordan 2002	1.2	1,902
Tajikistan 2000	1.2	139
Moldova 2005	1.2	831
Mongolia 2000	1.2	471
Jordan 2007	1.2	3,138
Armenia 2000	1.3	621
Malawi 2006	1.3	236

Source: Authors' calculations based on DHS and MICS, and World Development Indicators database (http://databank.worldbank.org/ddp/home.do), accessed November 2011.

Average rich-poor ratios across the 13 indicators were combined to obtain a composite ratio. A plot of the average rich-poor ratios by region showed disparities to be highest in South Asia (SAR), followed by Sub-Saharan Africa (SSA) and Latin America and the Caribbean (LAC). In these three regions, the richest quintile does about twice as well as the poorest quintile. Among all regions, the disparities are the lowest in Europe and Central Asia (ECA) and the highest in SAR (figure 2).

Figure 2. Average Rich-Poor Ratios of 13 Key Indicators by Region, Most Recent Survey, 1990–2007



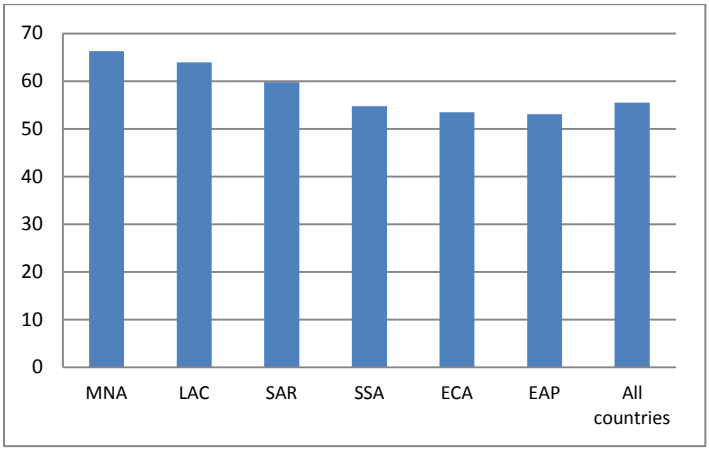
Source: Authors' calculations based on DHS and MICS.

2.4 TRENDS

Changes in rich-poor ratios were calculated from the late 1990s to 2000s for all indicators. The percentage of countries that had narrowed the rich-poor ratio for each indicator, and the average of the percentages were calculated. Slightly more than half the countries (55 percent for all, 53–66 percent by region) narrowed the rich-poor ratios (figure 3), indicating that, at an aggregate level, gaps between rich and poor slightly narrowed.

Figure 3. Countries with Narrowing Rich-Poor Ratios, Averages of all Indicators by Region, 1995–2000 to 2001–07

(Percent)



Source: Authors' calculations based on DHS and MICS.

When indicator data were examined separately, rich-poor gaps appeared to have narrowed in many countries, particularly for knowledge of contraception, child vaccinations, antenatal care by skilled personnel, under-five mortality, women's exposure to print messages on family planning, husband's approval of family planning, and mean number of ideal children.

Relatively less progress was observed on age at first sexual intercourse, age at first marriage, age at first birth, problems in accessing health care (transport, distance), vitamin A supplementation, presumptive treatment of malaria among children, assisted births, and exposure to media messages on family planning.

3. REGIONAL HEALTH INDICATORS

Over 9 million children die each year of diseases worldwide that can, for the most part, be prevented or treated with existing, inexpensive medical interventions (UNICEF 2009). Diarrheal diseases, pneumonia, and malaria—largely preventable or curable conditions—together account for more than 50 percent of all under-five deaths in developing countries.

Many risk factors are at work, including poor nutrition, exposure to infectious diseases, and exposure to environmental factors associated with poverty. Yet access to preventive and curative health services can avert the majority of childhood deaths. Although primary health care interventions are intended primarily to benefit the poor, coverage levels are in fact higher among the rich (Gwatkin et al. 2007).

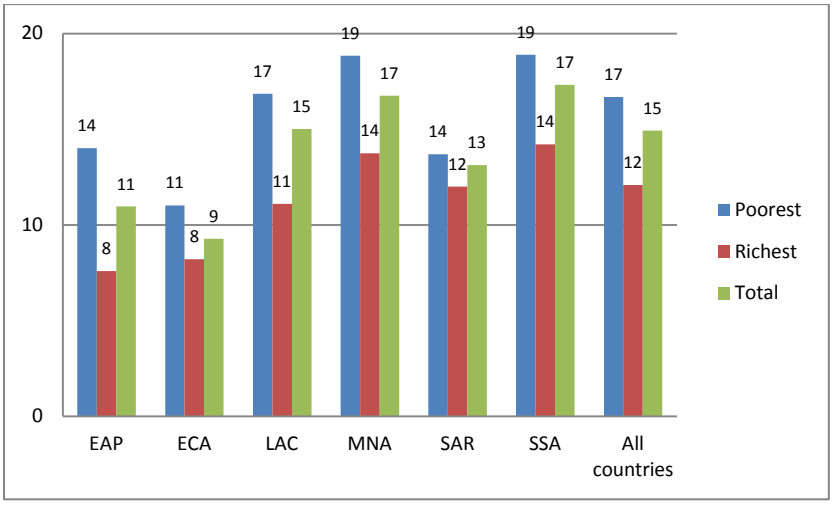
3.1 CHILDHOOD DISEASE PREVALENCE, KNOWLEDGE AND USE OF INTERVENTIONS

3.1.1 Diarrheal disease

Exposure to diarrhea-causing agents often stems from consumption of unsafe drinking water. Children in poor households that do not have piped water and lack access to other safe sources of water have a greater risk of contracting diarrheal illnesses. Knowledge of safe practices for preparing food and disposing of excreta is also less common among the poor.

Diarrhea is about 40 percent more prevalent among the poorest quintile than the richest: globally, 17 percent of children in the poorest quintile experienced diarrhea in the two weeks before the surveys were conducted, compared to only 12 percent in the wealthiest quintile (figure 4).

Figure 4. Diarrhea Prevalence by Wealth Quintile (Percentage of Children under Age Five with Diarrhea in Last Two Weeks)



Source: Authors' calculations based on DHS and MICS.

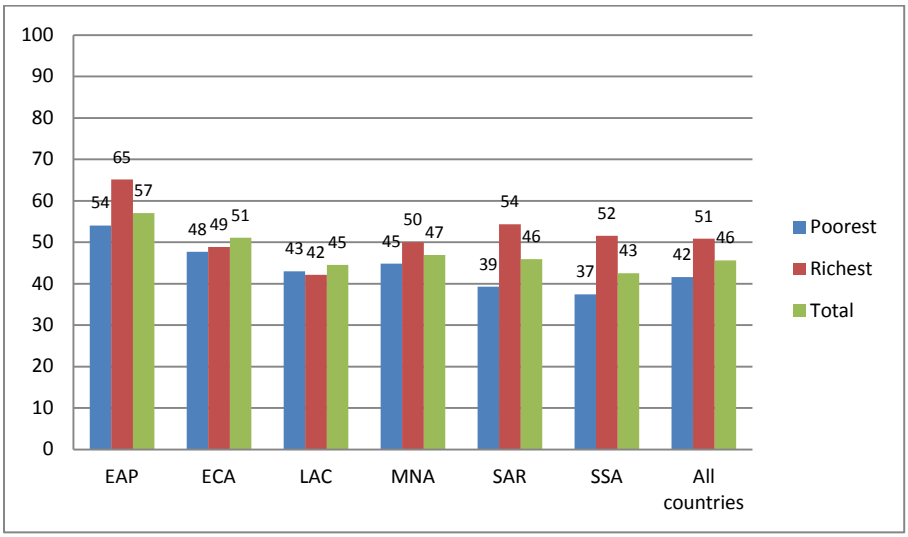
Individual countries' data should be compared with caution, as diarrhea varies seasonally, and surveys are conducted at different times of the year across countries. Further, data on the occurrence of diarrhea among children are obtained from mothers' reports, and are not validated by medical personnel, and so may be subject to bias.

Recommended treatments for diarrhea include timely recognition of disease symptoms and home-based rehydration or care seeking from a medical provider. An effective home-based treatment for dehydration from diarrhea is oral rehydration therapy. Oral rehydration salts (ORS) or recommended home solution (RHS)—a mixture comprising sugar, salt, and water—can replenish fluid levels and potentially save lives.

There are gaps between the richest and poorest households—some substantial, as in the East Asia and Pacific (EAP) region—in knowledge of and treatment for diarrhea. But coverage is generally high in all regions except South Asia (SAR) (figures 5 and 6), reflecting decades of effort to disseminate prevention and care knowledge through diarrheal control programs.

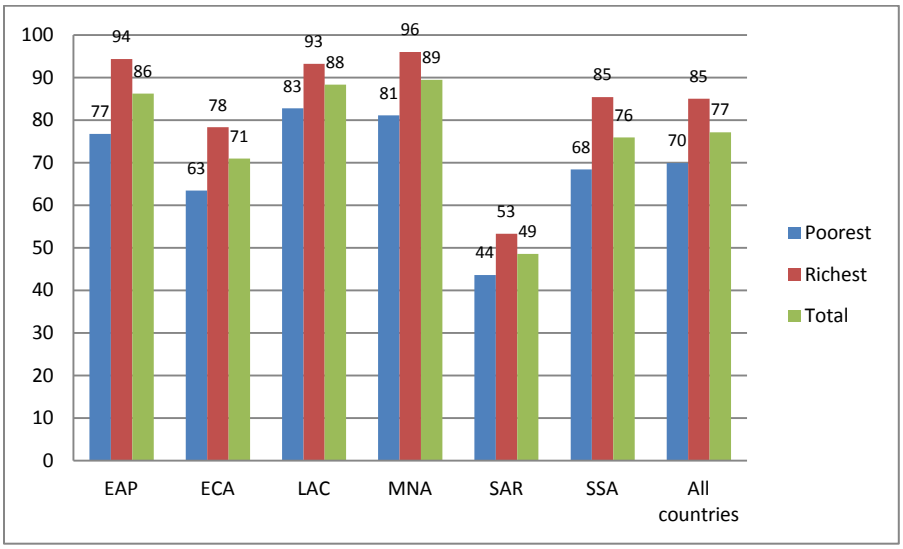
Figure 5. Treatment of Diarrhea (ORS or RHS)

(percent)



Source: Authors' calculations based on DHS and MICS.

Figure 6. Knowledge of Diarrhea Care (Percentage of Mothers Who Know about ORS)

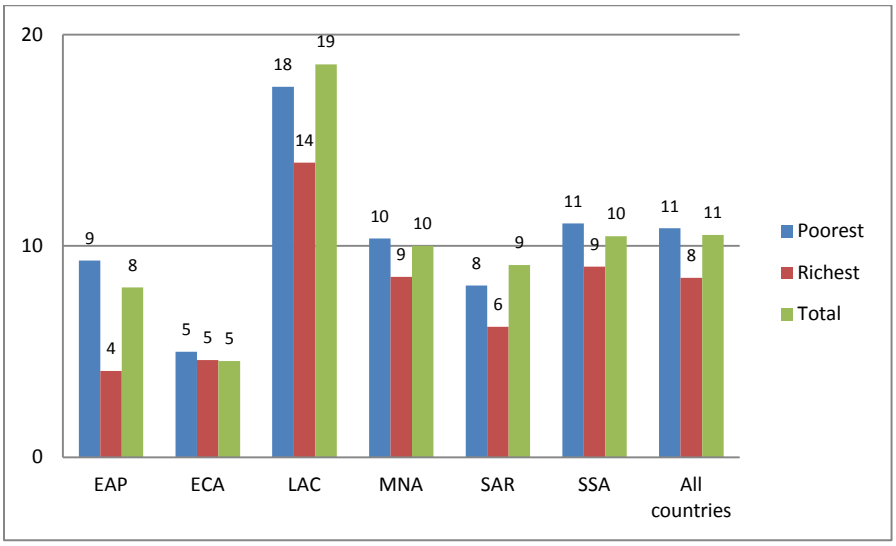


Source: Authors' calculations based on DHS and MICS.

3.1.2 Acute respiratory disease

The surveys assess the prevalence of ARI or pneumonia by asking mothers whether their children under age five had been ill in the previous two weeks with symptoms such as cough and rapid breathing. ARI is among the leading causes of childhood morbidity and mortality, causing an estimated 2 million deaths among children under age five every year (Jones et al. 2003). Prevalence is generally somewhat higher in the poorest quintile (figure 7).

Figure 7. Prevalence of Acute Respiratory Infection (Percentage of Children under Age Five Who Had ARI in the Two Weeks before the Survey)



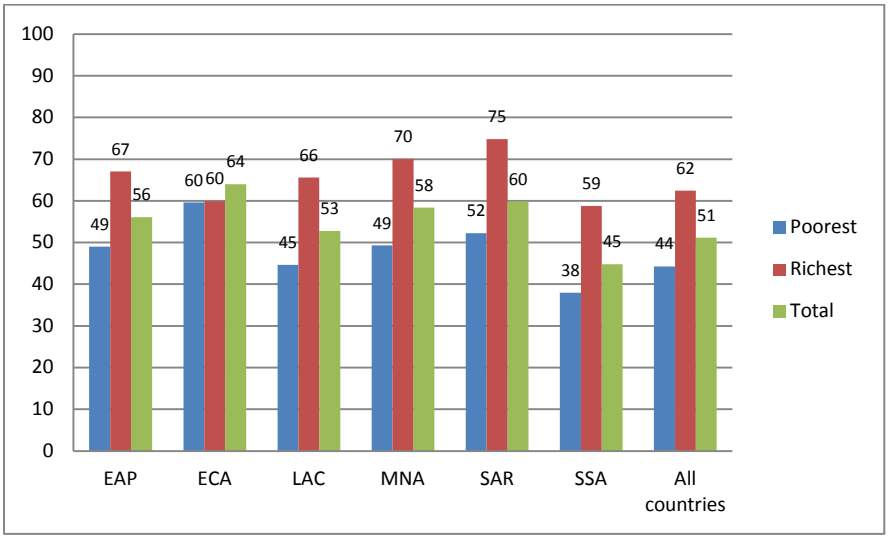
Source: Authors' calculations based on DHS and MICS.

As with diarrhea prevalence, the disease episodes were reported by mothers and were not validated by medical personnel, and hence may be subject to bias.

The serious mortality burden of ARI reflects the large numbers of children worldwide who acquire the disease and do not receive timely and effective treatment. Children with ARI symptoms need to be taken to a health facility or provider for early diagnosis and treatment with antibiotics.

Utilization rates of ARI treatment vary substantially by wealth quintiles. Figure 8 shows that ARI treatment coverage steeply increases with household wealth: those in the poorest quintile are far less likely to receive treatment than those in the richest quintile.

Figure 8. Treatment of Acute Respiratory Infection (Percentage of Children with ARI Taken to a Health Facility)

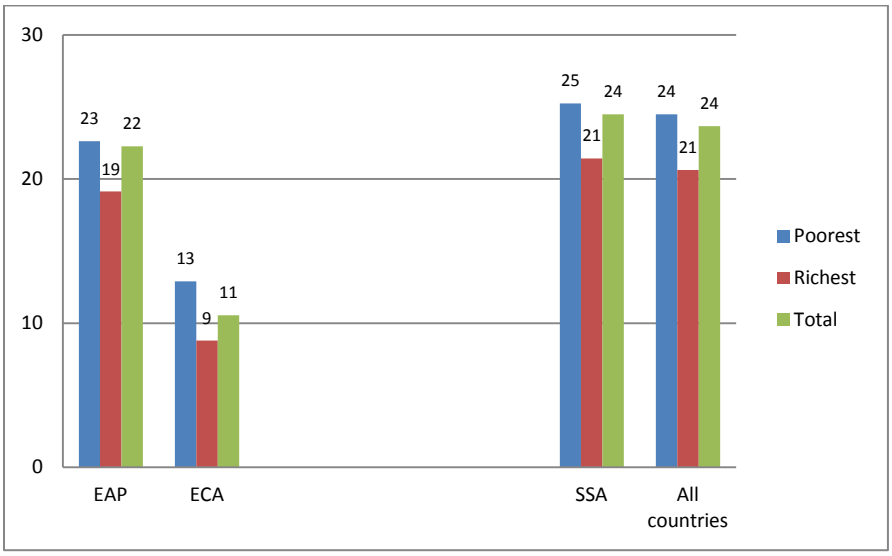


Source: Authors' calculations based on DHS and MICS.

3.1.3 Fever

Fever in children can be a symptom of a number of different infections, including major causes of mortality such as malaria, pneumonia, and measles. The aggregate data show that fever in the two weeks prior to the survey is somewhat more common among children in the poorest quintile than in the wealthiest (figure 9).

Figure 9. Prevalence of Children with Fever (Percentage of Children under Age Five with Fever in the Two Weeks before the Survey)



Source: Authors' calculations based on DHS and MICS.

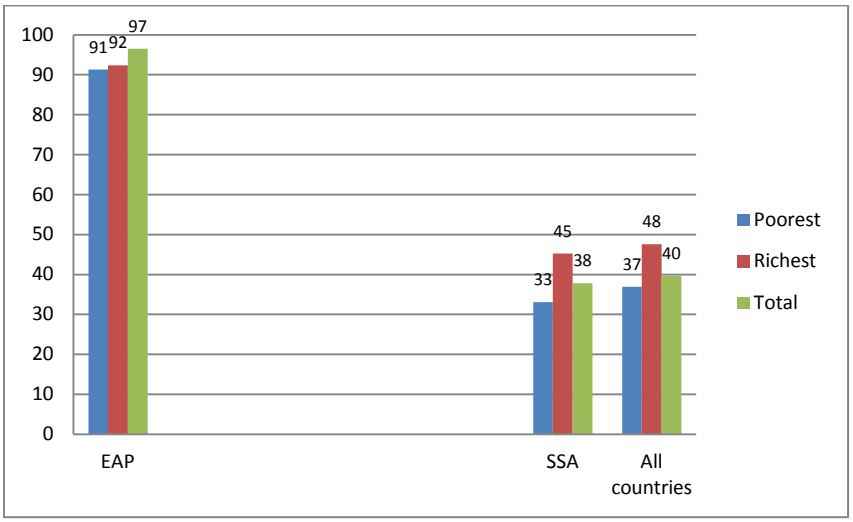
3.1.4 Malaria

Malaria among children in the household is mainly prevented through the use of bednets, especially long-lasting insecticide-treated nets. Surveys usually collect data on bednets by asking survey respondents whether they own any nets, whether any children under the age of five slept under a net the night before, and the total number of children in the household. Surveys also ask whether the nets were treated with insecticide to repel mosquitoes.

As the occurrence of malaria-carrying mosquitoes varies seasonally, assessments of bednet use must take the season of data collection into account.

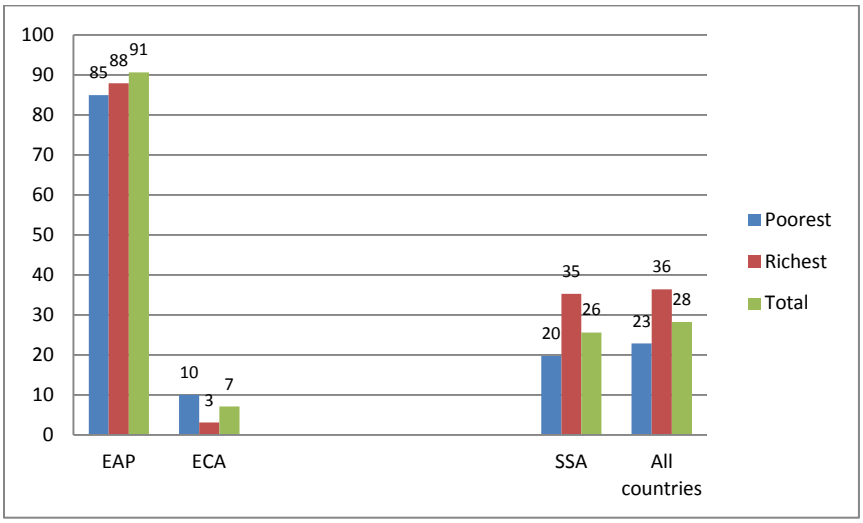
Regional data availability was limited to EAP and SSA. The results show high levels of coverage in EAP, and only small differences between the highest and lowest quintiles (figures 10 and 11). In SSA coverage was low, and the differences were larger, both for availability and use of nets. Even though the poor are more likely to live in rural areas where malaria is more prevalent, richer households are more likely to own and use bednets. A comparison of ownership and use of insecticide-treated nets shows a similar variation in the two regions, but overall coverage is lower for all quintiles in SSA.

Figure 10. Household Possession of Mosquito Nets (Percentage with At Least One of Any Type of Mosquito Net)



Source: Authors' calculations based on DHS and MICS.

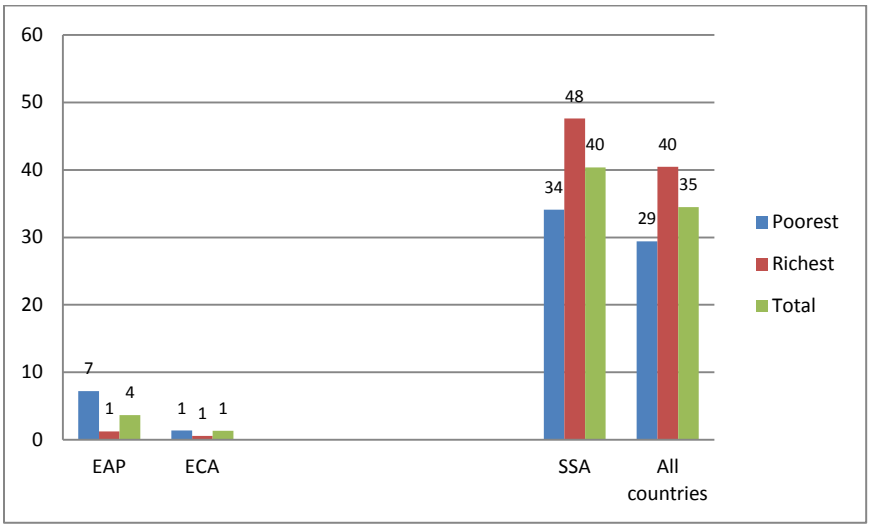
Figure 11. Use of Mosquito Nets by Children (Percentage Who Slept under Any Net the Night before the Survey)



Source: Authors' calculations based on DHS and MICS.

In areas where malaria is endemic, it is recommended that children with fever receive presumptive treatment with antimalarial medication, which involves taking a child with fever to a health facility or to a health provider. In SSA, 48 percent of children with fever in the wealthiest quintile were given antimalarial drugs, compared to 34 percent in the poorest (figure 12).

Figure 12. Treatment of Fever (Percentage of Children with Fever Who Took Antimalarial Drugs)



Source: Authors' calculations based on DHS and MICS.

3.1.5 Childhood vaccination

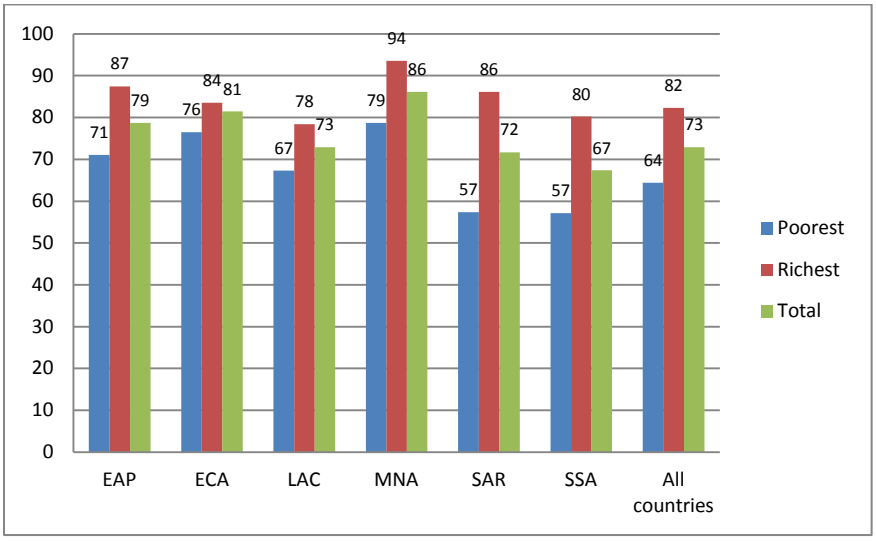
Children are considered to be fully immunized when they have received the tuberculosis vaccination (BCG); three doses of the diphtheria, pertussis, and tetanus (DPT) and the polio vaccine; and measles vaccination by age one. Several countries have also included vaccination against hepatitis B and Hib in the immunization schedule.

Household survey interviewers collect information on childhood disease vaccination coverage for children under five from health or vaccination cards, or from mothers' reports during the interview if they do not have cards.

Figures 13 and 14 show the coverage rates for the measles vaccine as well as full coverage with the basic vaccines for the lowest and highest wealth quintiles. Coverage rates are invariably higher for the wealthiest quintiles, but childhood vaccine coverage is relatively equitable across quintiles when compared with other health interventions such as skilled delivery care.

Figure 13. Vaccination Coverage of Children (Measles)

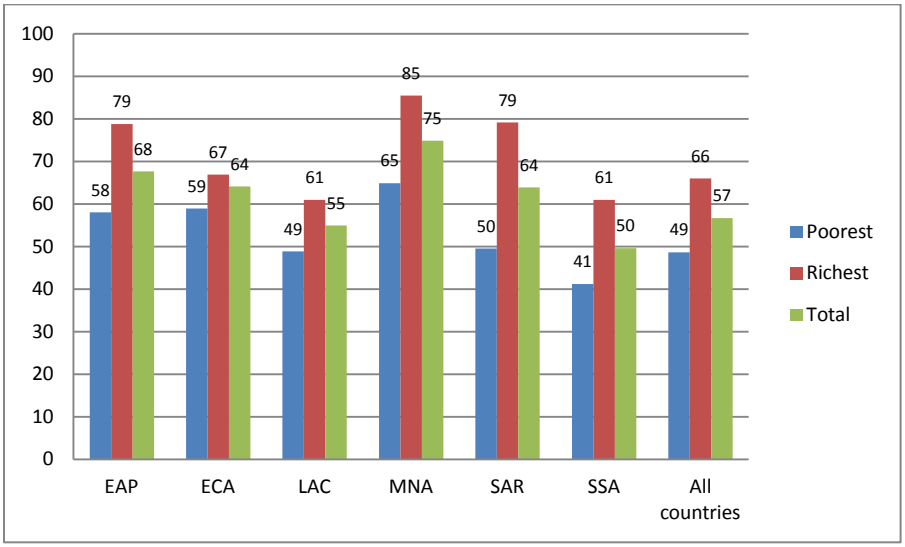
(Percent)



Source: Authors' calculations based on DHS and MICS.

Figure 14. Vaccination Coverage of Children (All Vaccinations)

(Percent)



Source: Authors' calculations based on DHS and MICS.

Immunization of children has long been a priority for countries and development agencies, starting with the Expanded Program on Immunization (EPI) initiated in 1974 by the World Health Organization. In 1990 the World Summit for Children set a goal of achieving 90 percent immunization coverage. Country immunization campaigns and support from donors and partnerships (especially the Global Alliance for Vaccines and Immunisation, more commonly known as the GAVI Alliance) have also helped keep the emphasis on immunizing children.

The data show that these efforts have resulted in overall high levels of coverage even for children from the poorest households. Still, differences between rich and poor remain, with the largest gaps seen in SAR and SSA. In these two regions, children under five from the wealthiest households are about 1.5 times more likely to have received the basic six vaccinations than children in the poorest households.

Among all vaccinations, the level of coverage is the highest across all quintiles for BCG, which is frequently administered soon after birth. The measles vaccine has the second highest overall coverage (figure 13 above). Protection against DPT requires three doses of vaccination at different times. Since the DPT vaccine entails a higher degree of compliance and frequent access to health services, its uptake is not as easy as the other vaccines. Coverage of the DPT vaccine therefore shows the largest difference between children from the richest and poorest households. Fewer than half of all children from the poorest households receive all recommended basic vaccines (figure 14 above).

Coverage of all basic EPI vaccines appears to be inequitable across the five income quintiles in all regions. Children in the higher income quintiles are better off than those in the poorer ones.

3.2 MALNUTRITION

The socioeconomic status of households has a strong impact on quality and quantity of food in households, and nutritional outcomes among children are therefore likely to vary by wealth quintile. Underlying biological and behavioral factors also contribute to malnutrition among children, which can mediate the effect of household wealth.

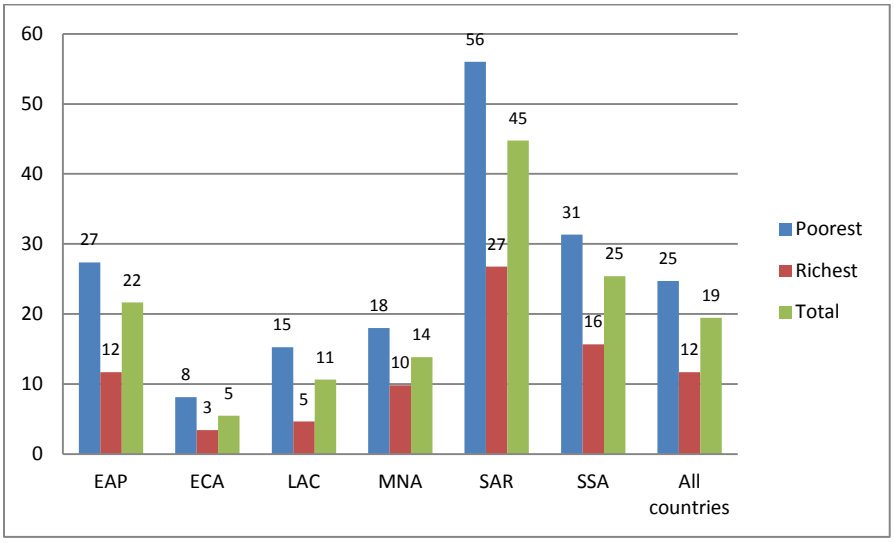
Three measures of nutritional anthropometry are stunting (low stature for age), wasting (low weight for height), and underweight (low weight for age, figure 15). Data collection for these indicators involves taking measurements of children's weight and height, and recording their age. The data are then assessed against an international reference population standard. The malnutrition indicators were calculated in terms of standard deviations below the mean of the reference population, with two standard deviations (SDs) below the mean indicating moderate to severe malnutrition.

Stunting reflects chronic malnutrition, whereas wasting is an indication of acute nutritional deficiencies. Underweight is the more general indicator of nutritional status. The prevalence of underweight and stunting among children is much higher among the poorest households. In many regions it is twice as high.

Disparities in underweight children by income quintile are most pronounced in SAR, where children in the lower income quintiles are far more likely than their richer counterparts to be underweight; in the lowest quintile 56 percent of children are underweight compared with 27 percent in the highest quintile. In ECA, by contrast, the prevalence of underweight in the lowest quintile is 8 percent, and 3 percent in the highest (figure 15).

Figure 15. Malnourished Children (Underweight, below 2 SDs)

(Percent)



Source: Authors' calculations based on DHS and MICS.

3.3 SEXUAL AND REPRODUCTIVE HEALTH

Indicators related to reproductive health examined for this report include use of family planning, fertility rates, and maternal care.

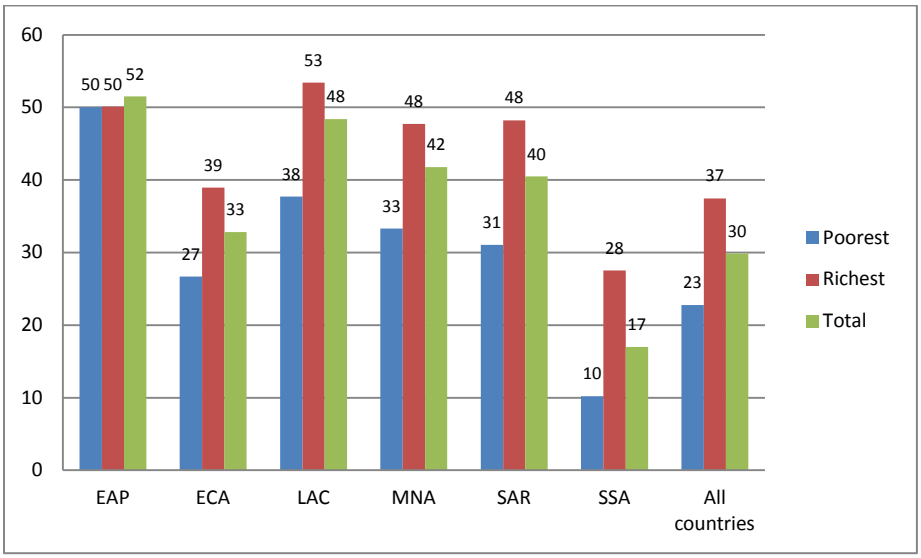
3.3.1 Family planning and fertility

Family planning—a development success story—has increased in most parts of the world. Contraceptive use has climbed rapidly in many low- and middle-income countries, and fertility has correspondingly declined (apart from some 30 countries, mainly in SSA).

But even when family planning has risen nationally, large discrepancies remain within countries by state, region, rural/urban residence, socioeconomic level, and other demographic variables.

Use of contraceptive methods averages 12–18 percentage points more among married women in the wealthiest than in the poorest households in all regions but one (figure 16).

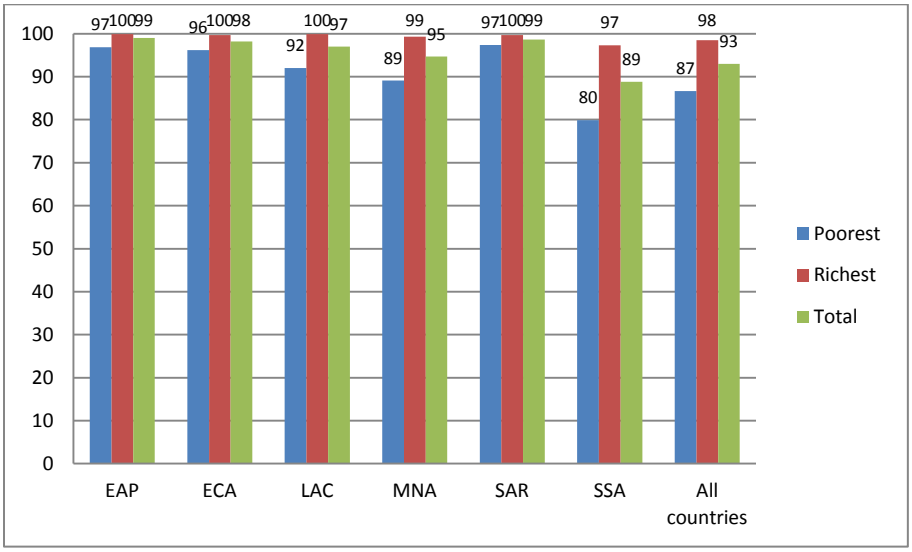
Figure 16. Current Use of Contraception—Any Modern Method (Percentage of Currently Married Women)



Source: Authors' calculations based on DHS and MICS.

The gap in contraceptive use cannot be fully explained by a lack of knowledge about contraceptive methods among the poor. This is because, unlike contraceptive use, such knowledge is generally not very different between women in the richest and poorest quintiles, though SSA and the Middle East and North Africa (MNA) show slightly wider gaps (figure 17).

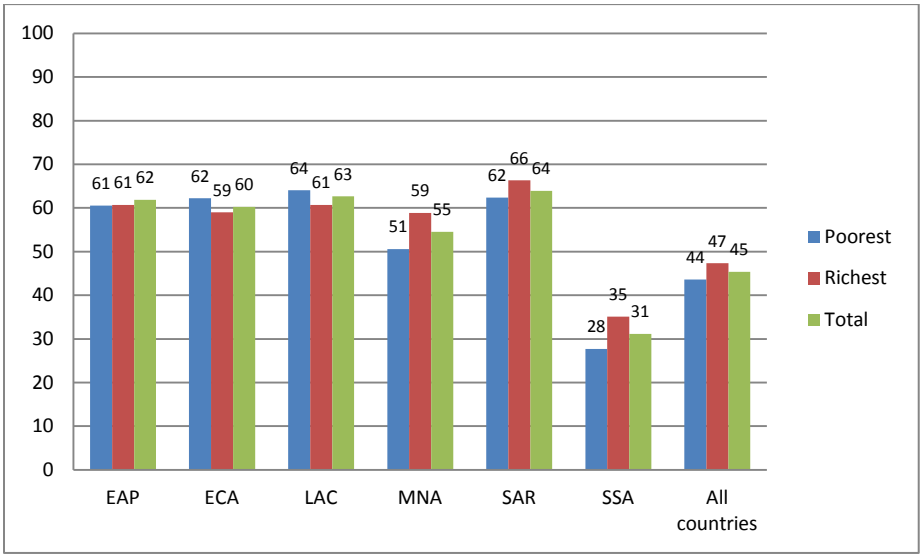
Figure 17. Knowledge of Contraception—Any Modern Method (Percentage of Currently Married Women)



Source: Authors' calculations based on DHS and MICS.

Lower use of family planning among women in poorer households is not related to a desire for more children. Figure 18 shows that similar proportions of women in both poor and rich households want to stop childbearing.

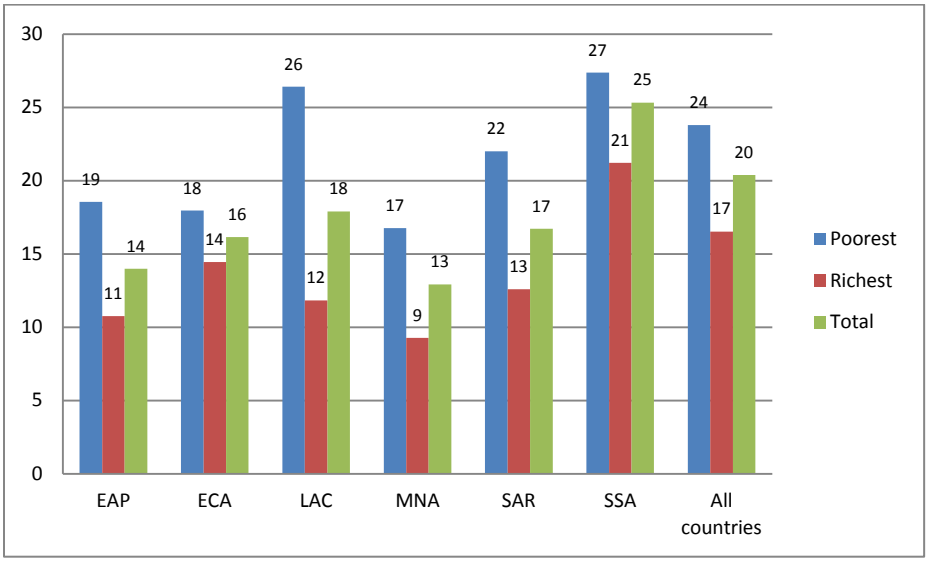
Figure 18. Desire to Stop Childbearing (Percentage of Currently Married Women)



Source: Authors' calculations based on DHS and MICS.

But contraceptive use is much higher among the rich, with a much higher level of unmet need for family planning among women in poor households (figure 19).

Figure 19. Unmet Need for Family Planning—Total (Percentage of Currently Married Women)



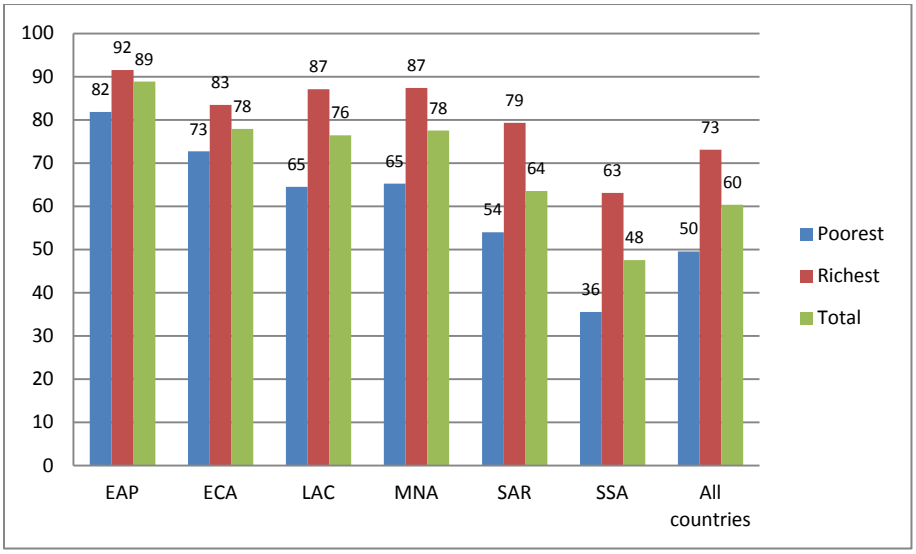
Source: Authors' calculations based on DHS and MICS.

The unmet need for family planning, defined as the proportion of women who do not want to become pregnant but who are not using contraception, exists for supply reasons

(access to contraceptive methods) and demand reasons (not wanting to use contraception). Women with an unmet need who do not want to use a contraceptive method often express a fear of side effects or an unwillingness to use family planning, either their own or their partner's.

Attitudes toward family planning are generally favorable as most women feel that their husbands approve of family planning. In SSA and SAR, the attitudes are less favorable, particularly among the poorest (figure 20).

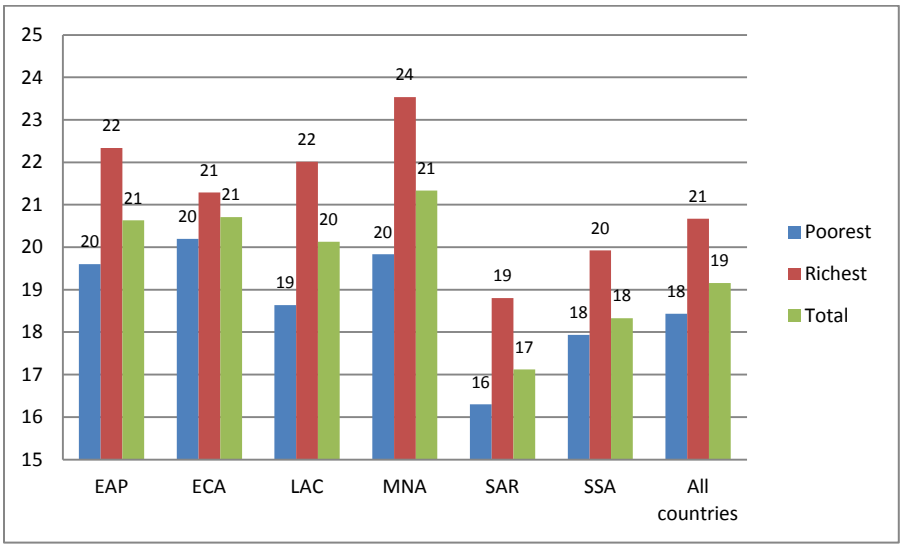
Figure 20. Attitudes of Couples toward Family Planning (Percentage of Currently Married Women Who Have a Perception that Their Husbands Approve)



Source: Authors' calculations based on DHS and MICS.

Women who live in poor households not only use contraception at lower rates, they also tend to marry at younger ages (figure 21) and have higher rates of teenage pregnancies.

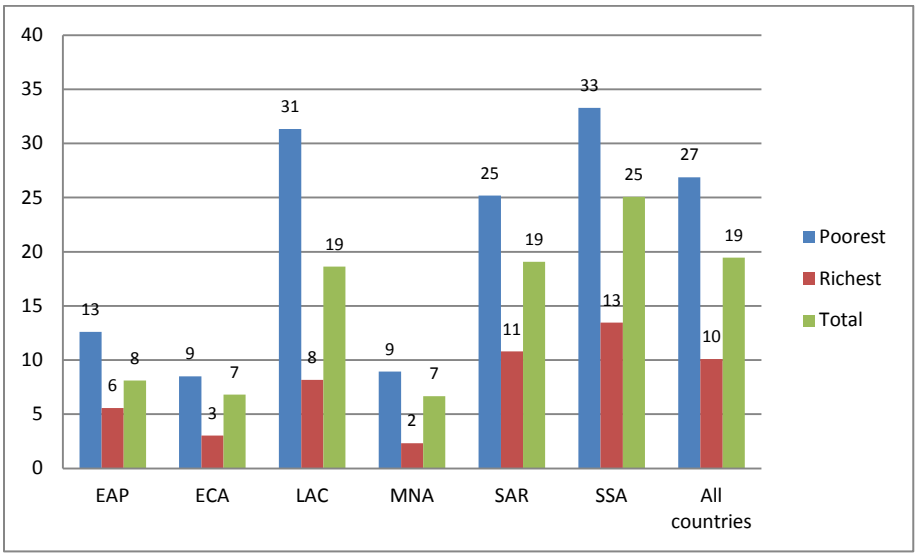
Figure 21. Median Age at First Marriage (Women Aged 25–49)



Source: Authors' calculations based on DHS and MICS.

More than 10 percent of births in developing countries occur among adolescent women, putting them at higher risk of maternal mortality (United Nations 2011). In the LAC and SSA regions, about one-third of teenage women in the poorest households were pregnant or had given birth before the survey (figure 22).

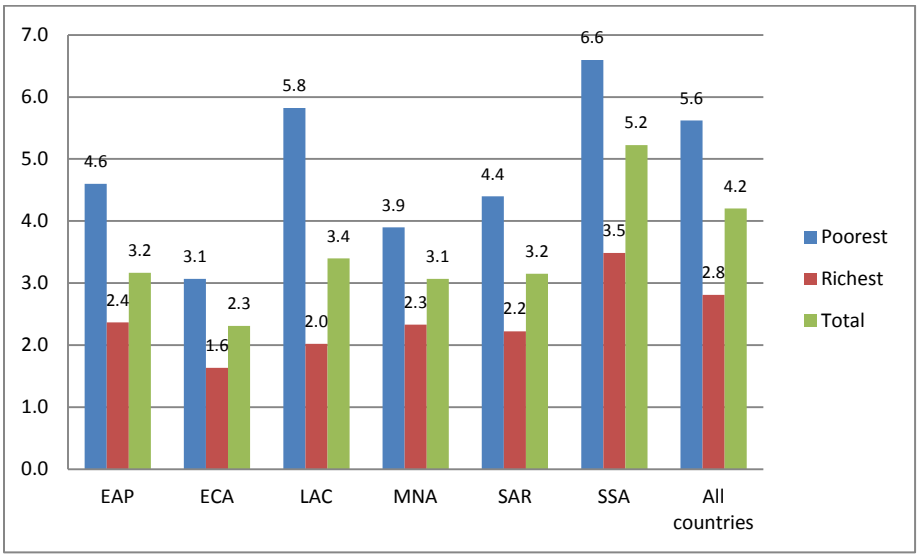
Figure 22. Teenage Pregnancy and Motherhood (Percentage of Women Aged 15–19 Who Had Children or Are Currently Pregnant)



Source: Authors' calculations based on DHS and MICS.

The variation in total fertility rates between the rich and the poor (figure 23) reflects the patterns observed in the rate of early childbearing and contraceptive use.

Figure 23. Total Fertility Rate (per Woman)



Source: Authors' calculations based on DHS and MICS.

The gaps in total fertility rates between quintiles are very large, illustrating the extent to which national averages can hide differences between the rich and the poor. In all regions except SSA, fertility rates for the richest households are around replacement level of about two children per couple, whereas among women in the poorest households, the rates are much higher.

The fertility levels of poor women are similar to those observed in countries that are at the early stages of demographic transition. In LAC, for example, where the total fertility rates are much lower than in SSA, the total fertility rate of women living in the poorest households is above the average for SSA.

3.3.2 Maternal health care

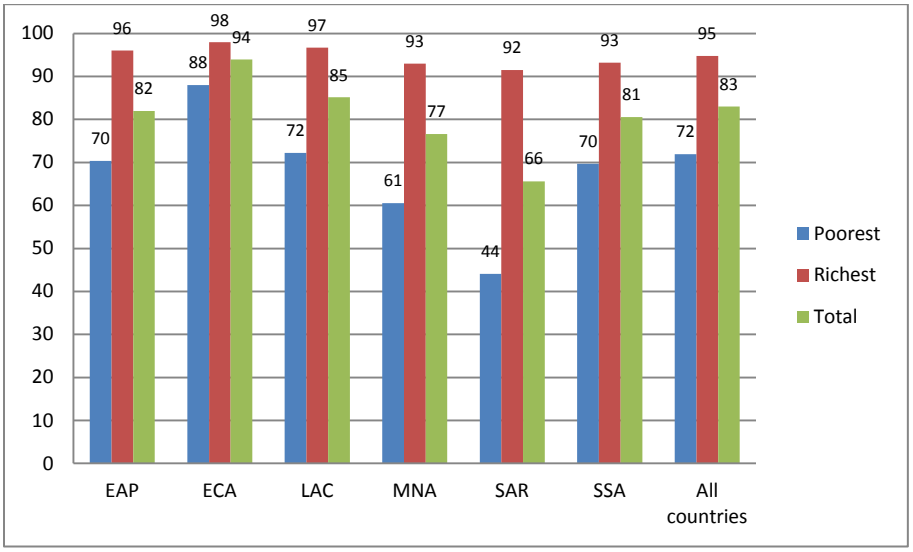
Access to reproductive health care during pregnancy and childbirth is among the least equitable of all health services. Figures 24–26 show that the gaps in these indicators between rich and poor are much larger than those for child health care.

Four or more antenatal care visits during pregnancy are recommended for expectant mothers. Antenatal visits involve checkups to monitor the pregnancy and provide nutritional supplements and counseling for safe pregnancy and delivery.

Women living in the poorest households are less likely to receive antenatal care from any skilled personnel (figure 24) and have even less chance of getting antenatal checkups from a doctor (figure 25).

Figure 24. Pregnant Women Having Attended Antenatal Care (Seen by Any Skilled Personnel)

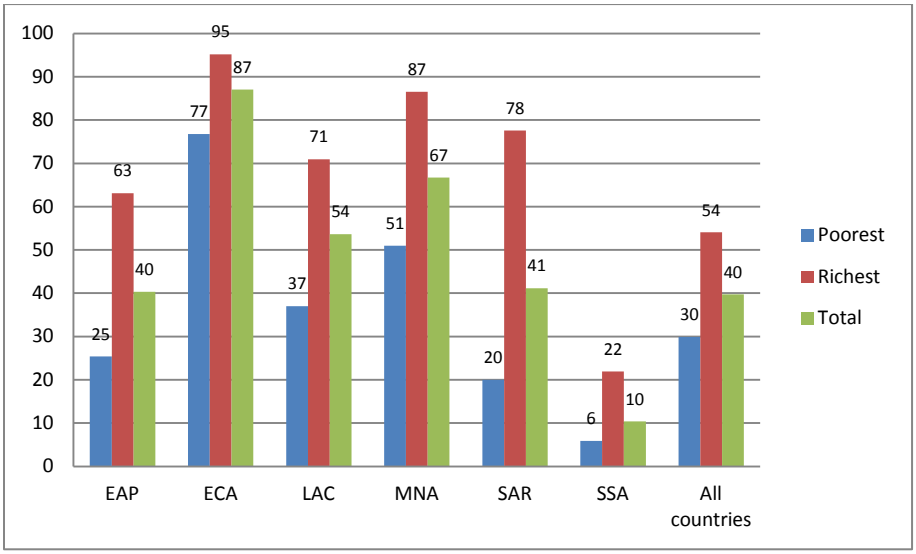
(Percent)



Source: Authors' calculations based on DHS and MICS.

Figure 25. Pregnant Women Having Attended Antenatal Care (Seen by Doctor)

(Percent)

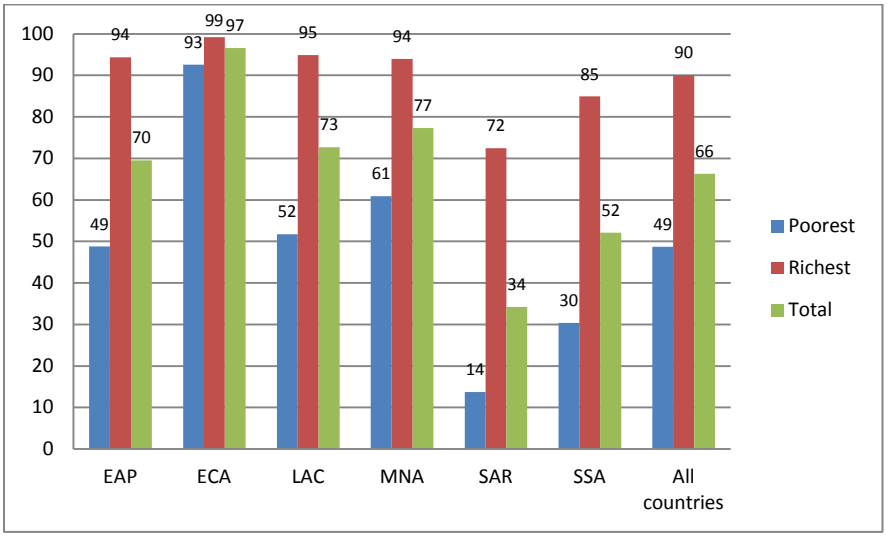


Source: Authors' calculations based on DHS and MICS.

Delivery by skilled birth attendants including doctors, nurses, and trained midwives is a key intervention for reducing high rates of maternal mortality in developing countries. Women have traditionally sought delivery care from traditional birth attendants or family members who are unable to treat obstetric complications. Increasing delivery care by skilled providers is recommended as the main strategy for reaching MDG 5 (reducing maternal mortality by three-quarters by 2015).

Data show wide variability by quintile in access to delivery care (figure 26). The disparity between the richest and poorest in skilled delivery care is most pronounced in SAR and SSA; SAR has the lowest overall coverage among regions. These two regions have the largest burden of maternal deaths in the world, and accounted for 87 percent of global maternal deaths in 2008 (World Health Organization et al. 2010).

Figure 26. Assistance during Delivery (Percentage of Births Attended by Any Skilled Personnel)



Source: Authors' calculations based on DHS and MICS.

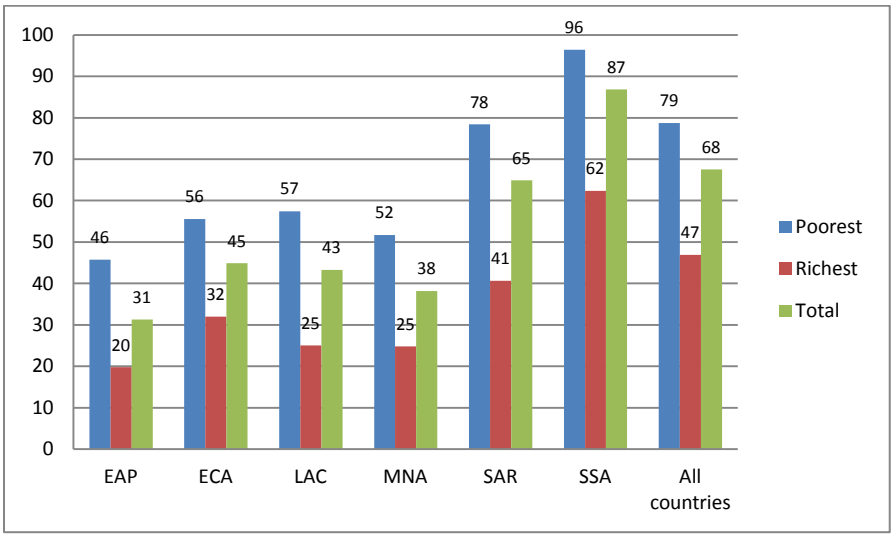
A recent study confirms that the poorest women in South Asia, Southeast Asia, and Sub-Saharan Africa are most likely to deliver at home. Their main reason was the belief that delivering in a health facility was not necessary, a view likely to be influenced by social and cultural beliefs related to the value of facility-based care (Montagu et al. 2011) and reflecting common practice and their low access to this care.

3.4 MORTALITY

Improvements in coverage of child survival interventions, such as immunization, nutrition, and treatment of childhood diseases, have contributed to declining trends in infant and child mortality over the past several decades. Most gains in child survival have stemmed from declines in post-neonatal mortality.

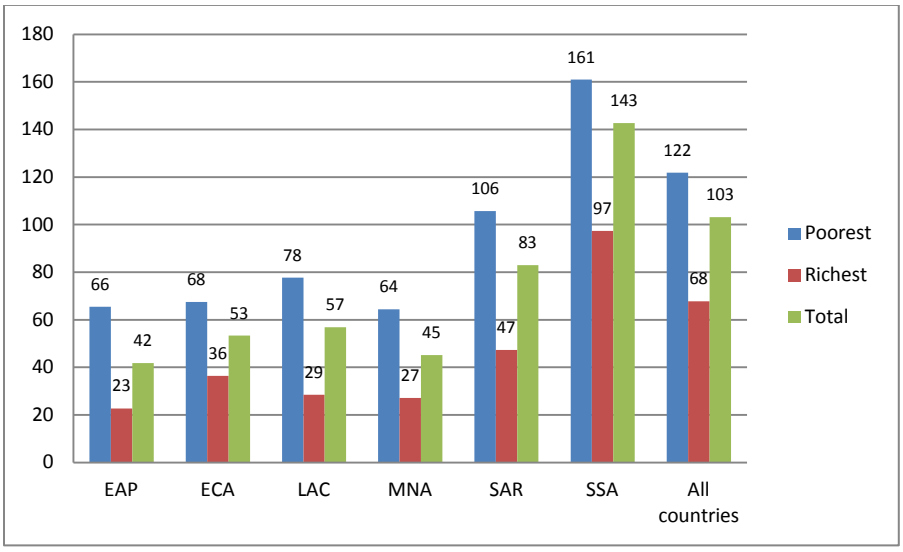
Reducing child mortality persists as a challenge in many developing countries, especially neonatal mortality, which in 2008 accounted for 41 percent of under-five deaths (UNICEF 2010). Even though some regions have made better progress than others in aggregate rates of child survival, policies have not succeeded in reducing disparities. Figures 27 and 28 show that in all regions, poorer households suffer from much higher levels of infant and child mortality than richer households.

Figure 27. Infant Mortality Rate (per 1,000)



Source: Authors' calculations based on DHS and MICS.

Figure 28. Under-five Mortality Rate (per 1,000)



Source: Authors' calculations based on DHS and MICS.

An earlier study found that under-five mortality of the poorest quintile was on average 2.2 times higher than that of the wealthiest quintile. (Other studies corroborate the fact that the relatively greater burden of child mortality among the poor has remained largely unchanged despite overall declines in recent years.) Children in the poorest households were three times more likely to die before the age of five than those in the richest quintile. Between the mid-1980s and the mid-1990s, these differentials remained constant in a few countries but worsened in most (Minujin and Delamonica 2003).

4. REGIONAL TRENDS

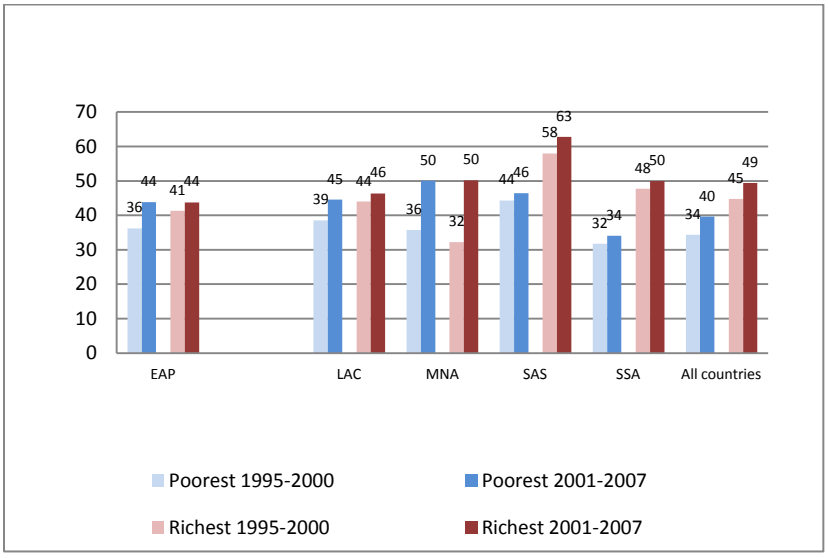
Monitoring changes in health disparities over time can provide insights into whether these disparities between the rich and poor are narrowing or widening. Improvement or deterioration could result from various socioeconomic factors or from inputs related to health policies and programs, since programs targeted at the poor have the potential to reduce health gaps.

Data for this report were extracted from country surveys conducted in 1995–2000 and 2001–07. The discussion that follows focuses on data trends for the richest and the poorest quintiles, which are compared for each indicator.

4.1 INFECTIOUS DISEASES

Coverage of diarrhea treatment among children improved in both the richest and poorest quintiles in all regions (figure 29). The largest overall gain between the two periods was seen in the MNA region, where diarrhea treatment coverage among the poorest increased by 14 percentage points and among the richest by 18 percentage points.

Figure 29. Trends in Treatment of Diarrhea (Percentage of Children Who Received Either ORS or RHS)

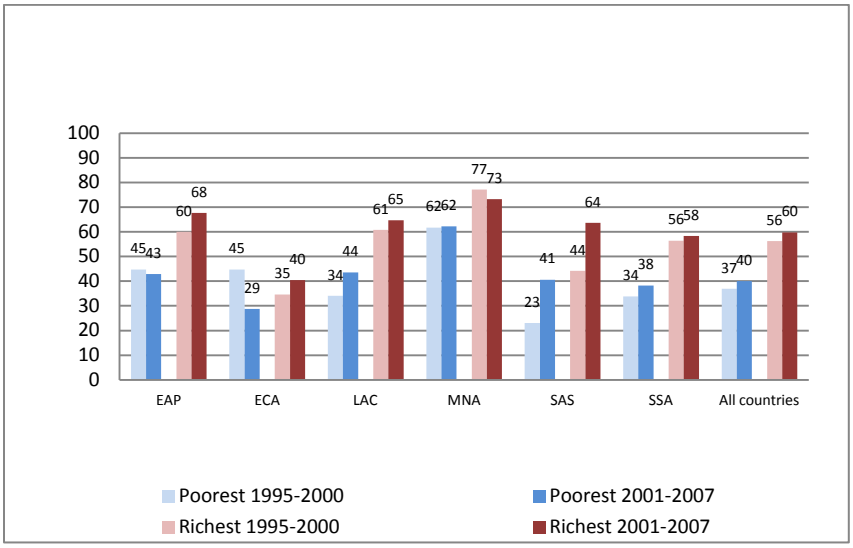


Source: Authors' calculations based on DHS and MICS.

In contrast, trends in the treatment of ARI among children showed mixed results. While most regions reported increases in coverage, some saw declines. In the EAP region, coverage among the poorest fell from 45 to 43 percent, but among the rich it increased from 60 to 68 percent (figure 30) between the two periods. Coverage among the poorest declined significantly from 45 to 29 percent in ECA.

The most impressive gains occurred in SAR, where coverage rates improved among the richest and poorest quintiles. ARI treatment among the poor was 1.78 times as high in the later survey, a larger gain than the 1.45 among the rich.

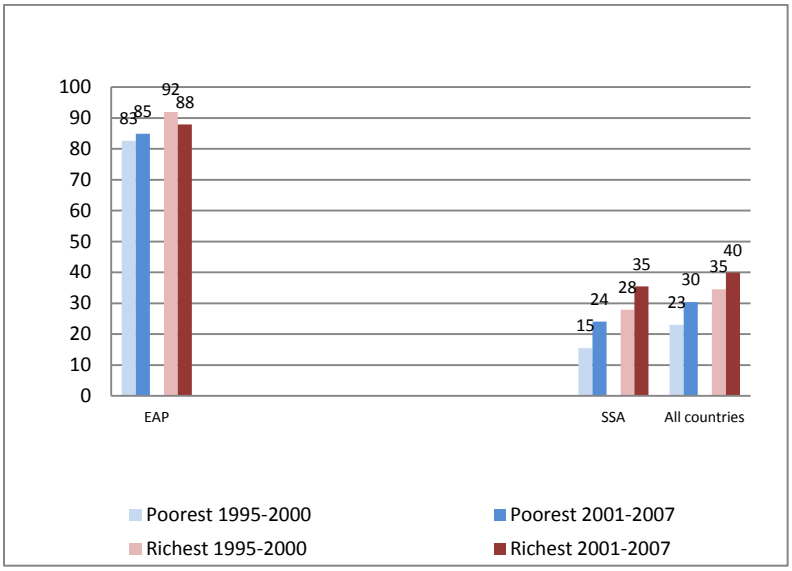
Figure 30. Trends in Treatment of Acute Respiratory Infection (Percentage of Children with ARI Taken to Health Facility)



Source: Authors' calculations based on DHS and MICS.

Data on trends in use of mosquito nets for malaria prevention were only available in EAP and SSA. Although EAP has much higher levels of bednet use, trend data show that coverage declined between the two survey rounds. In contrast, SSA has very low rates of bednet use, but the rates increased among both the rich and poor (figure 31).

Figure 31. Trends in Use of Mosquito Nets by Children (Percentage Who Slept under Any Net the Night before the Survey)



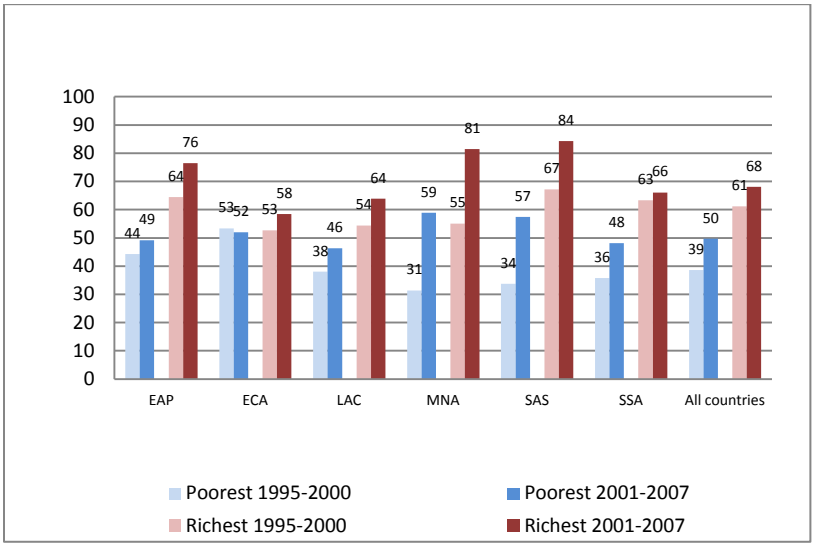
Source: Authors' calculations based on DHS and MICS.

4.2 CHILDHOOD VACCINATION

Childhood vaccination coverage rates improved in all regions, especially MNA and SAR (figure 32). The gains among the poorest were especially large in MNA, with coverage almost doubling. These findings reiterate the fact that even when aggregate data show improvements, the patterns of progress among the rich and poor can differ greatly.

Figure 32. Trends in Vaccination Coverage of Children (All Vaccinations)

(Percent)

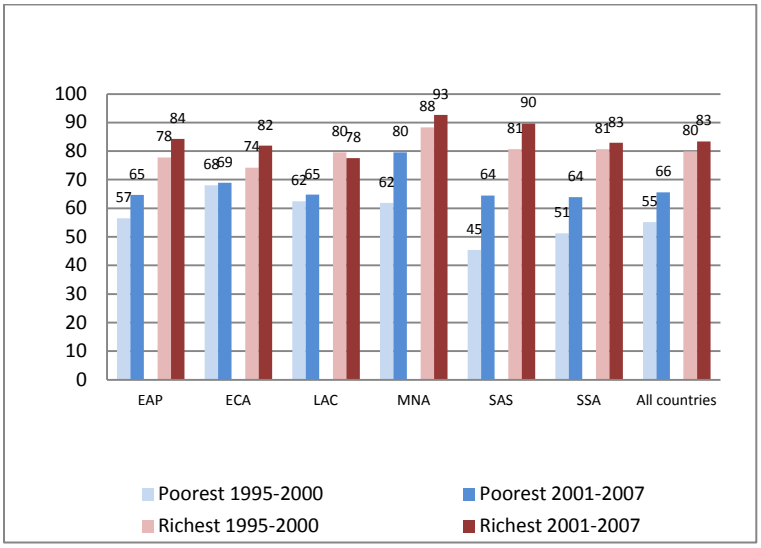


Source: Authors' calculations based on DHS and MICS.

Moreover, the indicators themselves can mask differences by subcomponent. The poorest in ECA experienced a slight drop in the coverage of all vaccinations, but coverage of the measles vaccine improved (figure 33). The poorest in SAR and SSA experienced large gains in coverage of the measles vaccine—starting, however, from a much lower base than in ECA.

Figure 33. Trends in Vaccination Coverage of Children (Measles)

(Percent)

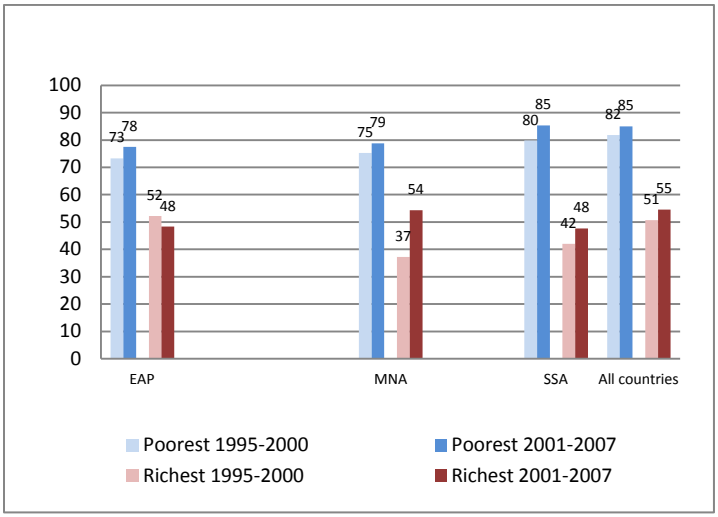


Source: Authors' calculations based on DHS and MICS.

4.3 MATERNAL HEALTH CARE

Women's use of health care during pregnancy and childbirth depends partly on the ease of access to medical services. The proportion of women reporting problems in accessing health care increased in both the richest and poorest quintiles (figure 34) despite an increase in utilization, as shown below. Presumably, their greater awareness of and demand for care, alongside limited ability to get care, influenced their perceptions about problems in accessing care.

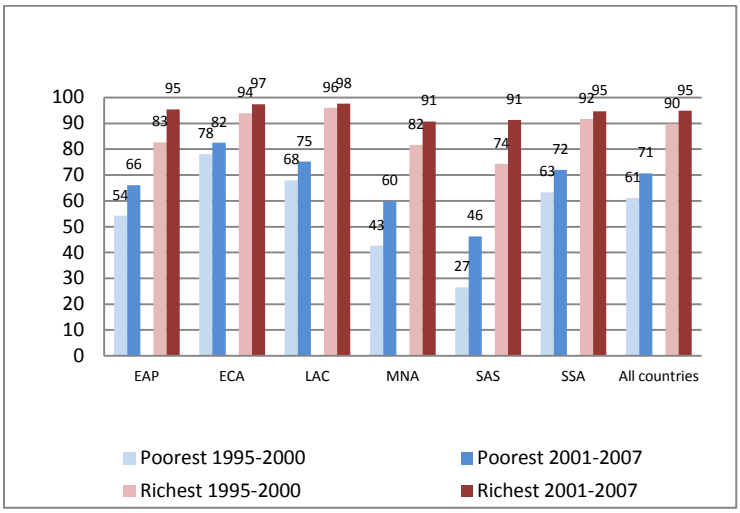
Figure 34. Trends in Problems in Accessing Health Care (Percentage of Women Who Reported Problems)



Source: Authors' calculations based on DHS and MICS.

Uptake of maternal health services improved in all regions. Both the richest and poorest women increased their antenatal care use between survey periods (figure 35).

Figure 35. Trends in Percentage of Pregnant Women Receiving Antenatal Care (Any Skilled Personnel)

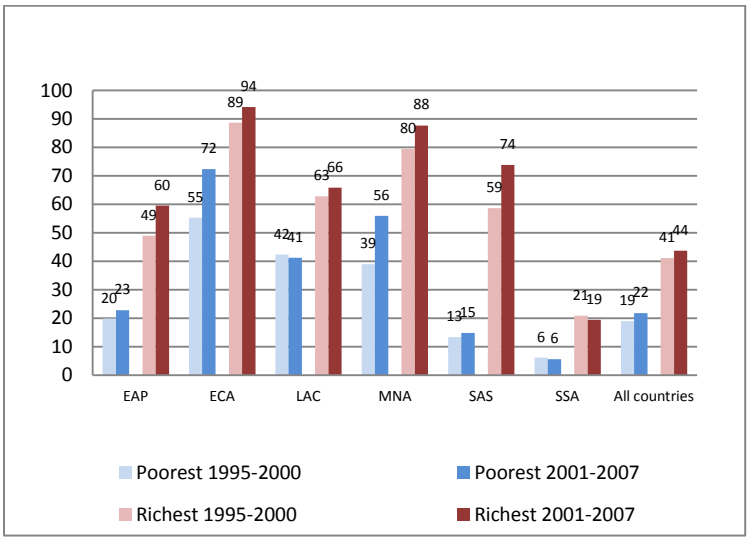


Source: Authors' calculations based on DHS and MICS.

The largest gain occurred among the poorest in SAR, 1.7 times as high in the later survey. Strikingly, among the poorest, not only was antenatal care use in SSA somewhat similar to that in LAC, but the rate of increase in SSA was also higher than in LAC. The findings document the large improvements in antenatal care use even in SSA.

Provision of antenatal care by nurses and midwives is more common than by doctors, who are in very short supply in developing countries. A higher proportion of women from the richest rather than the poorest quintiles received antenatal care from doctors (figure 36). Apart from ECA and MNA where rates among the rich were already high, the richest have generally seen bigger improvements than the poor.

Figure 36. Trends in Percentage of Pregnant Women Receiving Antenatal Care (Doctors)

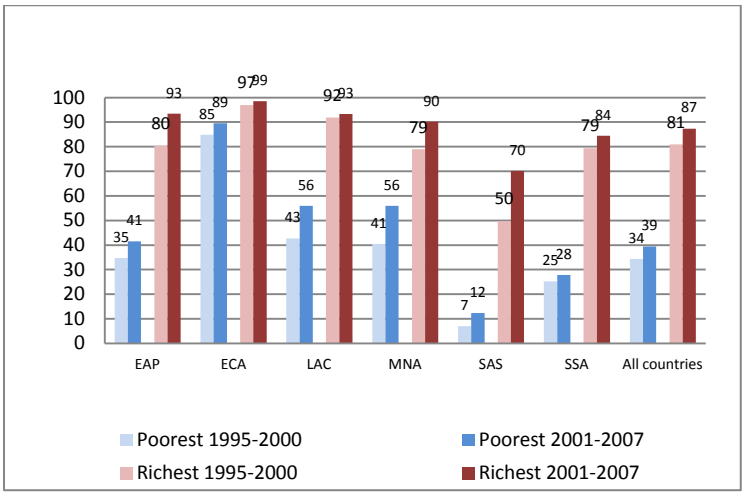


Source: Authors' calculations based on DHS and MICS.

Disparities in skilled delivery assistance between the richest and poorest have remained in all regions. Although gains have occurred in the highest and lowest quintiles, a much higher proportion of rich rather than poor women still receive delivery care from skilled attendants (figure 37). The inequities are the largest in SAR and SSA: the richest women in SAR are nearly six times as likely as the poorest to receive skilled delivery care.

Other studies (Montagu et al. 2011, for example) have reported the still wide disparities among the richest and poorest in use of health facilities for delivery.

Figure 37. Trends in Assistance during Delivery (Percentage of Births Attended by Any Skilled Personnel)

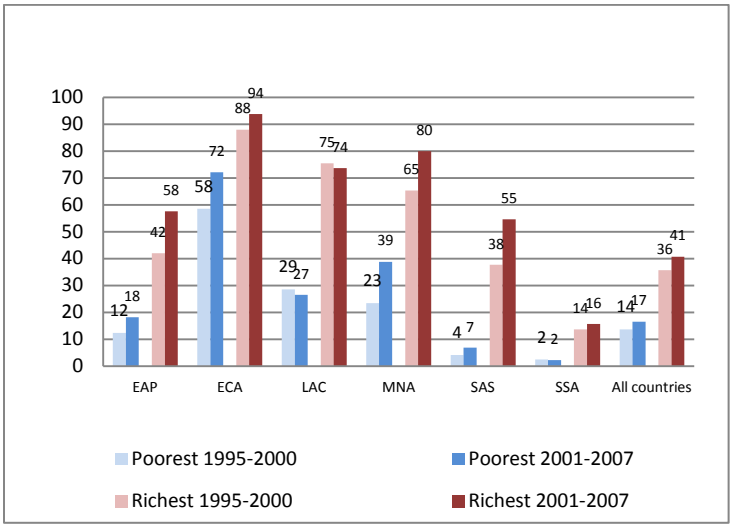


Source: Authors' calculations based on DHS and MICS.

Similar to antenatal care, the provision of delivery assistance by doctors showed that the richest women benefited more over time. In certain regions including ECA and MNA,

however, coverage among the poorest also greatly improved (figure 38). In LAC, in contrast, there was a small decline in births attended by a doctor among the poorest over the two periods.

Figure 38. Trends in Assistance during Delivery (Percentage of Births Attended by a Doctor)

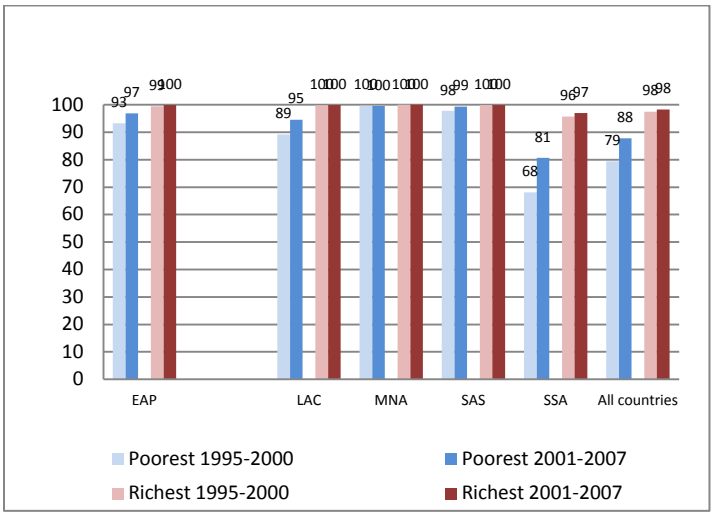


Source: Authors' calculations based on DHS and MICS.

4.4 FAMILY PLANNING

Family planning knowledge is nearly universal in most regions. On average, more than 88 percent of women from the poorest households and 98 percent from the richest were aware of at least one method of modern contraception (figure 39). Apart from SSA, the knowledge gaps between the rich and the poor were small.

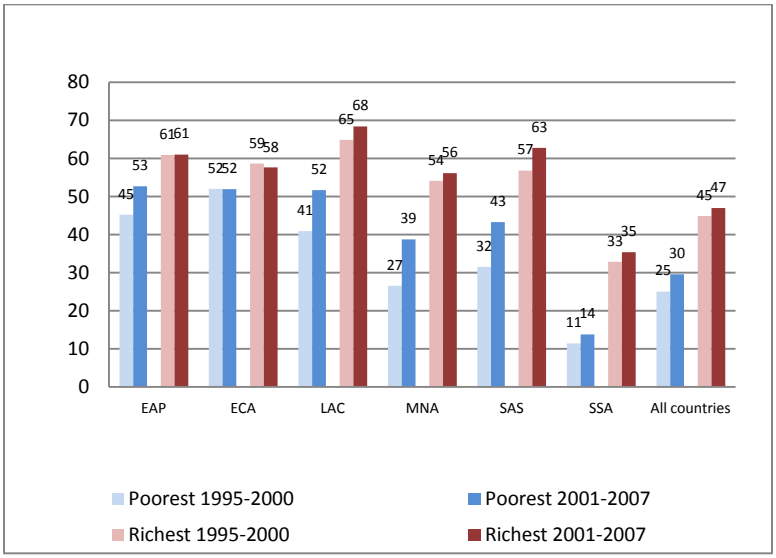
Figure 39. Trends in Knowledge of Contraception—Any Modern Method (Percentage of Currently Married Women)



Source: Authors' calculations based on DHS and MICS.

Although use of family planning (any method) has shown gradual improvements across the world, the patterns of progress vary (figure 40). MNA and SAR recorded the largest percentage increases in contraceptive prevalence among the poorest. The ECA region saw contraceptive prevalence stagnate. SSA saw only a modest 3 percentage point increase among the poorest and 2 percentage points among the richest.

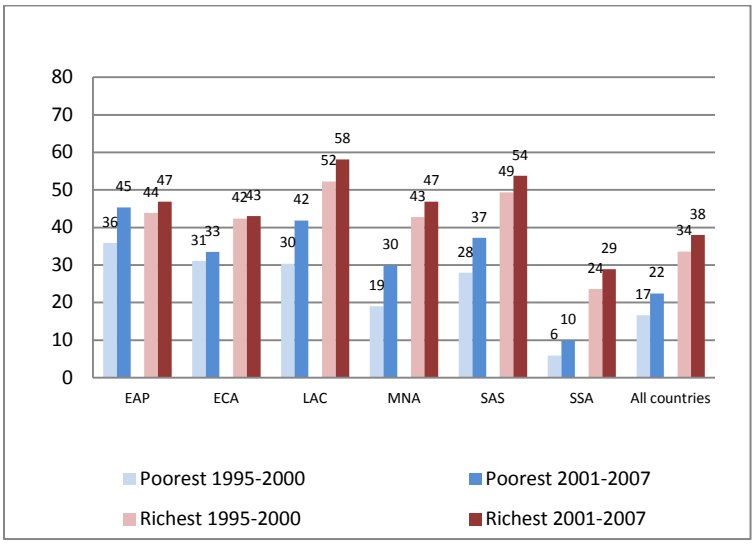
Figure 40. Trends in Current Use of Contraception—Any Method (Percentage of Currently Married Women)



Source: Authors' calculations based on DHS and MICS.

Prevalence of use of modern methods was lowest in SSA (figure 41), though that region made modest improvements among the richest and poorest over the two surveys. These data support the notion that family planning remains a neglected priority in the region.

Figure 41. Trends in Current Use of Contraception—Any Modern Method (Percentage of Currently Married Women)

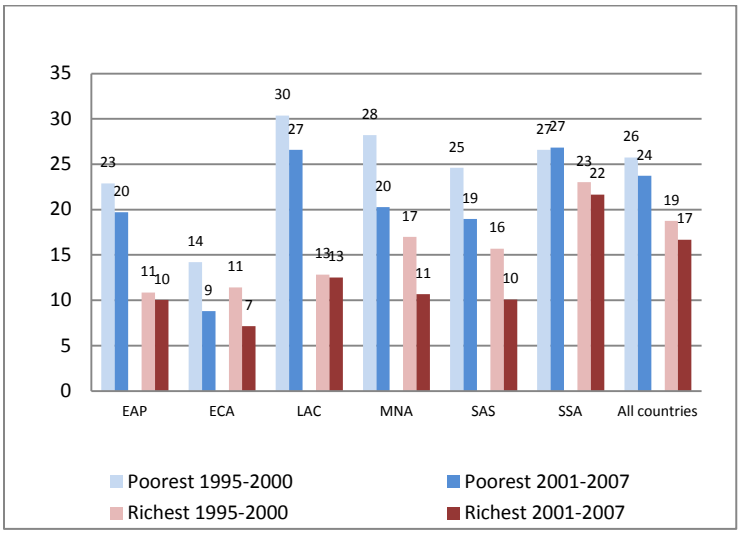


Source: Authors' calculations based on DHS and MICS.

Unmet need for family planning has shown declining trends in recent years. This reduction generally reflects increases in contraceptive use or a shift in desired fertility influenced by cultural or socioeconomic changes. The largest declines in unmet need were in MNA and SAR, which also saw the steepest increases in contraceptive use (figure 42). Declines in unmet need were seen in both richest and poorest wealth quintiles in these two regions, even though the levels of unmet need remained much higher among the poorest.

LAC had the largest disparity in unmet need between the richest and poorest quintiles. Although use of contraception among both the rich and poor is high there, the unmet need for family planning among the poorest is not being met.

Figure 42. Trends in Unmet Need for Family Planning—Total (Percentage of Currently Married Women)

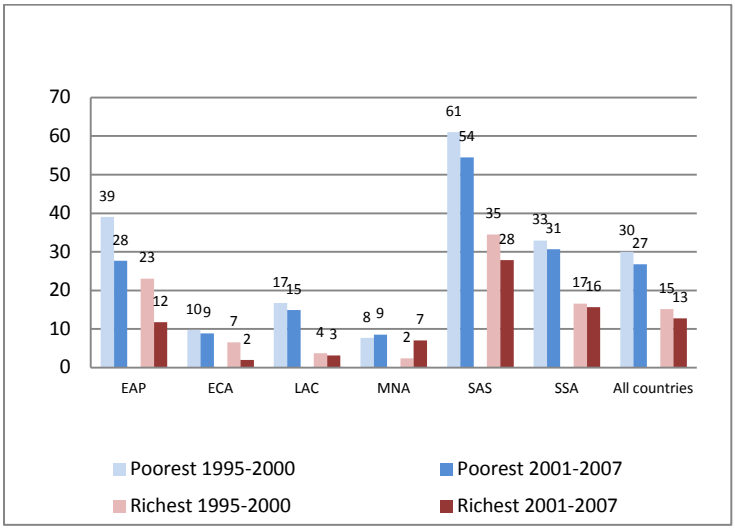


Source: Authors' calculations based on DHS and MICS.

4.5 NUTRITION

Trends in the percentage of underweight children (figure 43) indicated varied progress across regions. The biggest decline was in EAP, where progress was apparent in both the richest and poorest quintiles. Despite some gains, very high rates of malnutrition persist in SAR, and progress is uneven between the highest and the lowest quintiles.

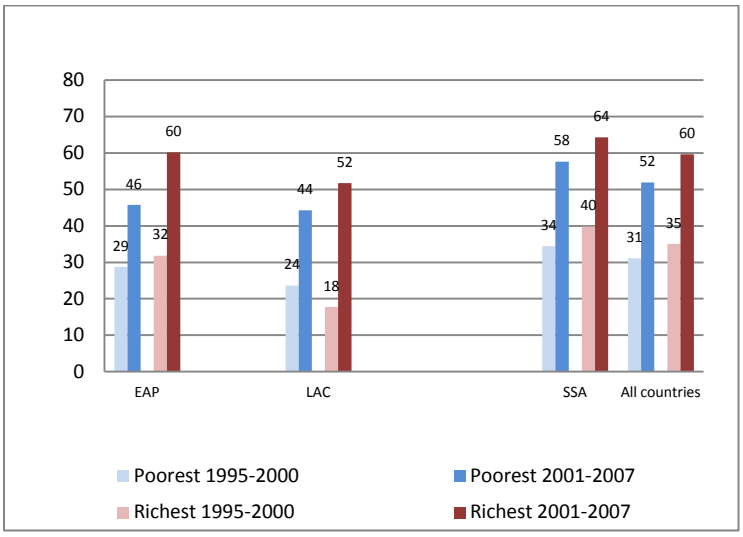
Figure 43. Trends in Percentage of Malnourished Children (Underweight, below 2 SDs)



Source: Authors' calculations based on DHS and MICS.

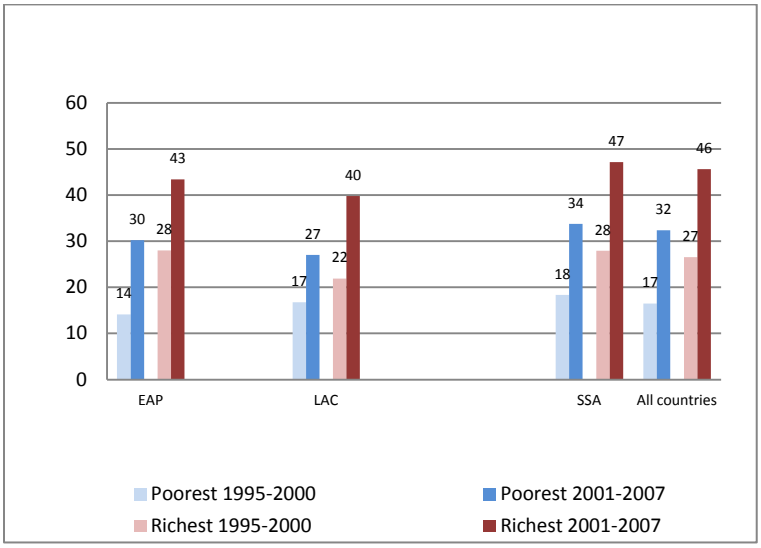
Coverage of vitamin A supplementation among mothers and children has risen in all regions (figures 44 and 45). Still, the gaps between the richest and the poorest remain.

Figure 44. Trends in Percentage of Children Age 6–59 Months Who Received Vitamin A Supplements



Source: Authors' calculations based on DHS and MICS.

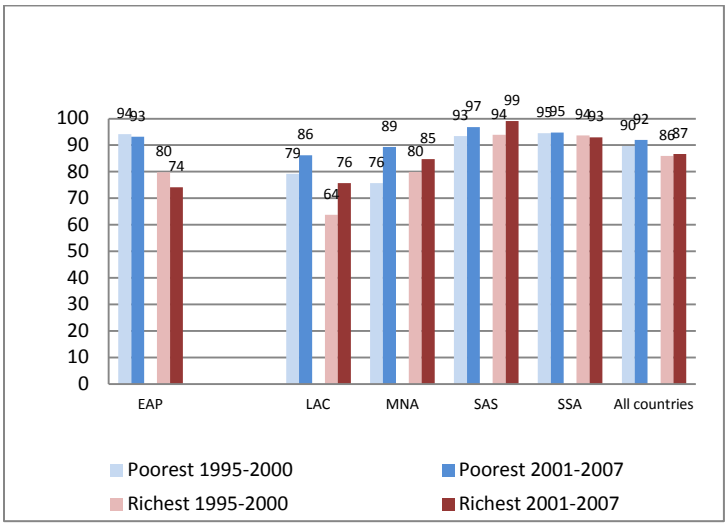
Figure 45. Trends in Percentage of Women with a Birth in the Five Years before the Survey Who Received a Vitamin A Dose in the First Two Months after Delivery



Source: Authors' calculations based on DHS and MICS.

Some regions report improvements in breastfeeding of children under six months, while others show declines (figure 46). Changes in breastfeeding patterns can be influenced by socioeconomic factors that affect cultural behaviors related to infant care.

Figure 46. Trends in Percentage of Children under Six Months Who Were Breastfed Six or More Times in the 24 Hours Preceding the Interview



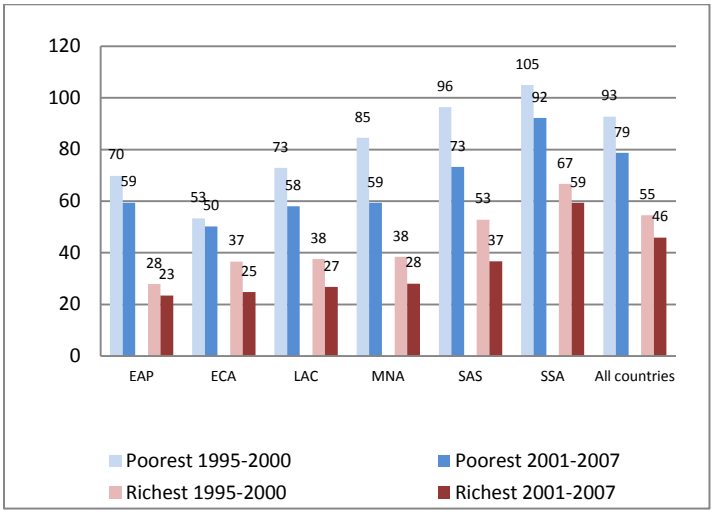
Source: Authors' calculations based on DHS and MICS.

4.6 MORTALITY

Declines in infant and child mortality rates are encouraging in all regions, notably MNA and SAR (figures 47 and 48). SSA still bears the heaviest burden.

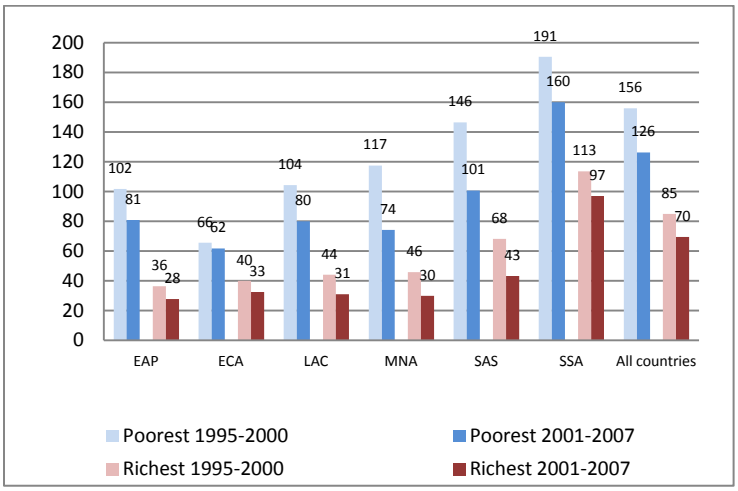
The gaps between the richest and the poorest quintiles, however, have stayed wide in all regions. Children born in the poorest households have a much higher risk of dying during infancy and early childhood than those born in the richest. The disparities are still large, both in regions like SSA where mortality is high, and EAP where it is relatively low.

Figure 47. Trends in Infant Mortality Rates (per 1,000)



Source: Authors' calculations based on DHS and MICS.

Figure 48. Trends in Under-five Mortality Rates (per 1,000)



Source: Authors' calculations based on DHS and MICS.

Other studies, such as UNICEF 2010, have shown that inequalities in child survival remain wide, despite overall mortality declines in 1990–2008. In 18 of 26 developing countries with a decline in under-five mortality of 10 percent or more, the gap in under-five mortality between the richest and poorest households either widened or stayed the same—and in ten of the 26 countries, inequality increased by 10 percent or more.

5. PROGRESS TOWARD THE MILLENNIUM DEVELOPMENT GOALS

The Millennium Development Goals (MDGs) include targets to improve health and development indicators by 2015. This part analyzes three MDG indicators by poverty quintile.

5.1 MDG 1: ERADICATE POVERTY AND HUNGER

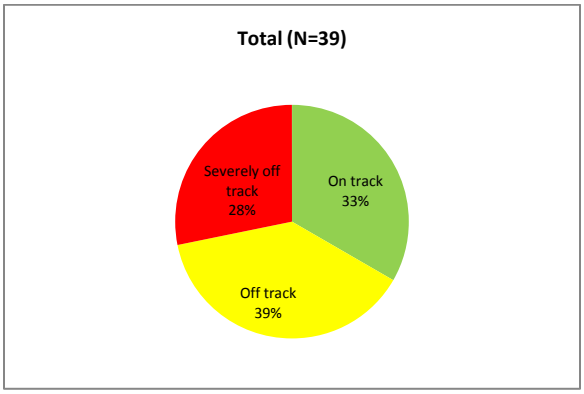
5.1.1 Global trends

The target of the first MDG is to halve the proportion of people who suffer from hunger between 1990 and 2015. One of the indicators to measure progress is the prevalence of underweight children under five. An annual rate of decline of 2.8 percent is needed during 1990–2015 to halve the prevalence of underweight children between 1990 and 2015.

Trend data on the prevalence of underweight children were examined from 39 countries where data were available for all quintiles. The data are from surveys carried out in two periods: 1995–2000 and 2001–07; it is the average annual rate of change[3] between surveys in each of these periods that is measured (hence years within each period may not be identical). The data show the total (all five quintiles combined), as well as the poorest and richest quintiles.

In one-third of the countries, the annual rate of decline in the prevalence of underweight children was more than 2.8 percent (figure 49). These countries were "on track" to reach the MDG. Of the other two-thirds, 39 percent were making some progress but not enough to achieve the MDG ("off track"), and 28 percent were making no progress ("severely off-track").

Figure 49. Country Progress on Prevalence of Underweight Children, Total, 1995–2000 to 2001–07

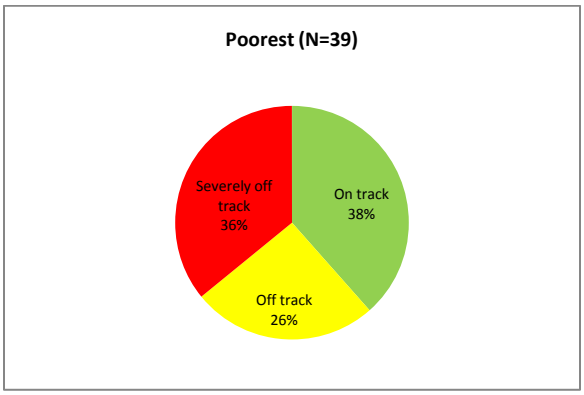


Source: Authors' calculations based on DHS and MICS.

3. Assuming constant rate of change between surveys.

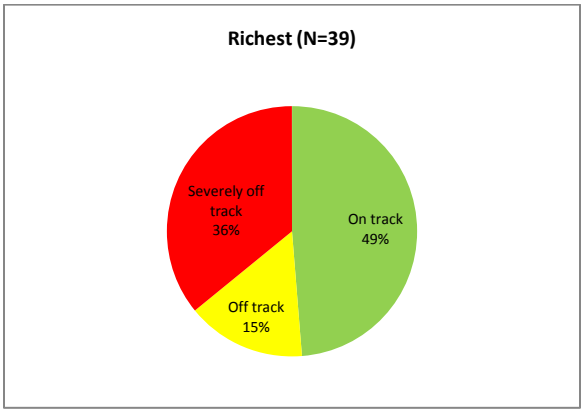
Data by poverty quintiles indicated that trends for children in the poorest quintile were less likely to be on track (38 percent) than the richest (49 percent) (figures 50 and 51). Further, children in the poorest quintile had a higher likelihood of being off track (26 percent) or severely off track (36 percent) than those in the richest quintile (15 percent and 36 percent, respectively). The absolute value of underweight prevalence was higher for children in the poorest quintile. Children in the poorest quintile also had a lower average rate of underweight prevalence decline than those in the richest quintile.

Figure 50. Country Progress on Prevalence of Underweight Children, Poorest Quintile, 1995–2000 to 2001–07



Source: Authors' calculations based on DHS and MICS.

Figure 51. Country Progress on Prevalence of Underweight Children, Richest Quintile, 1995–2000 to 2001–07



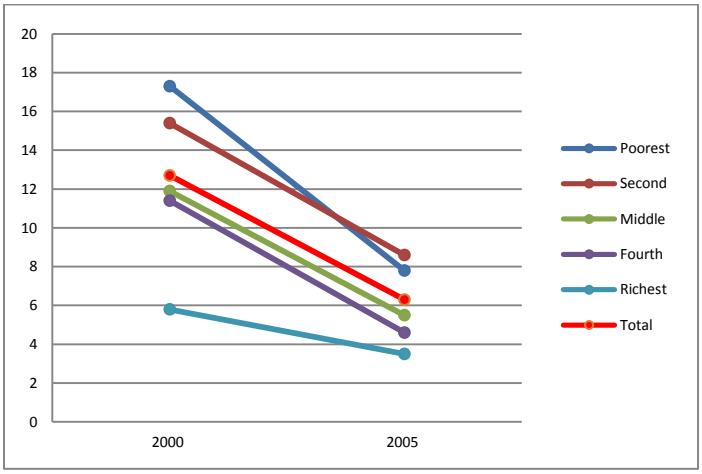
Source: Authors' calculations based on DHS and MICS.

5.1.2 Country trends

National trend data on the reduction of underweight prevalence among children showed a mixed pattern. Of the 39 countries, some appeared to be making enough progress to reach the MDG (table 5 below), including Mongolia and Tanzania (figures 52 and 53) where the prevalence of underweight children decreased in all quintiles.

Figure 52. Prevalence of Underweight Children, Mongolia

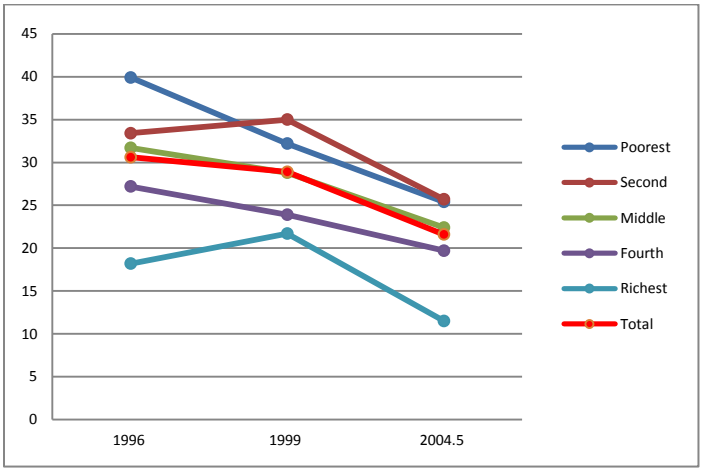
(Percent)



Source: DHS and MICS.

Figure 53. Prevalence of Underweight Children, Tanzania

(Percent)

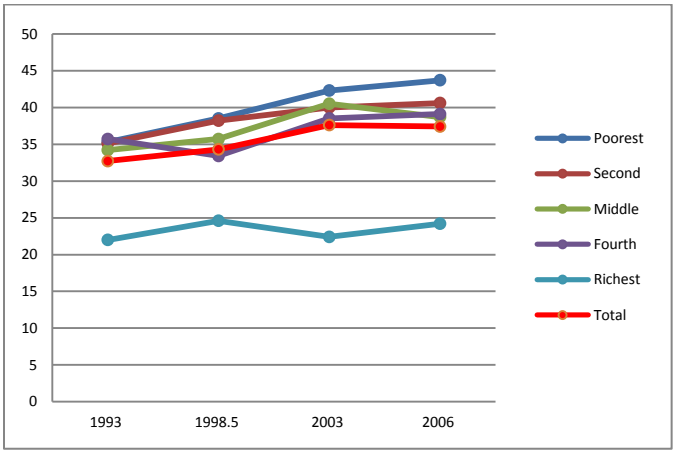


Source: DHS and MICS.

In Burkina Faso, Niger, Sierra Leone, and Lesotho, in contrast, the prevalence of underweight children increased in virtually all quintiles (figures 54–57). In all these countries with the exception of Lesotho, underweight prevalence rates in the poorest to the fourth quintiles were similar—only children in the richest quintile had some protection against undernutrition.

Figure 54. Prevalence of Underweight Children, Burkina Faso

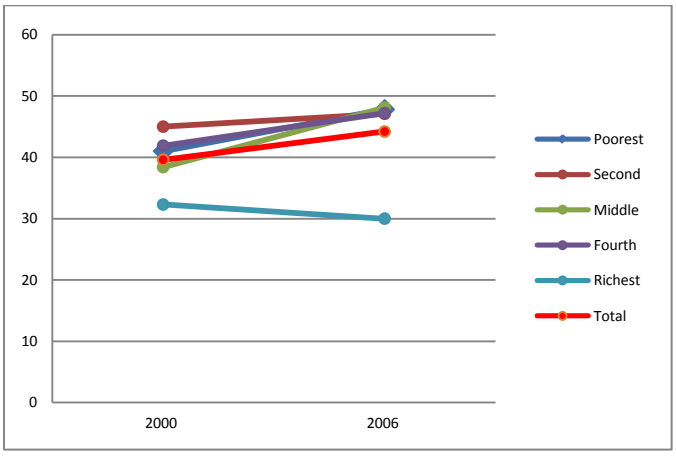
(Percent)



Source: DHS and MICS.

Figure 55. Prevalence of Underweight Children, Niger

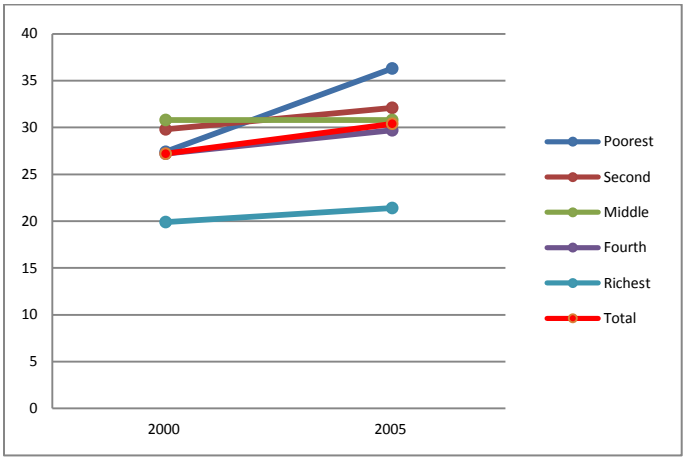
(Percent)



Source: DHS and MICS.

Figure 56. Prevalence of Underweight Children, Sierra Leone

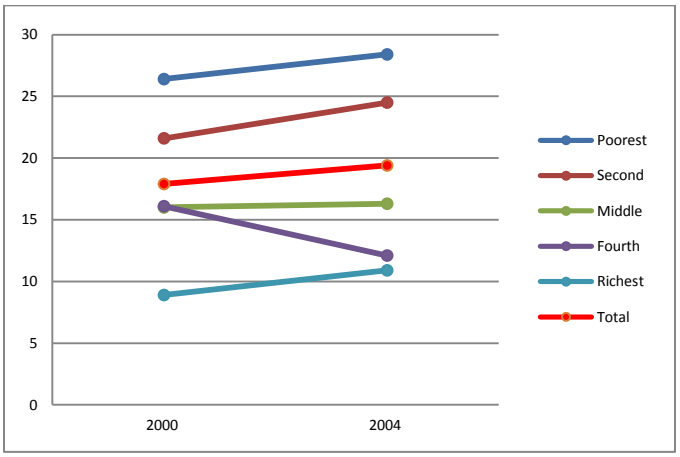
(Percent)



Source: DHS and MICS.

Figure 57. Prevalence of Underweight Children, Lesotho

(Percent)



Source: DHS and MICS.

Further analysis identified the countries with the best and worst annual percentage change in underweight prevalence for the poorest and richest quintiles. In nine of the eleven best performing countries, children in the richest quintile experienced a greater percentage decline than those in the poorest (table 5, green cells).

Table 5. Change in Prevalence of Underweight Children by Quintile, 1995–2000 to 2001–07

	Annual % change		
	Poorest	Richest	Total
Strong performers			
Mongolia	-15.9	-10.1	-14.0
Azerbaijan	-3.2	-18.4	-9.6
Vietnam	-6.5	-8.8	-8.2
Nicaragua	-4.7	-12.3	-7.6
Swaziland	-7.9	-1.1	-6.8
Senegal	-4.5	-12.3	-5.8
Cambodia	-3.8	-7.9	-4.7
Guinea-Bissau	-3.6	-5.1	-4.2
Ghana	-3.5	-5.6	-4.2
Tanzania	-5.3	-5.4	-4.1
Ethiopia	-2.9	-4.8	-4.0
Poor performers			
Burkina Faso	1.6	0.7	1.0
Niger	2.6	-1.2	1.8
Guinea	-0.1	3.1	1.8
Lesotho	1.8	5.1	2.0
Sierra Leone	5.6	1.5	2.2
Central African Republic	0.3	2.4	2.5
Gambia	5.0	7.2	3.1

Source: Authors' calculations based on DHS and MICS.

In countries that have been relatively successful in reducing undernutrition, the richest households tend to benefit more than the poorest.

In poorly performing countries, the picture was mixed. While children in the richest quintile experienced a larger proportional increase in four countries, those in the poorest quintile had a larger increase in three countries (table 5, red cells).

Regional trends in underweight prevalence and annual percentage change were examined (table 6). The data suggest that EAP made the greatest progress in reducing underweight prevalence among children in both the poorest and the richest quintiles. As a result, the region is on track for reaching the MDG (green cells). In other regions such as ECA, MNA, and SAR, only children in the richest quintile are on track (green cells).

In all regions except EAP, children in the poorest quintile were not making enough progress to reach MDG 1 (red cells). The combined percentage decline in underweight prevalence for all regions was also larger among children in the richest quintile (2.7 percent) than in the poorest (1.8 percent).

The overall annual change is therefore inadequate for reaching the MDG.

Table 6. Regional Averages on Prevalence and Annual Change of Underweight Children, 1995–2000 to 2001–07

	Poorest			Richest		
	Prevalence			Prevalence		
	1995–2000	2001–2007	Annual % change	1995–2000	2001–2007	Annual % change
EAP	38	31	-3.4	23	14	-8.2
ECA	10	9	-1.5	7	2	-18.5
LAC	17	15	-1.7	4	3	-2.6
MNA	8	9	1.6	2	7	16.8
SAR	61	54	-1.7	35	28	-3.3
SSA	33	31	-1.0	17	16	-0.9
All regions	30	27	-1.8	15	13	-2.7

Source: Authors' calculations based on DHS and MICS.

5.2 MDG 4: CHILD MORTALITY

5.2.1 Global trends

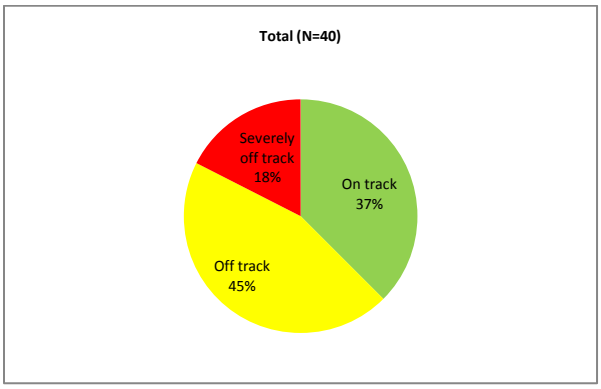
The target for MDG 4 is to reduce child mortality by two-thirds between 1990 and 2015. To achieve the target, an annual rate of decline of 4.4 percent in under-five mortality is needed during 1990–2015.

The MDG target for child mortality decline can be accomplished with very little improvement among the poorest quintiles. As the rich tend to benefit more from declines in mortality, the poor may not share in the progress toward these goals unless there is a specific focus on reducing inequities (Gwatkin et al. 2007).

Data from 40 countries were analyzed to examine disparities in progress toward the MDG target for child mortality. Under-five mortality data for all quintiles were used.

For all quintiles, 37 percent of countries had an annual rate of decline of more than 4.4 percent. These countries are thus on track to reach the MDG. However, 45 percent are off track (that is, making progress but not enough to achieve the MDG). The remaining 18 percent are severely off track, making no progress (figure 58).

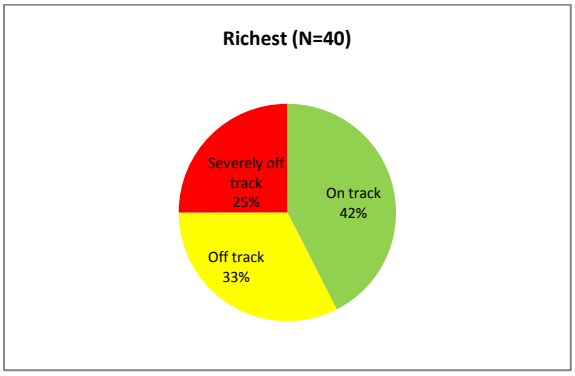
Figure 58. Country Progress in Under-five Mortality, Total, 1995–2000 to 2001–07



Source: Authors' calculations based on DHS and MICS.

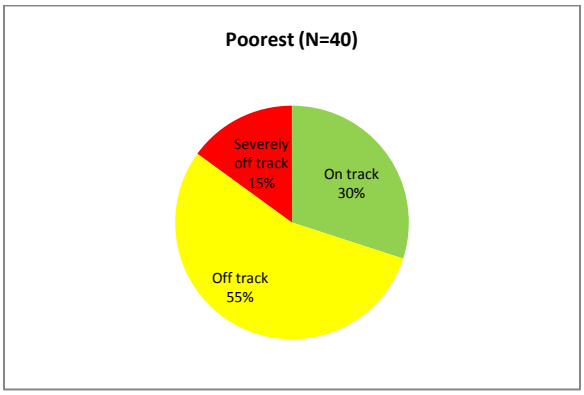
Children in the richest quintile were more likely to be on track (42 percent of countries) than those in the poorest (30 percent) (figures 59 and 60). But children in the richest quintile were also more likely to be severely off track (25 percent of countries) than those in the poorest (15 percent). Among the countries in the poorest quintile, more than half (55 percent) were off track.

Figure 59. Country Progress in Under-five Mortality, Richest Quintile, 1995–2000 to 2001–07



Source: Authors' calculations based on DHS and MICS.

Figure 60. Country Progress in Under-five Mortality, Poorest Quintile, 1995–2000 to 2001–07



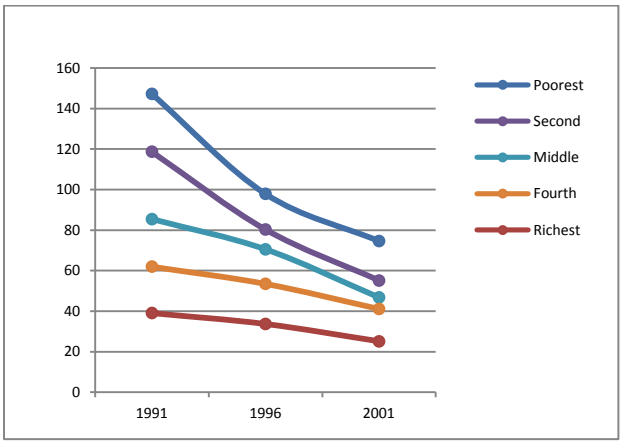
Source: Authors' calculations based on DHS and MICS.

5.2.2 Country trends

The data from the 40 countries were used to assess the patterns of progress in each country. Countries were then classified as best or worst performers. The countries making enough progress to achieve MDG 4 are Bangladesh, Egypt, Nepal, Malawi, and Vietnam. The worst performers include Burkina Faso, Cameroon, Kenya, Zambia, and Zimbabwe. These countries have an annual reduction of 1 percent or less or, in some cases, an increase.

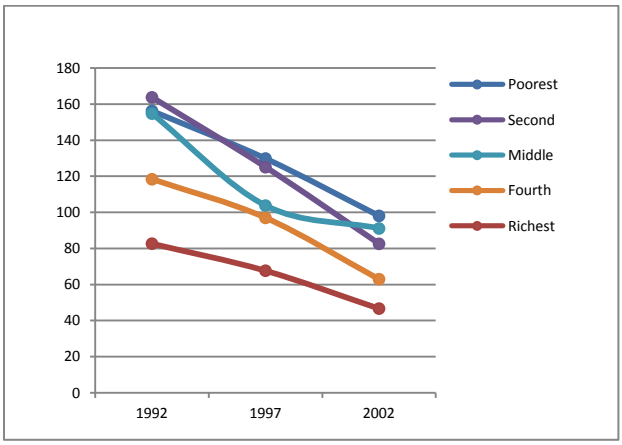
Under-five mortality rates by quintile in two of the best performing countries—Egypt and Nepal—show all quintiles making progress (figures 61 and 62). Progress was equitable across the socioeconomic spectrum.

Figure 61. Under-five Mortality, Egypt (per 1,000)



Source: DHS and MICS.

Figure 62. Under-five Mortality, Nepal (per 1,000)

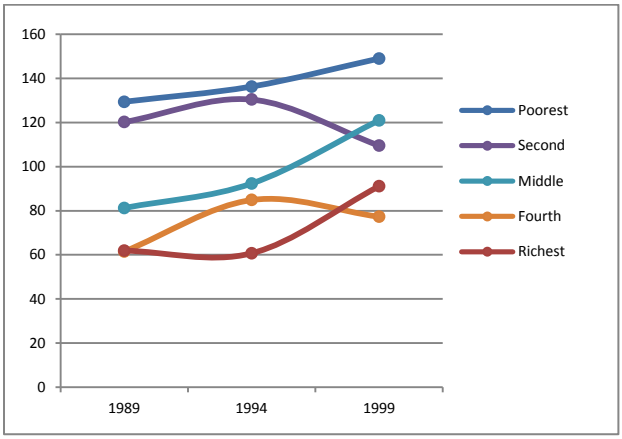


Source: DHS and MICS.

In contrast, Kenya and Cameroon—among the worst performers—showed either deterioration or little progress in all quintiles (figures 63 and 64). There was some evidence of reversals in these countries. The under-five mortality rates in four of the five quintiles increased in Kenya. In Cameroon the rates stagnated in all quintiles.

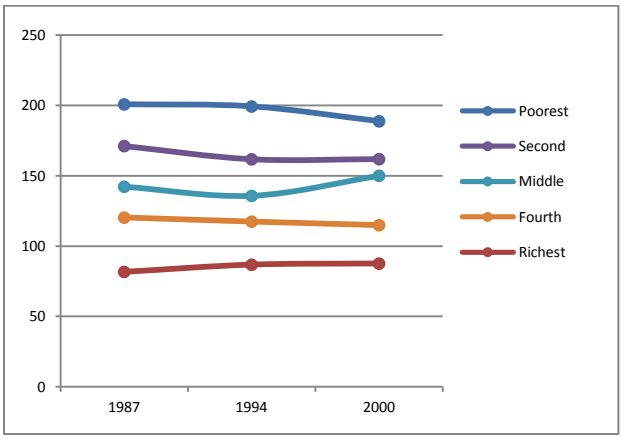
In further analysis, the annual percentage change for the poorest and richest quintiles in the best and worst performing countries was calculated.

Figure 63. Under-five Mortality, Kenya (per 1,000)



Source: DHS and MICS.

Figure 64. Under-five Mortality, Cameroon (per 1,000)



Source: DHS and MICS.

No consistent pattern of progress was revealed. In some countries, the poorest made more progress than the richest, and vice versa in others.

In three of the five best performing countries (Bangladesh, Nepal, and Vietnam), children in the richest quintile progressed more than those in the poorest (table 7, green cells). Paradoxically, children in the richest quintile fared worse than those in the poorest quintile in the worst performing countries (red cells—Cameroon, Kenya, Zambia, and Zimbabwe). Three of these countries showed an increase in child mortality in the richest households.

Table 7. Annual Percentage Change in Under-five Mortality Rate for Selected Countries, 1995–2000 to 2001–07

	Annual % change	
	Poorest	Richest
Best performers		
Vietnam	-3.6	-7.5
Egypt	-6.8	-4.4
Nepal	-4.7	-5.7
Bangladesh	-5.7	-6.0
Malawi	-4.4	-3.4
Worst performers		
Kenya	1.4	3.9
Zimbabwe	-1.4	0.1
Cameroon	-0.5	0.5
Zambia	-4.9	-1.9
Burkina Faso	-0.1	-2.7

Source: Authors' calculations based on DHS and MICS.
Note: Negative values indicate reductions in child mortality; positive values indicate increases.

MNA and SAR achieved declines in under-five mortality for children in both the poorest and the richest quintiles and were on track to reach the MDG (table 8, green cells).

In LAC, the richest quintile performed better than the poorest. The richest quintile in LAC was also on track to reach the MDG target (green cell). The ones that were off track included children in both quintiles in EAP, ECA, and SSA, as well as those in the poorest quintile in LAC (red cells).

Data for all regions combined show that neither the poorest nor the richest quintiles are making enough progress in reducing under-five mortality to reach MDG 4.

Table 8. Regional Averages and Annual Percentage Change in Under-five Mortality Rate, 1995–2000 to 2001–07

	Poorest Under-five mortality rate			Richest Under-five mortality rate		
	1995–2000	2001–2007	Annual % change	1995–2000	2001–2007	Annual % change
EAP	102	81	-3.5	36	28	-4.1
ECA	66	62	-0.9	40	33	-3.2
LAC	104	80	-4.1	44	31	-5.5
MNA	117	74	-7.1	46	30	-6.6
SAR	146	101	-5.8	68	43	-7.0
SSA	191	160	-2.7	113	97	-2.4
All regions	156	126	-3.2	85	70	-3.1

Source: Authors' calculations based on DHS and MICS.
Note: Negative values indicate reductions in child mortality; positive values indicate increases.

5.3 MDG 5: MATERNAL MORTALITY

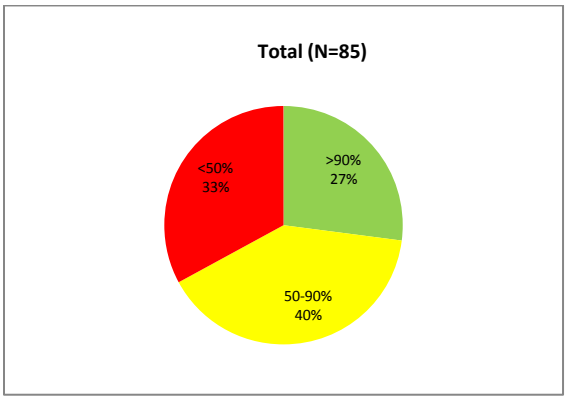
5.3.1 Global trends

The MDG 5 target stipulates a reduction of maternal mortality ratios by three-fourths between 1990 and 2015. One of the indicators for monitoring progress of MDG 5 is delivery by skilled birth attendants.

Countries were categorized by the status of progress in increasing skilled birth attendance. Data by quintile from 85 countries were used (figure 65).

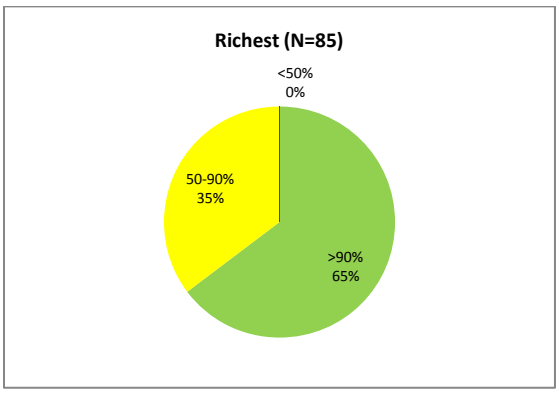
A large gap in coverage is evident between the richest and poorest quintiles (figures 66 and 67).

Figure 65. Proportion of Countries by Level of Skilled Birth Attendance Coverage, Total, Most Recent Survey, 1990–07



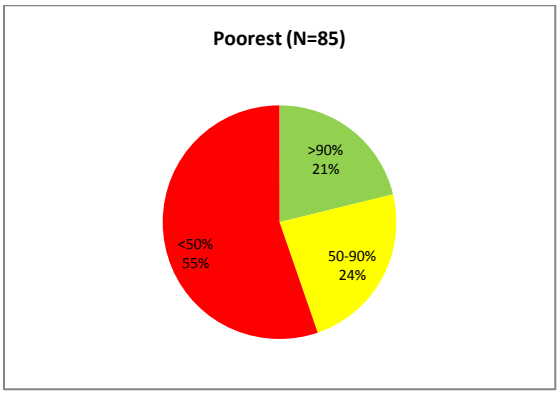
Source: Authors' calculations based on DHS and MICS.

Figure 66. Proportion of Countries by Level of Skilled Birth Attendance Coverage, Richest Quintile, Most Recent Survey, 1990–07



Source: Authors' calculations based on DHS and MICS.

Figure 67. Proportion of Countries by Level of Skilled Birth Attendance Coverage, Poorest Quintile, Most Recent Survey, 1990–07



Source: Authors' calculations based on DHS and MICS.

5.3.2 Country trends

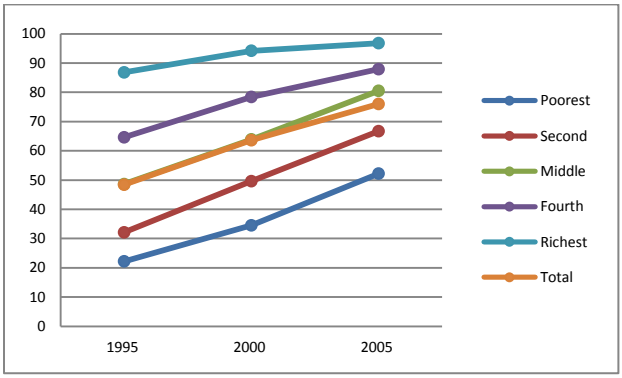
Trend data by quintile from 54 countries were used to identify the level of progress in increasing skilled delivery care at country level. The countries with the largest increase in absolute values in the percentage of assisted births between the two surveys—the ten best performing countries—were Egypt, Indonesia, Nicaragua, Burkina Faso, Nepal, Democratic Republic of Congo, Cambodia, Yemen, Tajikistan, and Bangladesh (table 9). In six of these countries, the proportion of skilled delivery attendance increased to a greater extent in the poorest quintile. In the remaining four, more progress was evident in the richest quintile (green cells).

Trend data by quintile from Egypt and Indonesia, the two best performers, demonstrate equitably distributed gains across quintiles (figures 68 and 69). In both countries, the proportion of births attended by skilled personnel increased in all quintiles, and the gap between the top and bottom quintiles narrowed.

Out of the ten best performing countries, the poorest made more progress than the richest in six; in the other four, the richest made more progress (green cells).

Figure 68. Births Attended by Skilled Personnel, Egypt

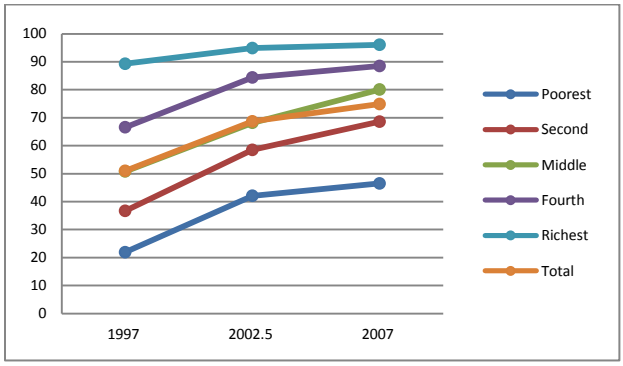
(Percent)



Source: DHS and MICS.

Figure 69. Births Attended by Skilled Personnel, Indonesia

(Percent)



Source: DHS and MICS.

In contrast, the proportion of skilled deliveries decreased or remained unchanged in Mali, Zimbabwe, Lesotho, Kenya, Madagascar, and Malawi (table 9). Out of the six worst performing countries, the poorest made less progress than the richest in four; in the other two, the richest quintile made relatively less progress (red cells).

Table 9. Best and Worst Performing Countries on Progress in Increasing Skilled Delivery Attendance, 1995–2000 to 2001–07

Best performing countries

		Total		Poorest		Richest	
	Year of survey	Percentage of births attended by skilled health personnel	Absolute change between surveys	Percentage of births attended by skilled health personnel	Absolute change between surveys	Percentage of births attended by skilled health personnel	Absolute change between surveys
Egypt	1995	48	28	22	30	87	10
	2005	76		52		97	
Indonesia	1997	51	24	22	25	89	7
	2007	75		47		96	
Nicaragua	1998	67	24	36	43	94	6
	2001	91		79		100	
Burkina Faso	1999	32	21	20	36	78	-13
	2006	54		56		65	
Nepal	1996	10	15	3	6	34	31
	2006	25		9		64	
Congo DR	2001	61	15	45	16	91	7
	2007	76		62		98	
Cambodia	2000	33	14	14	8	81	11
	2005	47		22		92	
Yemen	1997	23	13	7	10	51	23
	2006	36		17		74	
Tajikistan	2000	71	12	55	15	87	5
	2005	83		70		91	
Bangladesh	1997	9	12	2	5	31	26
	2007	21		7		57	

Worst performing countries

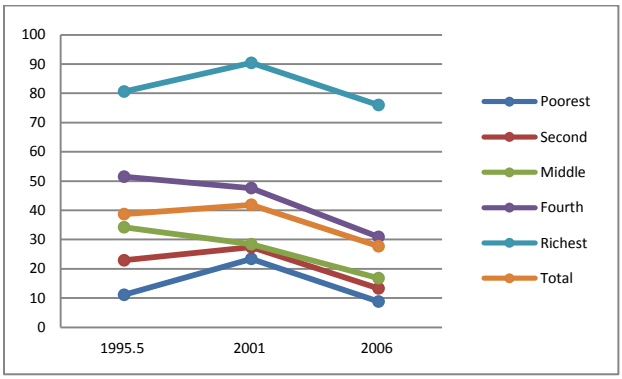
		Total		Poorest		Richest	
	Year of survey	Percentage of births attended by skilled health personnel	Absolute change between surveys	Percentage of births attended by skilled health personnel	Absolute change between surveys	Percentage of births attended by skilled health personnel	Absolute change between surveys
Mali	1996	39	-11	11	-2	81	-5
	2006	28		9		76	
Zimbabwe	1999	73	-6	58	-14	92	5
	2006	67		44		97	
Lesotho	2000	60	-5	43	-9	75	6
	2004	55		34		82	
Kenya	1998	44	-3	23	-6	80	-4
	2003	42		17		76	
Madagascar	1997	47	-3	30	-7	88	2
	2004	45		23		91	
Malawi	2000	54	-1	41	2	77	0
	2006	54		43		77	

Source: Authors' calculations based on DHS and MICS.

Trend data on skilled delivery care by quintile for two of the worst performing countries, Mali and Madagascar, show stagnation or reversals over time (figures 70 and 71). The proportion of births delivered by skilled attendants decreased across all quintiles in Mali. In Madagascar, the rates decreased in the lower quintiles and remained stagnant in the higher ones.

Figure 70. Births Attended by Skilled Personnel, Mali

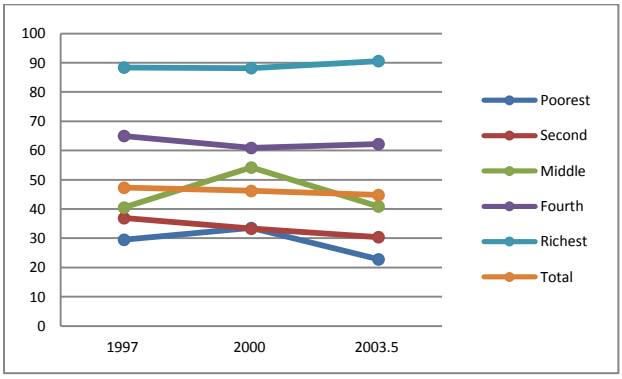
(Percent)



Source: DHS and MICS.

Figure 71. Births Attended by Skilled Personnel, Madagascar

(Percent)



Source: DHS and MICS.

To sum up, in the 54 countries with trend data by quintile, the analysis indicated that the poorest quintile experienced greater increases in absolute values for skilled deliveries in 26 countries (48 percent). In the remaining 28 countries (52 percent), the richest quintile benefited to a greater extent.

6. CONCLUSION

Only a little progress has been made in reducing health disparities around the world—the ultimate goal of health equity remains distant. Lessons learned from the progress so far provide useful insights into effectiveness of successful strategies and remaining challenges. Some valuable lessons can be drawn from the best performing regions and countries. Lack of progress in lagging regions and countries has also been useful to help analysts learn about the complexities of reducing disparities.

Overall, better progress has been made in reducing disparities in preventive health interventions such as knowledge of health care and immunization. In the years to come, an additional focus on reducing disparities in curative care and nutrition can help close mortality gaps between the rich and the poor. Additionally, prioritizing neglected interventions such as those related to family planning and reproductive health can also have a far-reaching impact.

Reducing health disparities must remain a priority as countries make economic progress. Contractions and expansions in disparities are inevitable in the rapidly changing global socioeconomic context. However, a focus on the poor can ensure that a changing socioeconomic climate does not further disadvantage them. Progress toward global health goals must also be made by ensuring that the needs of the poor are not neglected. Achieving targets at the aggregate level alone will not necessarily benefit the poor.

This *Poverty and Health Monitoring Report* has aimed to highlight levels, patterns, and trends in health disparities in the developing world and the challenges that persist in ensuring equitable health for the rich and the poor. It is hoped that the report's findings will contribute to the growing body of evidence in health equity research and will inform discourse among health planners, policy makers, and researchers working toward the shared goal of universal and better health for all.

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APPENDIX

Figure 1. Percentage of Countries by the Size of Rich-Poor Ratio

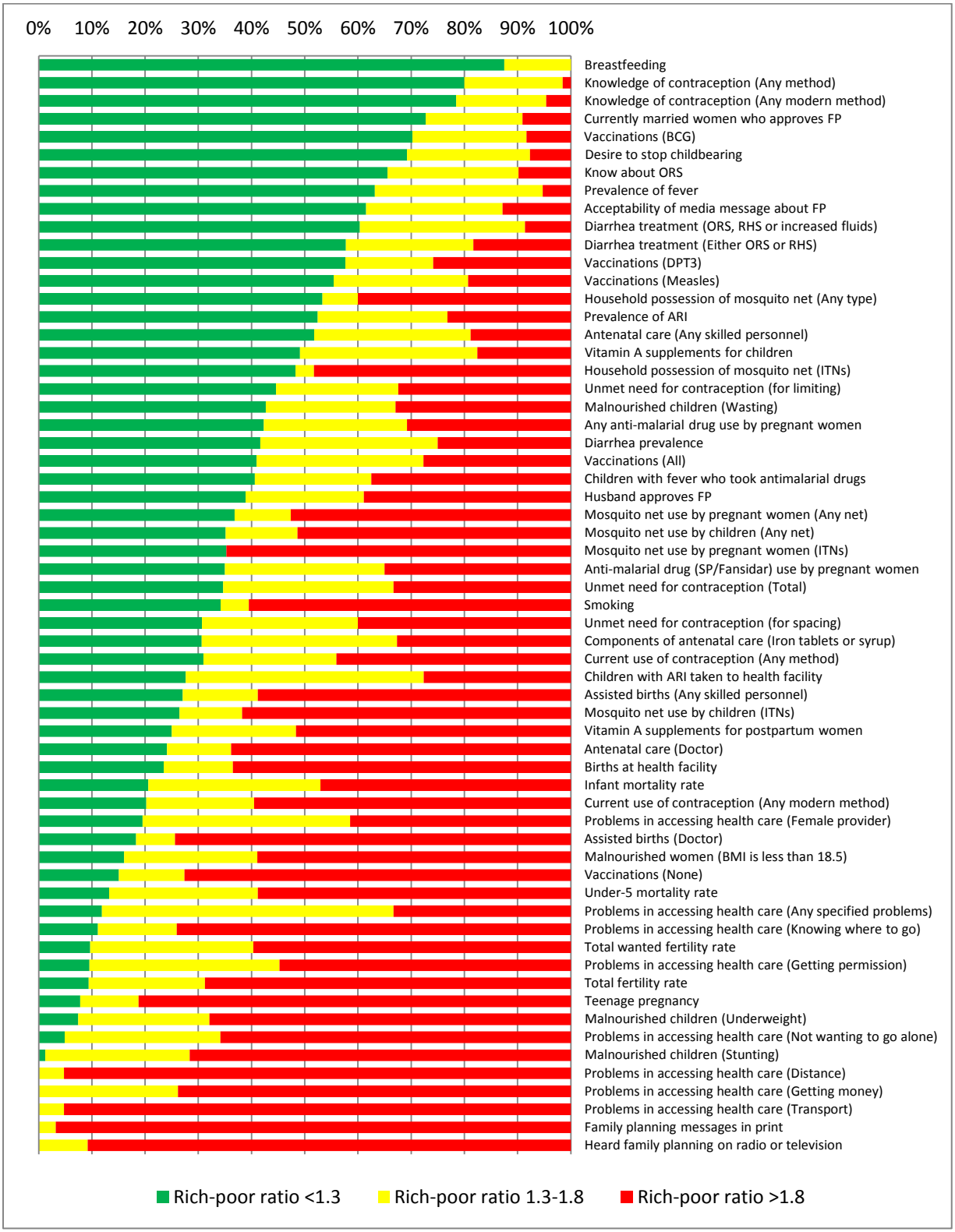
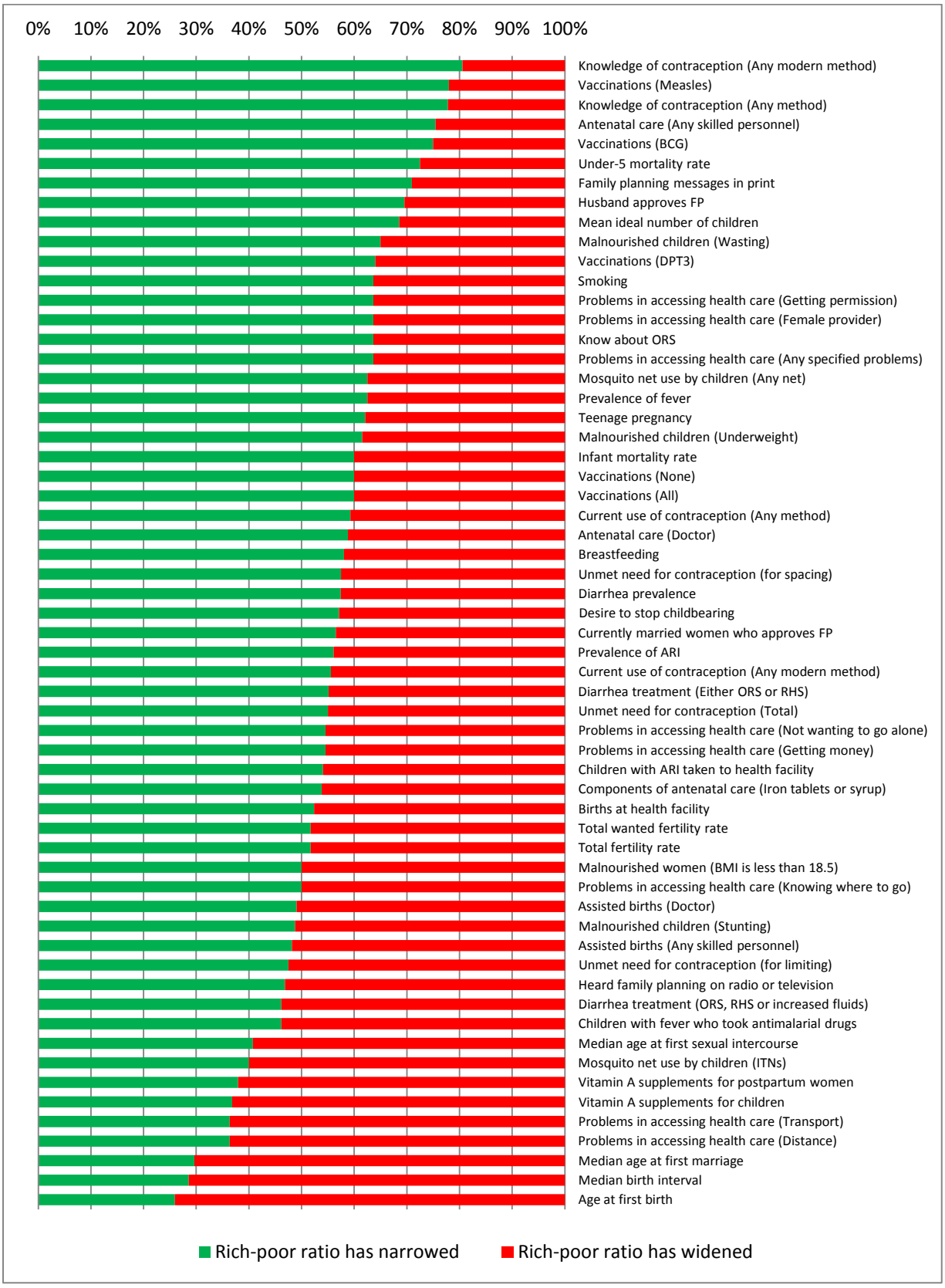


Figure 2. Percentage of Countries by the Change of Rich-Poor Ratio



DEFINITIONS

CHILDHOOD DISEASES AND INTERVENTIONS

Knowledge of diarrhea care: Percentage of mothers with births in the three years preceding the survey who know about oral rehydration salts (ORS) packets.

Mosquito net use by children: Percentage of children under five years who slept under 1) any mosquito net (treated or untreated), or 2) an insecticide-treated net (ITN) the night before the survey.

Prevalence of acute respiratory infection (ARI): Percentage of children under five years who were ill with a cough accompanied with rapid breathing in the two weeks preceding the survey.

Prevalence of children with fever: Percentage of children under five years with fever in the two weeks preceding the survey.

Prevalence of diarrhea: Percentage of children under five years who had diarrhea in the two weeks preceding the survey.

Treatment of ARI: Percentage of children under five years with acute respiratory infection (ARI) in the two weeks preceding the survey who were taken to a health facility.

Treatment of diarrhea (ORS or RHS): Percentage of children under five years with diarrhea in the two weeks preceding the survey who received either ORS or recommended home solution (RHS).

Treatment of diarrhea (ORS, RHS, or increased fluids): Percentage of children under five years with diarrhea in the two weeks preceding the survey who received ORS, RHS, or increased fluids.

Treatment of fever: Percentage of children under five years with fever in the two weeks preceding the survey who took antimalarial drugs.

Vaccinations: Percentage of children age 12–23 months who have received specific vaccines by the time of the survey (according to the vaccination card or the mother's report). Children with all vaccinations are those children who have received BCG, measles, and three doses each of DPT and polio vaccine (excluding polio 0 which is the polio vaccination given at birth). Some MICS refer to children in different age groups (for example, 18–29 months, or 15–26 months).

NUTRITION

Breastfeeding: The percentage of children under six months who were breastfed six or more times in the 24 hours preceding the interview.

Malnourished children: Percentage of children under five years who are classified as undernourished according to three anthropometric indexes of nutritional status: height-for-age (stunting), weight-for-age (underweight), and weight-for-height (wasting). Each index is expressed in terms of the number of standard deviation (SD) units from the median of the National Center for Health Statistics, the Centers for Disease Control (CDC)/WHO international reference population. Children are classified as malnourished if their *z*-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population. The percentage below -2 SD includes children who are below -3 SD.

Malnourished women (BMI is less than 18.5): Percentage of women with births in the three years preceding the survey whose body mass index (BMI) is less than 18.5. The BMI is the ratio of the weight in kilograms to the square of the height in meters (kg/m^2). The BMI excludes pregnant women and those who are less than three months postpartum.

Vitamin A supplements for children: Percentage of children 6–59 months who received vitamin A supplements in the six months preceding the survey.

Vitamin A supplements for postpartum women: Percentage of women with a birth in the five (or two) years preceding the survey who received a vitamin A dose in the first two months after delivery. The DHS refer to births in the five years preceding the survey, and the MICS refer to births in the two years preceding the survey.

SEXUAL AND REPRODUCTIVE HEALTH

Acceptability of media messages on family planning: Percentage of all women who believe that it is acceptable to have messages about family planning on the radio or television.

Antenatal care: Percentage of women with one or more live births in the three (one, two) years preceding the survey who have received at least one antenatal care during pregnancy before the most recent birth from 1) any skilled personnel or 2) a doctor. If the respondent mentioned more than one provider, only the most qualified provider is considered. The DHS refer to births in the three years preceding the survey, the MICS2 refer to births in the one year preceding the survey, and the MICS3 refer to births in the two years preceding the survey.

Antimalarial drug use by pregnant women: Percentage of women with a live birth in the two years preceding the survey who, during pregnancy, took any antimalarial drug for prevention, and who took two or more doses of SP/Fansidar.

Assistance during delivery (assisted births): Percentage of live births in the three (one, two) years preceding the survey attended by 1) any skilled personnel or 2) a doctor. The DHS refer to births in the three years preceding the survey, the MICS2 refer to births in the one year preceding the survey, and the MICS3 refer to births in the two years preceding the survey.

Attitudes of couples toward family planning: Percentage of currently married nonsterilized women with knowledge of contraceptive methods who approve of family planning and who have a perception that their husbands approve of family planning.

Components of antenatal care: Percentage of women with a live birth in the three years preceding the survey who received iron tablets or syrup during pregnancy before the most recent birth.

Current use of contraception: Percentage of currently married women who are using or whose partners are using 1) any method of contraception including traditional or modern methods or 2) modern methods only. Modern methods include female sterilization, male sterilization, pill, IUD, injections, implants, male condom, female condom, diaphragm, foam, and jelly. Traditional methods include periodic abstinence, withdrawal, long-term abstinence, folk method, and others.

Desire to stop (limit) childbearing: Percentage of currently married women who want no more children. Women who have been sterilized or whose spouses are sterilized are considered to want no more children.

Family planning messages in print: Percentage of all women who have received a message about family planning from printed media in the last few months prior to the interview.

Fertility planning status: Percentage of births in the five years preceding the survey that are planned (wanted then), mistimed (wanted later), and unplanned (wanted no more).

Heard family planning on radio and television: Percentage of all women who have heard a radio or television message about family planning in the last few months prior to the interview.

Knowledge of contraception: Percentage of currently married women who know 1) at least one contraceptive method including modern or traditional or 2) at least one modern contraceptive method.

Mean ideal number of children: Mean ideal number of children for all women.

Mean number of children ever born to women aged 40–49: Mean number of children ever born (CEB) to women aged 40–49 years.

Median age at first birth: Median age at first birth among women aged 25–49 years.

Median age at first marriage: Median age at first marriage among women aged 25–49 years.

Median age at first sexual intercourse: Median age at first sexual intercourse among women aged 25–49 years.

Median birth interval: Median duration of birth interval (in months) for nonfirst births in the five years preceding the survey.

Mosquito net use by pregnant women: Percentage of pregnant women who slept under 1) any mosquito net (treated or untreated), or 2) an ITN the night before the survey.

Place of delivery (births at a health facility): Percentage of live births in the three years preceding the survey that took place at a health facility.

Teenage pregnancy and motherhood: Percentage of women aged 15–19 years who are mothers or pregnant with their first child.

Total fertility rate (TFR): The number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates currently observed. The reference period is three years preceding the survey.

Total wanted fertility rate: An estimate of the total fertility rate if all unwanted births were avoided. The reference period is three years preceding the survey.

Unmet need for family planning: Percentage of currently married women with unmet need for family planning (for spacing and limiting pregnancies), and the sum of these two (total). Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrheic women who are not using family planning and whose last birth was mistimed, and fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and say they want to wait two or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child, or who want another child but are unsure when to have the birth unless they say it would not be a problem if they discovered they were pregnant in the next few weeks. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrheic women whose last child was unwanted, and fecund women who are neither pregnant nor amenorrheic and who are not using any method of family planning and who want no more children. Excluded from the unmet need category are pregnant and amenorrheic women who became pregnant while using a method (these women are in need of a better method of contraception).

MORTALITY

Infant mortality rate: Number of deaths of children under age 12 months per 1,000 live births, based on experience during the reference period before the survey. The reference period is ten years preceding the survey for DHS; the reference period varies for MICS (often three to five years preceding the survey).

Under-five mortality rate: Number of deaths of children under five years per 1,000 live births, based on experience during the reference period before the survey. The reference period is ten years preceding the survey for DHS; the reference period varies for MICS (often three to five years preceding the survey).

OTHER DETERMINANTS OF HEALTH

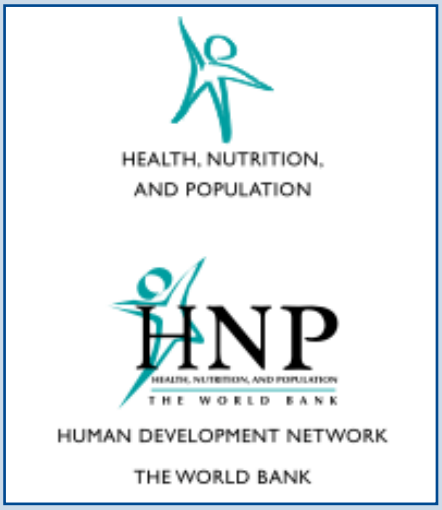
Household possession of mosquito nets: Percentage of households with 1) at least one of any type of mosquito net (treated or untreated) or 2) ITN.

Problems in accessing health care: Percentage of women who report they have serious problems in accessing health care for themselves when they are sick. The types of problem specified are knowing where to go for treatment, getting permission to go for treatment, getting money for treatment, distance to health facility, having to take transport, not wanting to go alone, and concern there may not be a female provider.

Smoking: Percentage of all women who smoke cigarettes, pipes, or other tobacco.

SOURCES

Data are from Demographic and Health Surveys (DHS) by Macro International (Measure DHS), Multiple Indicator Cluster Surveys—Rounds 2 and 3 (MICS2, MICS3) by UNICEF, and two other surveys, which include MICS3 modules (Enquête Nationale à Indicateurs Multiples et Santé des Jeunes (Combined MICS3—PAPFAM Survey), and Encuesta Nacional de Hogares de Propósitos Múltiples (ENHOGAR Survey). DHS data are extracted through STATcompiler from the Measure DHS website (http://www.measuredhs.com/). MICS data and two other survey data are from its national reports or tables in the "Statistics by Area" section of the Childinfo website (http://www.childinfo.org/).



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