

Benchmarks for health expenditures, services and outcomes in Africa during the 1990s

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There is limited information on national health expenditures, services, and outcomes in African countries during the 1990s. We intend to make statistical information available for national level comparisons. National level data were collected from numerous international databases, and supplemented by national household surveys and World Bank expenditure reviews. The results were tabulated and analysed in an exploratory fashion to provide benchmarks for groupings of African countries and individual country comparison. There is wide variation in scale and outcome of health care spending between African countries, with poorer countries tending to do worse than wealthier ones. From 1990–96, the median annual per capita government expenditure on health was nearly US\$ 6, but averaged US\$ 3 in the lowest-income countries, compared to US\$ 72 in middle-income countries. Similar trends were found for health services and outcomes. Results from individual countries (particularly Ethiopia, Ghana, Côte d'Ivoire and Gabon) are used to indicate how the data can be used to identify areas of improvement in health system performance. Serious gaps in data, particularly concerning private sector delivery and financing, health service utilization, equity and efficiency measures, hinder more effective health management. Nonetheless, the data are useful for providing benchmarks for performance and for crudely identifying problem areas in health systems for individual countries.

Keywords: health expenditures; outcome assessment, health care; benchmarking; health status indicators; comparative study; Africa.

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Introduction

During the last four decades, a period when most African countries have obtained independence, they have also achieved remarkable improvements in health conditions. Yet Africans still suffer from some of the worst health problems in the world. The highest mortality and fertility rates are found in African countries. In 1990, the median age of death was estimated to be five years (1).

African countries face enormous difficulties in mobilizing and managing resources to improve public health. Two-thirds of the African countries are classified as low income and have limited potential to mobilize resources. Nearly all have weak health management systems. The challenge of a massive burden of disease from largely preventable or treatable conditions that precede the epidemiological transition, the emergence of new diseases and health problems (such as acquired immunodeficiency syndrome and drug-resistant tuberculosis), and changes in the political climate combine to make

information increasingly important for management and accountability of the health sector in African countries.

Good information is vital to making intelligent choices about strategies and investments in health. Yet in much of Africa, information that would be critical to policy-makers, health systems managers and public consumers of health services is often not available, despite increasing emphasis on data collection in many countries. Unfortunately, even the little information available is rarely used. Overly simplistic prescriptions are made about how countries should be performing, without analysis of historical trends or comparison with peers. For example, public sector health expenditures are often unrealistically targeted at 5% of the gross domestic product (GDP), whereas immunization coverage is expected to be sustained at 80%.

This paper highlights the findings of a study that set out to make available information on health expenditures, health service outputs and health outcomes at the national level, in a way that could assist health planning and policy development in Africa (2).

Methods

The study included all 48 countries located south of the Sahara Desert as of 1997 (excluding the French dependencies of Réunion and Mayotte). The variables under study included 15 indicators of health

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Table 1. Key indicators for African countries, by country group, 1990–96

| Indicator | Lowest quartile (25th percentile) | Median (50th percentile) | Highest quartile (75th percentile) |
|--|--------------------------------------|-----------------------------|---------------------------------------|
| Socioeconomic indicators | | | |
| GNP per capita (US\$), 1990–96 | 244 | 387 | 652 |
| Real GDP per capita (US\$), 1990–96 | 256 | 393 | 771 |
| Official Development Assistance (% of GDP), 1990–96 | 7 | 15 | 25 |
| Gross secondary school enrolment (%), 1992–93 | 9 | 16 | 27 |
| Female adult illiteracy (%), 1995 | 37 | 53 | 75 |
| Access to safe sanitation (%), 1990–95 | 20 | 35 | 57 |
| Access to safe water (%), 1990–95 | 34 | 50 | 68 |
| National policy indicators | | | |
| Bureaucratic quality, 1998 | 0 | 1 | 2 |
| Legal and regulatory framework (anti-corruption index), 1997 | 2.0 | 2.5 | 3.0 |
| Total government expenditure (% of GDP), 1990–96 | 21 | 27 | 40 |
| Military expenditure (% of GDP), 1990–94 | 1.3 | 2.2 | 3.3 |
| Public education (% of GDP), 1990–94 | 2.6 | 3.5 | 5.1 |
| Health expenditure indicators | | | |
| Annual public sector (real per capita US\$), 1990–96 | 4.02 | 5.92 | 20.62 |
| Public sector health (% of GDP), 1990–96 | 1.2 | 1.8 | 2.7 |
| Capital investment (% of public sector health), 1990–96 | 8 | 18 | 35 |
| Recurrent expenditure (% of public sector health), 1990–96 | 65 | 72 | 92 |
| Personnel costs (% of public sector health), 1990–96 | 31 | 46 | 61 |
| Hospitals (% of public sector health), 1990–96 | 38 | 45 | 56 |
| Pharmaceuticals (% of public sector health), 1990–96 | 5 | 11 | 17 |
| Health service indicators | | | |
| In-patient beds (per 1000 population), 1990–95 | 0.7 | 1.3 | 1.7 |
| Physicians (per 1000 population), 1990–95 | 0.05 | 0.09 | 0.20 |
| Bacille Calmette–Guérin (BCG) coverage (%), 1995 | 63 | 80 | 95 |
| Three-dose of diphtheria–tetanus–pertussis vaccine (DTP3) coverage (%), 1995 | 46 | 64 | 80 |
| Measles coverage (%), 1995 | 50 | 66 | 79 |
| Tetanus coverage (%), 1995 | 22 | 37 | 66 |
| Contraceptive prevalence rate (%), 1990–96 | 7 | 15 | 21 |
| Supervised deliveries (%), 1990–96 | 26 | 45 | 63 |
| Health outcome indicators | | | |
| Infant mortality rate (per 1000 live births), 1995 | 70 | 92 | 120 |
| Under five mortality rate (per 1000 live births), 1995 | 97 | 156 | 192 |
| Crude birth rate (per 1000 population), 1995 | 37 | 43 | 46 |
| Crude death rate (per 1000 population), 1995 | 11 | 15 | 18 |
| Male life expectancy (years), 1995 | 45 | 49 | 55 |
| Female life expectancy (years), 1995 | 48 | 52 | 58 |
| Male adult mortality (per 1000), 1995 | 356 | 442 | 493 |
| Female adult mortality (per 1000), 1995 | 295 | 373 | 406 |
| Maternal mortality (per 100 000 live births), 1990–95 | 503 | 630 | 925 |
| Total fertility rate, 1995 | 4.8 | 5.7 | 6.4 |
| Adolescent fertility rate (per 1000 15–19-year olds), 1995 | 110 | 134 | 179 |
| Childhood underweight (malnutrition) (%), 1990–95 | 20 | 26 | 34 |
| Childhood stunted (%), 1990–95 | 24 | 33 | 43 |
| Childhood wasted (%), 1990–95 | 5 | 7 | 11 |
| Low birth weight babies (%), 1990–96 | 10 | 14 | 1 |

GNP = gross national product.

GDP = gross domestic product.

status (concentrating on infant mortality rate, prevalence of child malnutrition, and total fertility rate); eight health service indicators; seven types of health expenditure variable; socioeconomic factors

known to affect health (e.g., GNP per capita, amount of development assistance, secondary school enrolment, adult female illiteracy, and access to safe sanitation and water), and indicators of the national

Table 2. Mean health expenditures by category and African country income group, 1990–96

| African country income group | Public sector health expenditure 1990–96 | | Private sector health expenditure 1990–95 | | Capital investment 1990–96 (% of public sector health expenditure) | Recurrent expenditure 1990–96 (% of public sector health expenditure) |
|---------------------------------------|--|----------------------|---|----------------------|---|--|
| | % of GDP | per capita (US\$) | % of GDP | per capita (US\$) | | |
| Lowest (GNP per capita <US\$ 300) | 1.4 | 3.19 | – | – | 17 | 84 |
| Low (GNP per capita US\$ 300–765) | 1.7 | 9.58 | 2.1 | 13.15 | 20 | 80 |
| Middle (GNP per capita > US\$ 765) | 3.2 | 71.99 | 4.0 | 90.60 | – | – |
| All Africa | 1.6 | 11.22 | 2.0 | 19.58 | 18 | 83 |

GDP = gross domestic product.

GNP = gross national product.

Table 3. Selected health services indicators, by country income group, 1990–96

| Health service indicators | African country income group | | | |
|--|------------------------------|------|--------|------------|
| | lowest | low | middle | all Africa |
| Health service inputs | | | | |
| Inpatient beds per 1000 population, 1990–95 | 1.11 | 1.25 | – | 1.19 |
| Physicians per 1000 population, 1990–95 | 0.11 | 0.08 | – | 0.11 |
| Health service outputs | | | | |
| Supervised deliveries (%), 1990–96 | 30 | 50 | 81 | 41 |
| Contraceptive prevalence rate (%), 1990–96 | 8 | 20 | 62 | 17 |
| Bacille Calmette–Guérin (BCG) coverage (%), 1990–96 | 63 | 68 | 74 | 65 |
| Three-dose diphtheria–tetanus–pertussis vaccine (DTP3) coverage (%), 1990–96 | 47 | 56 | 76 | 52 |
| Measles coverage (%), 1990–96 | 49 | 56 | 77 | 53 |
| Tetanus coverage (%), 1990–96 | 34 | 38 | 32 | 35 |

policy environment (e.g., assessments of bureaucratic quality; the legal and regulatory framework, and government, military, and public education expenditure). The data were derived mainly from a database maintained by the International Monetary Fund (IMF), the United Nations Children's Fund (UNICEF), the United Nations Population Division, the World Health Organization (WHO), and the World Bank, along with household surveys sponsored by the World Bank and the United States Agency for International Development, notably the Demographic and Health Surveys. The health financing data came largely from government accounts, World Bank expenditure reviews, household surveys, IMF and other studies. These data were compared with the World Development Report 1993 estimates for 1990 (1). Missing or incomplete information was updated from the World Bank African Regional Database. Where possible, annual estimates of variables were used for 1990–95. Period averages for 1990–96 were calculated using as many years of information as were available. Population-weighted

averages were used for data aggregated across countries. Data were considered insufficient to justify computation of period averages of groups of countries if they failed to represent 60% of the population and more than 50% of the countries in any category. Detailed data definitions and sources are described in the main study and available from the authors upon request (2).

Countries were classified into three categories for the purposes of the study: “lowest-income countries,” “low-income countries,” and “middle-income countries.” The average annual GNP per capita over the period 1990–96, calculated according to the World Bank Atlas method, was used for the classification. The lowest-income countries were defined over this period to have an average per capita GNP less than US\$ 300, low-income countries a per capita GNP of US\$ 301–765 and middle-income countries a per capita GNP of US\$ 766 or more. Each of the variables was analysed through univariate and bivariate analysis, with benchmarks

identified based on distribution among quartiles and for each income group of countries.

Results

Table 1 summarizes the results for all Africa, indicating quartile benchmarks for different levels of performance among the countries. With a GDP per capita of less than US\$ 400 and less than half (47%) of adult women literate, the hypothetical “median” African country was characterized as having a weak bureaucracy, an unsatisfactorily high level of corruption, low public sector expenditures on health (US\$ 6 per capita), mediocre immunization coverage (64% for three doses of diphtheria–tetanus–pertussis vaccine (DTP3)), a contraceptive prevalence rate of only 15%, and only 45% of deliveries supervised by a trained health worker. The “median” African country had an infant mortality of 92 deaths per 1000 live births over the period 1990–96. Male life expectancy was only 49 years (52 years for females), total fertility rate was 5.7 children per woman, and 26% of children were underweight. The large interquartile ranges for most variables and outlying cases point to widely varying situations between African countries. Detailed data for individual countries are available from the World Bank web site (3).

Table 2 shows how mean health expenditures vary according to country income group. Though these country groupings disguise some of the variation between individual countries, it does demonstrate an increasing proportion of GDP and per capita health expenditures as country income increases, through both public and private expenditures which in aggregate are estimated to be about similar sizes. Though there was no trend in the composition of public expenditures between income

groups, there were very large intercountry differences, with recurrent expenditures ranging from 40% in Sao Tome to nearly 100% in Zimbabwe, and averaging over 80%.

Health service indicators for each country grouping are shown in Table 3. Health service inputs, measured by inpatient beds and physicians, appear not to vary significantly by income, though there were individual countries with outlying values. For example, Cameroon is a low-income country with as many as 2.6 beds per 1000 population, while Benin is a lowest-income country with 0.2 beds per 1000 population. Ethiopia, Malawi and Niger have fewer than 0.03 physicians per 1000 population, whereas the Seychelles has nearly six.

Health service outputs and population coverage with basic health services tended to increase with income level. Contraceptive prevalence and the proportion of supervised deliveries showed stepwise increases with each rise in the income level. The most marked increases occurred at the middle-income level. Immunization also showed stepwise increases, with the exception of maternal tetanus coverage, which showed low levels in all income groups.

Examining the differences between the country income groups gives further insights into the differences shown in Table 3. For example, the fall in under-five mortality rate per 1000 live births from the lowest to the low-income group and from the low-income to the middle-income country group was nearly the same in absolute terms (48 and 51), but strikingly larger in percentage terms from the low-income to the middle-income group (41%) than from the lowest-income to the low-income group (28%).

Table 4 shows key health outcomes according to income group. In each measure of mortality, fertility and nutritional status, there is a stepwise improvement in the indicator as GDP rises. Infant

Table 4. Selected health outcome indicators, by African country income group, 1990–96

| Health indicator | African country income group | | | |
|--|------------------------------|------|----------------|------------|
| | lowest | low | middle | all Africa |
| Infant mortality rate (per 1000 live births), 1990–96 | 102 | 81 | 55 | 92 |
| Under-five mortality rate (per 1000 live births), 1995 | 173 | 125 | 74 | 151 |
| Male life expectancy (years), 1995 | 48.1 | 52.4 | 59.7 | 50.3 |
| Female life expectancy (years), 1995 | 51.2 | 55.1 | 65.3 | 53.5 |
| Male adult mortality (per 1000), 1995 | 467 | 416 | 326 | 448 |
| Female adult mortality (per 1000), 1995 | 389 | 357 | 253 | 376 |
| Years of potential life lost (per 1000 population), 1995 | 106 | 67 | 40 | 89 |
| Crude birth rate (per 1000 population), 1995 | 44.7 | 38.6 | 31.5 | 41.6 |
| Crude death rate (per 1000 population), 1995 | 16.2 | 12.5 | 8.9 | 14.4 |
| Total fertility rate (children), 1990–96 | 6.3 | 5.4 | 3.4 | 5.8 |
| Maternal mortality (per 100 000 live births), 1990–95 | 1015 | 606 | 277 | 822 |
| Adolescent fertility rate (per 1000), 1995 | 153 | 119 | 78 | 137 |
| Low birth weight babies (%), 1990–95 | 16 | 15 | – ^a | 16 |
| Childhood underweight (%), 1990–95 | 37.5 | 25.6 | 11.3 | 31.8 |
| Childhood stunting (%), 1990–95 | 44.5 | 30.6 | 22.6 | 38.9 |
| Childhood wasting (%), 1990–95 | 8.2 | 8.5 | 7.7 | 8.2 |

^a Insufficient data.

mortality in the lowest-income countries (mean 102) was nearly twice the value of middle-income countries (mean 55), while women in middle-income countries had on average 3 children less than women in lowest-income countries. The difference in crude birth rate from lowest to middle-income groups was 17%. In comparison, the difference in crude death rate was much higher, 29%. Similarly, the burden of disease in terms of years of potential life lost (YPLL) per 1000 population decreased dramatically from 106 YPLL in the lowest-income countries to 68 YPLL in low-income and 40 YPLL in middle-income countries. Children in the lowest-income countries were three times more likely to be underweight (low weight-for-age), as well as twice as likely to be stunted (low height-for-age) compared with middle-income countries, though there was little difference in wasting (low weight-for-height).

Discussion

Challenges for health system performance in Africa

The results highlight the multiple challenges of poverty and health in Africa, and a number of findings of concern. Low absolute levels of health expenditure are clearly a constraint on health service delivery and in many countries are far below estimates of what a basic package of health services would cost (i.e. less than US\$ 13) (1, 4). Concerning the use of funds, the large variation in capital expenditure (1–60% of public sector health expenditures) may well be partly due to poor accounting, but is striking nonetheless. Although the data are not shown here, there is also a consistent pattern of heavy dependence on external assistance to finance capital expenditures, which is unlikely to be sustainable in the long term (2). Since these types of data are vital to

making informed choices about allocating resources, another concern is the inability of the majority of countries to report the use of public money on health. Similarly, the lack of specificity on donor financing is remarkable.

It was not surprising that there are poor overall health service indicators and health outcome indicators among African countries, nor that there are consistent trends towards improvement with rising income. The challenge of addressing high mortality and fertility is greatest among the lowest-income countries which have not yet entered a demographic and epidemiological transition. Yet this type of study should not be used to infer that waiting for incomes to rise is the only way to improve health services and health outcomes. The limitations of secular trend data and other aspects of study design restrict the ability to use statistical comparisons to deal with this issue more robustly. Still, there are clear differences that can be seen when comparing the experience of individual countries with others in their own group, suggesting that there are differences in performance that are modifiable and not entirely dependent on country income. To illustrate how the data in this study can be used at the country level, we highlight the experience of four countries: Ethiopia, Ghana, Côte d'Ivoire and Gabon (see Table 5 for a statistical comparison).

Ethiopia

Ethiopia, a country with 58.1 million people in 1996, belongs to the lowest-income group with a per capita GNP of only US\$ 110. Its social indicators are poor even for lowest-income Africa: only 25% of adult females are literate; 10% of the population has access to safe sanitation; 27% access to safe water. However, ratings of its legal framework (2.3) and government bureaucracy (1) are better than most of

Table 5. Selective indicators for Côte d'Ivoire, Ethiopia, Gabon, and Ghana

| Indicator | Côte d'Ivoire | Ethiopia | Gabon | Ghana |
|--|---------------|----------|-------|-------|
| Population, 1996 (million) | 14.3 | 58.1 | 1.1 | 17.5 |
| GNP per capita, 1990–96 (US\$) | 701 | 123 | 4290 | 387 |
| Female adult illiteracy (%), 1995 | 70 | 75 | 47 | 47 |
| Access to safe sanitation (%), 1990–95 | 54 | 10 | 76 | 32 |
| Access to safe water (%), 1990–95 | 72 | 27 | 67 | 56 |
| Bureaucratic quality (0–4), 1998 | 2 | 1 | 2 | 2 |
| Legal and regulatory framework (0–5), 1997 | 3.3 | 2.3 | 2 | 3.3 |
| Public sector health expenditure (real US\$), ^a 1990–95 | 12.70 | 1.79 | 28.03 | 5.31 |
| Three-dose diphtheria–tetanus–pertussis vaccine (DTP3) coverage (%), 1990–96 | 47 | 39 | 58 | 47 |
| Contraceptive prevalence rate (%), 1990–96 | 11.4 | 4.3 | – | 20.3 |
| Supervised deliveries (%), 1990–96 | 45 | 14 | 80 | 44 |
| Infant mortality rate (per 1000 live births), 1990–96 | 88 | 116 | 92 | 76 |
| Total fertility rate, 1990–96 | 5.6 | 7.0 | 5.0 | 5.4 |
| Childhood underweight (%), 1990–95 | 24 | 48 | 15 | 27 |

^a Real US dollars are based on converting the nominal amounts per capita in local currency, using the official exchange rate for that year, into current US dollars. Amounts are subsequently adjusted for inflation to obtain real estimates. The index year for all real estimates was 1987.

GNP = gross national product.

the lowest-income African countries, and are about average for Africa as a whole. As a proportion of GDP, Ethiopia's public sector spending on health between 1990 and 1996 (1.2%) was at the 25th percentile of African countries, and below average for lowest-income Africa, even though it was increasing its levels over this time. In real terms, this translates into less than US\$ 2 per capita, which places it near the bottom of the Africa table. In terms of health services, Ethiopia's latest indicators present a mixed picture. It has some of the lowest levels of supervised deliveries in Africa (14%; only Somalia is known to be lower), its contraceptive prevalence (4%) places it below the 25th percentile, below average for lowest-income Africa, whereas its DTP3 immunization coverage (39% over 1990–96) varies considerably from year to year, but is near the African average by 1995. Among its health outcomes, Ethiopia stands out as having some of the highest levels of malnutrition (48% of children were underweight) and fertility (total fertility rate 7 children) in Africa. Its infant mortality rate (116) is better than a quarter of African countries, but still higher than the average for lowest-income Africa. If the data are reliable, they suggest that continued increases in health expenditures are warranted, and point to programme areas where special emphases are needed, such as supervised deliveries, family planning and nutrition, and greater consistency in immunization efforts.

Ghana

Ghana, with a population of 17.5 million and a GNP per capita of US\$ 390 in 1996, has many indicators typical of other low-income countries in Africa: its levels of female literacy (53%), access to safe water (56%) and sanitation (32%) are near the average, though ratings of its legal framework (3.3) and government bureaucracy (2) are better than average. For a low-income African country, it provides lower public sector health expenditures (both in real per capita terms and as a percentage of GDP) and receive an average amount of donor assistance for health. Ghana is one of the few African countries with sufficient data on types and sources of health expenditures and stands out as having a relatively high proportion of capital expenditures, particularly with investment funded from government rather than almost exclusively from donor sources. This may indicate less reliance on donors, or suggest that closer examination of capital expenditures is warranted. Nonetheless, Ghana's health service output, in terms of supervised deliveries (44%), DTP3 coverage (47%) and contraceptive prevalence rates (20%) was slightly below average for low-income Africa and for Africa as a whole. Despite this, its infant and child mortality rates (76 and 116, respectively) were lower than average for low-income Africa, whereas its fertility rates (5.4 children/woman) and levels of malnutrition (27% underweight) are about average. The data suggest that

higher public expenditures and better levels of health services are feasible for a country such as Ghana.

Côte d'Ivoire

Côte d'Ivoire is another low-income country (US\$ 701 per capita GNP), but differences are evident. Compared with other African countries, it has a relatively sound public service (bureaucracy rated 2) and legal and regulatory environment (3.3), spends fairly large sums of public money on health (US\$ 12.7 per capita), and relatively little on defence (1.1% of GDP). Yet the performance of Côte d'Ivoire on some measures is about average for Africa (e.g. 0.09 physicians per capita; 45% supervised deliveries). Performance in public health programmes such as immunizations is weaker than in most African countries (DTP3 coverage was 47%), and its health outcomes (infant and child mortality rates of 88 and 138, respectively) are below the average for low-income African countries. The implication is that Côte d'Ivoire may wish to pay relatively greater attention to public health and preventive services and to the way public expenditures on health are allocated, rather than on mobilizing more public funds for the health sector.

Gabon

Gabon (population just over 1 million), is one of the few middle-income countries in Africa, with a GNP of US\$ 4290 per capita in 1996. Nonetheless, its health statistics are poor, with an infant mortality rate (92) and total fertility rate (5) closer to levels of low-income countries, and fertility levels apparently increasing. Despite relatively good access to safe water (67%) and sanitation (76%), it has comparatively low levels of female literacy for a middle-income country (53%). As a proportion of GDP, Gabon spends very little of its public resources on health (0.6%), even though this translates into over US\$ 28 per capita. Although it has an average level of supervised deliveries for middle-income Africa (80%), it performs poorly in immunization coverage. Overall, the data suggest that Gabon substantially underperforms in terms of effort and results compared with Africa as a whole and particularly with middle-income African countries. Since Gabon's current health spending is relatively inefficient compared with other African countries, changing the pattern of spending and the quality of its use may be more important than simply increasing public sector health spending, even though Gabon could afford to spend more.

Future directions

Caution should be used in interpreting the data presented here. This study is based on aggregated data taken in cross-section, which limits the ability to assign cause and effect to the categories of variables, particularly for events that occur at the individual level (the "ecological fallacy"). Variations within countries are also not captured by the data, though

inequities within a country may well be responsible for differences in performance between countries.

The study also highlights important gaps in available information, an obvious result of weak information systems in Africa. Although most of the data reported here should have been routinely collected, this was rarely the case. Expenditure data are not routinely collected according to the source and use of funds, and there are often large differences between budgets and actual expenditures. In most cases, reporting on development assistance is worse than on government spending. The most glaring deficiency in understanding health expenditures is the lack of information on private health expenditures. This information is critical for countries concerned with overseeing the health of the public, as distinct from simply operating public sector health facilities. Private sector expenditure is particularly needed to examine questions of equity and effectiveness of services through different channels.

Health service data which are most relevant to managing health services and assuring public accountability were also severely lacking. In particular, utilization data for both outpatients and inpatients were not routinely reported at the national level, either in total or by cause of illness. Since they were insufficient to justify intercountry comparisons, these indicators could not be included in the analysis. With the exception of immunization data, there are very few data available to capture secular trends in health service outputs (2). Attempts to capture private and mission facilities are even more infrequent. Similarly, efficiency indicators, relating health service costs to outputs, were notably unavailable. For health managers to be able to solve problems in the future, it will be important to incorporate such efficiency measures as unit costs and not simply service outputs, and to examine them over time and across different areas. The identification of limitations to the data is important for future efforts at improving information systems.

The available data were generally not disaggregated according to regions within a country, or among different populations of interest, such as the poor. Examination of these types of differences is most relevant to monitoring effects and targeting the implementation of health policy, especially public spending, within a country. There are often urban-rural and regional differences in public spending, availability of services and health outcomes within a country. For example, in examining Ministry of Health spending in 22 African countries, Vogel found that in 16 of these countries more than half of their budgets

were spent in urban areas, whereas their populations were predominantly rural (5). Similarly, the richest people in African countries tend to benefit much more from public spending on health than the poorest, though the poorest people usually have greater need than the richest (6). For example, in Côte d'Ivoire in 1994 the under-five mortality rate for the poorest 20% of the population was 172, whereas for the richest 20% it was 121, and the prevalence rate of malnourished children was 30% among the poorest 20% and 15% among the richest 20% of the population. The issue of poverty, equity and health deserves a higher place on the health policy agenda of African countries and their international partners, and should be backed up by more evidence on how well spending on health is targeted to meeting the needs of the poor.

Conclusion

The information presented here should provide a stimulus for readers to make their own country analysis. This type of analysis should also be a good tool for donors, particularly if more detailed research is performed within the country and relevant to the country situation. The growing interest in developing disaggregated national health accounts in African countries merits encouragement and support (7). It is hoped that this study will help to increase the generation and use of information on health expenditures, services and outcomes in Africa, both by making better use of the available information and by helping to fill some of the gaps in missing data. ■

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Résumé

Dépenses de santé, services de santé et résultats sanitaires en Afrique : données de référence pour les années 90

Les pays africains rencontrent énormément de difficultés pour mobiliser et gérer les ressources destinées à améliorer les résultats sanitaires. Dans la plus grande

partie de l'Afrique, les informations qui seraient indispensables aux décideurs, aux responsables des systèmes de santé et au grand public ne sont pas disponibles. Cette

étude vise à faire connaître les données relatives aux dépenses de santé, aux services de santé et aux résultats obtenus dans ce domaine au niveau national, de façon à pouvoir aider à la planification de la santé et à l'élaboration des politiques en Afrique.

Dans cette étude, les données relatives aux pays ont été recueillies dans de nombreuses bases de données internationales et complétées par des enquêtes à domicile, ainsi que par l'examen des dépenses effectué par la Banque mondiale. Les résultats ont été soumis à une analyse préliminaire et présentés sous forme de tableaux simples. L'objectif était de fournir des valeurs de référence permettant de regrouper les pays africains par niveau de revenu et de résultats et d'effectuer des comparaisons entre pays.

Le pays africain « médian » théorique a un produit national brut par habitant (PNB) inférieur à US \$400 et, dans un tel pays, moins de la moitié des femmes adultes sont alphabétisées (47 %). Il est caractérisé par une bureaucratie lourde, un degré de corruption inacceptable, de faibles dépenses publiques pour la santé (US \$6 par habitant), une couverture vaccinale médiocre (64 % pour les trois doses de vaccin antidiphthérique-antitétanique-anticoquelucheux (DTC3)), une prévalence de la contraception de seulement 15 %, 45 % seulement des accouchements étant supervisés par un agent de santé qualifié. Entre 1990 et 1996, le pays africain « médian » a eu une mortalité néonatale de 92 pour 1000 naissances vivantes, alors que son taux de fécondité général était de 5,7 enfants/femme et que 26 % de ses enfants avaient un poids inférieur à la normale.

Les importants écarts interquartiles observés pour la plupart des variables et cas extrêmes indiquent une variation importante dans l'échelle des ressources consacrées à la santé publique dans les pays africains et dans l'utilisation qui en est faite, les pays les plus pauvres ayant tendance à moins bien faire que ceux qui s'en sortent mieux. Entre 1990 et 1996, les dépenses de santé annuelles de l'Etat par habitant ont été en moyenne de US \$3 par habitant dans les pays à très faible revenu, contre US \$72 par habitant dans les pays à revenu moyen. Les résultats des services de santé et la couverture augmentent avec la progression du revenu national, et la mortalité, la fécondité et la nutrition s'améliorent alors progressivement.

Les lacunes importantes dans les données, en particulier concernant la fourniture de services et le financement du secteur privé, l'utilisation des services de santé, les mesures en faveur de l'équité et de l'efficacité, empêchent une gestion plus efficace de la santé. Un autre sujet de préoccupations est l'incapacité de la plupart des pays à indiquer l'utilisation qui est faite des deniers publics destinés à la santé, qu'il s'agisse du type ou du niveau du service médical (p. ex., hospitalier ou soins de santé primaires), ou de questions importantes telles que les salaires ou les médicaments. Le montant des dons effectués sans aucune indication sur la façon dont l'argent doit être dépensé est particulièrement important.

Bien qu'elles soient limitées, les données existantes sont utiles, parce qu'elles servent de points de référence pour apprécier les résultats des pays et qu'elles permettent d'identifier les domaines où des problèmes peuvent se poser dans chaque pays. Le cas de quatre pays est présenté ici. Concernant l'Ethiopie, la comparaison des données nationales avec les données de référence africaines laisse à penser que l'augmentation continue des dépenses de santé est justifiée et laisse entrevoir certaines zones du programme où il est nécessaire de mettre tout particulièrement l'accent (accouchements supervisés, planification familiale, nutrition, plus d'uniformité dans les efforts de vaccination). En revanche, les dépenses de santé actuelles du Gabon, bien qu'élevées par rapport à l'ensemble des pays africains (US \$27 par habitant), sont faibles pour un pays à revenu moyen (en pourcentage du PNB, cela représente très peu), et surtout les fonds sont utilisés de façon relativement peu efficace. Cela laisse à penser qu'il serait peut-être plus important de modifier la façon dont l'argent est dépensé plutôt que d'accroître simplement le budget de la santé du secteur public, même si le Gabon a les moyens d'augmenter ses dépenses.

Le type d'informations présenté dans cet article étant essentiel pour faire des choix éclairés en matière d'allocation de ressources dans le domaine de la santé, les efforts visant à développer une comptabilité nationale de la santé détaillée et des systèmes d'information sanitaire dans les pays africains méritent un soutien renforcé.

Resumen

Valores de referencia sobre gastos, servicios y resultados de salud en África durante los años noventa

Los países africanos tropiezan con enormes dificultades para movilizar y administrar recursos con miras a obtener mejores resultados de salud. No obstante, en gran parte de África, la información que sería crítica para los encargados de formular políticas, los coordinadores de los sistemas de salud y el público no está disponible. Este estudio tiene por objeto presentar información sobre los gastos sanitarios, la prestación de servicios de salud y los resultados de salud a nivel nacional de una manera que podría contribuir a la planificación y al desarrollo de políticas de salud en África.

Los datos sobre los países se obtuvieron de numerosas bases de datos internacionales y se complementaron mediante encuestas domiciliarias nacionales y estudios del gasto público procedentes del Banco Mundial. Los resultados fueron sometidos a análisis visuales y métodos simples de tabulación. El objetivo era obtener valores de referencia para países africanos agrupados según el nivel de ingresos y el desempeño y para fines de comparación a nivel de país.

El país africano «mediano» hipotético tenía un producto interno bruto (PIB) per cápita inferior a

US\$ 400 y menos de la mitad (el 47%) de las mujeres adultas estaban alfabetizadas. Se caracterizaba por tener una burocracia débil, niveles de corrupción inadmisiblemente elevados, escasos gastos del sector público en salud (US\$ 6 per cápita), una cobertura de vacunación mediocre (del 64% con tres dosis de vacuna DTP3), una tasa de prevalencia de uso de anticonceptivos de sólo un 15%, y sólo un 45% de partos supervisados por un trabajador de salud capacitado. Durante el periodo 1990-1996 el país africano «mediano» tenía una mortalidad infantil de 92 por cada 1000 nacidos vivos, mientras que su tasa de fecundidad total era de 5,7 niños/mujer y el 26% de sus niños tenían insuficiencia ponderal.

Los amplios intervalos intercuartiles registrados en la mayoría de las variables y los valores atípicos indican una amplia variación de la magnitud y la utilización de los recursos dedicados a la salud pública en los países de África, entre los cuales los más pobres tienden a responder peor que los más ricos. En 1990-1996, el gasto público anual per cápita en salud ascendió a un promedio de US\$ 3 en los países de ingresos más bajos, en comparación con US\$ 72 en los países de ingresos medianos. Está demostrado que los resultados y la cobertura de los servicios de salud aumentan con los ingresos nacionales, asociados a mejoras graduales en la mortalidad, la fecundidad y la nutrición.

Las graves deficiencias de los datos, en particular de los referentes a la prestación de servicios y la financiación en el sector privado, la utilización de los servicios de salud, la equidad y las medidas de eficiencia, dificultan una gestión sanitaria más eficaz. Otro problema es la incapacidad de la mayoría de los países para informar sobre la utilización de los fondos públicos

en la salud, según el tipo o el nivel del servicio médico (por ejemplo de hospital o de atención primaria), o sobre elementos clave como los salarios y los medicamentos. Una buena parte de los fondos de donantes se reciben sin ninguna especificación de cómo se deben gastar.

A pesar de las limitaciones, los datos existentes son útiles para obtener valores de referencia sobre el desempeño nacional e identificar las áreas de problemas potenciales para cada país. Se presentan cuatro países. En el caso de Etiopía, la comparación de los datos nacionales con los valores de referencia africanos indica que el aumento continuo del gasto sanitario está justificado y muestra las áreas de programa que necesitan una atención especial (partos supervisados, planificación de la familia, nutrición, mayor coherencia de las actividades de inmunización). En el Gabón, en cambio, los gastos de salud actuales, aunque altos en términos reales en comparación con el conjunto de los países africanos (US\$ 27 per cápita), son bajos para un país africano de ingresos medianos (como porcentaje del PIB son muy bajos en relación con el resto de África). Lo que es más importante, los gastos del Gabón son relativamente ineficientes. Ello significa que una distribución distinta de los gastos podría resultar más eficaz que un simple aumento de los gastos de salud del sector público, aun cuando el Gabón pueda permitirse ese aumento.

Dado que la clase de información presentada en este documento es decisiva para tomar decisiones fundamentadas acerca de la asignación de los recursos destinados a la salud, los esfuerzos encaminados a establecer en los países africanos cuentas nacionales de salud desglosadas y sistemas de información sanitaria merecen mayor apoyo.

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