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Ethiopia
A Country Status Report on Health and Poverty

(In Two Volumes) Volume I: Executive Summary

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August 6, 2004)

Currency Unit	=	Birr
Birr 8.45	=	US$1
US$1	=	1.46275 SDR

FISCAL YEAR

July 8 - July 7

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome	MMR	Maternal Mortality Ratio
ANC	Antenatal Care	MOF	Ministry of Finance
ARI	Acute Respiratory Infection	MOH	Ministry of Health
BCG	Bacillus Calmette Guerin	MOJ	Ministry of Justice
BMI	Body Mass Index	NFFS	National Family and Fertility Survey
BOD	Burden of Disease	NGO	Non-Governmental Organization
CSA	Central Statistical Authority	NMOVDC	National Malaria and Other Vector Borne Diseases Control
CSR	Country Status Report	ORS	Oral Rehydration Solutions
DALY	Disability Adjusted Life Years	ORT	Oral Rehydration Therapy
DLY	Discounted Life Years	PC	Private Clinic
DPT	Diphtheria, Pertussis and Tetanus	PHC	Primary Healthcare
EFY	Ethiopia Fiscal Year	PHC/U	Primary Health Care/Unit
EPI	Expanded Program on Immunization	PHS	Potential Health Service
FLHW	Female Health Workers	PHRD	Policy and Human Resource Development
FMOH	Federal Ministry of Health	PPD	Planning Department
FP	Family Planning	PO	Project Office
GDP	Gross Domestic Product	PRSP	Poverty Reduction Strategy Paper
GER	Gross Enrollment Rate	RHB	Regional Health Bureau
GM	Growth Monitoring	SD	Standard Deviation
GMP	General Medical Practitioner	SIDA	Swedish International Development Agency
GOE	Government of Ethiopia	SDPRP	Sustainable Development and Poverty Reduction Program
GP	General Practitioner	SNNPR	Southern Nations, Nationalities and Peoples Region
HC	Health Center	SSA	Sub-saharan Africa
HE	Health Education	STD	Sexually Transmitted Disease
HF	Health Facility	TB	Tuberculosis
HH	Household	TFR	Total Fertility Rate

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HICES	Household Income, Consumption and Expenditure Survey
HP	Health Post
HSEP	Health Services Extension Package
HSCSR	Health Sector Country Status Report
HIV	Human Immunodeficiency Virus
HS	Health Station
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
IUD	Intrauterine Device
LDC	Least Development Countries
MBB	Marginal Budgeting for Bottlenecks
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MEDAC	Ministry of Economic Development and Co-operation
TGE	Transitional Government of Ethiopia
TT	Tetanus Toxoid
U5MR	Under-five Mortality Rate
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nation Fund for Population Activities
WB	World Bank
WBCAS	The World Bank Country Assistance Strategy
WDR	World Development Report
WH	Weight for Height
WHO	World Health Organization
WMS	Welfare Monitory Survey

EXECUTIVE SUMMARY

A country in transition

With a very low resource base and rapidly growing population, Ethiopia is one of the poorest countries in the world.

1. Ethiopia is one of the poorest countries in the world. Its per capita of US$ 100 (US$ 668 in purchasing –PPP-parity terms) in 2002 compares poorly with the average per capita GNI of US$ 450 (PPP US$ 1,683) for Sub-Saharan Africa (SSA) in 2002. The disparity is even more pronounced when juxtaposing Ethiopia's per capita GNI to the world average of US$ 5,080 (PPP US$ 7,415) (World Development Indicators, 2003).[1] Millions of Ethiopians continue to live in absolute poverty. The poverty head-count declined only marginally from 45.5 percent in 1995 to 44.2 percent in 2000. While the population grew by 9 million during the same period, the number of people living in absolute poverty increased steadily.

The political system is in transition, increasing decentralization to the district level.

2. Emerging from civil war in 1991, Ethiopia replaced the Derg regime with a federal structure of government, introducing a new constitution in 1994. The country's first multi-party elections were organized in 1995. Ethiopia now has a parliamentary federal government administering nine regional states and two administrative councils (Addis Ababa and Dire Dawa) which are sub-divided into 560 woredas (districts). Following the country's decentralized policy, these woredas represent the basic units of planning and political administration. Operating within the jurisdiction of these districts are peasant associations known as kebeles.

Ethiopia has progressively undertaken economic reforms in the last ten years.

3. Ethiopia has operated a free-market economy since 1991. The Government introduced an Economic Recovery and Structural Adjustment Program in 1992 to stabilize the macro-economic framework and encourage private sector participation. These economic measures paid positive dividends, reversing years of persistent decline in real GDP which grew on average by 5.8 percent from 1992/93 to 2001/02 while population growth was about 2.7 percent over the same period. The Ethio-Eritrean Border conflict affected GDP growth rates from 1998 to 2000. In 2003, the economy faced a sharp decline and a negative growth rate as a result of the drought which affected 14 million people.

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[1] By another measure of GDP per capita (constant 1995 US$), Ethiopia has only US$ 116 compared to the World average of US$ 5,631 and Sub-Saharan average of US$ 564.

Although the economy remains highly dependent on the agricultural sector, the service sector has grown to such extent that it is now the major contributor to overall GDP.

4. The agricultural sector continues to be an important contributor to the overall Ethiopian economy although its contribution has decreased from 54 percent in 1982 to 40 percent in 2002. Agriculture employs over four-fifths of the country's labor force. It accounts for 90 percent of foreign exchange earnings, and the country is highly dependent on its major export, coffee. Agricultural productivity, however, remains low. The sector is vulnerable to external shocks such as droughts, which have occurred every three years during the past decade. The human base for agricultural development is also largely illiterate and inadequately equipped with modern skills, inputs, and equipment. The services sector has emerged as the major sector in the economy, growing from 33.2 percent in the 1980s to 47.6 percent in 2002. Industry represents only about 11% of GDP.

A young and rapidly growing population is putting pressure on agricultural lands.

5. Life expectancy at birth (42 years) is slightly lower than the SSA average of 45 years. In 2003, Ethiopia's population was 69.1 million. It is the second most populous country in SSA. The population grew by an average of 2 million annually between 2000 and 2005, representing a rate of 2.7 percent, which is slightly higher than the SSA average of 2.5 percent. The population is largely rural (83 percent). However, with an urban population growth rate of 4.1 percent compared to a growth of only 1.9 percent in rural areas, the urban-rural breakdown of the population is slowly changing. Moreover, urban population growth is fuelled partly by internal migration. The population is young, with 44 percent under the age of 15. Such a structure results in a high dependency ratio as well as a future rapid exponential population growth. If this growth does not decline in the coming years, it is expected that the population of Ethiopia will double in about 25 years. Population density is moderate relative to other SSA countries, although it is twice as high as the SSA average. However, it is very high in the highlands, and lowest in the eastern and southern lowlands. About 23.2 percent of the population is concentrated in 9 percent of the land areas. This puts considerable pressure on cultivable lands and contributes to environmental degradation.

Access to social services is very limited.

6. Despite efforts made by the Government to ensure basic social services, access to services such as water and sanitation is limited. Only 15 percent of Ethiopians have access to improved sanitation compared to the SSA average of 55 percent. Access to clean drinking water is slightly higher at 24 percent but is still lower than the SSA average of 55 percent.[2] Fifty-nine percent of the adult population is illiterate, measuring comparatively higher than the SSA average of 36 percent. Females have a higher rate of illiteracy than males. The primary school enrollment rate is 49 percent, falling also

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[2] The survey on Environmental Health Profile of Regions and Selected Cities/Towns in Ethiopia (2002/03) cited in the MOH/PPD report (1994) indicates a lower number for access to improved sanitation (11.5 percent) but a higher figure for access to clean water (28.4 percent).

below the SSA average. More than 50 percent of Ethiopians, particularly those living in rural areas, remain food insecure.

A traditional society where women's social status is still low.

7. While the Ethiopian constitution recognizes the equal rights of women and men, the traditional societal structure keeps women in a vulnerable position. Traditional harmful practices are common with 80 percent of women having undergone circumcision. A heavy workload (on average, Ethiopian women work 15-18 hours per day and many rural domestic tasks are highly labor intensive) and early marriage (the average age of women at first marriage was 17.6 years in 1998) are common occurrences. Limited studies and police and media reports suggest that violence against women is quite high and increasing every year (SCGA 2004). About 25 percent of Ethiopian women have experienced rape (W. Post 2004). Women still occupy a very small percentage of key government decision making positions: 7.7 percent in the House of Representatives and 13 percent in regional councils in 2000.

The Government has renewed its commitment to improve health outcomes.

8. The Government of Ethiopia has recently confirmed its commitment to accelerate progress on maternal and child health outcomes. A reduction in child and maternal mortality rates is among the key objectives of the Ethiopia Poverty Reduction Strategy (PRSP) published in 2002. This strategy outlines the Government's key policy objectives and strategic options for the next five years. One key PRSP strategic option for reducing maternal and child mortality is to expand the provision of essential health and nutrition services to the country's rural poor.

Health outcomes are slowly improving but remain low, particularly among rural dwellers and the very poor

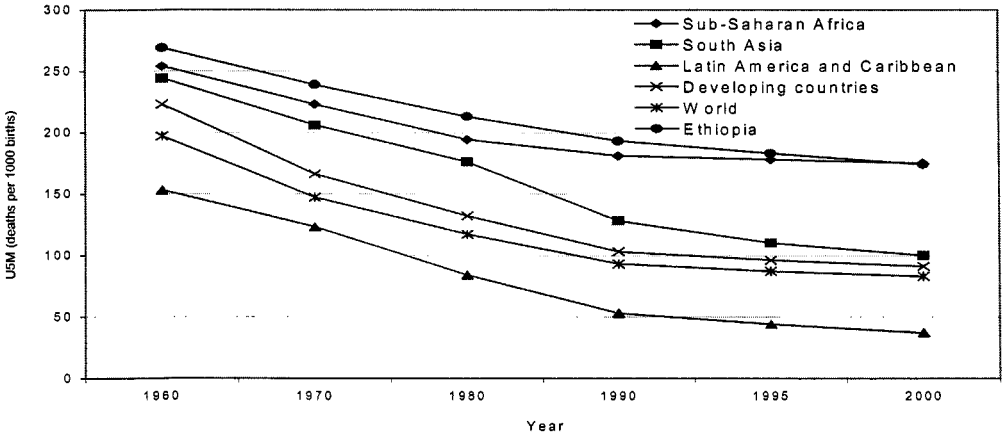
Child mortality has declined, albeit slowly, in the last decade.

9. Starting in the 1960s, Ethiopia has shown a slow but steady reduction in child mortality. Infant and under-five mortality have continued to decline over the past 25 years with a more pronounced reduction in the last decade. Under-five mortality is presently 21 percent lower than it was five to nine years ago. Yet, overall, infant and under-five mortality rates remain very high. Between 1995 and 2000, nearly one in every ten newborns did not survive to celebrate its first birthday, and one in every six children died before its fifth birthday (Figure 1).

Compared to other countries in SSA, Ethiopia's relative performance in reducing child mortality is improving.

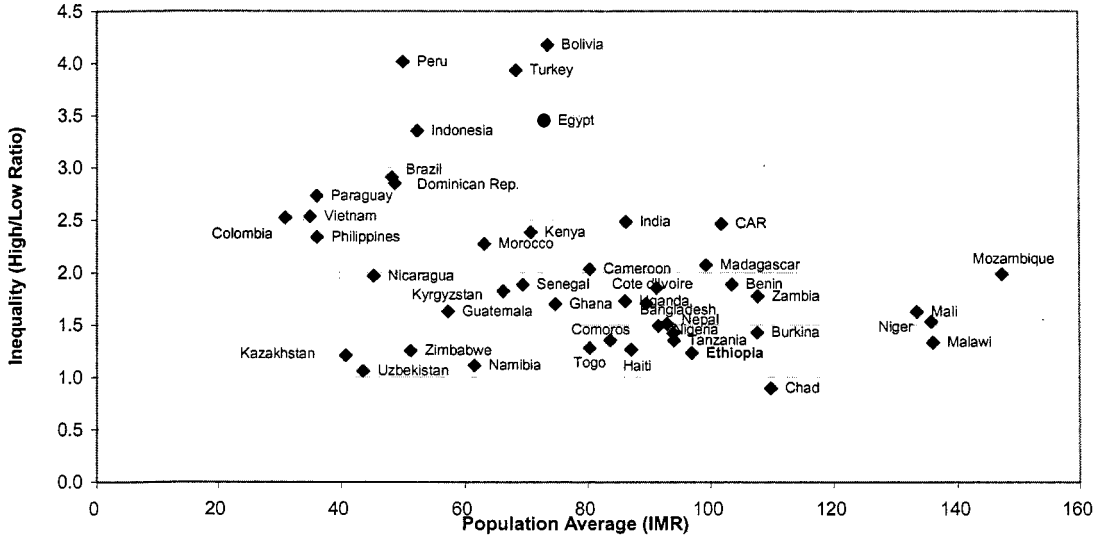
10. In 1960, the Ethiopian child mortality ratio was higher than the SSA average, but slowly over time, it has been improving. Ethiopia's child mortality reduction performance rated well during the 1980s and 1990s when many other SSA countries showed stagnation or even increase in infant mortality. Ethiopia's performance relative to its per capita income is also favorable. It has lower infant and under-five mortality rates, as well as lower levels of wealth-based inequities relative to other countries with a similar per capita income (Figure 2).

Figure 1: Trends in under-five mortality in Ethiopia compared to other regions of the world



Source: Unicef, 2002

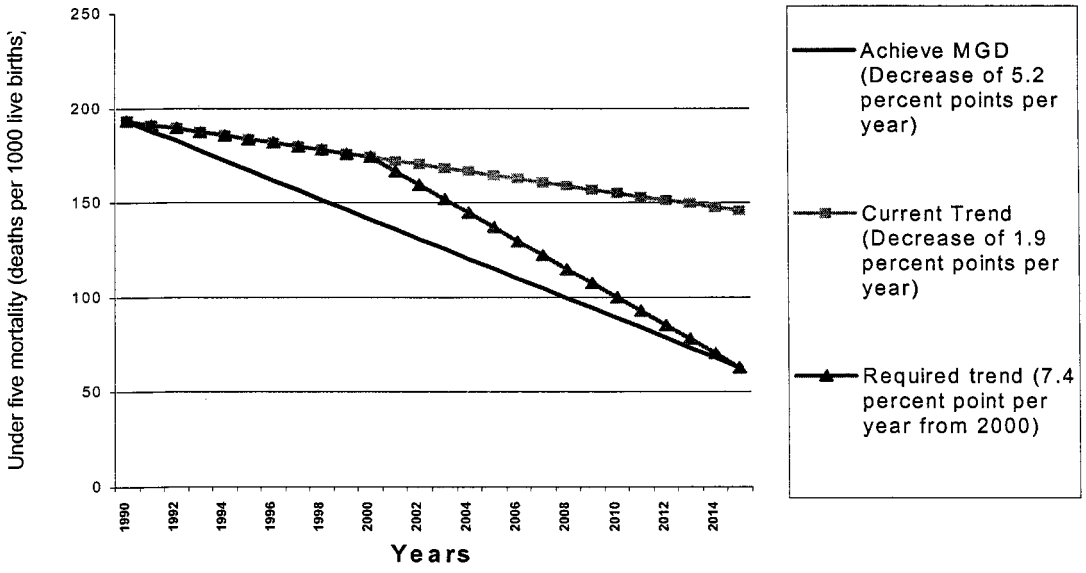
Figure 2: IMR and poor/rich inequalities in different countries



At the current pace, however, reaching child survival Millennium Development Goals (MDGs) will be challenging.

11. Between 1990 and 2000, the rate of decrease in under-five mortality has been 1.9 per 1000 live births. This contrasts with the estimated rate of decrease of 5.2 per 1000 live births needed by Ethiopia to reach the child survival Millennium Development Goals (MDGs). By 2003, it would have to reduce its under-five mortality rate by 7.4 per 1000 live births in order to achieve the child survival MDGs by 2015. This is a tremendous challenge given past trends and the extent to which the needs for child survival remain unmet (Figure 3).

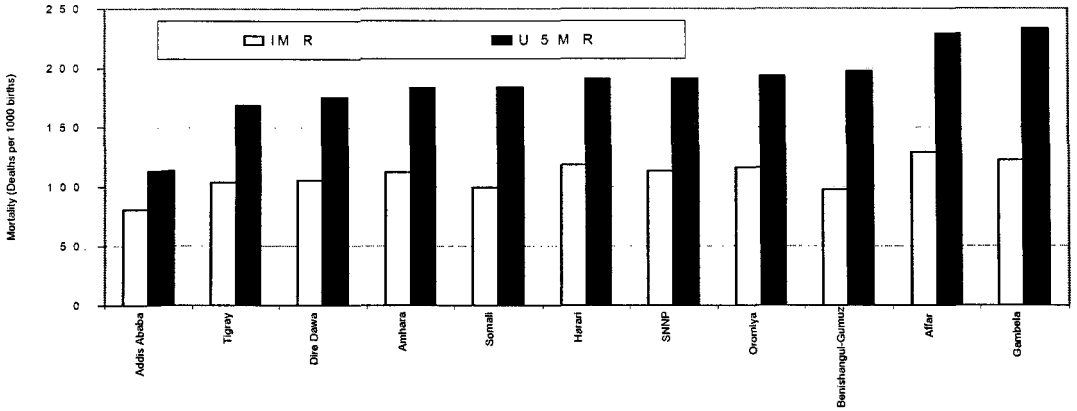
Figure 3: Achieving MDG for child survival



Moreover, inequities in U5MRs and IMRs remain significant.

12. Under-five mortality rates (U5MRs) are high in all regions and among all socio-economic groups (Figure 5). On average, children from more affluent households have slightly lower mortality rates. Infant and under-five mortality rates are 16 percent and 31 percent higher respectively among children from the poorest quintile compared to children from the richest quintile. The urban/rural difference is more marked: in urban and rural areas, infant mortality rates (IMRs) are 96.5 and 114.7, respectively and U5MRs are 148.6 and 192.5, respectively. Moreover, mortality rates vary between regions. Addis Ababa has the lowest IMR (81) and U5MR (113), while Gambella has the highest IMR (123) and U5MR (233). There do not seem to be any gender differentials in child mortality, although female children fare slightly better than male children.

Figure 4: Regional variation in IMR and U5MR in Ethiopia



The incidence of illnesses (i.e., Acute Respiratory Infection and diarrhea) contributing to avoidable deaths is higher in Ethiopia compared to other SSA countries.

13. The high rate of mortality is partly due to living conditions and a high incidence of illness. The prevalence s of Acute Respiratory Infection (ARI), at a rate of 24 percent, and diarrhea among under-five children in Ethiopia is higher than its SSA neighbors. On average, children under five years of age experience two episodes of serious illness per year. The difference in illness incidence rates between rich and poor children measures as a narrower margin in Ethiopia than in other countries. Yet the prevalence of diarrhea is higher in the poorest quintile (25 percent) compared to the richest quintile (19 percent).

In Ethiopia, diarrhea and pneumonia are the main causes of early death among children, differing from the average SSA profile.

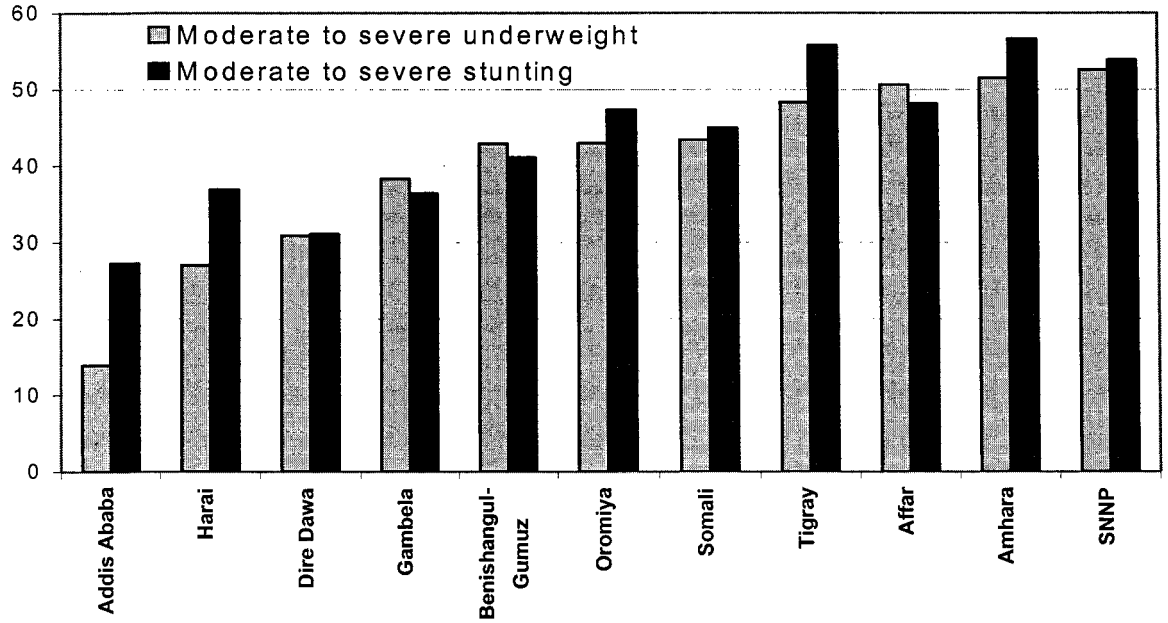
14. While malaria is the leading cause of total morbidity and mortality in Ethiopia and therefore has a detrimental impact on labor productivity and economic growth,[3] it is estimated to represent only 4.5 percent of the causes of child mortality. According to the recent Lancet series estimates that are validated by international experts, most deaths among children under five years in Ethiopia can be attributed to pneumonia (28 percent) and diarrhea (24 percent)—disappearing causes of death in many poor countries. On the other hand, measles's contribution (2.2 percent) to early deaths has declined. This decline probably contributed to the reduction in child mortality in the 1980s and 1990s. However, HIV has emerged as a growing cause of early childhood death (6.2 percent).

[3] About 68% (>46 million people) of the total population is at risk of acquiring malaria infections (Ethiopia Rollback Malaria Consultative Mission Report, 2004). Majority of Ethiopia's population lives in the over-crowded highlands, mainly due to the high prevalence of malaria and other dangerous tropical diseases in the lowland regions. Hence, malaria has huge negative effects on labor productivity and economic development. It also prevents Ethiopia from realizing the growth potential of its lowlands, and contributes to the population and environmental issues in the highlands (World Bank, CEM 2004)

High child malnutrition rates in Ethiopia present a significant obstacle to achieving better child health outcomes.

15. Although stunting has declined by about 14.7 percent from 1995/96 to 1999/2000, Ethiopia still has one of the highest malnutrition rates in SSA and in the world
(higher than India and Bangladesh and similar to Nepal's). Moderate to severe stunting is 51 percent, while severe stunting is 26 percent. Forty-seven percent of children under five are moderately to severely underweight. Urban/rural differentials are not significant but regional differences in child malnutrition are prominent (Figure 5). A multivariate analysis confirms that regional differentials are significant, with Tigray having higher stunting and underweight rates, while Somali and Gambella have higher wasting rates. Income also has a more significant impact on nutritional status than on child mortality. Severe underweight is nearly 260 percent higher among children from the poorest quintile compared to children from the richest quintile.

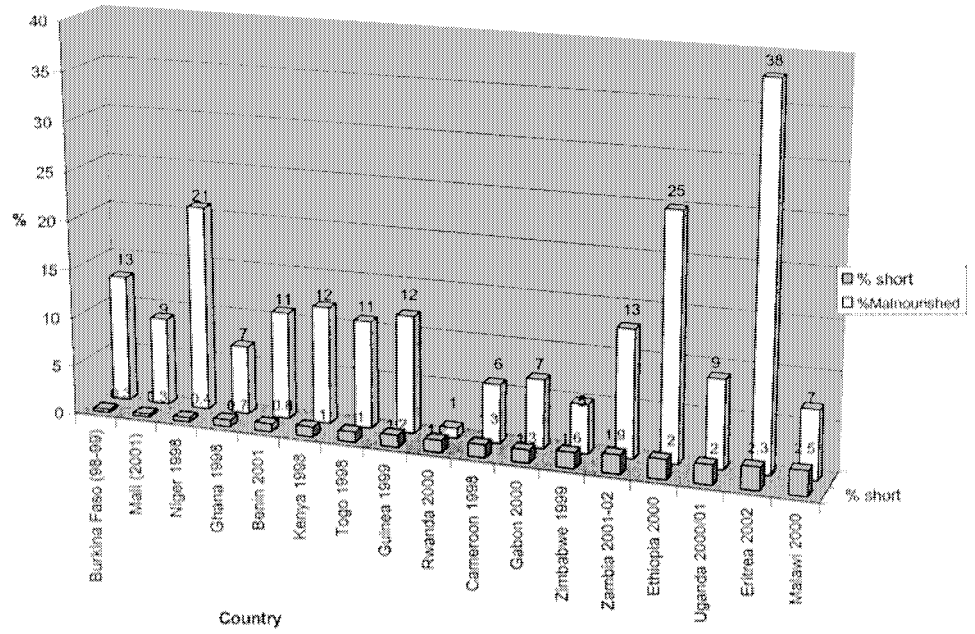
Figure 5: Regional differences in child malnutrition in Ethiopia



Heavy workloads and poor diets combined with frequent pregnancies also have an adverse impact on women's nutritional status.

16. About one out of three women and one out of four mothers of children less than three years old have Body Mass Indices (BMI) that are less than 18.5 indicating that *the level of chronic energy deficiency among adult women is relatively high in Ethiopia compared to other SSA countries.* Among 17 countries surveyed by the Demographic and Health Survey (DHS) from 1998-2002, Ethiopia performs poorly, having the second highest percentage of mothers who fall below the BMI cut-off of 18.5 (Figure 6).

Figure 6: Malnutrition Among Mothers of Children less than 3 years old in 17 SSA countries



Fertility rates have been decreasing dramatically in urban areas, yet more slowly in rural areas.

17. With a total fertility rate (TFR) of 5.9 children per woman in 2000, Ethiopia has already made some progress in decreasing its past fertility levels. Between 1990 and 2000, fertility declined on average by 0.6 birth per woman. However, this rate of decline is insufficient to achieve Ethiopia's Population Policy target of 4 children per woman by 2015. Yet some encouraging trends have emerged. The TFR decline in urban areas has been rapid over the last 10 years the urban TFR is now 3.3. Addis Ababa's TFR of 1.95 children per woman is comparable to the rates found in developed countries. However the TFR decline in rural areas has been much slower and rural TFR remains high at 6.4. TFR is particularly high among 15-19 year old rural women.

High fertility is a major contributor to poverty.

18. Poverty and high fertility are directly linked. The total fertility rate (TFR) among the poorest quintile is 6.4 as compared to 3.9 in the richest quintile. An ILO study published in 2003 confirms that a strong relationship exists in Ethiopia between demographic characteristics and the probability of a household being poor. Large households with older household heads are more likely to fall into poverty than smaller households with younger heads. The addition of one child increases the incidence of poverty. Fertility reduction in rural areas is clearly a priority for the poverty reduction agenda.

Maternal mortality is high, and reaching the MDG goal is daunting.

19. Information on maternal mortality is scarce but indirect evidence suggests that the rate is very high. According to 1995 WHO estimates, the adjusted maternal mortality ratio (MMR) in Ethiopia is 1800 per 100,000 live births, a high figure compared to other SSA countries and countries with similar levels of GDP. The MDG goal is to reduce the MMR by three-quarters by 2015. This means that Ethiopia will have to reduce its MMR to approximately 450 per 100,000 live births, in 2015. Nearly all countries with twice as much GDP per capita as Ethiopia have been unable to decrease their MMR below 400 per 100,000. Therefore, achieving the MMR-related MDG will be a particularly daunting challenge for Ethiopia.

The HIV epidemic has spread rapidly over the last few years and tuberculosis (TB) is also widespread.

20. The first AIDS case was detected in Ethiopia in 1986. The prevalence of HIV remained very low in the 1980s but spread quite rapidly during the 1990s. About 6.6 percent of the adult population in 2002 have HIV/AIDS, and the epidemic is considered generalized in Ethiopia. By the end of 2001, there were 2.1 million children and adults in Ethiopia living with HIV/AIDS. Although Ethiopia constitutes only 1 percent of the world's population, it contributes 7 percent of the world's HIV/AIDS cases. In terms of number of infected persons, Ethiopia ranks fifth in SSA--after South Africa, Nigeria, Kenya and Zimbabwe. Tuberculosis (TB) is also widespread. Reported TB accounts for 3.1% of all deaths. The incidence ratio of all forms of TB in 2000 was 397/100,000. This ratio is slightly higher than the SSA average of 354/100,000 and greater than the average of 233/100,000 for low-income countries. Approximately 30% of all TB cases are also HIV positive.

Household and community factors affecting health: knowledge, attitude and practices

Short birth intervals, high birth order, low birth weight, the young age of mothers, and being part of certain religious groups, are all strongly linked to high child mortality levels.

21. An analysis of the proximate and underlying determinants of under-five mortality indicates the significant link between fertility (birth interval) in affecting child mortality. Other strong associations are found with religion (lower child mortality rate among Orthodox Christians) and mother's age (lower mortality rate among children of older women). Low birth-weight is also a key factor in both infant and under-five mortality, death being more prevalent among smaller children. Wealth has a moderate effect on both infant and under-five mortality, while mother's education (secondary level and up) is significantly associated with infant mortality but not under-five mortality.[4]

[4] The draft Poverty Assessment (World Bank 2004) finds a highly significant relationship between mother's education and under-five child mortality. It specifies mother's education in years as a continuous

The analysis also indicates that infants whose mothers received ANC tetanus vaccinations while pregnant have a lower likelihood of dying.

Malnutrition is largely associated with low levels of income and education, and birth intervals.

22. Similar analysis conducted on malnutrition shows that children of educated and more affluent mothers[5] have a lower likelihood of being stunted or underweight, but there are no differences in the proportion of wasting. Higher parity children are more likely to be underweight.

While exclusive breastfeeding is relatively high, Ethiopian households lag behind when it comes to other household practices including use of both iodized salt and bed nets.

23. Early, exclusive and prolonged breastfeeding contributes largely to children's nutritional status and Ethiopian mothers fare well in comparison with neighboring countries. Exclusive breastfeeding of children less than 4 months old is 63 percent, among the highest in SSA. Fifty percent of children are breastfed within one hour of birth. Timely supplementary feeding of 6-9 months old children is 77 percent. On the other hand, other household practices are less favorable, such as, for example, the use of iodized salt, which is still very limited. Less than 30 percent of households use iodized salt, and families from the poorest quintile and living in Tigray have a lower likelihood of using iodized salt. Mother's exposure to media and education are positively associated with iodized salt intake.

24. Although approximately 68 percent of the total Ethiopian population is at risk of acquiring malaria, bed nets are still largely unused in Ethiopia. In 2000, only 1 percent of households owned a bed net, out of which only 17.7 percent of the nets were insecticide treated. Even in high malaria prevalence areas such as Afar and Gambella, only 32 and 12 percent of households, respectively had a bed net. Less than 5 percent of women in endemic areas were sleeping under a bed net.

The use of oral rehydration therapy (ORT) is much lower than in other poor countries, largely explaining the high level of mortality due to diarrhea.

25. The percentage of children with diarrhea who receive ORT in Ethiopia is one of the lowest in the world. Use of ORT during diarrhea episodes is more than five times higher in households from the richest quintile compared to those from the poorest

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variable compared to the specification used in this report which is based on education categories (no education, primary, secondary or higher).

[5] The recent Poverty Assessment (WB 2004) also finds a significant relationship between education and children's nutritional status. In particular, the effect of female education is about twice as high as that of male education, though both have a positive effect. The results are similar to those of Christiaensen and Alderman (2003) which indicate that household resources and parental education are the main determinants of child nutrition in Ethiopia. They also find prices to be a significant factor although we did not include them in our analysis.

quintile. Sixty-two percent of children in the poorest quintile and 36 percent in the richest quintile do not get any home-based treatment. Forty percent of women in the poorest quintile and 13 percent of women in the wealthier quintile have not heard about ORT. Overall, the potential for improvement in the use of this low technology and inexpensive intervention is very large.

Immunization rates are improving but remain relatively low.

26. Ethiopia's immunization performance is mixed. The percentage of 12-23 months old infants who have received one or more of the EPI vaccines is high at 83 percent. However this percentage largely reflects the coverage achieved through the polio eradication program. Even when HMIS data for 2000/01 and 2002/03 are used, Ethiopia's DPT rates of 42 percent and 50.4 percent still place Ethiopia among the relatively low performers by SSA standards, behind Malawi, Zambia, Benin or Ghana. There is a high drop-out rate between the first and subsequent vaccination-- DHS 2000 indicates a drop-out rate of about 23 percent. However, HMIS 2000/01 data show slightly lower drop-out rates for 7 regions, ranging from 5 percent in Tigray to 43 percent in Afar while HMIS 2002/03 data for 10 out of 11 regions indicate an average drop-out rate of about 16 percent (drop-out rates ranging from 4.6 percent in Tigray to 43 percent in Somali). These results suggest that while immunization rates are improving, it is difficult for the health system in some regions in Ethiopia to ensure continuity of services.

27. Various factors, including the child's birth order, mother's education, her partner's employment status, wealth, and region, significantly affect a child's immunization status. Tigray and Addis are the best immunization performers. Eighty percent of children living in Addis are immunized for DPT 3 compared to only one percent of children living in Afar. Around 17 percent of children from the poorest quintile have not been immunized compared to 6 percent in children from the richest quintile. Muslim children have a greater likelihood of being immunized compared to children from other religions. Boys have a higher likelihood of getting one to three doses of DPT compared to girls.

The use of Vitamin A supplementation is high.

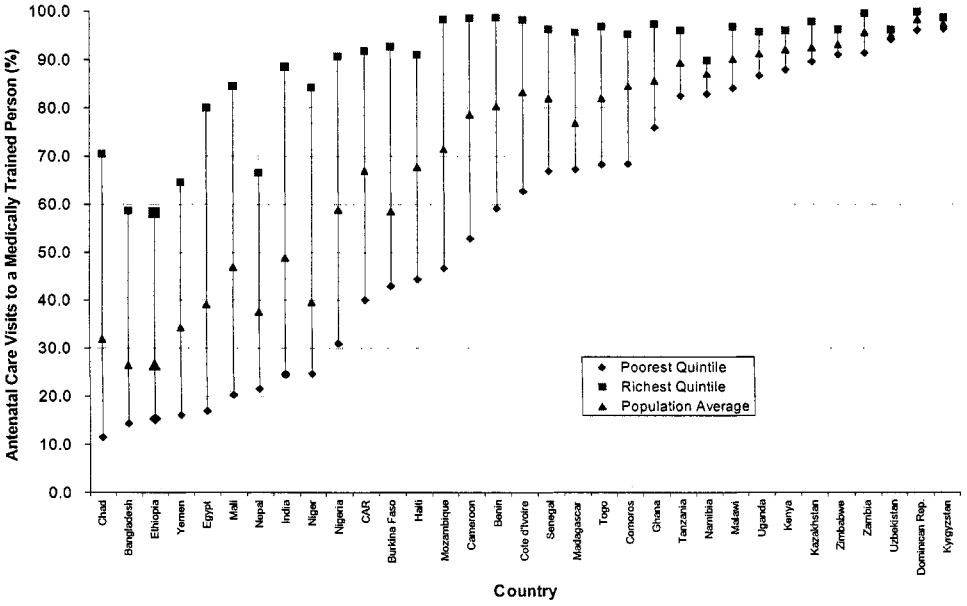
28. Along with a high level of immunization against polio, Ethiopia's vitamin A supplementation is among the highest in SSA. Approximately 80 percent of children are covered, with the Tigray region having the highest level of coverage. Children from the poorest quintile have a lower likelihood of Vitamin A supplementation. Mother's exposure to media and educational level are positively associated with vitamin A intake.

Use of antenatal and delivery care is very limited even among wealthier groups.

29. Ethiopia's performance on antenatal care, including tetanus toxoid vaccination and delivery care is one of the worst in SSA. Only 26 percent of Ethiopian women receive antenatal care (Figure 7) and only 5 percent avail of assisted deliveries by a skilled professional (DHS 2000). MOH HMIS data also present very low figures:

antenatal care coverage of 34.7 percent in 2000/01 and 27.4 percent in 2002/03. Attended delivery rates - while higher than those cited in the DHS- are also very low at 10 percent in 2000/01 and 9 percent in 2002/03.

Figure 7: Countries ranked by ANC by a medically trained person in the poorest quintile



Source: Gwatkin et al. (2002), World Bank

30. The use of these interventions is low even in urban areas and almost negligible among the poorest quintile. Wealth-based differentials are most marked for delivery care: among the poorest quintile, less than 1 percent of deliveries were attended by a trained professional. Even within the richest quintile, the rate is extremely low, at 24 percent. Regional differences are striking: in Addis Ababa, 74 percent of women receive tetanus toxoid during ANC compared to only 16 percent in Afar. Sixty-nine percent of women avail of assisted delivery care in Addis Ababa compared to only 3 percent in Amhara. Women exposed to mass media and with a higher education are more likely to receive maternal health care. On the other hand, women with a higher parity have a lower likelihood of receiving assisted delivery care.

In rural areas, there is a large level of unmet needs in family planning, especially among the poor.

31. Between 1990 and 2000, Ethiopia's contraceptive prevalence rate (CPR) increased from 4 to 8 percent among married women.[6] Yet it is still among the lowest in SSA for that period. The urban contraceptive prevalence rate or CPR (36 percent) is nine times higher than the rural rate (4 percent). The rich/poor differential is also very

[6] HMIS information for 2000/01 indicates a higher rate of 18.7 percent and an ever higher rate of 21.5 percent in 2002/03.

marked, with 29 percent of wealthier women and only 2 percent of poorer women using any contraceptive method. Modern contraception is little used even among richer groups (12.8 percent). Some regions (Amhara, SNNPR and Tigray) have higher CPRs. According to a 2004 report,[7] this is largely attributable to the role of development associations, including the use of community based distribution agents.

32. Knowledge of modern methods and women's approval of family planning are very high (81 percent), even in rural areas (85 percent of married women). It is striking that the national level of unmet need, i.e. the proportion of women who want to space (22 percent) or limit (14 percent) births but do not do so is large (36 percent). This is the highest unmet need in SSA. It is even high in rural areas (37.3 percent). This suggests a failure of the supply side to respond to the demand for family planning. Large variations are found between regions. Unmet needs are higher in Amhara (41 percent), Oromia (36.4 percent), SNNPR (35.5 percent) and Tigray (28 percent). Addressing the lack of family planning in the high fertility rural areas of these regions which represent 80 percent of the country's population appears to be a priority, in order to reach Ethiopia's population policy goal of 44 percent CPR by the year 2015.

Demand side factors play an important role in family planning.

33. In rural areas, among the poor, the older and less educated, and in large households, women are less likely to approve of family planning and more likely to say that having five children is ideal. Knowledge of modern methods is also more likely among Orthodox Christians than among Muslims. Significant regional variations are also observed. Compared to Tigray, women in all other regions were less likely to know about a modern method or a source, or approve of family planning, or have a husband who approves of it. Generally, the husband's approval seems to be a major constraint. While 60 percent of women approve of family planning, only 34 percent of husbands do. Only among the wealthiest 20 percent of the population can we find a significantly higher proportion of men who approve of family planning (close to 60 percent). The involvement of husbands is essential in order to improve family planning use.

Awareness of HIV/AIDS has increased dramatically but remains low among the rural poor and younger women.

34. A very high percentage of Ethiopian women (85 percent) and men (96 percent) have heard of HIV/AIDS. This is largely due to government efforts because most people cited community meetings as their main source of information on HIV/AIDS. However, urban and wealthier women are more aware of HIV/AIDS than the rural poor. It is striking that young women are less likely to know about HIV/AIDS, although according to the latest data they are the ones most exposed to new infections.

[7] Role of NGOs in Providing Reproductive Health Services

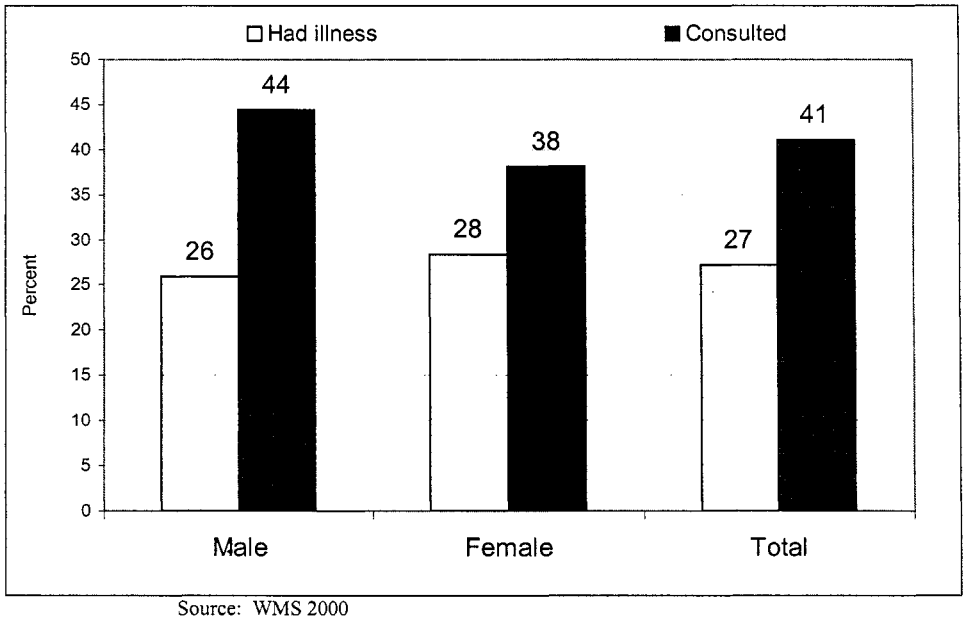
Over-all care seeking behavior is low; it is even lower among the poor and for women.

35. WMS Data from 2000 show that Ethiopian households seek care in about 41 percent of illness cases (table 1). While the poor to rich ratio for incidence of illness is 1.0, the poor/rich ratio for seeking care is 0.68, ranging from 0.54 in Afar to 1.12 in Tigray. Although females report higher levels of morbidity, they are less likely to seek care as compared to males (Figure 8).

Table 1: Distribution of individuals who had a health problem and who consulted for treatment in different regions of Ethiopia

	Poorest	2nd Poorest	Middle	2nd Richest	Richest	Overall average	Poor to rich ratio
Region							
Tigray	51	43	43	46	45	45	1.12
Afar	33	38	46	51	62	48	0.54
Amhara	20	23	26	31	31	27	0.65
Oromiya	46	46	48	48	49	47	0.94
Somali	46	46	48	48	49	40	0.94
Benshangul	55	61	60	65	78	60	0.71
SNNPR	36	39	47	47	53	43	0.68
Gambella	36	39	47	47	53	75	0.68
Harari	36	39	47	47	53	51	0.68
Addis Abba	36	39	47	47	53	64	0.68
Dire Dawa	36	39	47	47	53	46	0.68
Total	36	39	47	47	53	41	0.68

Figure 8. Illness in the last two months, and percent of those ill seeking care by gender



Source: WMS 2000

Care-seeking for children is very low by international standards, even among the richest groups.

36. When looking at the specific pattern of health-care use for children (ARI and diarrhea), care-seeking levels appear extremely low (table 2). The level of use of the richest quintile in Ethiopia is lower than that of the poorest quintile in many SSA countries. Twenty one percent of children in the poorest quintile and 43 percent among the richest quintile sought treatment for diarrhea, among the lowest rates in the world.

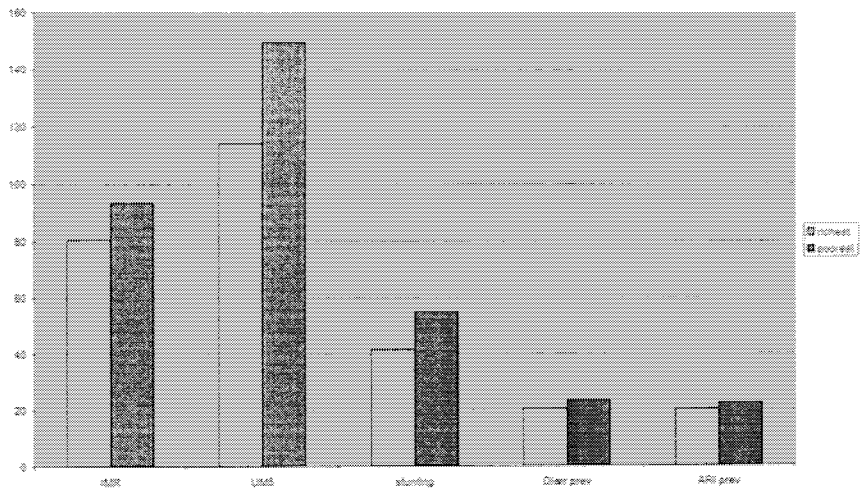
Table 2: ARI and diarrhea incidence and care-seeking behavior (2000)

Country	Percent with ARI taken to a health provider	Percent with diarrhea that received ORS packet
CAR	41.2	24
Chad	21.7	15.6
Nigeria	49.7	34.3
Ethiopia	15.8	13.1
Kenya	57.3	36.9
Malawi	46.1	49.7
Mozambique	38.5	41.9
Tanzania	67.5	54.9
Uganda	61.4	48.2
Zambia	70.7	53.9

Urban households have a significant advantage in terms of geographic access to health facilities. Residence affects outcomes most while income affects use of services most.

37. In absolute terms, outcomes and utilization of health services remain low even in urban areas and among the richest households. Urban-rural differences are greater than rich-poor differences in terms of illness prevalence suggesting an important effect of lack of sanitation and other environmental factors on rural women and children's health status. Despite better access to services for urban dwellers, differences in utilization (for example, coverage rates for fully immunized children, DPT3, ANC, assisted deliveries, and family planning) are higher between poor and rich households than urban and rural dwellers (Figures 9 and 10).

Figure 9: Outcome indicators: richest-poorest households; rural-urban households



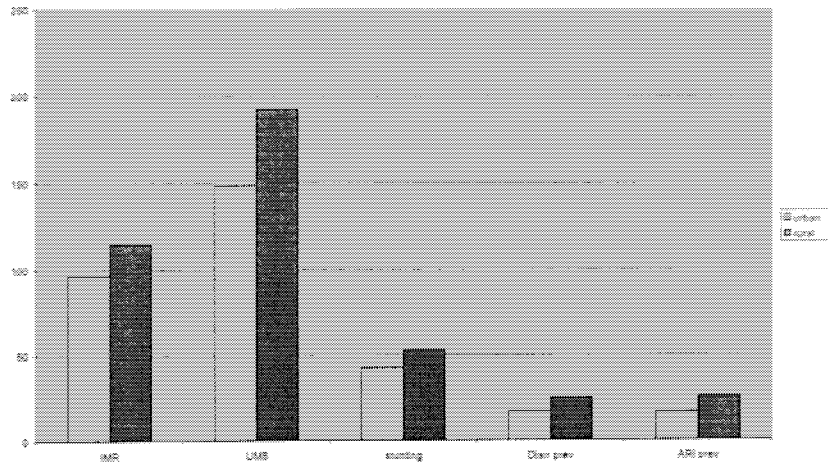
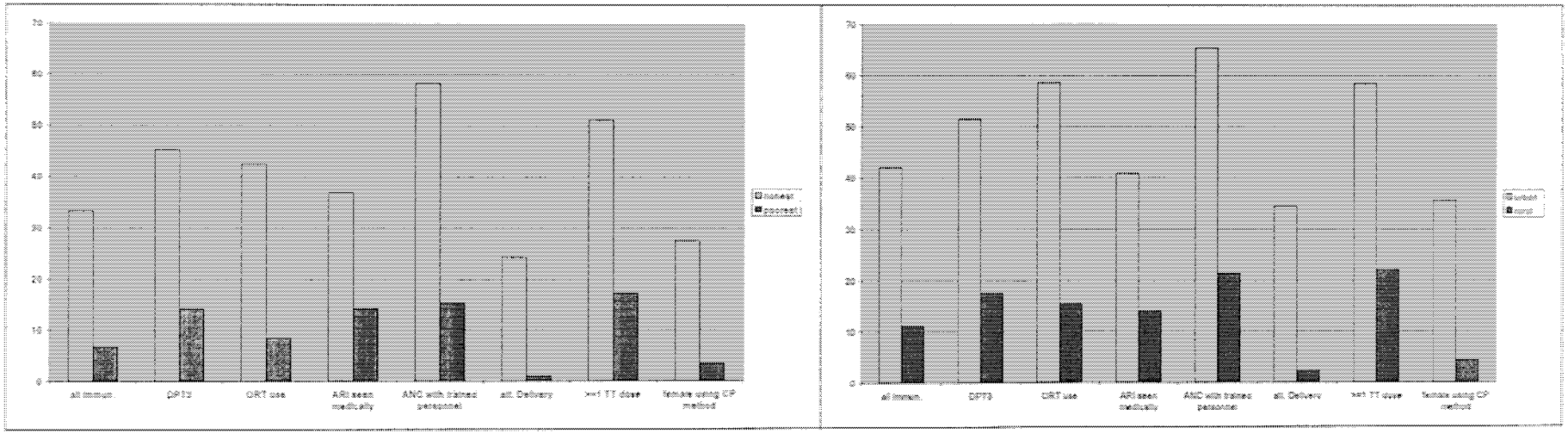


Figure 10: Utilization indicators:, richest-poorest households; urban-rural households



Public and private health services are used equally, but mainly by wealthier groups.

38. Nearly 45 percent sought care in a public facility, while the rest sought care from a private facility. Except for the richest quintile, health stations and clinics seem to be the main providers of care, followed by health centers. Both public and private hospitals are frequented more often by the richest quintile of households. Households in the poorest quintile are more likely to use public clinics, pharmacies and other trained private providers instead of public hospitals (Figure 11). The poor/rich ratio is lowest in the case of treatment of a sick child and for immunizations, while it is highest for obtaining information about sexually-transmitted illness (Table 3).

Figure 11: Health facility-wise distribution of utilization by wealth quintiles

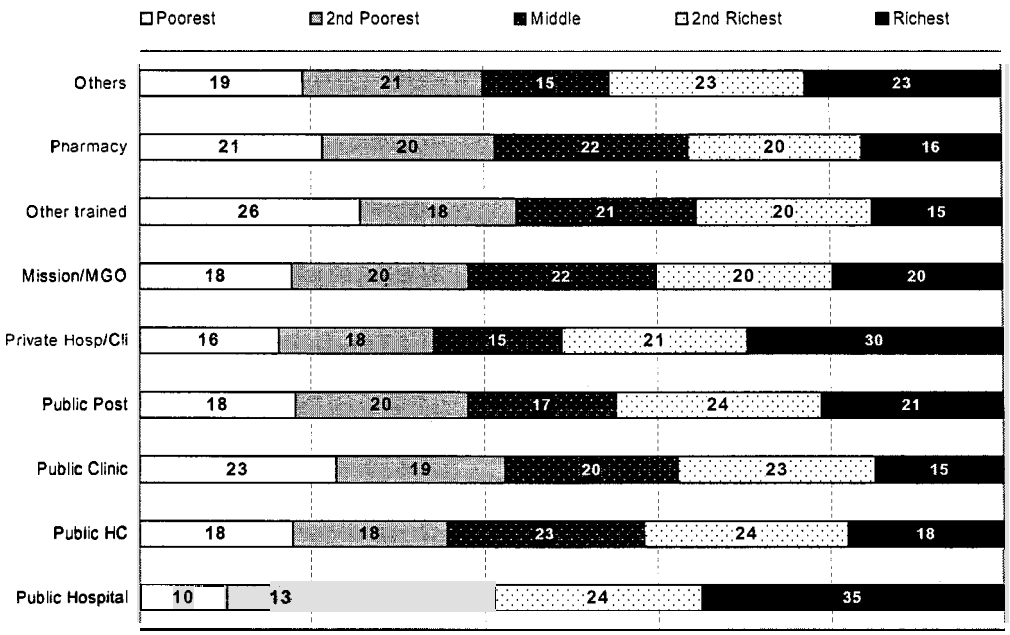


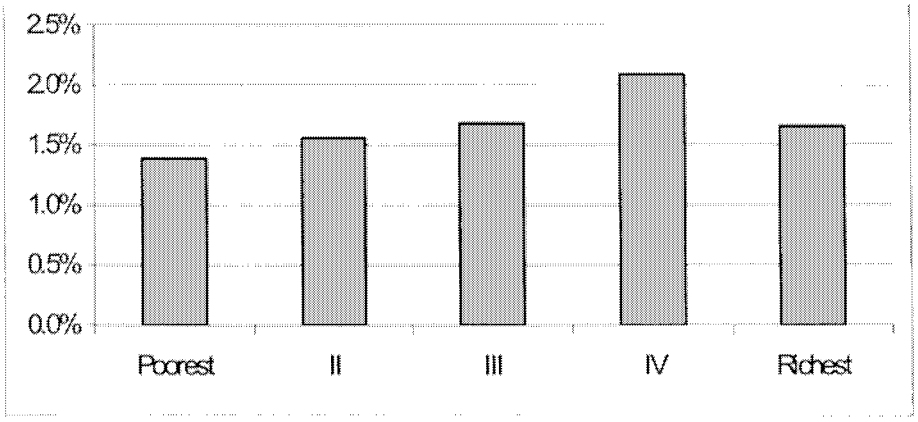
Table 3: Reasons mentioned for use of health facility for various services by wealth quintiles

	Poorest	2nd Poorest	Middle	2nd Richest	Richest	Average	Rich-to-poor ratio
Treatment of sick child	26.4	24.0	29.2	37.3	38.4	30.9	1.5
Immunization	19.8	18.5	21.6	30.1	32.1	24.3	1.6
Family planning	6.4	5.1	8.9	11.6	19.0	10.2	3.0
Prenatal, postnatal, and delivery	4.1	4.1	6.5	7.0	12.1	6.7	2.9
Information on STI prevention	4.5	4.3	7.8	9.8	19.2	9.1	4.3
Information on breastfeeding and infant feeding	4.1	3.2	6.4	6.9	14.3	7.0	3.5
Any service	37.4	35.0	41.9	52.6	56.3	44.4	1.5

Average household health expenditures are low and poor groups invest even less in health care.

39. In 2000, the average total household expenditure was Birr 5,309 (US$ 67), of which 46 percent went towards food. On average, households spent only 0.9 percent of total household expenditure on medical and health care (Birr 50 or US$ 6.0) representing only 2 percent of non-food expenditures (Figure 12). Average medical and health expenditures vary widely across regions, with more than Birr 100 in Harari and Addis, and less than Birr 30 in Tigray and Amhara. A large portion of these out-of pocket expenditures is spent on pharmaceutical products, especially in Afar where these represent 75 percent of medical and health expenditures. In both absolute and relative terms, the wealthiest quintile spend more on health care than the poorest quintile.

Figure 12: Total health expenditure as percentage of non-food expenditure by quintiles



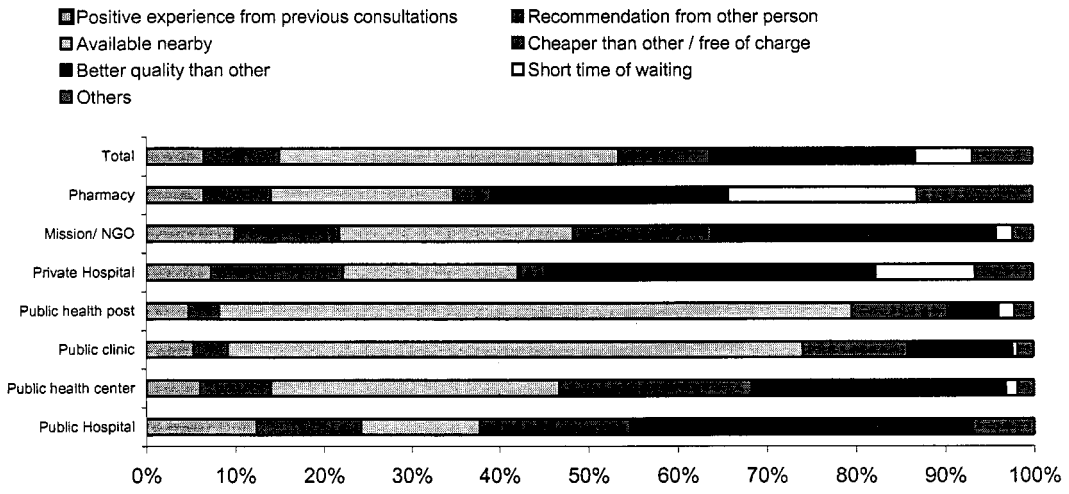
The price of health care is highest in public hospitals and lowest in health posts.

40. On average, the expenditure per episode of illness for which a provider was used is Birr 23.5 (US$0.30 per visit), ranging from Birr 15.3 in Benshangul to nearly Birr 95 in Addis. These expenditures vary across income quintiles, from 15.8 Birr in the poorest quintile to 37 Birr in the richest quintile.

41. Average expenditure on the last consultation provides an indirect estimate of the price of services. Price is highest in government hospitals (Birr 70), followed by private hospitals (Birr 43). It is lowest in government health posts and government health clinics (around Birr 10). Pricing in public facilities seem progressive but low prices may also represent differentials in the quality of care provided. Poor people pay lower prices in government hospitals (Birr 50) than richer groups (Birr 90). Pharmacies are an alternative source of care, with an average price of Birr 16. In Mission/NGO facilities, the average price is 29 Birr, ranging from Birr 45 for the poorest quintile to Birr 21 for the richest quintile.

The two main reasons for choosing a facility are availability/access (38 percent) and quality of care (23 percent).

Figure 13. Distribution of reasons for choosing a facility



The performance of health services

Transportation costs represent a high proportion of health care costs.

42. The average cost of transportation to a health provider is Birr 15. The cost of transportation is highest for government hospitals (Birr 22) and lowest for health posts (Birr 5). The cost of transportation varies widely across regions: it is as high as Birr 73 in Gambella and as low as 4 Birr in Dire Dawa.

Public services are experiencing an extensive decentralization process.

43. Ethiopia has gone through two stages of decentralization over the last few years. During the first stage, functions were decentralized from the central to regional level. In the new health sector organizational framework, the Ministry of Health (MOH) is mainly responsible for the formulation of policies and supervision of implementation, determination of standards, issuance of licenses and qualification of professionals, establishing standards for research and training, and coordination of external loans and grants. During a second stage, decentralization was expanded to the woredas (districts with an average population of about 100,000), which are now receiving block grants to ensure key public service functions. Woreda Health Bureaus have also been given the authority to hire, fire and manage health personnel. Woredas, however, still depend on regional and central levels for many health system functions, including the recruitment and allocation of health personnel, and the procurement and distribution of supplies. In general, institutional capacity at the Woreda level for the planning and implementation of health programs and other programs is a concern.

The Government still runs most of the formal health facilities.

44. The Government runs most health facilities existing in Ethiopia today, and the public network has expanded dramatically over the most recent years. Seventy-one percent of hospitals, 94 percent of health centers, 82 percent of health stations and all health posts are currently run by the Government (table 4). On the other hand, the pharmaceutical sector is dominated by the private sector (including NGOs): 85 percent of pharmacies, 81 percent of drug shops and all rural drug vendors are privately-owned.

45. The number of private sector providers has been growing rapidly in recent years. Between 1996 and 2002, the number of private clinics has increased from 541 to 1,235, but this formal private sector is present almost exclusively in urban areas. Twenty seven percent of all private clinics in Ethiopia are also located in Addis Ababa, where 50 percent of the hospitals are privately-owned. Outside urban areas, only private drug vendors—not always formal—can be found in the private sector. Between 1996 and 2000, the number of pharmacies increased from 541 to 1,235, drug shops by 108 percent from 148 to 309, and rural drug vendors by 27 percent from 1,460 to 1,856. There may also be some public health workers providing services "on the side," as reported by some anecdotal information, but there are no firm data to support this. Faith-based organizations and NGOs are also numerous. There are 225 NGO projects in the health sector, health being the single largest sector for NGO involvement. NGOs are also involved in water supply, sanitation, and environmental areas which contribute to health outcomes.

Table 4: Distribution of Health Facilities by Ownership and by Region, 2002/03***

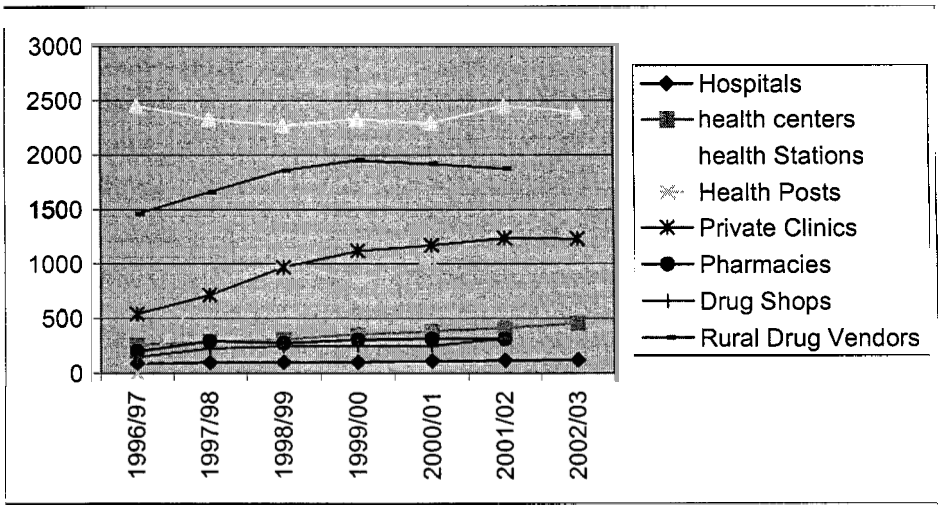
Region	Hospitals				Health Centers				Health Stations			Health Posts
	MOH	Others*	Total	Beds	MOH	Others*	Total	Beds	MOH	Others*	Total	
Central	4	1**	5	1,871	0	0	0	0	0	0	0	0
Addis	5	17***	22	2,346	24	4	28	155	9	139	148	46
Harari	3	2	5	440	2	0	2	20	9	10	19	7
Dire Dawa	1	1	2	320	3	0	3	30	4	8	12	20
Gambella	1	0	1	93	4	4	8	0	12	6	18	18
Ben-Gumuz	2	0	2	254	7	0	7	8	110	4	114	42
Tigray	12	2	14	1,127	34	1	35	195	166	17	183	121
Oromia	21	8	29	2,280	135	6	141	0	762	141	903	326
SNNP	11	3	14	1,260	114	4	118	550	322	49	371	306
Amhara	15	2	17	1,246	81	0	81	318	508	0	508	410
Afar	2	0	2	120	8	0	8	70	45	0	45	56
Somali	6	0	6	436	14	6	20	200	110	4	114	54
Total	83	36	119	11,793	426	25	451	1,228	2,013	383	2,396	1,432

Source: PPD, MOH. Health and Health Related Indicators Addis Ababa. 2002/03.
* Facilities owned by NGOs (Non-Government agencies) and OGA (Other government agencies)
** Includes 5 central hospitals (St. Paul, St. Peter, Amanuel, ALERT, and Black Lion)
*** Includes private hospitals
**** Regions are ranked based on the development index used by the GOE (annex 1.1 explains the criteria and also presents other types of indices such as poverty and revenue/capita). Addis ranks highest in terms of development and Somali the lowest

The number of facilities has increased yet geographical access to health-care services remains one of the lowest in the world, particularly for clinical care.

46. **Between 1995/1996 and 2002/03, the number of health facilities has grown** rapidly (Figure 14). The number of hospitals has increased from 87 to 119, health centers from 257 to 451, and health posts from 0 to 14312. The number of health stations has stayed fairly stable, only decreasing slightly from 2,451 to 2,396.

Figure 14: Number of Health Facilities by Type from 1996/97 to 2002/03*



Source: PPD MOH. Health related Indictors, 2002/03. *Note: 2002/03 data are not available for private clinics., drug shops, and rural drug vendors

47. **The average distance to the nearest health facility was 7.7 kilometers in 2000.** Seventy percent of households, however, reside less than 10 km away from a health facility (Table 5) while only about 40 percent of households have access to formal clinical care at less than 5 km or one hour's walk, the usual standard to measure access (Table 6). More than 90 percent of households travel on foot, even when the facility is further than 10 kms. Rural/urban differentials are very large, with the nearest health facility in 2000 being 1.4 kms away in urban areas and 8.8 kms in rural areas. Regional differentials are also significant, with distances as low as 1.3 kms in Addis and as far as 9.8 kms in Afar (table 6). Income differentials, however, are less striking although, on average, the poorest households live further away from a health facility than richer households.

Table 5: Average distances to hospitals/health centers/health clinics (kms)

	1995		2000	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**
Total	**8.8**	**9.3**	**7.7**	**8.1**
Region				
Tigray	10.7	10.6	7.6	6.7
Afar	5.1	9.2	9.8	13.1
Amhara	9.2	9.6	8.0	7.0
Oromiya	8.7	8.6	8.3	8.6
Somali	7.6	7.8	6.4	10.0
Benshangul	9.6	8.3	9.6	15.0
SNNPR	9.3	9.6	7.6	8.2
Gambella	5.7	8.1	6.9	8.8
Harari	2.1	2.6	2.2	2.8
Addis Ababa	0.9	3.6	1.3	4.7
Urban rural				
Rural	10.2	9.3	8.8	8.2
Urban	0.9	2.3	1.4	3.4
Income Quintiles				
Poorest	10	10	8.5	9.5
2nd poorest	10.1	10.2	8.1	8
Middle	9.2	9.4	7.6	7.5
2nd richest	8.7	8.8	7.5	7.6
Richest	7.0	8.0	6.1	7.4
Source: WMS, 1995 and 2000				

Table 6: Access to nearest hospital/health center/health clinic by region

Region	<1 kms	1-4 kms	5-9 kms	10-14 km	15-19 km	20+ kms
Tigray	7	31	31	19	9	4
Afar	17	20	13	37	3	9
Amhara	8	26	34	14	11	6
Oromiya	7	30	33	16	9	6
Somali	19	41	15	13	4	7
Benshangul	16	27	27	10	7	13
SNNPR	7	33	31	17	7	4
Gambella	19	36	25	3	11	6
Harari	32	53	12	3	0	0
Addis Ababa	48	48	4	0	0	0
Dire Dawa	23	65	10	2	0	0
Urban	39.8	54.4	5.2	.1	-	.2
Rural	4.2	26.8	35.3	17.6	10	6.1
Total	9	31	31	15	9	5
Source: WMS, 2000						

The human resource base is very limited and disproportionately distributed across regions.

48. The human resource base supporting health services is very limited. Ethiopia has one of the lowest ratio of doctors to population in the world. The ratio of nurses to population is more favorable but this number includes large numbers of "junior" or "assistant" nurses who have only one year's training.

49. As many health staff operate in urban areas, rural areas face a continuous shortage of human resources (Table 7). In the three largest regions (Oromia, Amhara and SNNPR), less than one doctor is available per 44,000 people and one nurse per 8,000 people. Afar and Gambella have no specialist physicians.

50. The shortage also includes frontline service providers. Midwifery skills are particularly lacking in large regions such as Oromia and SNNPR—these regions have less than one midwife per 100,000 people. Oromia has the lowest frontline health worker to population ratio.

51. The number of administrative staff tends to be greater than the number of health workers with a ratio of 2:1. In addition to the relatively large number of administrative and support staff, considerable numbers of trained health workers occupy non-clinical positions, which may not be very efficient in the context of a shortage of clinical skills. For example, in Benshagul-Gumuz, only 5 out of 18 health officers (27.7 percent) are in service delivery positions while the rest occupy either teaching or administrative posts. In Amhara, 38 percent of health workers are employed in Woreda and zonal offices.

Table 7: Population to Physicians, Nurses, Health Assistants Ratios by Region, 2002/03

Region**	Population	Physician	Pop/ physician	Nurses	Pop/ nurse	Health Assistant	Pop/H A	Frontline workers	Pop/ FHLW
Central	-	252		606		284		0	
Addis	2,727,002	207	13164	781	3303	383	7,115	91	29,967
Harari	178,000	56	3179	129	886	62	2,871	43	4139
Dire Dawa	357,000	47	7596	130	2606	67	5,328	12	29,750
Gambella	228,002	18	12,667	156	1443	39	5,846	39	5846
Ben-Gumuz	580,000	40	14,500	212	2886	97	5,979	88	6591
Tigray	4,006,008	140	28,614	1,008	3278	885	4,527	7070	567
Oromia	24,395,000	401	60,835	2327	9638	2115	11,534	161	151,522
SEP	13,686,002	310	44,148	1299	8240	1126	12,155	469	29,181
Amhara	17,669,006	291	60,718	1,553	11,092	1220	14,483	837	21,109
Afar	1,301,001	25	52,040	195	6051	60	21,683	162	8031
Somali	4,002,000	55	72,764	345	12314	114	35,105	837	16,137
NGO	-	51	-	433	-	103	-	360	-
OGA	-	380	-	4,015	-	301	-	4927	-
Private**	-	390	-	37	-	-	-	0	-
Total	69,129,021	2,663	25958	14,160	10,083	6856	10,083	14507	4,765

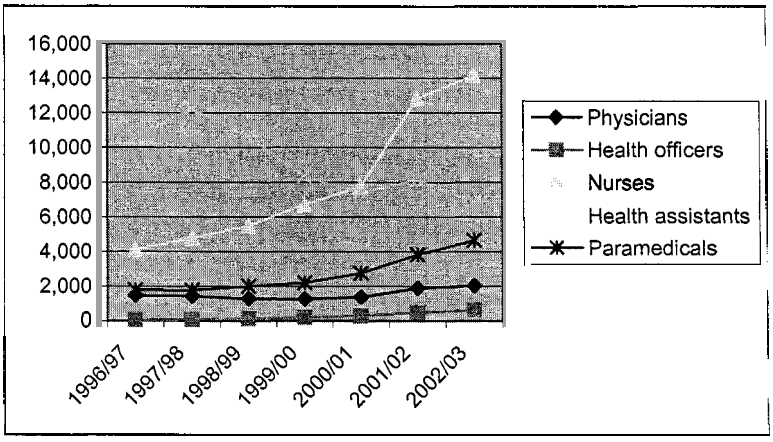
*Non-public health workers were not categorized by region.

**Data for private sector only available for Addis

There are concrete efforts to train more people and the number of health personnel are increasing.

52. Between 1996/97 and 2002/03, there was a significant increase in the number of health officers and nurses, from 30 to 631 for health officers, and from 4,774 to 14,160 for nurses. Para-medical staff increased by 159 percent, from 1,788 to 4,641. The number of physicians increased by 37 percent, from 1,483 to 2,032 (Figure 15). Yet, the population/personnel ratio has changed only marginally over time. Between 1996 and 2002, for example, the midwife/personnel ratio increased in Tigray, Afar and Addis, but remained almost unchanged in Amhara and Oromia, nor did the population/doctor ratios change in any of the large rural regions. In the context of rapid population growth and increasing attrition in the private sector and migration, changing this situation will require drastic changes in the number of trained workers.

Figure 15: Trends in Growth of Health Professionals, 1996/97-2002/03

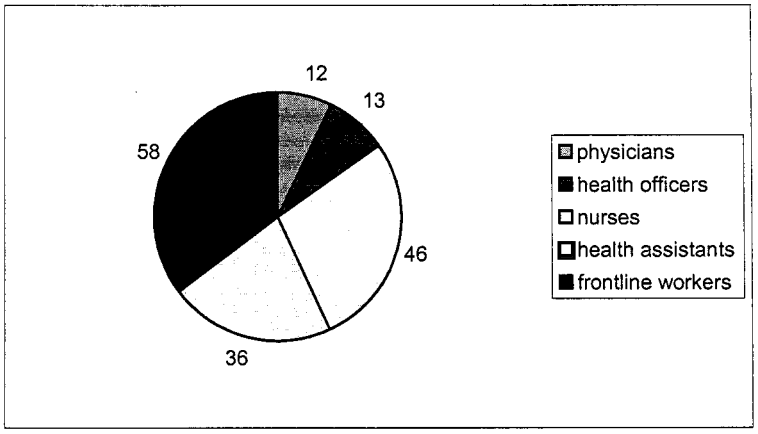


Source: MOH/PPD. Health and Health-related indicators

The health care work force is male-dominated, particularly in rural areas.

53. The health care force is male-dominated. Only about 12 percent of physicians, 13 percent of health officers, and 46 percent of nurses are female. Even among frontline workers, only 58 percent are female (Figure 16). In addition, the large majority of female health-care workers are located in the urban areas. Addis and Tigray have the highest female/male ratio (more than 60 percent) among health workers. Addis has the highest female/male ratios for doctors and nurses while Tigray has the highest female/male ratios for frontline health workers. Except for Tigray, most rural areas—where the need for maternal and child health services is the most acute--are mostly served by men. Attracting more females into the health profession faces several hurdles: the rate of secondary education is still low among girls in Ethiopia; married women tend to follow their husbands and not make independent professional moves; and unmarried women face security problems when living and working in rural areas.

Figure 16. Percentage of Females by health worker category in Ethiopia, 2002/03

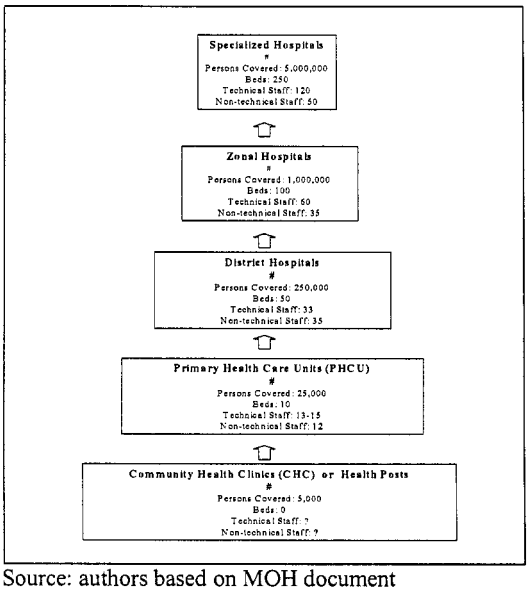


Source: data from PPD, MOH. Health and Health Related Indicators. Addis Ababa. 2002/03.

A large number of health worker categories may provide some staffing flexibility to the regions but makes evaluation of performance and quality of curricula difficult to manage.

54. The public health system has recently undergone a transition from a six-tier to a four-tier system (Figure 17), and the current staffing status is a mix between the old and the new systems. Some aspects remain ill-defined. For example, staffing norms and the actual status of health stations are unclear because they were supposed to be phased out and replaced with health posts. Yet regions have continued to construct health posts that offer both preventive and clinical services. Hence some regions have adapted the standard to their own requirements. While this approach allows some flexibility, evaluating the efficiency of human resources has been complicated by the difficulty in tracking the relationship between the various types of training and the levels of performance.

Figure 17: Structure of the Public Health Delivery System



Source: authors based on MOH document

55. At present, the Qualification Requirements for Health Professionals (1999) contains salary scales and career structures for formally trained health workers, and job descriptions have been developed for at least 90 health cadres and post descriptions for senior positions. There is some overlap among the different job categories (e.g., there are at least 10 nurse categories) and these can be somewhat confusing given the relatively minor differences between some of them. For each type of cadre, there are in most cases five defined career paths. A new health extension worker category has been recently added as a result of establishment of the Health Extension Program.

Training capacity remains inadequate relative to training targets.

56. There are about 30 training institutions located in several regions, which is quite a limited number for a country of close to 70 million people. Overall training capacity remains inadequate relative to training needs and objectives. For doctors and health officers, there are only five universities or higher-education colleges. Twelve nursing schools provide an annual training output of about 2,226 nurses. The actual numbers of trained doctors, health officers, midwife nurses and radiographers are even significantly lower–less than 50 percent for midwives—than targets planned by the Ministry of Health.

Training curricula are not well aligned with intended objectives.

57. Current training is also not well aligned with some objectives, for example, the reduction of maternal mortality. None of the various levels of midwives meet the internationally accepted definition of a midwife. Significant changes need to be made in midwifery training for it to be more in line with the FDRE's public health policies. Existing evaluations indicate that training for health officers is generally well conceived in terms of community orientation, and focuses on health promotion, illness prevention

and essential medical services. It prepares graduates to be managers in health centers and as "extensions" of physicians. However, there is a clear need to modify the curricula for junior, mono-disciplinary nursing and midwifery, and frontline cadres in order to better equip them with practical clinical skills, especially if they are expected to function in rural peripheral health units.

The newly developed health extension worker's curriculum aims at rapidly scaling up a program delivering key outreach services.

58. One important policy measure recently adopted by the MOH in 2002/03 was the development of the Health Services Extension Package Initiative. This program seeks to provide health promotion and extension services to communities, and is being piloted in five regions. It has been recently revised based on discussions between the MOH, regions, and donors in order to become more responsive to regional/community needs. Different packages of services have been discussed, but health extension services are likely to include immunization, micronutrient supplementation, and family planning, and will link with community promoters' programs as well as clinical referral care.

Salaries of health workers are high relative to GDP, although low in absolute value and in comparison with the international market.

59. Ethiopian medical specialists and general practitioners are paid significantly less in dollar terms than physicians from other countries. The average salary for a medical specialist is equivalent to about US$ 236 a month. This makes migration very attractive for doctors with prized skills on the international market, particularly surgeons and obstetricians. Yet public salaries for Ethiopian health workers appear to be relatively higher than the average in SSA (Table 8). While doctors typically receive about 8-12 times GDP as an annual remuneration in SSA, Ethiopian doctors typically receive about 18-22 times.

Table 8: Range of Salary-GDP per capita ratios for general practitioners and physicians in 6 countries

Country	General practioner	Diploma Nurse
Chad	10.3-18.8	5-10.6
Burkina Faso	7.3-23.5	4.2-13.5
Mauritania	5.67-9.45	3.2-5.7
Cameroon	4.7	1.7
Niger	10.6-20.8	5.3-12.0
Ethiopia	18.3-30	11.7-27
Source: WB HD, Africa Region, Country Status Reports.		

60. Salaries have also increased overtime, by at least 21 percent in nominal terms and about 36 percent in real terms (using 1995 prices) from 1999 to 2003. The HSDPI evaluation (2003) indicates that there were few recent complaints about salaries and remuneration. Health sector salaries seem to be more or less in line with the minimum cost-of-living increases, and favorable relative to other sectors.

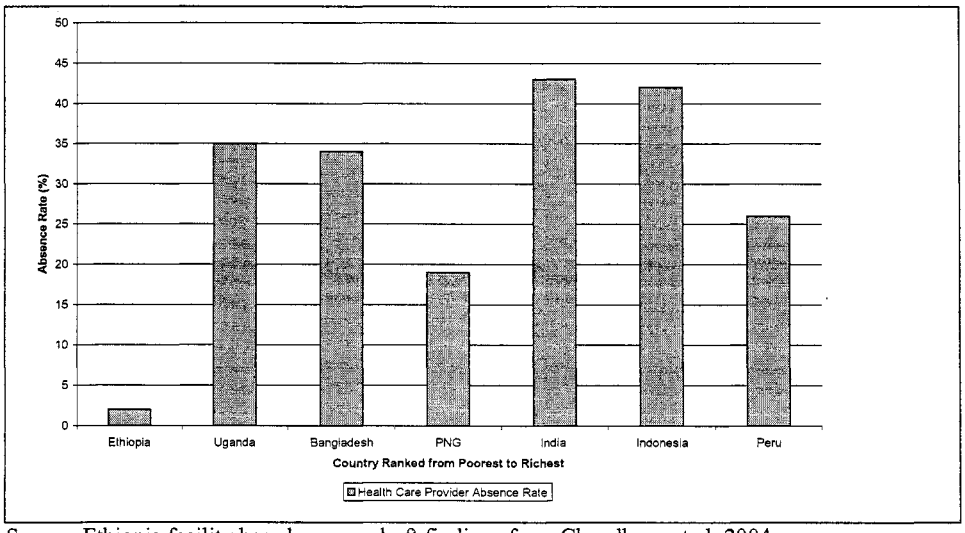
While there have been improvements in salaries and allowances, there are other issues to be addressed in order to improve job satisfaction among health workers.

61. Provision of staff housing has been repeatedly mentioned as a possible motivating factor for higher qualified personnel to stay in remote areas (HSDP reviews and focus group discussions). Training and career development are also important considerations. On the other hand, there is a general concern of contracting HIV/AIDS and this seems to be increasingly a factor in determining whether to work in clinical services. A survey on quality of health services management (PHRD 1998) also mentioned the following as key problems: work overload, staff shortages, unclear or misunderstood job descriptions, budget shortages, unfair promotions, not getting annual leave at the right time, lack of transport facilities, lack of a safety policy and protective materials, and inadequate care for sick health workers.

Low absenteeism, high motivation and relatively strong work ethics still characterize the Ethiopian health workforce.

62. Despite some observations of absenteeism and high staff turnover among doctors moving from hardship areas, as well as among staff in Regional Health Bureaus, the rate of absenteeism in Ethiopia is relatively low compared to other countries (Figure 18). This may be explained by recent salary increases and the implementation of incentive schemes including hardship allowances. Insights from recent focus groups indicate that there is still a relatively high work ethic among health workers in Ethiopia. Non-salary motivating factors include the more visible opportunities for upgrading and post basic training, as well as an impression that "things were gradually improving".

Figure 18: Health Care Provider Absence Rate across 7 countries



Source: Ethiopia facility based survey, draft findings from Chaudhury et al. 2004

Health workers, however, are often not willing to be posted in rural areas and complain about their living conditions when out-posted.

63. According to the preliminary results of a contingent valuation exercise undertaken by Serneels et al. (2004), a mark-up of about 50 percent in monthly wages would adequately motivate about 80 percent of the current nursing students to serve in rural areas. Approximately 60 to 70 percent of the current 4th year medical doctor students would be willing to serve in rural areas if their current starting salary increases by 50 percent.

64. Human resource policies and practices would also benefit from better enforcement and transparency. Health worker focus group discussions have expressed concerns regarding favoritism with respect to postings, training, promotion and obtaining release from the public sector. It would be important to address these concerns because they influence how health workers make career and labor market choices

Focus group discussions among health workers also underscore the need to improve accountability in both private and public health sectors.

65. The public sector has recently introduced a new system of performance management which links salary increases, promotions, and training opportunities to health worker performance. It would be important to assess its impact on health worker behavior and performance, and how it can be improved further to make health workers accountable to users of health services.[8] The deepening decentralization to the woredas may encourage more community or bottom-up approaches to improve accountability (Lindelow et al 2004)

Ethiopia still has very few hospital beds, and these are largely concentrated in Addis Ababa.

66. Ethiopia has a very low number of hospital beds in relation to its population. There are approximately 0.17 beds per 1,000 people, less than a fifth of the average for SSA of 1.1 beds per 1,000 population (WDI 2003). Addis, the most developed region, has the largest number of beds, followed by the larger regions (Tigray, Oromia, SNNP, and Amhara). However in terms of bed per population ratios, 5 regions (Oromia, SNNP, Amhara, Somali, and Afar) have bed/ 1000 population ratios equal to or lower than 0.10 per 1000.

Half the existing health facilities need serious repair or upgrading.

67. In a detailed assessment of a sampling of health facilities in 1995, over 50 percent reported leaking roofs, electrical problems, plumbing and sanitary problems. An overall assessment of building conditions showed that 28.8 percent and 15.1 percent needed major repair or total replacements respectively. The availability of water was

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[8] Some users in focus group discussions have expressed their dissatisfaction with lengthy waiting times and impolite treatment from health workers.

inadequate and scarce in about 30 percent of health centers. Minimal power supply and attempts for alternative power supply for the facilities did not yield good results. Rehabilitation of health facilities is often limited to preventive maintenance, such as replacing the damaged part rather than rehabilitating functional flaws, correcting the shortcomings for service delivery and adapting it to new health care technology or anticipated future expansions.

Availability of common medicines is generally good but remains a problem in rural areas.

68. In general, it appears that the availability of essential drugs has improved, but shortages of drugs are still common. There are significant differences between various missions and evaluations as to the status of drug and equipment supply in the public sector. A 2002 study indicates that government hospitals have the highest number of selected indicator drugs (82 percent), followed by private drug retail outlets and health centers (72 percent for both). Results for private facilities were unexpectedly low. Private hospitals also have a lower availability of essential drugs than public hospitals (63 percent compared to 72 percent).

Shortage of qualified pharmacists and druggists in public facilities also remains a serious problem.

69. There is a shortage of pharmacists and druggists in government facilities; they tend to seek employment in the private sector where salaries are more attractive. In 2000, approximately 500 pharmacists were working in the pharmaceutical sector, of which only 121 were in the public sector. The number of pharmacy technicians increased significantly in the public sector to compensate for the lack of trained pharmacists. About 26 percent of the surveyed government hospital pharmacies are being managed by druggists or pharmacy technicians, while another 22 percent are being managed by either nurses or health assistants. Forty- eight percent of surveyed health center drugs stores are managed by either nurses or health assistants, and another 7 percent are being managed by non-health professionals. However, 98 percent of private pharmacies are managed by pharmacists, and about 78 percent of private drug stores are managed by the required druggists or pharmacy technicians.

The number of health-care facilities has increased, but utilization of curative services has not kept pace.

70. The trend of utilization of services has not matched the steady increase in facilities. Outpatient visits slightly increased by 3 percent from 27 visits per 100 persons in 2001 to about 29 consultations per 100 persons in 2002/03. Utilization is less than a third of the HSDP goal for 2004/05 of 1.0 visit per person per year. The top 10 leading causes of outpatient visits in 2002/03 account for 50.5 percent of total visits. They include consultations related to major causes of mortality such as malaria (15.5 percent of outpatient visits), pneumonia (5.6 percent of outpatient visits), respiratory system infections (5.7. percent), and dysentery (4.8 percent of outpatient visits). Few consultations occur for diarrhea which remains the main cause of under–five mortality.

71. The national average bed occupancy rate (BOR) data is 41.4 percent, based only on data from 5 regions (Tigray, Somali, Benshangul Gumuz, SNNPR, and Harari) and the Center in 2002/03. No data was available for Addis in 2002/03 but it was the region with the highest BOR at 175.2 percent in 2001/02. Somali has the lowest BOR (7.7 percent) (MOH/PPD 2002/03 and 2000/01).

The quality of care is highly variable.

72. Representative data on technical quality of care is quite limited. A quality index drawn from the 2000 DHS 2000 based on 7 types of services (measurement of weight, height measured, blood pressure taken, blood sample taken, urine sample taken, told about pregnancy complications, and told where to go for pregnancy related complications) a pregnant women received during the ante-natal care, shows that quality of antenatal care differs significantly between urban and rural areas. Table 9 shows that out of the highest possible score of 7.0, the quality of care index in urban areas was 4.5 while only 2.4 in rural areas. This index also varied by region: Addis had the highest (5.1), while Afar had the lowest (2.0). Poor women also received a lower quality of care, although this difference was less than the geographic variation.

Table 9: Variation in quality of care of maternal health services* by wealth, region and urban residence

WEALTH QUINTILES	Score	SD
Poorest	2.2	1.7
2nd Poorest	2.3	1.8
Middle	2.3	1.9
2nd Richest	2.5	1.8
Richest	4.3	1.9
REGIONAL VARIATION		
Tigray	2.9	2.1
Afar	2.0	1.9
Amhara	2.4	2.1
Oromiya	2.5	1.8
Somali	3.7	2.3
Benishangul-Gumuz	2.6	1.8
SNNP	2.5	1.8
Gambela	3.1	1.8
Harari	4.4	1.9
Addis Ababa	5.1	1.4
Dire Dawa	4.0	2.2
URBAN/ RURAL		
Urban	4.5	1.8
Rural	2.4	1.8
*Note: maximum seven points for seven items: weight, height measured, blood pressure, blood sample, urine sample, told about complications, and told where to go for complications)		

In general, clients are satisfied with the care they received from NGO, private and public health facilities. However, a higher percentage considers the care they receive from public facilities to be below average.

73. In 2001, about 52 percent of respondents perceived the quality of care they received as good. However, about 30 percent of households who visited a government facility consider the quality of care they received to be below average. A lower percentage of households who obtained care from NGOs (14%) and private facilities (12%) consider the quality of care they received to be below average (Table 10).

Table 10: Respondents perception of quality for different providers

Rating	Public		NGOs		Private		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq	%
Very poor	94	10	5	4	6	3	103	8
Poor	188	20	11	10	18	9	215	17
Neutral	132	14	19	17	28	14	156	12
Good	432	46	56	51	100	50	648	52
Very good	94	10	23	21	50	25	132	11
Total	940	75	113	9	201	16	1,254	100
Source: MOH, HCF. Estimating Willingness to pay for health care in Ethiopia.2001								

Clients mainly complain about the lack of facilities and drugs, and the lengthy wait.

74. The main difficulties cited were lack of facilities (42.7 percent of the individuals), financing (33.8 percent), and essential drugs (23 percent). A consistent and sufficient availability of drugs was considered an important indicator of quality of service. About 37 percent of households who visited public health facilities were dissatisfied because drugs were not consistently available. Other main reasons cited for dissatisfaction with the quality of care in public health care facilities included: inadequate skills/knowledge, lack of courtesy on the part of personnel, inconvenience of lengthy procedures, inadequate availability of diagnostic facilities, and the lengthy waiting time. The waiting time between arrival and being seen is very high, averaging 7 hours at government hospital outpatient departments, 6.2 hours at NGO facilities, and 2.7 hours in other private facilities. However, private providers were also considered inferior to large government hospitals because they provide limited laboratory and x-ray and surgical services. They were also cited for excessive charges by requiring more tests and expensive drugs.

Public and private spending on health

Based on National Health Accounts data, both private and public spending have been on the increase between 1995/96 and 1999/2000.

75. Ethiopia's total health expenditure remains dramatically low; the per capita health expenditure has been estimated at around US$ 5.6 in 2000. Expenditures on health have substantially increased between 1995 and 2000, from US$ 4 to US$ 5.60, and this increase occurred in both public and private spending. However, public spending grew faster largely due to external sources, mainly from donors.

Table 11: National Health Accounts--Evolution of total, public and private spending 1996/1997-1999/2000

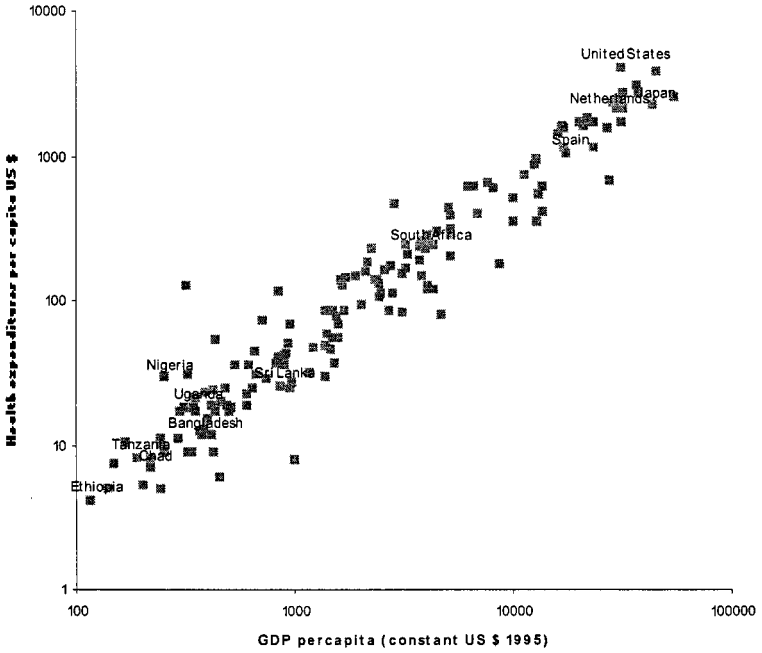
	NHA 1: 1995-1996	NHA 2: 1999-2000	Variation 1995/96-1999/2000 (%)
Total spending as a share of GDP	4.1 percent	5.3 percent	+34.1
Total spending US$	4	5.6	+40
Total spending PPP	25	2.7	+32
Public spending as a share of GDP	1.7 percent	2.74	+61.1
Public spending US$ per capita	1.65	2.77	67.8
Public spending PPP	10.3	1.2	+57.2
Private spending as a share of GDP	2.4 percent	2.8	+16.6
Private spending US$ per capita	2.3	2.82	+22.6
Private spending PPP	14.4	16.5	+14.5

Source: FMOH, NHA, 1995-1996; FMOH, NHA, 1999/2000

However, per capita health spending remains among the lowest in the world.

76. The overall per capita health spending in Ethiopia is among the lowest in the world (Figure 19) and is significantly lower than the SSA average of US$ 42. The recent increase has only slightly narrowed the gap. This low level of spending mainly reflects a very low resource base or GDP. Ethiopia's total health spending as a percentage of GDP (4.1 percent) is comparable to the low-income countries' (LIC) average. Ethiopia's private health spending share of GDP of 2.8 percent remains close to the average SSA experience (2.6 percent). However, the private health expenditure share of GDP in Ethiopia is rather on the high side when compared to the LIC average of 1.1 percent.

Figure 19: Per capita expenditure on health in various countries vis-à-vis GDP



Funding of the health sector in Ethiopia is shared equally between the public and the private sectors.

77. According to the most recent NHA (1999/2000), public spending in the health sector, both domestic and from external sources, represents the largest share of total spending (49 percent) and amounts to US$ 2.77 per capita. Private consumption through out-of-pocket spending also represents a large share of this spending (36 percent) or US$ 1.96. Out-of-pocket spending by individuals includes direct payments to private practitioners, traditional healers, private pharmacies, and government facilities in the form of user charges. NGOs contribute a much lower although not trivial amount, their contribution reaching nearly 10 percent of all health spending. However, the contribution of private enterprises accounts for only 5 percent of health spending (Table 12).

Table 12: Ethiopia: National Health Accounts Data for 1999/2000

	Millions Birr	Share of Total	Birr per person	US$ per person (1999/00)
Total expenditure on health	2,931		46.1	5.6
General government expenditure on health	979	33%	15.4	1.87
Central government				
State, regional, provincial authorities				
Donors	471	16%	7.4	0.9
Private expenditure on health	1480	50%	21.	2.6
Private enterprises	133	4.5%	2.06	0.25
NGO's and non-profit institutions (local and international)	290	9.8%	4.5	0.55
Net out-of-pocket spending on health	1,057	36%	16.6	2.02
Sources: Authors' estimates based on various sources including NHA 1999/2000, Min. of Health, Min. of Finance, IMF Statistics, PER 2003.				

Majority of total health spending is allocated to curative care.

78. According to the recent NHA, about 64 percent of total health resources was spent on curative care and 25 percent on promotive and preventive health care (PPHC) (Table 13). Administration costs, which mainly include those of federal and regional health administrations, comprise 8 percent of total spending while very few resources were spent on training (2 percent) and research and development (1 percent). Pharmaceuticals and medical supplies constitute about 38 percent of total expenditures 74 percent of which were financed by households.

Table 13: Expenditure by Major Functions (amount and as % of total expenditures)

	Birr (millions)			% Share
Functional Classifications	Service Delivery	Expansion	Total	Total
Administrative Expenditure	221.2	7.0	228.2	8%
Curative Expenditures	1673.4	211.2	1884.6	64%
Inpatient	254.3	153.9	408.2	14%
Outpatient	295.4	57.3	352.7	12%
Pharmaceuticals and medical supplies	1,123.7		1,123.7	38%
Promotive and Primary Health Care	516.9	214.0	730.9	25%
Research and Development	21.5		21.5	1%
Training	57.5	8.5	66.0	2%
Total	2,490.4 (85%)	440.8 (15%)	2,931.2	100%

Source: FMOH. NHA, 1999/2000.

Public expenditures in Ethiopia have increased significantly in recent years.

79. Based on MOFED data, overall public spending has been increasing steadily over the last few years. Total government expenditures increased by 90 percent in nominal terms and 70 percent in real terms from 1995 to 2002. The share of public expenditures to revenue has been at about 30 percent of GDP on average from 1997 to 2002, placing Ethiopia among the SSA countries with the largest level of relative public spending.

Public spending on health has also increased albeit at a slower pace as compared to total public spending.

80. The public expenditures monitoring system also captures a marked increase in public spending on health. Public spending on health increased by 80 percent in nominal terms and by 58 percent in real terms (using 1995 as the base year) between 1995 and 2002. Per capita health expenditures in real terms increased by 10 percent over the same period. However, public spending on health remains low at approximately 5% of total public spending.

Both capital and recurrent expenditures on health have increased although the rate of increase of capital expenditures is greater than recurrent expenditures from 1990-2002. Questions remain as to whether recurrent expenditures are appropriately allocated among investments made.

81. According to MOF data, capital expenditures increased by 128 percent and 102 percent in real terms from 1995-2002. Average capital spending per capita remains low at about US$ 0.45 from 1995-2002, peaking at US$ 0.47 per capita in 2001/02 in nominal terms and US$ 0.42 in real terms. During the same period, recurrent spending increased more modestly by 59 percent in nominal terms and 42 percent in real terms. Similar to capital expenditures per capita, average annual recurrent spending per capita remains low at about US$ 0.88 from 1995-2002, reaching US$ 0.91 in 2001/02 in nominal terms and US$ 0.81 in real terms. These figures are substantially lower than the average per capita recurrent expenditures of low-income countries (US$2.50). The combined increase of both capital and recurrent expenditures is a positive development. However, the latest NHA results (1999/2000) indicate that capital expenditures (expansion of health facilities and equipment) comprise the largest share of total public expenditures (27 percent). HSDP reviews indicate that facility expansion tends to be unaccompanied by sufficient medical supplies and health workers to provide good quality health services.

Expenditures on inputs have been relatively stable, but there are some indications that allocations to some priority programs, such as immunization, have decreased.

82. The Public Expenditures Review (2003) shows a relatively stable distribution of public spending over time. Wages and salaries represent the largest item of public spending. Between 1995/96 and 2000/01, there was a progressive shift in spending composition, with an increase in the percentage allotted to salaries. As a result, in 2000/01, approximately 61 percent of the recurrent budget paid for salaries, while 26 percent went to medical materials and supplies, including medical equipment.

83. Funding of basic immunization services appears to have declined over the last five years.[9] A large share of public money (about 40 percent) is allocated to hospital care each year. This pattern of higher spending on hospitals is often found worldwide and the Ethiopian case is not the most extreme, with many countries spending 60 percent and more on hospital care. Given that most diseases that impose a heavy burden on Ethiopians are those that can be prevented or treated on an outpatient basis in primary care settings, it is likely that additional activities at the primary level will have a larger impact on the health status than at the hospital level. As the Government's budget now projects a shift in emphasis toward primary level care as a result of the recently established Health Extension Program, it will be useful to monitor whether future actual expenditures reflect the shift toward the newly established health extension program (which include the immunization program).

Spending rates are still low in all regions, justifying the reluctance of the Government to increase public funding for health.

84. However, even when budgets allocated to health increase, low budget execution often undermines service delivery. Only about 41 percent of regional budgets ranging from 26 percent in Somali to slightly over 54 percent in Afar and Tigray were spent in 2000/01. Similarly, based on the available information from 9 out of 11 regions for 2001/02, execution rates ranged from 30 percent in Somali to over 92 percent in Addis and Amhara.

Almost all regions spent a larger share of their recurrent budgets compared with their capital budgets while the Federal MOH spent a significantly larger share of its capital budget.

85. With the exception of Afar, all the other regions performed significantly better in spending their recurrent budgets compared to their capital budgets in 2002/03 (Table 14).

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[9] Funds for vaccines was reported to be Birr 20 million or less than 7 percent of government recurrent health expenditures) in EFY89 (1997/98) and except for EY92 has been lower in every year since. In EFY94 (2001/02), expenditures on vaccines was only Birr 13 million, representing less than 3 percent of the government's recurrent health expenditure. It is possible that vaccines financed by external agencies in the capital budget have to some extent substituted for domestic funding, but the available data make it difficult to draw conclusions (PER 2003).

Table 14: Budget Execution Rates, Recurrent and Capital by Region, 2002/03

Region	Recurrent expenditures/ recurrent budget (%)	Capital expenditures/capital budget (%)	Total Exp/budget (%)
Addis Ababa	136	3.2	52
Afar	21	42	27
Amhara	51	2	35
Benshangul-Gumuz	79	30	59
Dire Dawa	89	27	62
Gambella	79	45	67
Harare	83	38	74
Oromia	26	26	26
SNNPR	37	19	29
Somali	113	24	52
Tigray	99	25	78
Federal MOH	92.9	702.3	270
Source: MOFED cited in MOH/PPD Health and Health Related Indicators. 2002/03. *Expenditures are based on pre-actual (preliminary information)			

86. This could mean that capital needs relative to implementation capacity in the regions tend to be overestimated, and/or there could be factors such as donor processes which impede faster execution of capital budgets at the regional level. The other possible causes of over-all underspending include inadequate capacity for program planning/budgeting and management at the regional, zonal, and Woreda levels. The problem of under-reporting could also be a contributing factor. The PER (2003) mentions that donor inflows tend to be overestimated in the budget at the beginning of the year but actual expenditures are under-reported.

Regional spending varies considerably

87. In 2000/01, per capita expenditures across regions ranged from Birr 4.7 (US$ 0.55) in Somali to Birr 45.3 (US$ 5.3) in Gambella. Spending has been high in Benishangul-Gumuz, Gambella and Harari. These are small regions that are also less populated than the others and their high per capita health expenditures could reflect the costs of administrative overhead. Expenditures per capita in the three urban regions (Addis Ababa, Dire Dawa, and Harari) are also relatively high because these regions have a relatively larger number of hospitals and serve as referral points for service seekers from other regions. The most populated regions such as Amhara, SNNPR, and Oromia also have relatively lower per capita health expenditures. Among the populated yet rural regions, Tigray spends the most on health on a per capita basis.

Tigray seems successful in translating public health expenditures into results.

88. No systematic relationship can be found between the level of expenditures and the level of utilization of services. For example, immunization coverage in Benshangul and Harari are low, while attended births only marginally increased over the last years for both regions as well as for Gambella. The three largest regions (Oromia, SNNPR, and

Amhara) display a similar low level of performance with only Birr 6-7 per capita of public funds to finance their health services. Tigray appears more successful in translating health expenditures into improvements in high impact health interventions such as immunization and attended deliveries. Its performance can be attributed to its emphasis on community-oriented approaches—it has the largest number of frontline workers compared to all the regions. The region also revised its health center staffing standards based on location, having thrice as many surgery-related staff assigned to remote HCs while physicians and nurses could be added in the urban HCs to deal with outpatient needs. However, stunting and underweight rates among under-five-year old children in Tigray are among the highest across the regions.

Donor funding has been flowing through extra-budgetary channels and is difficult to capture.

89. From 1997-2001, the health sector received a yearly average of US$ 57 million or 9.5 percent of the total aid available to all sectors. Meanwhile, agriculture had the highest share of annual aid, at 16.2 percent (US$ 85 million). External assistance reaches the government system along three channels. Loans are included in the budget and accounts, and most budgets support non-earmarked grants and some other grant funds. This is usually done on the basis of commitments presented by donors during budget preparation and are often not reflected in the government account. An unknown amount of donor funds are provided in kind such as medicines; these resources are usually not captured in the budget process. This affects the GOE's ability to accurately determine whether it is allocating an appropriate amount of its own budget for a specific item or budget category.

Cost-recovery represents a small share of expenditures in the public health system.

90. Cost recovery has been part of Ethiopia's health system since the early 1950s. Nominal amounts charged range from small fees (Birr 1 to 5) for outpatient registrations, consultations, laboratory tests, and other routine diagnostic procedures, and inpatient beds, to higher fees (Birr 10 and above) for prescription drugs and inpatient surgical procedures. No changes were made to this policy until 1998, with the initiation of the new Health Care and Financing Strategy. When originally introduced, fees recovered a substantial portion of the total costs of providing the services. However, the level of fees remained unchanged for almost 50 years and today it has become almost symbolic. Moreover, close to 60 percent of users receive exemptions. As a proportion of GOE health expenditures, fee remittances to the MOF have declined from 16 percent in 1986 to less than 6 percent in 1995/97. With the exception of special pharmacies and some hospitals in SNNPR, all fees collected are remitted to Regional Finance Bureaus who forward them to the MOF where they are accounted for as general government revenue.

The poorest groups benefit little from public spending.

91. Table 15 shows that the richest to poorest ratios in terms of utilization are lowest for health posts and health stations/clinics (0.2 and 0.5), slightly higher for health centers (1.6), and highest for hospitals (about 6). However, the combined share of health centers and clinics in terms of public recurrent expenditures is about 30 percent in 2000/01—lower than public recurrent expenditures allocated to hospitals (38 percent). There are marked differentials by income quintile across households in the use of basic health services. The poorest households consistently have the lowest utilization rates for immunization, assisted deliveries, and antenatal care by a trained professional. The richest to poorest ratio (27) is highest for the use of assisted deliveries. About 24 percent of women in the richest households have had an assisted delivery compared with less than 1 percent of women in the poorest households. Nonetheless *it is also important to note that while income differentials with regard to access are high, absolute levels of use are still low even among the richest households.* While some incremental increase can be gained by reallocating spending from hospitals to PHC, over-all public health expenditures would need to be increased to improve the quality and accessibility of health services.

Table 15: Use of health facilities and services: national data, per quintile

	Q1	Q2	Q3	Q4	Q5	Richest to Poorest Ratio
% Use of health posts (WMS)*	4.8	5.1	10.0	5.2	0.9	.2
% Use of health stations (WMS)	49.5	53.3	44.5	45.9	26.2	.5
% Use of health centers (WMS)	26.3	20.3	23.4	28.5	41.9	1.6
Hospitals (WMS)	3.2	5.2	6.7	4.9	18.4	5.7
Use of immunization , all vaccinations received (DHS00)	6.7	5.6	15.4	15.1	33.3	4.9
Use of assisted deliveries (DHS00)	0.9	1.5	1.4	4.8	24.3	27
Use of antenatal care by trained professional (DHS00)	15.3	16.4	20.6	28.7	58.2	3.8
Source: WMS, PER03, DHS2003						

Towards the future: progressing towards the MDGs

Identifying pathways for health services to contribute to the MDGs.

92. The Government of Ethiopia has been assessing the potential contribution of the planned expansion of health services in order to reach the MDGs. The cost and benefits of the various policy options envisioned by the Government for delivering high-impact health interventions have been analyzed by examining:

- the cost and potential impact of strengthening the delivery of and demand for high impact interventions under different health service delivery options, taking into consideration the current physical access and human resource constraints faced by Ethiopia;
- various health financing scenarios based on reasonable assumptions of economic growth, increase in public revenue, allocation of public funds to health services, and potential contributions from households and the NGO sector; and
- implementation issues in the context of decentralization, particularly the role to be played by each level of the public sector, as well as the contribution of the private sector.

93. This analysis was conducted using a specific tool developed by the World Bank, UNICEF and WHO: "Marginal Budgeting for Bottleneck (MBB)," created specifically to assess the marginal cost and impact of service packages delivered through three major service delivery modes: Population Oriented "Outreach" (Health services extension package), Community/ Family Oriented services (Community Health Promoters), and clinical care (hospitals and health centers and stations).

94. Table 16 shows that the three delivery mode packages respond differently to health coverage increases and therefore show varied returns for reductions in both child and maternal mortality. The cost required by each delivery mode also differs substantially.

The SDRP-proposed health services extension package offered through health posts is affordable, which may lead to significant decreases in under-five mortality and number of maternal deaths. It may help serve as the backbone for more accessible health services.

95. Expanding access to key professional preventive services delivered by two female health extension workers, trained for one year through the outreach component of the health services extension package, will serve as the "backbone" of the Ethiopian health system. The health extension (HSEP) "Population Oriented" delivery approach[10] could potentially be cost-effective, reducing under-five mortality by 9 percent, at a cost of US$0.34. However, its impact would likely be limited on the maternal mortality ratio (only 2 percent) because antenatal care contributes only marginally to maternal mortality as defined in the MDG. The use of this indicator obscures the high contribution of HSEP

[10] For HSDP targets, reducing the bottlenecks by 90% in outreach.

interventions on the lifetime risk of mothers dying (i.e., family planning) with outreach services potentially reduces this lifetime risk by 27 percent.

Only a substantial effort in supporting outreach- and community-based services will address the most important causes of child mortality and mothers' lifetime risk of dying.

96. If an incremental US$1.00 per capita per year can be mobilized for Ethiopia's health services, investments would be better channeled towards the outreach and community services (HSEP and Community Promoters package) that were tested with success in Tigray and SNNPR. Together those strategies may potentially reduce both the under-five mortality ratio and mothers lifetime risk of dying by approximately 30 percent, based on realistic assumptions regarding increasing access along HSDPII targets. The outreach (Health Extension) package in Ethiopia will also build a foundation for community-based activities. However, the interventions that are delivered through these delivery modes will have very little effect on the maternal mortality ratio. Including clinical care-with assisted deliveries and emergency obstetrical care would substantially contribute to the reduction of the maternal mortality ratio and mothers' lifetime risk of dying by 30 percent each, and reduce under-five mortality by another 10 percent. As indicated previously, this would, however, imply substantial investments in clinical services on top of the other approaches.

When employed within the framework of current Ethiopian health policies, and using the health services extension objectives of HSDPII, the contribution of health services to reaching the MDGs would be considerable.

97. For a cost equivalent of between 50 percent to 200 percent of the current public spending on health, health services would contribute to reducing child mortality and the life time risk of mothers dying by approximately 40-45%. Yet this would not be sufficient to reach the MDGs. More ambitious objectives in terms of coverage with health service delivery that would allow Ethiopia to reach all the MDGs, would require significantly more resources-mainly human and financial as shown in Tables 16 and 17. Reaching the health MDGs implies not only a dramatic expansion of the production of key high impact health services, but also the implementation of mechanisms to ensure adequate demand for and use of those services. Five steps of further service expansion have been considered, assuming there are no financial constraints. Each step allows for the progressive upgrading of services, strengthening both supply and demand for high impact services.

98. Limiting the spread of HIV, along with reducing child mortality by two-thirds, may be achieved at a cost of US$5 per capita, doubling current total health expenditures. Reaching the malaria MDGs for adults would add about US$1.72 per capita. Reaching the maternal health MDGs would probably be the most challenging in terms of mobilizing human resources—requiring an additional US$ 3.5 per capita. Finally, expanding referral and hospital care, and adding the treatment of chronically ill patients-including Highly Effective Anti-Retrovirals-for HIV patients, would be the most expensive component amounting to an additional US$9.8.

Table 16: Estimated impact and cost of different service delivery arrangements for all three modes: Health services extension package, Community Promoters, Clinical Care

Delivery mode	Intervention package	Scenario 1: Reduce demand, quality and continuity bottlenecks by 90%, base access				Scenario 2: Reduce demand, quality and continuity bottlenecks by 90% , HSDP targets				Scenario 3: Increase demand, quality and continuity bottlenecks by 90% , Access maximized			
		U5MR Reduction (1)	MMR Reduct. (2)	Lifetime Risk of Dying (3)	Cost (per capita)	U5MR Reduct. (1)	MMR Reduct. (2)	Lifetime Risk of Dying (3)	Cost (per capita)	U5MR Reduction (1)	MMR Reduction (2)	Lifetime Risk of Dying (3)	Cost (per capita)
1. "Health Promoters strategy" Family/ Community Oriented Services		0%	0.2%	0%		1%	1%	1%		4%	2%	2%	
	Preventive Infant & Child Care	16%	0%	0%		16%	0%	0%		17%	0%	0%	
	Management of Maternal, Neonatal & Childhood Illness	6%	0%	0%		8%	0%	0%		9%	0%	0%	
	Total Family /Community Care	20%	0.2%	0%	$ 0.47	23%	1%	1%	$ 0.77	27%	2%	2%	$ 1.63
2. "Health services extension package" Population Oriented outreach or scheduled clinic sessions	Preventive care for Adolescent Girls & Women of Childbearing age	5%	0%	19%		6%	0%	26%		8%	1%	35%	
	Preventive Care for Pregnant and Newborn	0%	1%	1%		1%	2%	2%		1%	3%	3%	
	Preventive Infant & Child Care	1%	0%	0%		3%	0%	0%		4%	0%	0%	
	Total Outreach	6%	2%	21%	$ 0.20	9%	2%	27%	$ 0.34	13%	3%	36%	$ 0.59
3. Clinical individual oriented Care (needs to be continuously available)	Preventive Maternal & Neonatal Care	3%	4%	4%		5%	7%	7%		6%	9%	9%	
	Clinical Primary Level Illness Management	5%	0%	0%		8%	1%	1%		10%	1%	1%	
	Clinical first referral (PHC/CHC) Illness Management	2%	7%	7%		3%	10%	10%		3%	11%	11%	
	Clinical second referral (FRU/ DH) Illness management	0%	11%	11%		0%	16%	16%		0%	18%	18%	
	Total Clinical	9%	21%	21%	$ 0.96	13%	30%	30%	$ 1.96	17%	34%	34%	$ 2.65
Total Three Modes		33%	22%	37%	$ 1.63	41%	32%	49%	$ 3.08	49%	37%	58%	$ 4.87

Source: authors' calculations
(1) deaths of children less than 5 over one thousand live births (2) pregnancy related deaths of women over hundred thousand live births (3) pregnancy related deaths of women over hundred thousand women 15-49 (4) marginal cost per capita in US$

The health sector's contribution to achieving the health MDGs is large but would need inputs from other sectors.

99. According to the MBB simulations, the predicted progress in health services would speed up the pace of under-five mortality ratio reduction. Yet the current government targets are insufficient in achieving the two/thirds reduction goal of under-five mortality ratio in MDGs through enhancing supply of and demand for health services. Past experience has shown that despite planned improvements in efficiency of the sector, most likely improvements in the health sector alone under SDPRP objectives would not achieve both the child and maternal mortality MDGs.

Table 17: Scaling up coverage with health services in Ethiopia: resource implications, costs and potential benefit

Ethiopia's strategy	Expansion of facilities (private facilities included)	Human Resources Implications (for both public and private sector)	Average incremental cost per capita per year over 2005-2015	Estimated Impact	MDG achieved
Step 1: Information and social mobilization for behavior change	Increase in number of radios at kebele level by 308,239	Communication specialists and peer educators increase by 5 fold	US$ 1.5	HIV incidence decrease from 0.66 to 0.55 per 100,000 Reduction of U5MR of 5-10%	Reverse trend in HIV incidence Stabilize trend in HIV prevalence
Step 2: Health Services Extension program	# of health posts increases from 1,386 to 13,635 (9.8 fold increase)	Health Promoters (2 weeks training per year) increase from 14,527 to 260, 000 (17 fold) Health Extension Worker from 2800 in 2005 to 23,225 in 2015 (8.3 fold) # nurse midwives increases from 1,559 to 10,590 (5.8 fold)	US$ 3.54	Reduction of child mortality by 60-70% Reduction of maternal mortality by 10% Reduction of maternal deaths (Lifetime Risk of dying) by 40% Decrease child and maternal mortality due to malaria	Decrease Under 5 and Infant mortality by two third
Step 3: First level Clinical Upgrade:	# of Health Centers increases from 423 to 2590 (6 fold)	Nurse midwives increases from 1,559 to 15 088 (8.7 fold)	US$ 1.72	Reduction of mortality due to malaria by more than 50% Reduce morbidity due to STI	Further decrease morbidity and mortality due to malaria
Step 4: Comprehensive emergency obstetric care expansion and upgrade	# of Health Centers offering CEOC increases from less than 100 to 3121.	Number of nurse midwives increase from to 1559 to 19,443 (by 11.5 fold) Number of health officers increase from 632 to 4,154 (by 5.6 fold)	US$ 3.50	Reduction of maternal mortality by 75% Reduction of child mortality by 70%-80%	Reduce maternal mortality by 75%
Step 5: Referral expansion and upgrade	# of second referral hospitals increases from 36 to 419. (11.6 fold)	Number of nurse midwives increase from 1559 to 22,964 (by 14 fold) Number of medical doctors increase from 2,032 to 9,626 by 4.7 fold	US$ 9.79	Reduce mortality of HIV+ patients Reduce child mortality by 75-85%	
Total:			US$ 20.05		

NB: Health Extension workers: 1 year of training in vocational schools; Nurse midwives: three years training BA level; Health Officers 4 years of training, Master Level, MDs, 7 years of training Doctoral Level.

In moving forward, Ethiopia would need to build on its existing strengths. The Government is committed to poverty reduction and recognizes that health is a vital component of its Sustainable Development and Poverty Reduction Program (SDPRP).

100. Despite being one of the poorest countries in the world, Ethiopia has been able to reduce infant and child mortality rates, as well as malnutrition rates. The level of stunting of under-five children is still, however, among the highest in the world. It has been able to increase coverage rates for certain interventions such as polio immunization and vitamin A supplementation, as well as creating awareness for family planning and HIV/AIDS. *While it has made achievements in these areas, it has not been able to make the same inroads in other low-cost interventions such as the use of ORT during diarrhea episodes and use of bed nets.* Improvements are needed in information and service delivery channels.

101. Chapter 8 outlines the following policy issues for discussion with the GOE:

(a) *Although utilization rates of health services vary based on income levels, absolute utilization rates are still low across all income quintiles.* Thus there is the need to provide both supply and demand side interventions to address low utilization rates of health services. The budgeting-impact simulations in chapter 7 indicate that investing in demand side interventions may buy more for the money than expanding access and quality only. Creating awareness can help in generating demand for services. *What other demand side interventions could also be potentially promising in Ethiopia?* Can cash transfers or vouchers be undertaken on a trial basis? Can these transfers be linked to the use of other activities e.g. a free bed net for women who attend antenatal care, or packets of ORT given to children who come for immunization?

(b) Health personnel: (i*) the skill-mix of health personnel given that Ethiopia would have to rely on a predominantly lower-skill based population in the short to medium term and the medium to long-term strategy for upgrading their skills; (ii) the need for a strategy to attract and retain staff in rural areas.* This would need to include career development and training opportunities, and also address staff deployment and rotation issues. Incentives are needed to attract and retain highly skilled health personnel. Take for example, SNNPR, which has provided additional allowances to staff working in remote areas while also crediting a year of service in these areas as two years of service.

(c) Roles of the *private sector and NGOs vis-à-vis the public sector* and a strategy for providing a more enabling environment for NGOs and the private sector

(d) *There is general agreement that Ethiopia's per capita allocations and spending on health are very low and there is a need for increased investments in health.* The Marginal Budgeting for Bottlenecks Model makes a very good case for increasing funding to health services. For example, just an increase in USD 1.6 per capita invested in community-based health promotion activities could reduce under-five mortality by 20 percent while increasing financing by USD 4.87 to finance health extension/outreach, family-based/community based, and clinical services could reduce under-five mortality by 33 percent and maternal mortality by 22 percent.

(e) *There is a need to address the reasons for low budget execution rates in order to ensure that additional funds earmarked for the sector are used to meet sectoral objectives.* First, it has been pointed out that one possible reason for underspending is donor procedures that cause delays in spending. Second, underreporting is another factor, along with the weak capacity for program planning/budgeting and management at the regional, zonal, and Woreda levels. Third, is the need to change or restructure a costing system that is based on historical expenditure trends rather than strategic directions outlined in HSDP. Expenditure tracking analysis can help determine the factors that contribute to underspending.

(f) *Within the context of deepening decentralization, what can be done to motivate woredas to focus their attention on health priorities?* Will performance-based agreements and matching grants be practical? SNNPR, for example, has started piloting performance based contracts with its Woreda officers and it would be important to learn from these experiences.

(g) *Assessment of resettlement conditions* in 2004 indicates that conditions were positive in areas where adequate planning, preparation, and resources had been available. However, other areas, especially in Oromiya where most resettlement has taken place, were facing inadequate food and water supplies, as well as health care that required urgent action.

(h) *Coordinating with other sectors actions that will be critical to the success of health sector interventions, particularly those taken to improve the status and role of women in Ethiopian society.* This report finds a strong correlation between a mother's level of education (as well as improved knowledge gathered through other sources such as media) to her children's: infant mortality rate and nutritional status. Additionally, a mother's educational level is indicative of the likelihood of her availing of health services such as immunization, antenatal care, and family planning services.