

## ETHIOPIA

The Health Equity and Financial Protection datasheets provide a picture of equity and financial protection in the health sectors of low- and middle-income countries. Topics covered include: inequalities in health outcomes, health behavior and health care utilization; benefit incidence analysis; financial protection; and the progressivity of health care financing. Data are drawn from the Demographic and Health Surveys (DHS), World Health Surveys (WHS), Multiple Indicator Cluster Surveys (MICS), Living Standards and Measurement Surveys (LSMS), as well as other household surveys where available. The datasheets use a common set of health indicators for all countries. All analyses are conducted using the health modules of the ADePT software.

INEQUALITIES  
IN HEALTH  
OUTCOMES

CHILD HEALTH <sup>1a,1b,1c,2,3</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
2000 <sup>1a</sup>							
Infant mortality rate	106.9	128.5	144.9	132.5	95.2	122.5	-0.001
Under-five mortality rate	172.7	238.4	237.3	224.2	154.8	207.1	-0.003
Stunting	59.2%	58.3%	59.7%	57.2%	47.5%	56.9%	-0.031***
Underweight	43.9%	44.5%	47.3%	39.3%	31.0%	41.9%	-0.051***
Diarrhea	23.3%	26.4%	25.0%	24.5%	20.5%	24.1%	-0.016
Acute respiratory infection	23.0%	25.0%	30.0%	25.1%	21.9%	25.2%	0.001
Fever	26.8%	29.0%	32.1%	28.6%	28.4%	29.0%	0.010
2003 <sup>3</sup>							
Malaria	28.8%	24.2%	27.1%	26.5%	19.3%	25.3%	-0.045
2005 <sup>1b</sup>							
Infant mortality rate	94.7	98.2	97.4	98.6	68.3	92.9	-0.036**
Under-five mortality rate	145.1	156.0	143.1	153.3	93.5	140.8	-0.048***
Stunting	51.5%	53.6%	51.3%	48.5%	39.6%	49.6%	-0.040***
Underweight	37.5%	39.4%	33.8%	31.0%	25.1%	34.1%	-0.074***
Diarrhea	18.0%	20.1%	20.0%	16.8%	14.4%	18.1%	-0.036**
Acute respiratory infection	12.5%	11.5%	14.7%	13.5%	10.6%	12.7%	-0.005
Fever	19.2%	19.6%	20.0%	17.8%	17.1%	18.9%	-0.025
2011 <sup>1c</sup>							
Infant mortality rate	98.3	90.8	64.6	71.4	58.7	78.7	-0.110***
Under-five mortality rate	155.6	137.2	100.7	117.5	86.0	122.6	-0.105***
Stunting	48.9%	47.9%	45.4%	45.8%	29.1%	44.5%	-0.063***
Underweight	36.1%	34.1%	28.8%	27.4%	15.3%	29.5%	-0.126***
Diarrhea	14.9%	12.7%	12.9%	15.0%	11.7%	13.5%	-0.029
Acute respiratory infection	13.1%	10.0%	13.3%	13.1%	8.7%	11.8%	-0.024
Fever	18.6%	16.9%	17.6%	16.9%	15.7%	17.2%	-0.025



INEQUALITIES  
IN HEALTH  
OUTCOMES  
(CONT.)

ADULT HEALTH <sup>1a,1b,1c,3</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
2000 <sup>1a</sup>							
Obesity among non-pregnant women	0.2%	0.1%	0.1%	0.1%	1.3%	0.4%	0.585***
2003 <sup>3</sup>							
Tuberculosis	13.8%	10.0%	7.9%	7.7%	6.3%	9.1%	-0.133***
Road traffic accident	0.0%	0.0%	0.2%	0.2%	0.4%	0.2%	0.493***
Non-road traffic accident	1.9%	1.2%	1.3%	1.7%	2.1%	1.7%	0.070
Angina	17.9%	14.3%	17.2%	15.7%	9.1%	14.9%	-0.079***
Arthritis	24.7%	24.8%	25.0%	21.9%	17.3%	22.8%	-0.051***
Asthma	1.3%	1.1%	2.9%	2.4%	5.4%	2.6%	0.307***
Depression	3.6%	4.3%	4.6%	4.9%	4.3%	4.3%	0.047
Diabetes	0.5%	0.0%	0.3%	0.3%	0.8%	0.4%	0.289
Difficulty with work and household activities	8.9%	6.8%	6.0%	6.0%	5.9%	6.7%	-0.060*
Poor self-assessed health status	6.5%	5.5%	4.4%	4.7%	4.4%	5.1%	-0.058
2005 <sup>1b</sup>							
Obesity among non-pregnant women	0.2%	0.4%	0.2%	0.1%	1.9%	0.7%	0.562***
HIV positive	0.5%	0.6%	0.7%	0.5%	4.1%	1.3%	0.493***
2011 <sup>1c</sup>							
Obesity among non-pregnant women	0.4%	0.4%	0.1%	0.3%	2.8%	1.0%	0.550***
HIV positive	0.3%	0.4%	0.7%	1.0%	4.1%	1.4%	0.521***

INEQUALITIES IN  
RISKY BEHAVIOR

RISK FACTORS <sup>1a,1b,1c,2,3</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
2003 <sup>3</sup>							
Smoking (all)	2.7%	5.6%	4.6%	3.7%	3.1%	3.9%	-0.033
Insufficient intake of fruit and vegetables	61.6%	56.8%	59.9%	57.9%	60.4%	59.2%	-0.003
Insufficient physical activity	0.5%	1.4%	2.9%	3.3%	1.9%	2.0%	0.195***
Drinking	54.4%	35.6%	31.3%	20.1%	26.5%	33.6%	-0.163***
2005 <sup>1b</sup>							
Smoking (women)	3.0%	1.4%	1.5%	0.7%	0.7%	1.4%	-0.312***
Concurrent partnerships	1.6%	1.3%	1.1%	1.1%	3.2%	1.8%	0.193***
Mosquito net use by children	1.4%	0.8%	1.2%	1.7%	3.1%	1.5%	0.207***
Mosquito net use by pregnant women	0.9%	0.3%	0.0%	1.2%	5.1%	1.1%	0.423**
2011 <sup>1c</sup>							
Smoking (women)	1.4%	0.5%	0.9%	0.2%	0.7%	0.7%	-0.145*
Concurrent partnerships	1.1%	1.0%	2.2%	2.0%	5.6%	2.6%	0.364***
Condom usage (more than one partner)	1.5%	0.4%	7.0%	28.5%	37.6%	26.0%	0.316***



INEQUALITIES  
IN HEALTH CARE  
UTILIZATION

MATERNAL AND CHILD HEALTH INTERVENTIONS <sup>1a,1b,1c,2</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
<b>2000<sup>1a</sup></b>							
Full immunization	7.2%	8.3%	9.9%	16.9%	34.2%	14.3%	0.344***
Treatment of diarrhea	11.1%	15.2%	13.7%	19.7%	43.7%	18.7%	0.242***
Medical treatment of ARI	8.6%	13.7%	16.2%	14.6%	31.1%	15.8%	0.199***
Skilled antenatal care (4+ visits)	4.0%	5.0%	6.0%	7.2%	37.3%	10.7%	0.475***
Skilled birth attendance	0.9%	1.4%	2.1%	3.0%	26.6%	5.7%	0.675***
<b>2005<sup>1b</sup></b>							
Full immunization	14.2%	17.3%	21.5%	18.7%	36.1%	20.6%	0.183***
Treatment of diarrhea	19.4%	22.3%	28.8%	29.1%	48.1%	27.6%	0.147***
Medical treatment of ARI	18.6%	12.2%	21.0%	13.5%	34.4%	18.8%	0.090*
Skilled antenatal care (4+ visits)	3.5%	5.8%	8.3%	8.8%	40.3%	12.0%	0.479***
Skilled birth attendance	0.7%	1.2%	1.6%	4.6%	27.1%	5.7%	0.715***
Contraceptive prevalence	48.4%	48.6%	54.0%	59.5%	57.3%	55.7%	0.022*
<b>2011<sup>1c</sup></b>							
Full immunization	16.4%	18.8%	17.9%	25.3%	51.5%	24.3%	0.228***
Treatment of diarrhea	21.7%	24.1%	34.8%	31.8%	52.8%	30.9%	0.148***
Medical treatment of ARI	14.9%	21.9%	24.9%	29.4%	46.2%	25.1%	0.201***
Skilled antenatal care (4+ visits)	8.5%	11.7%	13.8%	21.6%	47.2%	19.2%	0.362***
Skilled birth attendance	2.5%	4.2%	3.3%	8.5%	47.8%	10.9%	0.607***
Contraceptive prevalence	10.2%	16.5%	17.8%	19.9%	26.2%	18.7%	0.164***

ADULT PREVENTIVE CARE <sup>2,3</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
<b>2003<sup>3</sup></b>							
TB screening	15.9%	12.9%	9.5%	20.6%	25.5%	15.9%	0.128
Breast cancer screening	0.3%	0.0%	0.8%	1.0%	1.2%	0.7%	0.406**

ADULT CURATIVE CARE <sup>3</sup>	Q1	Q2	Q3	Q4	Q5	Total	CI
<b>2003<sup>3</sup></b>							
Inpatient or outpatient (12 months)	30.8%	33.4%	35.4%	33.2%	34.6%	33.5%	0.034**
Inpatient (12 months)	0.9%	1.4%	2.4%	2.8%	3.4%	2.2%	0.243***
Inpatient (5 years)	1.7%	2.9%	3.8%	4.7%	6.9%	4.0%	0.258***
Outpatient (12 months)	29.8%	32.2%	32.0%	30.6%	32.5%	31.4%	0.028*

Threshold share of total household consumption

CATASTROPHIC OUT-OF-POCKET SPENDING <sup>3</sup>	5%	10%	15%	25%	40%
<b>2003<sup>3</sup></b>					
Headcount	32.3%	27.0%	22.9%	19.6%	16.8%
Concentration index	-0.248***	-0.367***	-0.475***	-0.584***	-0.726***

Threshold share of nonfood consumption

CATASTROPHIC OUT-OF-POCKET SPENDING <sup>3</sup>	5%	10%	15%	25%	40%
<b>2003<sup>3</sup></b>					
Headcount	35.8%	34.5%	32.1%	27.3%	22.7%
Concentration index	-0.194***	-0.219***	-0.259***	-0.358***	-0.477***

FINANCIAL  
PROTECTION



IMPOVERISHMENT <sup>3</sup>				
Poverty line at US\$1.25 per capita per day	Consumption including OOP	Consumption excluding OOP	Change	% change
2003 <sup>3</sup>				
Percentage in poverty	87.1%	88.4%	1.3 pp	1.5%
Average shortfall from the poverty line	\$0.63	\$0.65	\$0.02	3.5%
Average shortfall from the poverty line, among the poor	\$0.72	\$0.74	\$0.01	2.0%
Poverty line at US\$2.00 per capita per day	Consumption including OOP	Consumption excluding OOP	Change	% change
2003 <sup>3</sup>				
Percentage in poverty	96.3%	97.0%	0.7 pp	0.7%
Average shortfall from the poverty line	\$1.33	\$1.36	\$0.03	2.2%
Average shortfall from the poverty line, among the poor	\$1.38	\$1.40	\$0.02	1.5%

**Note:**

The Health Equity and Financial Protection datasheets use a standardized selection of indicators (see Measurement of Indicators for full list). When (1) data sources are not available or (2) indicator-specific sample size is less than 250 per quintile for mortality indicators or less than 25 per quintile for all others, indicators are not reported for the country under analysis.

For analysis of inequalities using WHS, DHS and MICS, quintile ranking is based on an asset index. For all other analyses, ranking is based on household consumption. Q = quintile (where quintile 1 is the poorest)

CI = concentration index; ranges between -1 and 1; negative sign indicates that the health outcome takes higher values among the poor

\* Significant at 10%, \*\*Significant at 5%, \*\*\*Significant at 1%.

Poverty lines are at 2005 purchasing power parity, adjusted to current prices using Ethiopia's consumer price index.

**Data sources:**

1a=2000 Ethiopia Demographic and Health Survey, 1b=2005 Ethiopia Demographic and Health Survey, 1c=2011 Ethiopia Demographic and Health Survey, 2=n/a Multiple Indicator Cluster Survey, 3=2003 Ethiopia World Health Survey.

**Recommended citation:** World Bank. 2012. Health Equity and Financial Protection Datasheet - Ethiopia. Washington, D.C.: World Bank.

For more information and the latest versions of the Health Equity and Financial Protection reports and datasheets, see: [www.worldbank.org/povertyandhealth](http://www.worldbank.org/povertyandhealth).

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# INTERPRETATION OF RESULTS

## INEQUALITIES IN HEALTH OUTCOMES, RISKY BEHAVIOR AND HEALTH CARE UTILIZATION

The tables in this section show how health outcomes, risky behaviors and health care utilization vary across asset (wealth) quintiles and periods. The quintiles are based on an asset index constructed using principal components analysis. The tables show the mean values of the indicator for each quintile, as well as for the sample as a whole. Also shown are the concentration indices which capture the direction and degree of inequality. A negative value indicates that the variable (e.g. stunting or skilled birth attendance) is more concentrated among the poor, while a positive value indicates that the variable is concentrated among the better off. The larger the index in absolute size, the more inequality there is. The statistical significance of the concentration index is also shown, at 1% (\*\*\*) , 5% (\*\*) and 10% (\*) significance levels. For example, if stunting has a concentration index of  $-0.121^{***}$ , then stunting is significantly concentrated among the poor.

## BENEFIT-INCIDENCE ANALYSIS

Benefit-incidence analysis (BIA) shows whether, and by how much, government health expenditure disproportionately benefits the poor. There are three tables showing, respectively, the distribution of service utilization across consumption quintiles for different types of care, the distribution of user fees, and the distribution of the estimated subsidies. All tables also show the concentration indices which capture the direction and degree of inequality. A negative value indicates that the variable (i.e. utilization, fees or subsidies) is more concentrated among the poor, while a positive value indicates that the variable is concentrated among the better off. The larger the index in absolute size, the greater is the inequality. For example, if the concentration index of subsidies to hospitals is positive, the non-poor benefit more than the poor from government spending on hospital services.

The distribution of subsidies depends on the assumptions made to allocate subsidies to households. Under the constant unit cost assumption, each unit of utilization is assumed to cost the same and is equal to total costs incurred in delivering this type of service (i.e. subsidies plus user fees) divided by the number of units of utilization. Under the constant unit subsidy assumption, the unit subsidy is assumed to be constant, equal to total subsidies for the service in question divided by the number of units of utilization of that service. Under the proportional cost assumption, higher fees are indicative of a more costly type of care; specifically, it is assumed that unit costs and fees are proportional to one another. If the concentration index is negative, then the subsidy to the particular level of care is pro-poor and if the concentration index is positive, then the subsidy is pro-rich. The column labeled "share" shows the distribution of the total subsidy across different levels of care.

## FINANCIAL PROTECTION: CATASTROPHIC AND IMPOVERISHING EXPENDITURE

Measures of financial protection relate out-of-pocket spending to a threshold. One approach is to classify spending as 'catastrophic' if it exceeds a certain fraction of household income or consumption or nonfood consumption. Catastrophic payments are defined as health care payments in excess of a predetermined percentage (i.e. 5% to 40%) of their total household spending or nonfood spending. The first line of the first table shows the catastrophic payment "headcount", i.e. the proportion of households with a health payment budget share greater than the given threshold. For example, if the "headcount" figure given in the last column of the first table is 6%, then 6% of households spend more than 40% of their pre-payment income on health payments. The concentration indices in the second line of each table show whether there is a greater tendency for the better off to have out-of-pocket spending in excess of the payment threshold (in which case it takes on a positive value), or whether the poor are more likely to have out-of-pocket spending exceeding the threshold (in which case it takes on a negative value).

Another approach is to classify health spending as 'impoverishing' if it is sufficiently large to make the household cross the poverty line, i.e. the household would not have been poor had it been able to use for general consumption the money it was forced to spend on health care. The extent of impoverishment due to health care expenditure is measured by comparing the extent of poverty computed using household consumption gross and net of out-of-pocket health spending. The table shows three measures of poverty. The first line of the table shows the percentage of the population living below the poverty line, i.e. the poverty "headcount". The second line shows the population's average shortfall from the poverty line, i.e. the "normalized poverty gap"; the normalization is useful when making comparisons across countries with different poverty lines and currency units. Finally, the last line shows the average shortfall from the poverty line, among those who are poor, i.e. the normalized mean positive poverty gap. The last column shows the percentage increase in poverty, the percentage increase in the average shortfall from the poverty line and the percentage increase in the average shortfall from the poverty line among the poor due to out-of-pocket health spending, respectively.

## PROGRESSIVITY OF HEALTH FINANCING

The table in this section reports whether overall health financing, as well as the individual sources of finance, is regressive (i.e. a poor household contributes a larger share of its resources than a rich one), progressive (i.e. a poor household contributes a smaller share of its resources than a rich one) or proportional. The 1<sup>st</sup> through 5<sup>th</sup> columns show the distribution of consumption and different sources of health care financing. The 6<sup>th</sup> column shows the summary measures of inequality; in the case of consumption, this is the Gini coefficient and in the case of other sources of financing it is the concentration index. In the 7<sup>th</sup> column, the Kakwani index (defined as the concentration index less the Gini coefficient) takes on a positive value, then payments are more concentrated among the better off than consumption, and is a sign that payments are progressive. If the Kakwani index is negative, then payments are regressive. The last column shows the contribution of each financing source to total health care financing (obtained from National Health Accounts data).

## FOR MORE GUIDANCE ON INTERPRETATION OF RESULTS, SEE:

O'Donnell, O., E. van Doorslaer, A. Wagstaff and M. Lindelow. (2008). Analyzing health equity using household survey data: a guide to techniques and their implementation. Washington, D.C.: World Bank.

Wagstaff, A., M. Bilger, Z. Sajaia and M. Lokshin. (2011). Health equity and financial protection: streamlined analysis with ADePT software. Washington, D.C.: World Bank.

# MEASUREMENT OF INDICATORS

INDICATOR	MEASUREMENT	DATA
<b>CHILD HEALTH</b>		
Infant mortality rate	Number of deaths among children under 12 months of age per 1,000 live births (Note: mortality rate calculated using the true cohort life table approach; the DHS reports use the synthetic cohort life table approach)	DHS
Under-five mortality rate	Number of deaths among children under 5 years of age per 1,000 live births (Note: mortality rate calculated using the true cohort life table approach; the DHS reports use the synthetic cohort life table approach)	DHS
Stunting	% of children with a height-for-age z-score < -2 standard deviations from the reference median (Note: z-score calculated using WHO 2006 Child Growth Standards)	DHS, MICS
Underweight	% of children with a weight-for-age z-score < -2 standard deviations from the reference median (Note: z-score calculated using WHO 2006 Child Growth Standards)	DHS, MICS
Diarrhea	% of children with diarrhea (past two weeks)	DHS, MICS
Diarrhea	% of children with diarrhea (past two weeks; youngest child)	WHS
Acute respiratory infection	% of children with an episode of coughing and rapid breathing (past two weeks)	DHS, MICS
Acute respiratory infection	% of children with an episode of coughing and rapid breathing (past two weeks; youngest child)	WHS
Fever	% of children with fever (past two weeks)	DHS, MICS
Fever	% of children with fever (past two weeks; youngest child)	WHS
Malaria	% of children with an episode of malaria (past year; youngest child)	WHS
<b>ADULT HEALTH</b>		
Tuberculosis	% of adults who reported tuberculosis symptoms (past year)	WHS
Obesity among non-pregnant women	% of women aged 15 to 49 with a BMI above 30	DHS
Obesity among all women	% of women aged 18 to 49 with a BMI above 30	WHS
Road traffic accident	% of adults involved in a road traffic accident with bodily injury (past year)	WHS
Non-road traffic accident	% of adults who suffered bodily injury that limited everyday activities, due to a fall, burn, poisoning, submersion in water, or by an act of violence (past year)	WHS
Angina	% of adults ever diagnosed with angina or angina pectoris	WHS
Arthritis	% of adults ever diagnosed with arthritis	WHS
Asthma	% of adults ever diagnosed with asthma	WHS
Depression	% of adults ever diagnosed with depression	WHS
Diabetes	% of adults ever diagnosed with diabetes	WHS
Difficulty with work and household activities	% of adults who have severe or extreme difficulties with work or household activities (past 30 days) (Note: This indicator was created from an ordinal variable with five categories)	WHS
Poor self-assessed health status	% of adults who rate own health as bad or very bad (Note: This indicator was created from an ordinal variable with five categories)	WHS
HIV positive	% of adults aged 15 to 49 whose blood tests are positive for HIV 1 or HIV 2	DHS
<b>RISK FACTORS</b>		
Smoking (all)	% of adults who smoke any tobacco products such as cigarettes, cigars or pipes	WHS
Smoking (women)	% of women aged 15 to 49 who smoke cigarettes, pipe or other tobacco	DHS
Smoking (women)	% of women aged 18 to 49 who smoke cigarettes, pipe or other tobacco	WHS
Insufficient intake of fruit and vegetables	% of adults who have insufficient intake of fruit/vegetables (less than 5 servings)	WHS
Insufficient physical activity	% of adults who spend < 150 minutes on walking/ moderate activity/vigorous activity (past week)	WHS
Drinking	% of adults who consume $\geq 5$ standard drinks on at least one day (past week)	WHS
Concurrent partnerships	% of women aged 15 to 49 who had sexual intercourse with more than one partner (past year)	DHS, MICS
Concurrent partnerships	% of women aged 18 to 49 who had sexual intercourse with more than one partner (past year)	WHS
Condom usage (more than one partner)	% of women aged 15 to 49 who had more than one partner in the past year and used a condom during last sexual intercourse	DHS, MICS
Condom usage (more than one partner)	% of women aged 18 to 49 who had more than one partner in the past year and used a condom during last sexual intercourse	WHS
Mosquito net use by children	% of children who slept under an (ever) insecticide treated bed net (ITN) (past night)	DHS, MICS
Mosquito net use by pregnant women	% of pregnant women aged 15 to 49 who slept under an (ever) insecticide treated bed net (ITN) (past night)	DHS
<b>MATERNAL AND CHILD HEALTH INTERVENTIONS</b>		
Full immunization	% of children aged 12-23 months who received BCG, measles, and three doses of polio and DPT, either verified by card or by recall of respondent	DHS, MICS
Treatment of diarrhea	% of children with diarrhea given oral rehydration salts (ORS) or home-made solution	DHS, MICS
Medical treatment of ARI	% of children with a cough and rapid breathing who sought medical treatment for acute respiratory infection (past 2 weeks)	DHS, MICS
Skilled antenatal care (4+ visits)	% of mothers aged 15 to 49 who received at least 4 antenatal care visits from any skilled personnel (Note: Definition of skilled personnel is country-specific)	DHS
Skilled birth attendance	% of mothers aged 15 to 49 that were attended by any skilled personnel at child's birth (Note: Definition of skilled personnel is country-specific)	DHS
Contraceptive prevalence	% of women aged 15 to 49 who currently use a modern method of contraception	DHS, MICS
<b>ADULT PREVENTIVE CARE</b>		
TB screening	% of adults who were tested for tuberculosis (past year)	WHS
Voluntary Counseling and Testing for HIV	% of women aged 18 to 49 who were tested for HIV and were told the results of the test	WHS, MICS
Cervical cancer screening	% of women aged 18 to 69 who received a pap smear during last pelvic examination (past 3 years)	WHS
Breast cancer screening	% of women aged 40 to 69 who received a mammogram (past 3 years)	WHS
<b>ADULT CURATIVE CARE</b>		
Inpatient or outpatient (12 months)	% of adults who used any inpatient or outpatient health care (past year)	WHS
Inpatient (12 months)	% of adults who used any inpatient health care (past year)	WHS
Inpatient (5 years)	% of adults who used any inpatient health care (past 5 years)	WHS
Outpatient (12 months)	% of adults who used any outpatient health care (past year; conditional on having not used any inpatient care past 5 years)	WHS

**Note:** Unless otherwise noted, all children are under the age of 5 and all adults are aged 18 and older