

Socio-Economic Differences in Health, Nutrition, and Population

BOLIVIA

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Eldaw Suliman, Adam Wagstaff, and Agbessi Amouzou**

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**SOCIO-ECONOMIC DIFFERENCES
IN
HEALTH, NUTRITION, AND POPULATION**

**BOLIVIA
1998, 2003**

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FOREWORD

The World Bank shares the desire of its member states and client countries to ensure that the poor partake fully in the health gains that the countries achieve. To assist in this, the Bank, in cooperation with the Dutch and Swedish Governments, has sponsored the set of reports providing basic information about health inequalities within countries to which this document belongs.

The information shows clearly that disparities in both health conditions and health service use are unacceptably large. As countries and the Bank work to reduce important inequalities among regions and countries, there is a clear need for equally vigorous efforts to lessen the inequity represented by intra-country differences among socio-economic groups.

My colleagues and I hope that all concerned with equity in health will find this information useful in making the case for effective actions to improve the health of the poor, and in designing programs to achieve this crucial objective.

Joy Phumaphi
Vice President
Human Development Network
The World Bank

INTRODUCTION

This report is one in a series that provides basic information about health, nutrition, and population (hnp) inequalities within fifty-six developing countries.

The series to which the report belongs is an expanded and updated version of a set covering forty-five countries that was published in 2000. The fifty-six reports in the current series cover almost all DHS surveys undertaken during the period beginning in 1990 and ending with the date of the last survey for which data were publicly available as of June 2006.¹

The report's contents are intended to facilitate preparation of country analyses and the development of activities to benefit poor people. To this end, the report presents data about hnp status, service use, and related matters among individuals belonging to different socio-economic classes. The principal focus is on differences among groups of individuals defined in terms of the wealth or assets of the households where they reside. The source of data is the Demographic and Health Survey (DHS) program, a large, multi-country household survey project.

The figures in this and the other reports in the series draw on responses to questions about household wealth or assets included in the DHS questionnaire, which were similar for all the surveys covered. These responses served as the basis for the construction of a wealth index, which was used to rank individuals according to the index value for the household to which they belonged. The individuals were then divided into quintiles, and the mean value for each of up to approximately 120 indicators was calculated for each quintile.

The report is organized in four principal parts:

- Parts one and two, which constitute the report's core, consist of tables presenting quintile-specific data for each hnp indicator covered from the two most recent DHS surveys available at the time of the report's publication. In each part there are three sets of tables: the first provides quintile-specific information for the total population; the second presents data separately for quintiles of females and males; the third features quintile-specific information presented separately for rural and urban residents. Each of these sets is divided into four sections: one dealing with hnp status, the second with the use of hnp services, the third with hnp-related behavior, and the fourth with other hnp status determinants.
- Part three provides supplementary technical information designed to help readers understand the data presented in parts one and two. This information deals with such issues as how the covered hnp indicators were defined and how the quintile-specific estimates were derived.
- Parts four and five present supporting tables that deal with three of the technical matters covered in part three: the size of the sample for each indicator covered; the standard error

¹ The average interval of approximately two years between data collection and availability means that the latest surveys covered were conducted in 2005.

for each quintile-specific estimate in the total population; and the items used in constructing the wealth index, along with the weight assigned to each.

An additional, sixth part consists of three annexes, for readers interested in applying the approach used in the report or in learning more about the other reports in this series. The first annex is an annotated bibliography containing further information about the technical issues concerning the approach used in the report, and about employing that approach to examine additional issues using DHS or other data sets. The second shows how the report's approach can be applied to monitor the distribution of benefits from other hnp programs, and provides a tool for doing so. The third annex is a list of all fifty-six countries for which reports are available, along with an indication of how to obtain copies of the reports dealing with them.

The authors thank the Dutch and Swedish Governments for the generous support that made production of this report possible.

PART I. BASIC TABLES, 2003

A. TOTAL POPULATION

B. FEMALE AND MALE POPULATIONS

C. RURAL AND URBAN POPULATIONS

Notes:

- Each of the three sections referred to above consists of four divisions, presenting data for: I) hnp status; II) hnp service use; III) hnp-related individual and household behavior; and IV) other, underlying determinants of hnp status.
- Full definitions of all indicators covered in the tables are provided in section A of the technical notes found in part II.
- “na” appears in the table cells when data are not available, usually because the DHS survey concerned did not collect information about the indicator(s) in question.
- Figures in the tables shown within parentheses indicate the absence of adequate observations to produce acceptably reliable values. Asterisks appear when the number of observations was too small to justify the presentation even of figures within parentheses. (For further information, see the section on “Sampling Errors” in the presentation of data and methods in part II.B.) Asterisks also will be found in columns showing statistical indices of inequality when the amount of quintile-specific information available is inadequate to permit computation of the value for the index concerned.
- Female/male tables include only indicators relevant for both sexes; those pertaining to only one sex (e.g., fertility, women’s nutritional status, antenatal care, attended deliveries) have been omitted.

Bolivia

2003 - TOTAL POPULATION

Part I: HNP STATUS

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Childhood illness and mortality										
Infant mortality rate	87.3	82.0	63.3	50.9	32.3	67.8	2.70	55.02	-0.1505	0.0533
Under-five mortality rate	119.2	114.8	87.2	70.7	37.1	92.7	3.21	82.06	-0.1581	0.0656
Prevalence of fever	30.1	28.2	31.1	30.2	25.6	29.4	1.18	4.53	-0.0167	0.0097
Prevalence of diarrhea	25.2	23.2	22.7	23.0	15.3	22.6	1.64	9.83	-0.0688	0.0113
Prevalence of acute respiratory infection	21.3	20.3	22.6	25.9	21.2	22.2	1.00	0.04	0.0105	0.0119
B. Fertility										
Total fertility rate	6.7	5.0	4.0	2.9	2.0	3.8	3.45	4.78	-0.2330	0.0489
Adolescent fertility rate	160.5	127.9	81.2	73.1	38.2	84.0	4.20	122.28	-0.2558	0.0607
C. Nutritional status (%)										
<i>Children:</i>										
Moderate stunting	27.2	24.3	16.6	11.3	4.5	18.6	6.04	22.73	-0.2162	0.0121
Severe stunting	14.5	11.1	4.8	2.6	1.1	7.8	13.07	13.43	-0.3512	0.0214
Moderate underweight	10.3	8.6	4.0	3.3	1.3	6.2	7.89	9.01	-0.2969	0.0243
Severe underweight	2.6	1.7	0.7	0.3	0.0	1.2	114.45	2.56	-0.3694	0.0550
Mild anemia	26.9	27.4	25.0	18.9	20.3	24.5	1.32	6.52	-0.0642	0.0199
Moderate anemia	26.8	26.2	22.4	22.0	18.8	24.0	1.43	8.05	-0.0774	0.0198
Severe anemia	1.5	1.6	1.9	3.1	0.3	1.8	4.45	1.16	0.0647	0.0846
<i>Women:</i>										
Malnutrition	1.7	1.4	1.4	1.8	2.5	1.8	0.71	0.71	0.1584	0.0344
Mild anemia	11.7	10.2	8.0	7.7	5.0	8.1	2.33	6.67	-0.1358	0.0251
Moderate anemia	7.7	7.0	7.4	4.4	4.2	5.9	1.83	3.50	-0.1545	0.0298
Severe anemia	0.3	0.4	0.5	0.3	0.3	0.4	1.03	0.01	0.0219	0.1113
D. Female circumcision (%)										
<i>Prevalence of circumcision:</i>										
Girls	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na
<i>Prevalence of occlusion:</i>										
Girls	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na
E. Sexually transmitted disease										
<i>Prevalence of genital discharge:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	1.1	0.7	1.3	1.3	1.3	1.1	0.91	0.12	-0.0285	0.0621
<i>Prevalence of genital ulcer:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	0.8	0.7	0.4	1.6	1.1	0.9	0.68	0.36	0.0624	0.0675

Bolivia

2003 - TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Childhood immunization										
BCG coverage	91.1	90.0	92.8	97.9	99.1	93.5	0.92	8.01	0.0153	0.0031
Measles coverage	62.2	57.5	61.5	70.6	74.4	64.1	0.84	12.16	0.0344	0.0095
DPT coverage	63.8	71.0	66.2	80.3	85.4	71.7	0.75	21.67	0.0452	0.0078
Full basic coverage	47.5	49.4	43.8	59.2	57.9	50.6	0.82	10.35	0.0412	0.0131
No basic coverage	4.0	4.7	3.4	1.2	0.2	3.0	20.31	3.78	-0.1936	0.0634
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood illnesses										
<i>Treatment of fever:</i>										
Medical treatment of fever	40.9	49.9	45.2	49.8	52.8	46.8	0.78	11.86	0.0367	0.0124
Treatment in a public facility	35.6	45.7	42.3	40.1	33.8	40.0	1.05	1.84	0.0007	0.0144
Treatment in a private facility	5.3	4.2	3.0	9.6	19.0	6.8	0.28	13.71	0.2489	0.0498
<i>Treatment of acute respiratory infection (ARI):</i>										
Medical treatment of ARI	39.7	53.5	49.0	46.8	55.5	48.0	0.72	15.77	0.0302	0.0140
Treatment in a public facility	33.4	50.1	46.6	36.9	32.5	40.4	1.03	0.96	-0.0156	0.0166
Treatment in a private facility	6.3	3.4	2.4	9.8	23.0	7.5	0.27	16.73	0.2764	0.0541
<i>Treatment of diarrhea:</i>										
Use of oral rehydration therapy	60.8	64.5	66.1	73.2	76.2	66.4	0.80	15.41	0.0374	0.0088
Medical treatment of diarrhea	29.0	37.6	33.7	35.1	42.0	34.2	0.69	12.98	0.0374	0.0184
Treatment in a public facility	26.3	36.4	31.4	29.0	31.9	30.7	0.82	5.60	0.0117	0.0199
Treatment in a private facility	2.7	1.2	2.3	6.0	10.1	3.5	0.27	7.39	0.2622	0.0806
C. Antenatal and delivery care										
<i>Antenatal care visits:</i>										
To a medically trained person	62.0	71.5	80.6	90.3	98.2	79.0	0.63	36.22	0.0778	0.0031
To a doctor	39.6	58.0	77.3	89.2	97.9	70.2	0.40	58.24	0.1540	0.0037
To a nurse or trained midwife	14.2	9.2	2.5	1.1	0.3	5.9	40.73	13.87	-0.5506	0.0299
Multiple visits to a medically trained person	44.6	60.7	71.0	80.7	93.4	68.1	0.48	48.90	0.1238	0.0041
<i>Antenatal care content:</i>										
Tetanus toxoid	39.0	50.3	58.2	61.0	61.6	53.3	0.63	22.59	0.0619	0.0065
Prophylactic antimalarial treatment	na	na	na	na	na	na	na	na	na	na
Iron supplementation	47.7	57.7	63.0	67.5	78.7	61.6	0.61	31.05	0.0755	0.0051
<i>Delivery attendance:</i>										
By a medically trained person	26.6	49.7	69.9	87.6	98.4	60.8	0.27	71.82	0.2256	0.0037
By a doctor	18.9	42.8	66.4	85.3	97.0	55.9	0.19	78.12	0.2654	0.0039
By a nurse or trained midwife	7.7	6.9	3.5	2.3	1.4	4.9	5.35	6.30	-0.2298	0.0258
In a public facility	21.1	42.7	59.7	73.5	65.8	49.2	0.32	44.69	0.2081	0.0057
In a private facility	0.4	2.4	5.8	12.0	32.1	7.9	0.01	31.67	0.5289	0.0232
At home	77.5	53.9	32.9	13.4	1.4	41.8	55.84	76.12	-0.3425	0.0053

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2003 - TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
D. Contraceptive services (cont.)										
<i>Contraceptive prevalence:</i>										
Women	22.5	27.7	31.5	41.8	49.3	34.9	0.46	26.79	0.1466	0.0077
Men	14.6	17.7	26.5	40.2	38.0	27.3	0.39	23.38	0.1755	0.0154
<i>Source of contraception - public sector:</i>										
Women	73.0	71.1	58.2	50.1	40.5	54.9	1.80	32.49	-0.1400	0.0084
Men	na	na	na	na	na	na	na	na	na	na
<i>Source of contraception - private sector:</i>										
Women	7.8	18.5	32.6	42.7	55.1	36.4	0.14	47.32	0.2680	0.0115
Men	na	na	na	na	na	na	na	na	na	na
E. Treatment of adult illnesses										
<i>Treatment of genital discharge, ulcer, sore:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	*	*	*	(72.0)	(72.0)	62.1	*	*	*	*
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	*	*	*	(72.0)	(72.0)	62.1	*	*	*	*
<i>Voluntary counseling and testing for HIV/AIDS:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	0.4	1.0	2.9	6.3	13.7	5.3	0.03	13.35	0.4945	0.0352

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2003 - TOTAL POPULATION

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Hygienic practices										
<i>Disposal of children's stools:</i>										
Sanitary disposal	45.3	56.3	69.9	85.4	92.0	67.9	0.49	46.67	0.1401	0.0043
<i>Handwashing:</i>										
Wash hands prior to preparing food	na	na	na	na	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na	na	na	na	na
B. Bednet ownership and use										
<i>Bednet ownership:</i>										
Bednet ownership	na	na	na	na	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na	na	na	na	na
<i>Bednet use:</i>										
By children	na	na	na	na	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na	na	na	na	na
C. Breastfeeding										
Exclusive breastfeeding	79.4	60.9	64.7	43.5	31.0	60.1	2.56	48.43	-0.1281	0.0204
Timely complementary feeding	na	na	na	na	na	na	na	na	na	na
Bottle-feeding	18.8	26.8	32.1	41.5	57.5	32.6	0.33	38.69	0.1753	0.0198
D. Micronutrient consumption										
<i>Iodized salt:</i>										
Availability of iodized salt in household	na	na	na	na	na	na	na	na	na	na
<i>Vitamin A:</i>										
Children	53.3	56.9	57.1	59.5	63.2	57.3	0.84	9.98	0.0283	0.0054
Women	24.2	30.1	34.7	30.7	37.0	30.9	0.66	12.75	0.0706	0.0105
E. Tobacco and alcohol use										
<i>Tobacco:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Alcohol:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
F. Sexual practices										
<i>Non-regular sexual partnerships:</i>										
Women	1.3	0.8	0.8	0.9	1.2	1.0	1.08	0.10	-0.0082	0.0494
Men	4.7	7.3	6.1	8.1	12.7	8.0	0.37	8.02	0.1597	0.0274
<i>Condom usage with non-regular partner:</i>										
Women	(2.4)	(9.1)	(16.4)	(15.4)	35.6	18.2	0.07	38.00	0.3881	0.0951
Men	(15.9)	26.3	29.5	48.8	47.6	38.4	0.34	63.54	0.1892	0.0336
G. Domestic violence										
Ever experienced violence	na	na	na	na	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na	na	na	na	na

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2003 - TOTAL POPULATION

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Education										
<i>School completion:</i>										
Women	36.4	57.1	73.5	84.6	93.3	72.6	0.39	56.89	0.1448	0.0023
Men	60.5	78.5	88.0	93.1	97.9	85.2	0.62	37.37	0.0826	0.0018
<i>School participation:</i>										
Girls	41.9	39.5	58.7	77.4	85.4	57.1	0.49	43.46	0.1665	0.0066
Boys	86.0	82.9	88.0	96.0	97.4	89.3	0.88	11.48	0.0297	0.0019
B. Exposure to mass media										
<i>Newspaper readership:</i>										
Women	6.4	20.8	38.7	53.6	71.5	42.4	0.09	65.11	0.3039	0.0042
Men	11.6	32.1	56.9	67.4	83.4	53.0	0.14	71.79	0.2650	0.0056
<i>Radio listenership:</i>										
Women	62.0	82.5	85.6	89.7	91.0	83.8	0.68	29.02	0.0605	0.0021
Men	78.0	91.4	92.5	94.1	90.9	89.9	0.86	12.91	0.0285	0.0029
<i>Television viewership:</i>										
Women	6.5	41.8	83.7	94.0	98.3	71.0	0.07	91.75	0.2462	0.0022
Men	10.6	49.7	86.0	95.3	98.5	71.4	0.11	87.92	0.2407	0.0037
C. Knowledge and attitudes about HIV/AIDS										
<i>Knowledge about sexual transmission of HIV/AIDS:</i>										
Women	15.4	34.8	55.7	74.0	87.2	58.1	0.18	71.73	0.2378	0.0030
Men	25.8	52.6	71.3	84.0	93.1	67.9	0.28	67.31	0.1877	0.0043
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>										
Women	23.5	45.7	66.4	81.3	90.7	65.9	0.26	67.18	0.1886	0.0027
Men	37.6	61.8	74.2	85.6	91.0	72.1	0.41	53.37	0.1373	0.0042
<i>Attitudes toward HIV/AIDS:</i>										
Women	35.6	41.0	47.5	48.7	51.0	47.3	0.70	15.45	0.0547	0.0053
Men	68.7	67.6	66.0	75.0	83.4	73.4	0.82	14.74	0.0394	0.0047
D. Status of women										
<i>Household decisionmaking:</i>										
Can seek own health care	45.8	49.0	52.4	58.7	66.9	55.9	0.68	21.08	0.0767	0.0039
Can seek children's health care	55.4	67.3	73.1	75.8	78.3	69.2	0.71	22.91	0.0483	0.0046
Can make daily household purchases	68.7	72.7	71.8	70.4	59.1	68.0	1.16	9.61	-0.0339	0.0031
Can make large household purchases	59.3	62.4	59.4	60.2	53.8	58.7	1.10	5.51	-0.0229	0.0037
Can make meal-related decisions	68.7	67.3	66.4	62.7	50.0	62.0	1.37	18.73	-0.0606	0.0035
<i>Freedom of movement:</i>										
Can travel to visit family, relatives	20.9	27.2	29.7	33.4	40.9	31.6	0.51	20.05	0.1093	0.0065
<i>Other decisionmaking, attitudes:</i>										
Can decide how to spend own money	51.7	60.5	70.2	74.6	76.7	70.3	0.67	25.00	0.0454	0.0038
Can decide whether to have sex	94.1	96.4	97.4	97.8	98.4	97.1	0.96	4.29	0.0065	0.0008
Justifies domestic violence	28.1	27.2	26.8	20.9	12.3	22.1	2.28	15.76	-0.1615	0.0080
E. Orphanhood										
Paternal orphan prevalence	3.8	3.0	2.7	2.4	2.4	2.9	1.59	1.40	-0.1088	0.0217
Maternal orphan prevalence	2.4	2.3	1.4	1.4	1.2	1.8	2.01	1.22	-0.1209	0.0277
Double orphan prevalence	0.2	0.3	0.2	0.1	0.2	0.2	1.29	0.05	-0.0664	0.0726

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2003 - FEMALE / MALE POPULATIONS

Part I: HNP STATUS

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood mortality and morbidity												
Infant mortality rate	86.3	75.5	63.5	43.7	26.0	64.2	88.4	88.4	63.1	57.5	38.8	71.3
Under-five mortality rate	117.4	114.9	95.5	59.6	28.6	91.2	121.0	114.8	79.5	80.7	45.9	94.2
Prevalence of fever	29.4	27.5	30.2	27.2	25.7	28.3	30.8	29.0	31.9	32.8	25.5	30.5
Prevalence of diarrhea	23.9	20.4	20.4	18.4	11.8	19.8	26.4	26.2	24.8	27.2	19.0	25.2
Prevalence of acute respiratory infection	21.2	21.2	20.3	22.0	19.5	20.9	21.4	19.4	24.5	29.4	23.1	23.4
B. Nutritional status												
<i>Children:</i>												
Moderate stunting	29.1	23.9	14.2	9.3	3.5	18.0	25.5	24.7	18.8	13.0	5.5	19.1
Severe stunting	14.4	12.0	4.8	2.6	1.2	8.1	14.7	10.2	4.8	2.6	1.0	7.6
Moderate underweight	11.3	8.3	4.1	2.5	1.6	6.3	9.4	9.0	3.9	4.0	1.0	6.1
Severe underweight	2.2	1.9	0.6	0.5	0.0	1.2	3.0	1.4	0.7	0.1	0.0	1.2
Mild anemia	27.4	26.8	29.4	15.9	18.6	24.9	26.3	28.1	21.5	21.0	22.5	24.2
Moderate anemia	21.7	27.9	26.6	22.5	18.9	24.1	31.7	24.4	19.0	21.6	18.7	24.0
Severe anemia	2.6	0.6	0.6	2.9	0.0	1.4	0.5	2.7	3.0	3.2	0.7	2.1
C. Sexually transmitted disease												
<i>Prevalence of genital discharge:</i>												
Women	na	na	na	na	na	na						
Men							1.1	0.7	1.3	1.3	1.3	1.1
<i>Prevalence of genital ulcer:</i>												
Women	na	na	na	na	na	na						
Men							0.8	0.7	0.4	1.6	1.1	0.9

Bolivia

2003 - FEMALE / MALE POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood immunization												
BCG coverage	89.0	89.1	91.6	99.0	99.7	92.8	92.9	91.2	93.7	96.8	98.5	94.2
Measles coverage	60.7	56.3	61.8	71.3	71.7	63.2	63.6	59.1	61.2	69.9	76.8	65.0
DPT coverage	63.6	70.7	70.5	78.7	92.7	73.3	63.9	71.3	62.8	81.9	78.8	70.2
Full basic coverage	47.7	49.5	44.4	59.2	60.6	51.2	47.4	49.4	43.4	59.3	55.4	50.0
No basic coverage	3.7	4.3	5.2	0.4	0.0	3.1	4.2	5.3	2.1	2.0	0.4	3.0
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood illnesses												
<i>Treatment of fever:</i>												
Medical treatment of fever	41.6	46.7	45.0	47.5	48.8	45.4	40.3	53.1	45.4	51.5	56.8	48.0
Treatment in a public facility	36.3	42.5	43.8	39.6	29.7	39.3	35.0	48.9	40.9	40.5	37.9	40.6
Treatment in a private facility	5.3	4.2	1.2	7.9	19.1	6.1	5.3	4.2	4.5	11.0	18.9	7.4
<i>Treatment of acute respiratory infection:</i>												
Medical treatment of ARI	39.3	51.1	46.3	41.5	54.2	45.7	40.1	56.4	51.0	50.2	56.6	49.9
Treatment in a public facility	32.2	47.0	44.0	34.0	32.3	38.5	34.5	53.7	48.6	38.9	32.6	42.1
Treatment in a private facility	7.1	4.0	2.4	7.6	21.9	7.2	5.6	2.8	2.4	11.3	24.0	7.8
<i>Treatment of diarrhea:</i>												
Use of oral rehydration therapy	59.4	60.5	63.9	65.7	77.3	63.0	62.0	67.8	67.7	77.7	75.5	68.9
Medical treatment of diarrhea	29.4	34.7	36.2	31.4	41.6	33.4	28.8	40.0	31.8	37.3	42.3	34.8
Treatment in a public facility	27.1	33.6	34.5	24.6	31.3	30.2	25.7	38.7	29.1	31.7	32.3	31.1
Treatment in a private facility	2.3	1.1	1.7	6.8	10.3	3.2	3.1	1.3	2.7	5.6	10.0	3.7
C. Contraceptive services												
<i>Contraceptive prevalence:</i>												
Women	22.5	27.7	31.5	41.8	49.3	34.9						
Men							14.6	17.7	26.5	40.2	38.0	27.3
<i>Source of contraception - public sector:</i>												
Women	73.0	71.1	58.2	50.1	40.5	54.9						
Men							na	na	na	na	na	na
<i>Source of contraception - private sector:</i>												
Women	7.8	18.5	32.6	42.7	55.1	36.4						
Men							na	na	na	na	na	na
D. Treatment of adult illnesses												
<i>Treatment of genital discharge, ulcer, sore:</i>												
Women	na	na	na	na	na	na						
Men							*	*	*	(72.0)	(72.0)	62.1
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>												
Women	na	na	na	na	na	na						
Men							*	*	*	(72.0)	(72.0)	62.1
<i>Voluntary counseling and testing for HIV/AIDS:</i>												
Women	na	na	na	na	na	na						
Men							0.4	1.0	2.9	6.3	13.7	5.3

Bolivia

2003 - FEMALE / MALE POPULATIONS

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Hygienic practices												
<i>Disposal of children's stools:</i>												
Sanitary disposal	45.3	56.3	69.9	85.4	92.0	67.9						
<i>Handwashing:</i>												
Wash hands prior to preparing food	na	na	na	na	na	na						
Handwashing facilities in household	na	na	na	na	na	na						
B. Bednet ownership and use												
<i>Bednet use:</i>												
By children	na	na	na	na	na	na						
C. Breastfeeding												
Exclusive breastfeeding	76.8	(55.0)	68.0	(39.3)	(33.1)	58.7	82.0	(68.4)	(59.1)	(49.4)	(29.0)	61.8
Timely complementary feeding	na	na	na	na	na	na	na	na	na	na	na	na
Bottle-feeding	17.5	22.7	34.1	34.8	58.6	31.0	19.9	32.3	30.3	48.8	56.2	34.3
D. Micronutrient consumption												
<i>Vitamin A:</i>												
Children	54.3	56.8	58.1	60.8	64.6	58.2	52.3	57.1	56.3	58.3	61.9	56.5
E. Tobacco and alcohol use												
<i>Tobacco:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Alcohol:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
F. Sexual practices												
<i>Non-regular sexual partnerships:</i>												
Women	1.3	0.8	0.8	0.9	1.2	1.0						
Men							4.7	7.3	6.1	8.1	12.7	8.0
<i>Condom usage with non-regular partner:</i>												
Women	(2.4)	(9.1)	(16.4)	(15.4)	35.6	18.2						
Men							(15.9)	26.3	29.5	48.8	47.6	38.4

Bolivia

2003 - FEMALE / MALE POPULATIONS

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Education												
<i>School completion:</i>												
Women	36.4	57.1	73.5	84.6	93.3	72.6						
Men							60.5	78.5	88.0	93.1	97.9	85.2
<i>School participation:</i>												
Girls	41.9	39.5	58.7	77.4	85.4	57.1						
Boys							86.0	82.9	88.0	96.0	97.4	89.3
B. Exposure to mass media												
<i>Newspaper readership:</i>												
Women	6.4	20.8	38.7	53.6	71.5	42.4						
Men							11.6	32.1	56.9	67.4	83.4	53.0
<i>Radio listenership:</i>												
Women	62.0	82.5	85.6	89.7	91.0	83.8						
Men							78.0	91.4	92.5	94.1	90.9	89.9
<i>Television viewership:</i>												
Women	6.5	41.8	83.7	94.0	98.3	71.0						
Men							10.6	49.7	86.0	95.3	98.5	71.4
C. Knowledge and attitudes about HIV/AIDS												
<i>Knowledge about sexual transmission of HIV/AIDS:</i>												
Women	15.4	34.8	55.7	74.0	87.2	58.1						
Men							25.8	52.6	71.3	84.0	93.1	67.9
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>												
Women	23.5	45.7	66.4	81.3	90.7	65.9						
Men							37.6	61.8	74.2	85.6	91.0	72.1
<i>Attitudes toward HIV/AIDS:</i>												
Women	35.6	41.0	47.5	48.7	51.0	47.3						
Men							68.7	67.6	66.0	75.0	83.4	73.4
D. Orphanhood												
Paternal orphan prevalence	4.2	3.0	2.6	2.6	1.8	3.0	3.4	3.1	2.8	2.1	3.0	2.9
Maternal orphan prevalence	2.5	2.0	1.3	1.4	1.2	1.7	2.4	2.7	1.4	1.5	1.2	1.9
Double orphan prevalence	0.2	0.2	0.3	0.1	0.2	0.2	0.3	0.4	0.2	0.1	0.2	0.2

Bolivia

2003 - RURAL / URBAN POPULATIONS

Part I: HNP STATUS

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood illness and mortality												
Infant mortality rate	89.4	75.5	61.4	58.3	7.3	81.4	47.8	92.9	63.7	50.6	32.6	57.4
Under-five mortality rate	121.8	111.2	83.0	74.7	7.3	113.4	69.5	120.8	88.2	70.5	37.5	76.8
Prevalence of fever	30.1	27.8	30.9	26.4	*	29.3	29.9	28.9	31.2	30.3	25.8	29.4
Prevalence of diarrhea	25.0	23.4	22.9	25.2	*	24.3	27.9	22.9	22.7	22.9	15.3	21.4
Prevalence of acute respiratory infection	21.3	21.0	24.4	20.7	*	21.4	21.9	19.2	22.2	26.1	21.3	22.8
B. Fertility												
Total fertility rate	6.7	4.8	3.6	2.9	2.2	5.5	6.8	5.3	4.2	2.9	2.0	3.1
Adolescent fertility rate	159.0	121.5	64.5	56.6	28.4	124.4	186.6	144.1	85.7	73.8	38.4	68.2
C. Nutritional status												
<i>Children:</i>												
Moderate stunting	27.2	24.6	15.2	9.8	*	24.8	28.8	23.7	16.9	11.4	4.5	13.9
Severe stunting	14.8	10.2	3.8	2.9	*	12.0	10.4	12.6	5.0	2.6	1.1	4.7
Moderate underweight	10.5	7.8	4.3	3.8	*	8.9	6.9	10.1	3.9	3.3	1.3	4.1
Severe underweight	2.6	1.4	0.9	0.0	*	2.0	2.2	2.2	0.6	0.3	0.0	0.7
Mild anemia	27.2	30.7	25.0	*	*	27.9	(20.3)	22.0	25.0	18.5	20.7	21.7
Moderate anemia	27.2	25.1	18.4	*	*	25.5	(20.0)	28.1	23.2	22.2	18.9	22.8
Severe anemia	1.5	1.6	3.3	*	*	1.6	(2.3)	1.7	1.6	3.2	0.3	1.9
<i>Women:</i>												
Malnutrition	1.8	1.1	1.6	1.2	3.0	1.5	1.1	1.8	1.3	1.8	2.5	1.9
Mild anemia	11.4	10.3	7.0	9.4	*	10.3	(17.9)	10.2	8.2	7.6	5.1	7.2
Moderate anemia	7.7	6.9	7.6	3.0	*	7.2	(7.5)	7.2	7.4	4.5	4.3	5.4
Severe anemia	0.3	0.6	1.2	0.9	*	0.6	0.0	0.1	0.4	0.2	0.3	0.3
D. Female circumcision												
<i>Prevalence of circumcision:</i>												
Girls	na	na	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na	na	na
<i>Prevalence of occlusion:</i>												
Girls	na	na	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na	na	na
E. Sexually transmitted disease												
<i>Prevalence of genital discharge:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	1.1	0.5	0.4	0.0	*	0.8	(1.3)	1.0	1.6	1.3	1.3	1.3
<i>Prevalence of genital ulcer:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	0.8	0.5	0.2	0.4	*	0.6	0.0	1.1	0.4	1.7	1.1	1.1

Bolivia

2003 - RURAL / URBAN POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood immunization												
BCG coverage	91.2	90.7	90.5	*	*	91.1	*	89.1	93.2	97.8	99.1	95.1
Measles coverage	62.1	55.4	65.4	*	*	60.1	*	60.7	60.7	70.8	75.1	66.9
DPT coverage	63.1	73.5	69.5	*	*	67.5	*	67.2	65.5	80.2	85.3	74.6
Full basic coverage	47.4	47.2	49.7	*	*	47.7	*	52.8	42.7	59.0	58.5	52.6
No basic coverage	4.1	4.1	9.5	*	*	4.5	*	5.7	2.2	1.3	0.2	2.0
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood diseases												
<i>Treatment of fever:</i>												
Medical treatment of fever	40.5	50.3	47.3	*	*	44.6	(48.9)	49.2	44.8	49.2	52.6	48.3
Treatment in a public facility	35.0	46.7	46.2	*	*	40.0	(48.0)	44.0	41.5	39.6	33.5	40.0
Treatment in a private facility	5.5	3.6	1.2	*	*	4.6	(0.9)	5.2	3.3	9.6	19.1	8.4
<i>Treatment of acute respiratory infection (ARI):</i>												
Medical treatment of ARI	38.2	53.1	46.8	*	*	44.3	(69.4)	54.3	49.5	46.0	55.8	50.5
Treatment in a public facility	31.6	50.6	46.8	*	*	39.6	(68.2)	49.1	46.6	36.2	32.6	41.0
Treatment in a private facility	6.6	2.5	0.0	*	*	4.6	(1.2)	5.2	2.9	9.8	23.3	9.5
<i>Treatment of diarrhea:</i>												
Use of oral rehydration therapy	59.9	66.7	78.6	*	*	63.9	(76.9)	60.8	63.5	73.3	75.9	68.5
Medical treatment of diarrhea	29.1	41.4	40.2	*	*	34.5	(28.1)	31.1	32.3	34.2	41.5	34.0
Treatment in a public facility	26.2	40.7	39.2	*	*	32.4	(28.1)	29.0	29.8	28.0	31.2	29.2
Treatment in a private facility	2.9	0.7	1.0	*	*	2.0	0.0	2.1	2.6	6.2	10.3	4.7
C. Antenatal and delivery care												
<i>Antenatal care visits:</i>												
To a medically trained person	61.4	73.1	83.2	87.9	*	68.1	73.1	68.6	80.1	90.4	98.2	86.0
To a doctor	38.1	53.1	73.9	80.6	*	47.7	68.4	66.2	78.0	89.6	97.9	84.7
To a nurse or trained midwife	14.7	13.5	5.6	7.3	*	13.2	4.6	1.8	1.8	0.8	0.4	1.2
Multiple visits to a medically trained person	43.8	61.2	73.3	82.5	*	53.5	58.6	59.9	70.6	80.6	93.4	77.5
<i>Antenatal care content:</i>												
Tetanus toxoid	38.0	50.6	56.9	61.8	*	44.7	59.0	49.8	58.5	61.0	61.4	58.9
Prophylactic antimalarial treatment	na	na	na	na	na	na	na	na	na	na	na	na
Iron supplementation	47.0	60.7	65.2	67.1	*	53.9	59.6	52.6	62.5	67.5	78.8	66.6
<i>Delivery attendance:</i>												
By a medically trained person	25.2	48.9	75.2	86.8	*	38.6	54.4	51.2	68.8	87.7	98.4	77.6
By a doctor	17.3	39.0	67.2	80.5	*	30.1	50.0	49.2	66.3	85.6	97.0	75.5
By a nurse or trained midwife	7.9	9.9	8.1	6.3	*	8.5	4.4	2.0	2.5	2.1	1.5	2.2
In a public facility	19.6	39.7	58.2	62.5	*	30.5	50.8	47.7	60.0	74.0	65.6	63.4
In a private facility	0.4	2.6	7.8	21.4	*	2.2	0.0	2.2	5.4	11.5	32.3	12.1
At home	79.1	56.9	31.5	15.9	*	66.3	47.0	48.9	33.2	13.3	1.4	23.3
D. Contraceptive services												
<i>Contraceptive prevalence:</i>												
Women	22.1	25.7	27.4	49.4	(40.1)	25.0	32.0	31.5	32.6	41.4	49.4	40.3
Men	13.9	17.3	23.9	(35.2)	*	17.2	(33.0)	18.7	27.3	40.6	38.1	33.9

Bolivia

2003 - RURAL / URBAN POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
D. Contraceptive services (cont.)												
<i>Source of contraception - public sector:</i>												
Women	72.8	73.8	64.2	58.5	*	70.7	(74.9)	66.8	56.9	49.6	40.6	49.5
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Source of contraception - private sector:</i>												
Women	7.6	16.8	28.7	32.0	*	16.0	(9.7)	21.2	33.5	43.4	55.0	43.4
Men	na	na	na	na	na	na	na	na	na	na	na	na
E. Treatment of adult illnesses												
<i>Treatment of genital discharge, ulcer, sore:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	*	*	*	*	na	(43.3)	*	*	*	(71.7)	(72.0)	67.4
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	*	*	*	*	na	(43.3)	*	*	*	(71.7)	(72.0)	67.4
<i>Voluntary counseling and testing for HIV/AIDS:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	0.4	1.3	3.0	5.5	*	1.3	0.0	0.4	2.8	6.3	13.8	7.4

Bolivia

2003 - RURAL / URBAN POPULATIONS

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Hygienic practices												
<i>Disposal of children's stools:</i>												
Sanitary disposal	44.6	54.1	66.9	85.6	*	51.0	58.0	60.2	70.5	85.4	92.1	78.8
<i>Handwashing:</i>												
Wash hands prior to preparing food	na	na	na	na	na	na	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na	na	na	na	na	na	na
B. Bednet ownership and use												
<i>Bednet ownership:</i>												
Bednet ownership	na	na	na	na	na	na	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na	na	na	na	na	na	na
<i>Bednet use:</i>												
By children	na	na	na	na	na	na	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na	na	na	na	na	na	na
C. Breastfeeding												
Exclusive breastfeeding	80.1	58.4	*	*	*	71.2	*	(64.6)	69.9	42.4	30.5	51.6
Timely complementary feeding	na	na	na	na	na	na	na	na	na	na	na	na
Bottle-feeding	17.1	21.1	31.4	*	*	20.0	*	36.1	32.3	42.2	57.5	42.0
D. Micronutrient consumption												
<i>Iodized salt:</i>												
Availability of iodized salt in household	na	na	na	na	na	na	na	na	na	na	na	na
<i>Vitamin A:</i>												
Children	53.2	58.5	56.9	55.9	*	55.4	55.1	54.3	57.2	59.6	63.0	58.7
Women	23.8	30.4	40.6	44.9	*	28.1	32.2	29.6	33.5	30.0	37.0	32.7
E. Tobacco and alcohol use												
<i>Tobacco:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Alcohol:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
F. Sexual practices												
<i>Non-regular sexual partnerships:</i>												
Women	1.2	0.8	0.7	0.8	0.0	0.9	4.5	1.0	0.8	0.9	1.2	1.0
Men	4.7	7.0	7.0	7.6	*	5.9	4.4	8.1	5.9	8.1	12.8	9.1
<i>Condom usage with non-regular partner:</i>												
Women	0.0	*	*	*	na	2.9	*	*	*	(15.0)	35.6	24.3
Men	(14.0)	32.0	*	*	*	28.4	*	(16.4)	25.1	47.9	47.7	41.8
G. Domestic violence												
Ever experienced violence	na	na	na	na	na	na	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na	na	na	na	na	na	na

Bolivia

2003 - RURAL / URBAN POPULATIONS

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Education												
<i>School completion:</i>												
Women	35.3	56.1	75.4	77.9	93.8	50.2	57.8	59.2	73.1	84.9	93.3	82.8
Men	60.3	77.9	87.8	89.8	97.7	71.7	64.9	79.7	88.0	93.3	97.9	92.0
<i>School participation:</i>												
Girls	41.5	35.4	37.9	40.4	*	39.0	49.7	47.6	65.0	79.4	86.0	71.8
Boys	85.9	84.6	81.4	87.5	*	85.0	87.4	79.9	89.7	96.5	97.5	92.4
B. Exposure to mass media												
<i>Newspaper readership:</i>												
Women	5.8	17.7	22.9	36.2	61.1	14.0	17.5	26.9	42.9	54.5	71.7	55.1
Men	10.8	23.8	34.7	45.9	*	20.5	27.8	49.0	63.5	68.8	83.5	70.2
<i>Radio listenership:</i>												
Women	62.2	84.7	84.1	86.4	90.4	74.4	58.4	78.2	85.9	89.8	91.0	88.0
Men	78.0	91.5	88.5	91.2	*	84.9	78.6	91.2	93.7	94.3	90.8	92.5
<i>Television viewership:</i>												
Women	5.5	32.5	75.8	85.7	100.0	28.5	26.6	59.6	85.8	94.4	98.2	90.1
Men	9.3	38.8	68.3	89.0	*	31.4	35.4	71.8	91.2	95.7	98.5	92.6
C. Knowledge and attitudes about HIV/AIDS												
<i>Knowledge about sexual transmission of HIV/AIDS:</i>												
Women	14.7	31.3	45.0	56.8	80.5	26.9	30.4	41.5	58.5	74.9	87.3	72.1
Men	25.1	47.7	63.8	79.1	*	40.7	38.6	62.5	73.5	84.3	93.4	82.3
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>												
Women	22.6	41.6	59.6	66.2	78.8	36.5	41.1	53.7	68.2	82.0	90.8	79.1
Men	36.3	59.9	67.9	82.5	*	51.0	64.6	65.6	76.1	85.8	91.1	83.2
<i>Attitudes toward HIV/AIDS:</i>												
Women	35.7	40.5	41.4	46.7	(55.9)	39.8	34.3	41.9	48.9	48.8	51.0	49.1
Men	68.3	67.4	60.8	75.9	*	67.2	(74.6)	68.0	67.4	74.9	83.5	75.8
D. Status of women												
<i>Household decisionmaking:</i>												
Can seek own health care	46.0	49.0	46.0	50.0	61.7	47.4	42.1	49.0	54.1	59.1	67.0	59.7
Can seek children's health care	53.9	64.1	65.7	67.6	*	58.8	83.1	72.8	74.6	76.1	78.6	75.9
Can make daily household purchases	68.4	71.2	65.5	69.5	57.4	68.9	74.1	75.7	73.5	70.4	59.1	67.6
Can make large household purchases	59.4	62.1	58.3	58.3	47.5	60.1	58.6	63.0	59.7	60.2	53.9	58.1
Can make meal-related decisions	69.1	70.0	62.8	61.2	56.0	68.2	61.5	62.3	67.4	62.8	49.9	59.3
<i>Freedom of movement:</i>												
Can travel to visit family, relatives	20.4	25.8	25.2	22.7	42.9	23.3	31.2	30.0	30.9	33.9	40.9	35.3
<i>Other decisionmaking, attitudes:</i>												
Can decide how to spend own money	49.4	53.7	57.8	63.8	(61.3)	53.5	75.5	69.6	72.6	75.1	76.9	74.7
Can decide whether to have sex	93.9	95.7	96.5	92.0	100.0	94.9	97.5	97.6	97.6	98.1	98.4	98.0
Justifies domestic violence	27.7	29.3	24.6	21.9	10.0	27.5	35.0	23.2	27.3	20.8	12.3	19.7
E. Orphanhood												
Paternal orphan prevalence	3.8	3.7	3.7	1.9	11.0	3.7	4.1	1.8	2.5	2.4	2.3	2.4
Maternal orphan prevalence	2.3	2.1	0.9	1.7	2.4	2.1	5.0	2.7	1.5	1.4	1.2	1.6
Double orphan prevalence	0.2	0.4	0.1	0.0	2.4	0.3	0.9	0.0	0.3	0.1	0.2	0.2

PART II. BASIC TABLES, 1998

A. TOTAL POPULATION

B. FEMALE AND MALE POPULATIONS

C. RURAL AND URBAN POPULATIONS

Notes:

- Each of the three sections referred to above consists of four divisions, presenting data for: I) hnp status; II) hnp service use; III) hnp-related individual and household behavior; and IV) other, underlying determinants of hnp status.
- Full definitions of all indicators covered in the tables are provided in section A of the technical notes found in part II.
- “na” appears in the table cells when data are not available, usually because the DHS survey concerned did not collect information about the indicator(s) in question.
- Figures in the tables shown within parentheses indicate the absence of adequate observations to produce acceptably reliable values. Asterisks appear when the number of observations was too small to justify the presentation even of figures within parentheses. (For further information, see the section on “Sampling Errors” in the presentation of data and methods in part II.B.) Asterisks also will be found in columns showing statistical indices of inequality when the amount of quintile-specific information available is inadequate to permit computation of the value for the index concerned.
- Female/male tables include only indicators relevant for both sexes; those pertaining to only one sex (e.g., fertility, women’s nutritional status, antenatal care, attended deliveries) have been omitted.

Bolivia

1998 - TOTAL POPULATION

Part I: HNP STATUS

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Childhood illness and mortality										
Infant mortality rate	106.5	85.0	75.5	38.6	25.5	73.5	4.18	81.00	-0.2107	0.0016
Under-five mortality rate	146.5	114.9	104.0	47.8	32.0	99.1	4.58	114.50	-0.2218	0.0017
Prevalence of fever	33.6	32.8	30.4	30.8	29.3	31.7	1.15	4.30	-0.0335	0.0106
Prevalence of diarrhea	21.8	19.8	20.5	17.9	11.7	19.2	1.86	10.10	-0.0679	0.0142
Prevalence of acute respiratory infection	26.5	26.7	20.3	24.4	21.7	24.2	1.22	4.80	-0.0471	0.0128
B. Fertility										
Total fertility rate	7.4	5.8	4.4	3.0	2.1	4.2	3.52	5.30	-0.2429	0.0006
Adolescent fertility rate	168.0	126.0	100.0	68.0	27.0	84.0	6.22	141.00	-0.3093	0.0023
C. Nutritional status (%)										
Children:										
Moderate stunting	25.4	21.5	18.1	8.7	3.9	17.4	6.51	21.50	-0.2148	0.0156
Severe stunting	18.0	9.8	6.7	4.8	2.1	9.4	8.57	15.90	-0.3337	0.0234
Moderate underweight	11.7	6.9	5.1	3.0	2.2	6.5	5.32	9.50	-0.2987	0.0277
Severe underweight	2.2	0.9	0.8	0.5	0.7	1.1	3.14	1.50	-0.3257	0.0758
Mild anemia	21.7	21.3	17.0	20.5	17.2	19.8	1.26	4.50	-0.0368	0.0275
Moderate anemia	38.6	32.8	37.7	23.1	18.7	32.4	2.06	19.90	-0.0834	0.0193
Severe anemia	4.5	2.4	4.1	3.8	0.7	3.4	6.43	3.80	-0.0245	0.0666
Women:										
Malnutrition	0.5	0.2	0.9	1.0	2.2	0.9	0.23	1.70	0.2976	0.1074
Mild anemia	25.3	23.7	23.7	19.4	13.8	20.6	1.83	11.50	-0.1212	0.0184
Moderate anemia	11.4	5.3	5.7	4.1	3.1	5.5	3.68	8.30	-0.2052	0.0383
Severe anemia	1.1	1.4	1.3	0.3	0.4	0.9	2.75	0.70	-0.1502	0.0825
D. Female circumcision (%)										
Prevalence of circumcision:										
Girls	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na
Prevalence of occlusion:										
Girls	*	*	*	*	*	*	*	*	*	*
Women	*	*	*	*	*	*	*	*	*	*
E. Sexually transmitted disease										
Prevalence of genital discharge:										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
Prevalence of genital ulcer:										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Childhood immunization										
BCG coverage	78.1	83.5	88.7	95.4	99.6	87.4	0.78	21.50	0.0453	0.0055
Measles coverage	45.1	45.5	48.9	57.8	66.1	50.8	0.68	21.00	0.0546	0.0151
DPT coverage	36.2	41.8	46.0	63.7	70.0	48.6	0.52	33.80	0.1215	0.0151
Full basic coverage	21.8	24.9	21.0	33.4	30.6	25.5	0.71	8.80	0.0607	0.0272
No basic coverage	15.5	12.3	6.6	2.4	0.0	8.6	na	na	-0.3407	0.0469
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood illnesses										
Treatment of fever:										
Medical treatment of fever	21.8	27.5	29.3	44.2	52.1	32.0	0.42	30.30	0.1563	0.0186
Treatment in a public facility	21.2	24.4	24.6	27.9	28.0	24.6	0.76	6.80	0.0614	0.0225
Treatment in a private facility	0.7	2.5	3.7	15.1	23.6	6.8	0.03	22.90	0.5031	0.0511
Treatment of acute respiratory infection (ARI):										
Medical treatment of ARI	27.6	37.3	41.1	58.4	69.5	42.5	0.40	41.90	0.1870	0.0166
Treatment in a public facility	26.8	33.0	33.2	39.7	32.2	32.4	0.83	5.40	0.0907	0.0217
Treatment in a private facility	0.6	3.6	6.4	17.7	36.7	9.4	0.02	36.10	0.5254	0.0503
Treatment of diarrhea:										
Use of oral rehydration therapy	70.5	73.9	79.9	83.8	83.5	76.7	0.84	13.00	0.0437	0.0091
Medical treatment of diarrhea	29.6	31.8	36.8	47.2	46.0	36.0	0.64	16.40	0.0920	0.0228
Treatment in a public facility	28.0	28.4	31.7	28.4	20.3	28.5	1.38	7.70	-0.0027	0.0270
Treatment in a private facility	1.6	3.3	5.1	18.4	25.7	7.4	0.06	24.10	0.4591	0.0677
C. Antenatal and delivery care										
Antenatal care visits:										
To a medically trained person	43.6	61.6	74.8	90.7	96.1	71.0	0.45	52.50	0.1574	0.0046
To a doctor	30.3	53.1	71.8	89.9	95.8	65.3	0.32	65.50	0.2195	0.0046
To a nurse or trained midwife	13.3	8.5	3.0	0.8	0.3	5.7	44.33	13.00	-0.5101	0.0348
Multiple visits to a medically trained person	27.6	47.8	62.2	81.7	91.3	59.1	0.30	63.70	0.2257	0.0054
Antenatal care content:										
Tetanus toxoid	33.0	47.5	52.1	60.4	56.1	49.0	0.59	23.10	0.1067	0.0084
Prophylactic antimalarial treatment	na	na	na	na	na	na	na	na	na	na
Iron supplementation	na	na	na	na	na	na	na	na	na	na
Delivery attendance:										
By a medically trained person	19.8	44.8	67.7	87.9	97.9	56.7	0.20	78.10	0.2966	0.0041
By a doctor	14.6	39.3	64.3	85.8	97.5	52.9	0.15	82.90	0.3307	0.0042
By a nurse or trained midwife	5.2	5.5	3.3	2.1	0.4	3.8	13.00	4.80	-0.1734	0.0338
In a public facility	14.2	34.9	48.6	63.3	50.5	39.1	0.28	36.30	0.2827	0.0080
In a private facility	1.5	6.0	14.9	22.1	46.5	14.1	0.03	45.00	0.4295	0.0171
At home	83.7	58.0	35.3	14.0	2.6	46.0	32.19	81.10	-0.3707	0.0050

Bolivia

1998 - TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
D. Contraceptive services										
<i>Contraceptive prevalence:</i>										
Women	7.1	17.2	22.2	32.2	45.6	25.2	0.16	38.50	0.2839	0.0113
Men	7.4	16.5	22.5	32.5	36.4	23.6	0.20	29.00	0.2296	0.0206
<i>Source of contraception - public sector:</i>										
Women	67.8	55.6	51.3	43.1	28.3	42.3	2.40	39.50	-0.1744	0.0157
Men	na	na	na	na	na	na	na	na	na	na
<i>Source of contraception - private sector:</i>										
Women	31.1	41.0	47.7	54.4	70.0	55.7	0.44	38.90	0.1391	0.0119
Men	na	na	na	na	na	na	na	na	na	na
E. Treatment of adult illnesses										
<i>Treatment of genital discharge, ulcer, sore:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Voluntary counseling and testing for HIV/AIDS:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - TOTAL POPULATION

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Hygienic practices										
<i>Disposal of children's stools:</i>										
Sanitary disposal	na	na	na	na	na	na	na	na	na	na
<i>Handwashing:</i>										
Wash hands prior to preparing food	na	na	na	na	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na	na	na	na	na
B. Bednet ownership and use										
<i>Bednet ownership:</i>										
Bednet ownership	na	na	na	na	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na	na	na	na	na
<i>Bednet use:</i>										
By children	na	na	na	na	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na	na	na	na	na
C. Breastfeeding										
Exclusive breastfeeding	71.5	66.0	61.0	49.3	(41.2)	60.4	1.74	112.70	-0.0943	0.0235
Timely complementary feeding	68.7	68.7	83.8	69.8	(54.8)	70.3	1.25	123.50	0.0001	0.0183
Bottle-feeding	23.4	29.6	38.7	45.3	62.0	36.4	0.38	38.60	0.1727	0.0199
D. Micronutrient consumption										
<i>Iodized salt:</i>										
Availability of iodized salt in household	9.2	10.1	9.3	9.0	7.7	9.1	1.19	1.50	-0.0182	0.0167
<i>Vitamin A:</i>										
Children	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na
E. Tobacco and alcohol use										
<i>Tobacco:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Alcohol:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
F. Sexual practices										
<i>Non-regular sexual partnerships:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Condom usage with non-regular partner:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
G. Domestic violence										
Ever experienced violence	na	na	na	na	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - TOTAL POPULATION

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles						Low/High Ratio	Low-High Diff. (Abs. Val.)	Concentration Index	
	Low	2nd	3rd	4th	High	Avg.			Value	Standard Errors
A. Education										
<i>School completion:</i>										
Women	28.7	53.1	71.6	86.1	93.4	70.8	0.31	64.70	0.1818	0.0029
Men	54.2	75.6	87.8	94.7	97.9	84.1	0.55	43.70	0.1030	0.0024
<i>School participation:</i>										
Girls	87.3	93.4	97.4	98.8	98.8	94.5	0.88	11.50	0.0269	0.0025
Boys	88.8	94.2	95.7	98.7	99.3	94.6	0.89	10.50	0.0236	0.0024
B. Exposure to mass media										
<i>Newspaper readership:</i>										
Women	10.5	30.3	52.1	72.1	85.0	55.1	0.12	74.50	0.2753	0.0037
Men	27.0	54.6	73.2	83.8	91.8	69.7	0.29	64.80	0.1958	0.0053
<i>Radio listenership:</i>										
Women	49.0	68.1	79.4	86.9	82.8	75.5	0.59	33.80	0.0945	0.0034
Men	67.5	83.5	86.7	89.9	87.3	84.1	0.77	19.80	0.0478	0.0048
<i>Television viewership:</i>										
Women	7.1	47.2	86.9	95.4	97.2	72.8	0.07	90.10	0.2494	0.0027
Men	13.2	58.8	88.6	97.1	98.0	75.9	0.13	84.80	0.2196	0.0047
C. Knowledge and attitudes about HIV/AIDS										
<i>Knowledge about sexual transmission of HIV/AIDS:</i>										
Women	13.4	36.1	60.9	80.7	88.9	61.2	0.15	75.48	0.2494	0.0034
Men	22.2	52.7	68.2	87.2	94.9	69.1	0.23	72.70	0.1965	0.0051
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
<i>Attitudes toward HIV/AIDS:</i>										
Women	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na
D. Status of women										
<i>Household decisionmaking:</i>										
Can seek own health care	na	na	na	na	na	na	na	na	na	na
Can seek children's health care	na	na	na	na	na	na	na	na	na	na
Can make daily household purchases	na	na	na	na	na	na	na	na	na	na
Can make large household purchases	na	na	na	na	na	na	na	na	na	na
Can make meal-related decisions	na	na	na	na	na	na	na	na	na	na
<i>Freedom of movement:</i>										
Can travel to visit family, relatives	na	na	na	na	na	na	na	na	na	na
<i>Other decisionmaking, attitudes:</i>										
Can decide how to spend own money	20.1	40.6	55.4	60.8	63.5	51.3	0.32	43.40	0.1509	0.0069
Can decide whether to have sex	na	na	na	na	na	na	na	na	na	na
Justifies domestic violence	na	na	na	na	na	na	na	na	na	na
E. Orphanhood										
Paternal orphan prevalence	3.3	4.4	3.2	2.6	2.9	3.3	1.14	0.40	-0.0393	0.0226
Maternal orphan prevalence	2.1	2.3	1.8	1.1	1.2	1.8	1.75	0.90	-0.1007	0.0288
Double orphan prevalence	0.3	0.3	0.4	0.2	0.4	0.3	0.75	0.10	0.0970	0.0680

Bolivia

1998 - FEMALE / MALE POPULATIONS

Part I: HNP STATUS

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood mortality and morbidity												
Infant mortality rate	(33.2)	(31.8)	(26.5)	(47.2)	(34.7)	34.6	(44.5)	(53.5)	(46.9)	(50.9)	(35.6)	46.7
Under-five mortality rate	(36.6)	(39.2)	*	(50.8)	(43.9)	39.1	(58.2)	(53.5)	*	(59.7)	(35.6)	56.3
Prevalence of fever	6.3	10.6	3.6	15.8	16.1	9.7	12.2	13.4	8.8	17.2	17.5	13.4
Prevalence of diarrhea	13.5	12.7	14.4	19.9	8.8	14.5	25.1	15.2	13.1	15.0	15.5	17.1
Prevalence of acute respiratory infection	3.4	2.8	2.3	6.6	1.0	3.5	7.0	2.9	0.9	17.7	9.2	7.0
B. Nutritional status												
<i>Children:</i>												
Moderate stunting	26.3	7.6	9.8	8.3	(3.6)	12.1	22.4	11.5	13.9	11.4	(2.4)	13.3
Severe stunting	3.6	2.8	1.6	0.8	(1.1)	2.0	3.3	8.6	4.0	3.9	(1.2)	4.4
Moderate underweight	10.2	3.8	7.8	0.5	(2.4)	5.3	9.3	11.6	10.9	6.1	(2.2)	8.6
Severe underweight	1.3	2.2	0.0	1.9	(1.6)	1.3	1.2	3.1	0.6	3.2	0.0	1.7
Mild anemia	25.8	37.7	35.7	30.4	(39.4)	33.0	34.4	35.6	25.2	24.5	(17.3)	28.7
Moderate anemia	39.7	31.3	21.4	27.0	(21.1)	28.7	33.9	43.2	39.0	38.8	(30.9)	37.6
Severe anemia	6.7	5.2	6.4	2.1	(1.9)	4.7	8.4	5.9	10.9	11.7	0.0	7.7
C. Sexually transmitted disease												
<i>Prevalence of genital discharge:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Prevalence of genital ulcer:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na

Bolivia

1998 - FEMALE / MALE POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood immunization												
BCG coverage	74.4	86.0	89.7	96.4	100.0	87.4	81.9	81.0	87.5	94.5	99.2	87.3
Measles coverage	43.2	37.8	49.9	57.4	65.0	48.6	47.0	53.1	47.7	58.3	67.2	53.0
DPT coverage	37.0	41.8	45.7	66.7	74.6	49.6	35.4	41.8	46.3	60.9	65.6	47.6
Full basic coverage	20.6	24.2	19.3	31.5	35.8	24.7	22.9	25.5	23.0	35.1	25.7	26.2
No basic coverage	17.7	12.1	7.6	0.4	0.0	9.0	13.3	12.5	5.5	4.3	0.0	8.2
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood illnesses												
<i>Treatment of fever:</i>												
Medical treatment of fever	23.0	26.3	28.2	41.2	48.1	30.3	20.5	28.6	30.4	46.7	54.9	33.5
Treatment in a public facility	22.1	21.7	22.1	29.3	28.3	23.8	20.2	26.8	27.0	26.8	27.8	25.3
Treatment in a private facility	0.9	4.6	4.4	11.5	19.8	6.0	0.4	0.6	3.1	18.2	26.3	7.5
<i>Treatment of acute respiratory infection:</i>												
Medical treatment of ARI	28.7	34.2	42.5	52.1	64.3	40.2	26.5	40.2	39.7	63.2	73.5	44.6
Treatment in a public facility	27.7	28.1	33.1	38.0	32.1	31.0	26.0	37.5	33.3	41.0	32.3	33.7
Treatment in a private facility	0.8	6.1	6.8	13.3	32.3	8.5	0.5	1.3	5.9	21.2	40.1	10.2
<i>Treatment of diarrhea:</i>												
Use of oral rehydration therapy	68.5	74.7	78.4	87.1	(81.4)	76.1	72.7	73.4	81.3	80.8	(84.5)	77.2
Medical treatment of diarrhea	26.8	32.1	37.2	48.1	(31.7)	34.4	32.8	31.6	36.4	46.3	(53.2)	37.4
Treatment in a public facility	25.5	28.0	32.4	32.6	(19.6)	28.7	30.8	28.7	30.9	24.5	(20.7)	28.3
Treatment in a private facility	1.3	3.8	4.8	14.9	(12.2)	5.5	2.0	2.9	5.5	21.8	(32.5)	9.1
C. Contraceptive services												
<i>Contraceptive prevalence:</i>												
Women	7.1	17.2	22.2	32.2	45.6	25.2						
Men							7.4	16.5	22.5	32.5	36.4	23.6
<i>Source of contraception - public sector:</i>												
Women	67.8	55.6	51.3	43.1	28.3	42.3						
Men							na	na	na	na	na	na
<i>Source of contraception - private sector:</i>												
Women	31.1	41.0	47.7	54.4	70.0	55.7						
Men							na	na	na	na	na	na
D. Treatment of adult illnesses												
<i>Treatment of genital discharge, ulcer, sore:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Voluntary counseling and testing for HIV/AIDS:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na

Bolivia

1998 - FEMALE / MALE POPULATIONS

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Hygienic practices												
<i>Disposal of children's stools:</i>												
Sanitary disposal	na	na	na	na	na	na						
<i>Handwashing:</i>												
Wash hands prior to preparing food	na	na	na	na	na	na						
Handwashing facilities in household	na	na	na	na	na	na						
B. Bednet ownership and use												
<i>Bednet use:</i>												
By children	na	na	na	na	na	na						
C. Breastfeeding												
Exclusive breastfeeding	73.6	(65.8)	(66.3)	(57.1)	*	62.6	69.4	(66.2)	(55.1)	(43.1)	*	58.3
Timely complementary feeding	72.5	64.1	76.5	(65.6)	*	68.9	65.5	75.2	(92.3)	(74.1)	(49.9)	71.6
Bottle-feeding	20.0	29.2	41.1	42.3	58.6	34.1	26.8	30.1	36.2	48.1	64.0	38.6
D. Micronutrient consumption												
<i>Vitamin A:</i>												
Children	na	na	na	na	na	na	na	na	na	na	na	na
E. Tobacco and alcohol use												
<i>Tobacco:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Alcohol:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
F. Sexual practices												
<i>Non-regular sexual partnerships:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Condom usage with non-regular partner:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na

Bolivia

1998 - FEMALE / MALE POPULATIONS

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles - Female						Wealth Quintiles - Male					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Education												
<i>School completion:</i>												
Women	28.7	53.1	71.6	86.1	93.4	70.8						
Men							54.2	75.6	87.8	94.7	97.9	84.1
<i>School participation:</i>												
Girls	87.3	93.4	97.4	98.8	98.8	94.5						
Boys							88.8	94.2	95.7	98.7	99.3	94.6
B. Exposure to mass media												
<i>Newspaper readership:</i>												
Women	10.5	30.3	52.1	72.1	85.0	55.1						
Men							27.0	54.6	73.2	83.8	91.8	69.7
<i>Radio listenership:</i>												
Women	49.0	68.1	79.4	86.9	82.8	75.5						
Men							67.5	83.5	86.7	89.9	87.3	84.1
<i>Television viewership:</i>												
Women	7.1	47.2	86.9	95.4	97.2	72.8						
Men							13.2	58.8	88.6	97.1	98.0	75.9
C. Knowledge and attitudes about HIV/AIDS												
<i>Knowledge about sexual transmission of HIV/AIDS:</i>												
Women	13.4	36.1	60.9	80.7	88.9	61.2						
Men							22.2	52.7	68.2	87.2	94.9	69.1
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
<i>Attitudes toward HIV/AIDS:</i>												
Women	na	na	na	na	na	na						
Men							na	na	na	na	na	na
D. Orphanhood												
Paternal orphan prevalence	3.4	3.6	3.5	3.0	3.6	3.4	3.2	5.1	2.9	2.1	2.2	3.3
Maternal orphan prevalence	2.2	2.2	1.8	1.4	1.2	1.8	2.0	2.4	1.8	0.9	1.1	1.7
Double orphan prevalence	0.2	0.2	0.5	0.3	0.6	0.3	0.3	0.4	0.3	0.1	0.3	0.3

Bolivia

1998 - RURAL / URBAN POPULATIONS

Part I: HNP STATUS

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood illness and mortality												
Infant mortality rate	107.2	95.9	85.2	*	*	99.9	(96.0)	68.4	73.0	38.4	25.9	53.0
Under-five mortality rate	148.1	124.2	110.1	*	*	134.3	*	100.8	102.4	47.6	32.4	71.9
Prevalence of fever	33.9	34.4	29.8	(54.6)	*	33.9	29.9	30.4	30.5	30.0	29.3	30.1
Prevalence of diarrhea	21.5	19.5	17.1	(32.2)	*	20.6	25.8	20.3	21.3	17.4	11.6	18.1
Prevalence of acute respiratory infection	26.4	27.8	20.7	(33.2)	*	26.3	27.2	25.0	20.2	24.1	21.9	22.7
B. Fertility												
Total fertility rate	7.3	6.0	*	*	*	6.4	*	(5.4)	4.4	3.0	2.1	3.3
Adolescent fertility rate	162.0	116.0	*	*	*	134.9	*	(138.0)	99.0	68.0	27.0	68.0
C. Nutritional status												
<i>Children:</i>												
Moderate stunting	25.8	21.0	18.9	(10.7)	*	23.3	20.4	22.4	17.9	8.6	3.7	13.1
Severe stunting	18.4	10.3	6.7	(9.7)	*	14.5	12.9	9.0	6.7	4.6	2.1	5.7
Moderate underweight	11.7	7.6	3.8	(1.8)	*	9.4	11.2	6.0	5.4	3.0	2.2	4.3
Severe underweight	2.1	0.8	0.6	(3.1)	*	1.6	3.3	1.0	0.8	0.4	0.7	0.8
Mild anemia	22.5	21.3	13.8	*	*	21.3	11.2	21.2	17.6	20.6	16.3	18.6
Moderate anemia	37.7	35.9	42.2	*	*	37.6	52.2	27.4	36.8	21.7	18.9	28.6
Severe anemia	4.8	3.0	0.9	*	*	3.6	0.0	1.3	4.7	4.0	0.7	3.2
<i>Women:</i>												
Malnutrition	0.3	0.0	0.0	(3.6)	*	0.2	2.8	0.5	1.1	0.9	2.2	1.2
Mild anemia	24.9	24.2	24.6	(21.9)	*	24.4	30.6	23.1	23.4	19.3	13.9	19.1
Moderate anemia	11.5	6.9	6.0	(8.9)	*	9.0	10.0	3.2	5.7	3.9	3.2	4.1
Severe anemia	0.8	2.1	0.0	(2.5)	*	1.2	4.2	0.6	1.6	0.2	0.4	0.7
D. Female circumcision												
<i>Prevalence of circumcision:</i>												
Girls	na	na	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na	na	na
<i>Prevalence of occlusion:</i>												
Girls	*	*	*	*	*	*	*	*	*	*	*	*
Women	*	*	*	*	*	*	*	*	*	*	*	*
E. Sexually transmitted disease												
<i>Prevalence of genital discharge:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Prevalence of genital ulcer:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - RURAL / URBAN POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Childhood immunization												
BCG coverage	77.0	83.6	85.7	*	*	80.6	(95.3)	83.3	89.5	95.2	99.6	92.3
Measles coverage	45.1	44.5	45.2	*	*	45.4	(44.9)	46.7	49.9	57.6	66.5	54.8
DPT coverage	35.7	40.7	39.6	*	*	38.3	(42.9)	43.3	47.8	64.3	69.4	56.2
Full basic coverage	21.9	27.7	10.1	*	*	22.2	(20.2)	21.1	24.1	34.4	30.2	27.9
No basic coverage	16.4	12.3	7.3	*	*	13.7	(2.3)	12.3	6.4	2.5	0.0	4.8
Hepatitis B coverage	na	na	na	na	na	na	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na	na	na	na	na	na	na
B. Treatment of childhood diseases												
<i>Treatment of fever:</i>												
Medical treatment of fever	21.2	29.6	20.6	*	*	23.7	(31.9)	24.0	31.3	46.1	52.5	38.8
Treatment in a public facility	20.6	27.1	18.0	*	*	22.3	(30.4)	20.0	26.1	29.0	28.2	26.5
Treatment in a private facility	0.6	2.5	1.7	*	*	1.3	(1.5)	2.4	4.2	16.0	23.8	11.3
<i>Treatment of acute respiratory infection (ARI):</i>												
Medical treatment of ARI	26.9	36.2	29.9	*	0.0	30.5	(37.0)	39.1	43.7	59.3	69.5	52.8
Treatment in a public facility	26.2	32.7	23.7	*	0.0	28.2	(35.4)	33.4	35.5	40.3	32.2	36.0
Treatment in a private facility	0.7	3.6	5.0	*	0.0	2.2	0.0	3.7	6.7	18.0	36.7	15.5
<i>Treatment of diarrhea:</i>												
Use of oral rehydration therapy	68.9	66.1	(66.4)	*	*	68.3	(89.5)	85.1	82.4	83.9	83.2	83.7
Medical treatment of diarrhea	28.8	29.5	(41.5)	*	*	30.8	(39.7)	35.1	35.9	46.7	45.1	40.2
Treatment in a public facility	27.2	26.8	(34.7)	*	*	28.1	(38.0)	30.6	31.1	28.0	19.0	28.8
Treatment in a private facility	1.6	2.4	(6.8)	*	*	2.7	(1.7)	4.5	4.8	18.4	26.1	11.3
C. Antenatal and delivery care												
<i>Antenatal care visits:</i>												
To a medically trained person	42.7	58.8	77.9	(88.8)	*	52.5	58.7	65.7	74.2	90.8	96.1	82.9
To a doctor	28.6	46.5	71.7	(86.9)	*	40.1	56.9	62.8	71.8	90.0	95.8	81.4
To a nurse or trained midwife	14.1	12.3	6.2	(2.0)	*	12.4	1.8	3.0	2.3	0.8	0.3	1.5
Multiple visits to a medically trained person	26.1	43.8	65.1	(82.8)	*	37.1	49.9	53.7	61.6	81.6	91.2	73.3
<i>Antenatal care content:</i>												
Tetanus toxoid	31.7	43.1	47.5	(48.1)	*	37.3	53.5	54.0	53.1	60.9	56.3	56.4
Prophylactic antimalarial treatment	na	na	na	na	na	na	na	na	na	na	na	na
Iron supplementation	na	na	na	na	na	na	na	na	na	na	na	na
<i>Delivery attendance:</i>												
By a medically trained person	18.5	39.0	68.2	(93.4)	*	30.9	39.8	53.6	67.6	87.7	97.9	76.5
By a doctor	13.3	32.6	62.7	(82.8)	*	25.2	34.1	49.5	64.7	86.0	97.4	74.1
By a nurse or trained midwife	5.2	6.4	5.5	(10.6)	*	5.7	5.7	4.1	2.9	1.8	0.4	2.4
In a public facility	13.0	27.9	40.6	(64.0)	*	21.0	32.6	45.4	50.5	63.3	50.9	53.0
In a private facility	1.5	6.2	23.3	(23.3)	*	5.6	1.3	5.6	13.0	22.1	46.1	20.7
At home	85.0	64.6	35.0	(12.7)	*	72.6	63.7	47.9	35.4	14.0	2.6	25.4
D. Contraceptive services												
<i>Contraceptive prevalence:</i>												
Women	6.2	14.4	17.0	33.5	*	11.3	22.7	21.2	23.3	32.1	45.3	32.3
Men	7.1	12.4	16.0	(42.4)	*	11.6	(14.8)	25.9	24.1	32.1	35.8	30.4

Bolivia

1998 - RURAL / URBAN POPULATIONS

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
D. Contraceptive services (cont.)												
<i>Source of contraception - public sector:</i>												
Women	73.3	54.1	44.2	*	*	55.6	*	57.1	52.5	43.1	28.5	39.9
Men	(100.0)	100.0	*	*	*	100.0	*	(100.0)	100.0	100.0	100.0	100.0
<i>Source of contraception - private sector:</i>												
Women	25.4	43.6	55.8	*	*	43.1	*	38.5	46.4	54.3	69.8	58.0
Men	na	na	na	na	na	na	na	na	na	na	na	na
E. Treatment of adult illnesses												
<i>Treatment of genital discharge, ulcer, sore:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Treatment of genital discharge, ulcer, sore in public facilities:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Voluntary counseling and testing for HIV/AIDS:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - RURAL / URBAN POPULATIONS

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Hygienic practices												
<i>Disposal of children's stools:</i>												
Sanitary disposal	na	na	na	na	na	na	na	na	na	na	na	na
<i>Handwashing:</i>												
Wash hands prior to preparing food	na	na	na	na	na	na	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na	na	na	na	na	na	na
B. Bednet ownership and use												
<i>Bednet ownership:</i>												
Bednet ownership	na	na	na	na	na	na	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na	na	na	na	na	na	na
<i>Bednet use:</i>												
By children	na	na	na	na	na	na	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na	na	na	na	na	na	na
C. Breastfeeding												
Exclusive breastfeeding	76.0	71.8	*	*	0.0	71.8	*	(58.1)	62.6	49.9	(41.2)	52.5
Timely complementary feeding	65.4	72.5	*	*	0.0	66.3	*	(62.3)	87.7	72.5	(54.8)	73.1
Bottle-feeding	21.9	26.7	(37.5)	*	0.0	24.9	(40.2)	34.1	38.9	45.9	62.0	44.9
D. Micronutrient consumption												
<i>Iodized salt:</i>												
Availability of iodized salt in household	9.2	10.9	11.7	5.3	*	10.0	9.6	8.5	8.7	9.1	7.7	8.5
<i>Vitamin A:</i>												
Children	na	na	na	na	na	na	na	na	na	na	na	na
Women	na	na	na	na	na	na	na	na	na	na	na	na
E. Tobacco and alcohol use												
<i>Tobacco:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Alcohol:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
F. Sexual practices												
<i>Non-regular sexual partnerships:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Condom usage with non-regular partner:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
G. Domestic violence												
Ever experienced violence	na	na	na	na	na	na	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na	na	na	na	na	na	na

Bolivia

1998 - RURAL / URBAN POPULATIONS

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles - Rural						Wealth Quintiles - Urban					
	Low	2nd	3rd	4th	High	Avg.	Low	2nd	3rd	4th	High	Avg.
A. Education												
<i>School completion:</i>												
Women	27.4	48.6	63.8	81.8	*	41.1	51.2	59.5	73.3	86.3	93.5	82.8
Men	53.5	71.6	83.8	90.4	*	64.7	70.2	81.4	88.7	94.9	97.9	92.7
<i>School participation:</i>												
Girls	87.5	93.1	95.7	(95.1)	*	90.4	84.5	94.0	97.9	99.0	98.8	97.5
Boys	89.6	96.1	95.0	(98.4)	*	92.6	72.7	91.2	95.9	98.7	99.3	96.2
B. Exposure to mass media												
<i>Newspaper readership:</i>												
Women	9.0	20.6	33.7	48.7	*	17.5	36.4	43.6	56.1	73.1	85.1	70.0
Men	25.9	45.7	46.0	(60.6)	*	37.3	(50.5)	70.9	80.0	84.7	92.1	84.6
<i>Radio listenership:</i>												
Women	48.7	68.3	69.5	80.8	*	59.0	54.3	67.7	81.5	87.1	82.8	82.1
Men	67.2	81.1	72.0	(99.0)	*	74.0	(72.2)	87.9	90.4	89.5	87.5	88.7
<i>Television viewership:</i>												
Women	5.1	30.3	69.8	90.7	*	24.7	41.3	70.4	90.6	95.6	97.3	91.9
Men	11.4	45.5	59.9	(88.3)	*	33.4	(53.9)	83.3	95.7	97.4	97.9	95.4
C. Knowledge and attitudes about HIV/AIDS												
<i>Knowledge about sexual transmission of HIV/AIDS:</i>												
Women	39.5	47.1	50.9	62.1	*	44.4	63.5	64.4	73.4	84.2	91.2	82.0
Men	49.8	60.4	57.2	(58.5)	*	55.4	(62.1)	79.9	79.1	90.4	95.2	88.2
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
<i>Attitudes toward HIV/AIDS:</i>												
Women	na	na	na	na	na	na	na	na	na	na	na	na
Men	na	na	na	na	na	na	na	na	na	na	na	na
D. Status of women												
<i>Household decisionmaking:</i>												
Can seek own health care	na	na	na	na	na	na	na	na	na	na	na	na
Can seek children's health care	na	na	na	na	na	na	na	na	na	na	na	na
Can make daily household purchases	na	na	na	na	na	na	na	na	na	na	na	na
Can make large household purchases	na	na	na	na	na	na	na	na	na	na	na	na
Can make meal-related decisions	na	na	na	na	na	na	na	na	na	na	na	na
<i>Freedom of movement:</i>												
Can travel to visit family, relatives	na	na	na	na	na	na	na	na	na	na	na	na
<i>Other decisionmaking, attitudes:</i>												
Can decide how to spend own money	18.2	27.6	36.6	42.9	*	24.4	67.5	59.3	58.9	61.4	63.4	61.5
Can decide whether to have sex	na	na	na	na	na	na	na	na	na	na	na	na
Justifies domestic violence	na	na	na	na	na	na	na	na	na	na	na	na
E. Orphanhood												
Paternal orphan prevalence	3.5	4.4	2.4	1.8	*	3.6	0.3	4.3	3.4	2.6	2.9	3.1
Maternal orphan prevalence	2.2	2.8	2.3	2.5	*	2.4	1.7	1.6	1.7	1.1	1.2	1.4
Double orphan prevalence	0.3	0.3	0.4	1.8	*	0.3	0.2	0.3	0.4	0.2	0.4	0.3

PART III. TECHNICAL NOTES

A. INDICATOR DEFINITIONS

B. DATA AND METHODS

C. DISCUSSION

INDICATOR DEFINITIONS

Part I: HNP STATUS

A. CHILDHOOD MORTALITY AND ILLNESS ²

Infant mortality rate: number of deaths to children under 12 months of age per 1,000 live births, based on experience during the ten years preceding the survey.

Under-five mortality rate: number of deaths to children under five years of age per 1,000 live births, based on experience during the ten years preceding the survey.

Prevalence of fever: percent of children who had fever, whether or not accompanied by cough or rapid breathing, in the two weeks before the survey.

Prevalence of diarrhea: percent of children who had diarrhea in the two weeks before the survey.

Prevalence of acute respiratory infection: percent of children who had a cough accompanied by rapid or difficult breathing in the two weeks before the survey.

B. FERTILITY

Total fertility rate (TFR): average number of births a woman could expect to have during her lifetime if she followed the levels of fertility currently observed at every age. The TFR is calculated as the sum of average annual age-specific fertility rates for all reproductive age groups (usually 15-49 years) in the three years before the survey.

Adolescent fertility rate: age-specific fertility rate for women 15-19 years of age. This is the average number of births among women aged 15-19 years per 1,000 women in that age group, based on births in the three years before the survey and expressed as annual averages.

² Figures for the prevalence of fever, diarrhea, and acute respiratory infection refer to percent of children under three, four, or five years of age, depending upon the country. (The specific ages covered for in particular country may be determined by consulting the full report on that country's DHS, which may be found at: www.measuredhs.com/countries.)

C. NUTRITIONAL STATUS

Children^{3, 4, 5}

Moderate stunting (height-for-age): percent of children with a height-for-age Z-score of between –2 and –3 standard deviations of the median reference standard for their age (as defined in fn. 4).

Severe stunting (height-for-age): percent of children with a height-for-age Z-score of below –3 standard deviations of the median reference standard for their age (as defined in fn. 4).

Moderate underweight (weight-for-age): percent of children with a weight-for-age Z-score of between –2 and –3 standard deviations of the median reference standard for their age (as defined in fn. 4).

Severe underweight (weight-for-age): percent of children with a weight-for-age Z-score of below –3 standard deviations of the median reference standard for their age (as defined in fn. 4).

Mild anemia: percent of children with a hemoglobin level of between 10.0g/dl and 10.9 g/dl, the World Health Organization criterion for mild anemia.

Moderate anemia: percent of children with a hemoglobin level of between 7.0g/dl and 9.9g/dl, the World Health Organization criterion for moderate anemia.

Severe anemia: percent of children with a hemoglobin level of below 7.0g/dl, the World Health Organization criterion for severe anemia.

Women^{6, 7}

Malnutrition: percent of women aged 15-49 years with a Body Mass Index (BMI) of less than 18.5, where BMI – commonly used to indicate adult nutritional status – is defined as weight in kilograms divided by the square of height in meters.

Mild anemia: percent of women aged 15-49 years with a hemoglobin level of between 10.0g/dl and 10.9g/dl for pregnant women and between 10.0g/dl and 11.9g/dl for non-pregnant women, the World Health Organization criterion for mild anemia.

Moderate anemia: percent of women aged 15-49 years with a hemoglobin level of between 7.0g/dl and 9.9g/dl, the World Health Organization criterion for moderate anemia.

Severe anemia: percent of women aged 15-49 years with a hemoglobin level of less than 7.0g/dl, the World Health Organization criterion for severe anemia.

³ All figures related to children's nutrition status refer to children under three, four, or five years of age, depending upon the country. (The specific ages covered for in particular country may be determined by consulting the full report on the DHS of the country concerned, which is available at: www.measuredhs.com/countries.)

⁴ The reference standards used for stunting and underweight are those established in the 1970s by the World Health Organization, the U.S. Centers for Disease Control, and the U.S. National Center for Health Statistics. Updated stunting and underweight figures based on the recently-released, 2006 World Health Organization reference standards are currently under preparation. When complete, they will be available at: www.worldbank.org/povertyandhealth/countrydata.

⁵ The anemia figures for children living at an altitude above 1,000 meters have been adjusted to reflect the higher level of hemoglobin required.

⁶ In some countries, the BMI is presented for all women; in others, the figure is available only for mothers of children under five years of age. The reference population for any given country can be determined by consulting the full report on the DHS for the country concerned. An electronic version of this report is located at: www.measuredhs.com/countries.

⁷ Anemia cut-off points for respondents who live at an altitude above 1,000 meters and/or who smoke have been adjusted to account for their higher hemoglobin requirements.

D. FEMALE CIRCUMCISION

Prevalence of Circumcision

Girls: percent of women aged 15-49 years with one or more daughters, at least one of whom had been circumcised.

Women: percent of women aged 15-49 years who had been circumcised.

Prevalence of Occlusion

Girls: percent of women aged 15-49 years with one or more daughters, at least one of whom had been circumcised with the vaginal area sewn closed.

Women: percent of women aged 15-49 years whose vaginal area had been sewn closed.

E. SEXUALLY TRANSMITTED DISEASES

Prevalence of Genital Discharge

Women: percent of women aged 15-49 years who had had abnormal genital discharge in the twelve months before the survey.

Men: percent of men aged 15-54 years who had had abnormal genital discharge in the twelve months before the survey.

Prevalence of Genital Ulcer or Sore

Women: percent of women aged 15-49 years who had had a genital ulcer or sore in the twelve months before the survey.

Men: percent of men aged 15-54 years who had had a genital ulcer or sore in the twelve months before the survey.

Part II: INTERMEDIATE DETERMINANTS OF HNP STATUS – HEALTH SERVICE USE

A. CHILDHOOD IMMUNIZATION ⁸

BCG coverage: percent of children who had received a dose of BCG vaccine by the time of the survey.

Measles coverage: percent of children who had received a dose of measles vaccine by the time of the survey.

DPT coverage: percent of children who had received three doses of DPT vaccine by the time of the survey.

Full basic coverage: percent of children who had received a dose of BCG vaccine, measles vaccine, and three doses of DPT and polio vaccines by the time of the survey, excluding polio vaccine given at birth.

No basic coverage: percent of children who had received no vaccination against the six early-childhood diseases (TB, measles, polio, diphtheria, pertussis, and tetanus) by the time of the survey.

Hepatitis B coverage: percent of children who had received three doses of hepatitis B vaccine by the time of the survey.

Yellow fever coverage: percent of children who had received a dose of yellow fever vaccine by the time of the survey.

B. TREATMENT OF CHILDHOOD ILLNESSES ⁹

Treatment of Fever

Medical treatment of fever: percent of children with fever, with or without cough or rapid breathing, in the two weeks before the survey who had sought medical advice for fever from any health facility or health provider, whether public or private.

Treatment in a public facility: percent of children with fever, with or without cough or rapid breathing, in the two weeks before the survey who had sought medical advice for fever from a public-sector health facility or provider (as defined in fn. 9).

Treatment in a private facility: percent of children with fever, with or without cough or rapid breathing, in the two weeks before the survey who had sought medical advice for fever from a private-sector health facility or provider (as defined in fn. 9).

⁸ Childhood immunization figures refer to rates among children 12-23 months of age in all countries except those in Latin America and the Caribbean. There, the figures refer to rates among children 18-29 months of age. All figures are based on information recorded on the child's vaccination card; or, in cases where a card was not seen by the interviewer, on the mother's report.

⁹ Figures for illness treatment in a public facility refer to treatment in government hospitals, health centers, health posts, or dispensaries; or in facilities operated by government-affiliated social securing programs. Figures for treatment in private facilities cover treatment in private hospitals or clinics, in private doctors' offices, or in facilities operated by other private medical providers (such as non-governmental organizations) as defined in the country concerned; but exclude treatment obtained in private pharmacies or shops.

Treatment of Acute Respiratory Infection (ARI)

Medical treatment of ARI: percent of children with a cough and rapid breathing in the two weeks before the survey who had been taken for treatment at any medical facility or provider, whether public or private.

Treatment in a public facility: percent of children with a cough and rapid breathing in the two weeks before the survey who had been taken for treatment at a public-sector health facility or provider (as defined in fn. 9).

Treatment in a private facility: percent of children with a cough and rapid breathing in the two weeks before the survey who had been taken for treatment at a private-sector health facility or provider (as defined in fn. 9).

Treatment of Diarrhea

Use of oral rehydration therapy: percent of children with diarrhea in the two weeks before the survey who had received oral rehydration therapy (ORT) (defined as including consumption of oral rehydration salts, other recommended home fluids, or other increased liquids).

Medical treatment of diarrhea: percent of children with diarrhea in the two weeks before the survey who had been taken for treatment at any medical facility or provider, whether public or private.

Treatment in a public facility: percent of children with diarrhea in the two weeks before the survey who had been taken for treatment at a public-sector health facility or provider (as defined in fn. 9).

Treatment in a private facility: percent of children with diarrhea in the two weeks before the survey who had been taken for treatment at a private-sector health facility or provider (as defined in fn. 9).

C. ANTENATAL AND DELIVERY CARE ¹⁰

Antenatal Care (ANC) Visits

To a medically-trained person: percent of women with one or more births in the five years before the survey who had received at least one antenatal care consultation from a medically-trained person (as defined in fn. 10) before her most recent birth.

To a doctor: percent of women with one or more births in the five years before the survey who had received at least one antenatal care consultation from a doctor before her most recent birth.

To a nurse or trained midwife: percent of women with one or more births in the five years before the survey who had received at least one antenatal care consultation from a nurse or trained midwife (as defined in fn. 10) before her most recent birth.

Multiple visits to a medically-trained person: percent of women with one or more births in the five years before the survey who had received at least three antenatal care consultations from any medically-trained provider (as defined in fn. 10) before her most recent birth.

¹⁰ When speaking of antenatal and delivery care, medically-trained persons are defined as doctors, nurses, and trained midwives. The definition excludes traditional midwives or other traditional birth attendants, whether trained or untrained.

Antenatal Care (ANC) Content

Tetanus toxoid: percent of women with one or more births in the five years before the survey who had received at least one tetanus toxoid injection during her most recent pregnancy.

Prophylactic antimalarial treatment: percent of women with one or more births in the five years before the survey who had received prophylactic treatment with any anti-malarial drug during her most recent pregnancy.

Iron supplementation: percent of women with one or more births in the five years before the survey who had taken iron tablets during her most recent pregnancy.

Delivery Attendance

By a medically-trained person: percent of births in the five years before the survey attended by a medically-trained person (as defined in fn. 10).

By a doctor: percent of births in the five years before the survey attended by a doctor.

By a nurse or trained midwife: percent of births in the five years before the survey attended to by a nurse or a trained midwife (as defined in fn. 10).

In a public facility: percent of all deliveries in the five years before the survey occurring in a public-sector health facility (as defined in fn. 9).

In a private facility: percent of all deliveries in the five years before the survey occurring in a private-sector health facility (as defined in fn. 9).

At home: percent of all deliveries in the five years before the survey occurring at home (defined as the woman's own or any other home).

D. CONTRACEPTIVE SERVICES

Contraceptive Prevalence¹¹

Women: percent of married or in-union women aged 15-49 years who used any modern means of contraception (as defined in fn. 11).

Men: percent of married or in-union men aged 15-54 years who used any modern means of contraception (as defined in fn. 11).

Source of Contraception - Public Sector

Women: percent of married women who obtained their current method of contraception from a public-sector health facility or provider (as defined in fn. 9).

Men: percent of married men who obtained their current method of contraception from a public-sector health facility or provider (as defined in fn. 9).

¹¹ Figures refer to use of modern means of contraception, defined as male/female sterilization, oral contraceptive pill, contraceptive injection, intrauterine device, male/female condom, diaphragm, cervical cap, contraceptive jelly or foam, implant, or some country-specific modern method.

Source of Contraception - Private Sector

Women: percent of married women who obtained their current method of contraception from a private-sector health facility or provider (as defined in fn. 9, except that private pharmacies and shops are included rather than excluded).

Men: percent of married women who obtained their current method of contraception from a private-sector health facility or provider (as defined in fn. 9, except that private pharmacies and shops are included rather than excluded).

E. TREATMENT OF ADULT ILLNESSES

Treatment of Genital Discharge, Ulcer, or Sore

Women: percent of women with genital discharge, ulcer, or sore who sought any medical treatment for resulting symptoms.

Men: percent of men with genital discharge, ulcer, or sore who sought any medical treatment for resulting symptoms.

Treatment of Genital Discharge, Ulcer, or Sore in a Public Facility

Women: percent of women with genital discharge, ulcer, or sore who sought treatment from a public-sector health facility or provider (as defined in fn. 9).

Men: percent of men with genital discharge, ulcer, or sore who sought treatment from a public-sector health facility or provider (as defined in fn. 9).

Voluntary Counseling and Testing for HIV/AIDS

Women: percent of women aged 15-49 years who had been tested for HIV at any time before the survey.

Men: percent of men aged 15-54 years who had been tested for HIV at any time before the survey.

Part III: INTERMEDIATE DETERMINANTS OF HNP STATUS – INDIVIDUAL AND HOUSEHOLD BEHAVIOR

A. HYGIENIC PRACTICES

Disposal of Children's Stools

Sanitary disposal: percent of mothers with at least one child under five years of age who disposed of the stools of their youngest child in a sanitary manner (defined as dropping stool into a latrine, burying it, or using disposable diapers).

Handwashing

Wash hands prior to preparing food: percent of women aged 15-49 years preparing meals who washed hands before handling food.

Handwashing facilities in household: percent of households that had hand-washing materials or facilities, as determined by direct observation of interviewers.

B. BEDNET OWNERSHIP AND USE

Bednet Ownership

Bednet ownership: percent of households owning one or more bednets.

Treated bednet ownership: percent of households owning one or more bednets that had recently been treated with insecticides.

Bednet Use

By children: percent of households with at least one child under five years of age, some or all of whom had slept under a bednet the night before the survey.

By pregnant women: percent of currently pregnant women who had slept under a bednet the night before the survey.

C. BREASTFEEDING

Exclusive breastfeeding: percent of children 0-3 months of age who had received only breast milk in the 24 hours before the survey.

Timely complementary feeding: percent of children 6-9 months of age who had received breast milk and solid or semi-solid foods in the twenty-four hours before the survey.

Bottle-feeding: percent of children under 12 months of age who had received any food or drink from a bottle with a nipple in the twenty-four hours before the survey.

D. MICRONUTRIENT CONSUMPTION

Iodized Salt

Availability of iodized salt in household: percent of households with cooking salt testing positive for iodine/iodate at the recommended level of 15 or 25 parts per million or more (depending on the country).¹²

Vitamin A

Children: percent of children¹³ who had received at least one dose of vitamin A in the six months before the survey, as reported by the mothers.

Women: percent of women who had received a dose of vitamin A within two months of the last birth, in the five years before the survey.

E. TOBACCO AND ALCOHOL USE

Tobacco¹⁴

Women: percent of women aged 15-49 years who currently were smoking or chewing tobacco products.

Men: percent of men aged 15-54 years who currently were smoking or chewing tobacco products.

Alcohol

Women: percent of women aged 15-49 years who had gotten intoxicated due to excessive consumption of alcohol in the three months before the survey.

Men: percent of men aged 15-54 years who had gotten intoxicated due to excessive consumption of alcohol in the three months before the survey.

F. SEXUAL PRACTICES

Non-Regular Sexual Partnerships

Women: percent of women aged 15-49 years who had had sex with a non-regular partner at least once in the twelve months before the survey.

Men: percent of men aged 15-54 years who had had sex with a non-regular partner at least once in the twelve months before the survey.

¹² Which of these two levels is recommended in any particular country may be determined by consulting the full report on that country's DHS, which may be found at: www.measuredhs.com/countries.

¹³ Figures refer to children over six months of age and under three, four, or five years of age, depending upon the country. (The specific ages covered for in a particular country may be determined by consulting the full report on that country's DHS, which is available at: www.measuredhs.com/countries.)

¹⁴ Tobacco products include cigarettes, pipes, cigars, leaves, etc.

Condom Usage with Non-Regular Partner

Women: percent of women aged 15-49 years with non-regular sexual partner who had used a condom in the last sexual intercourse with such a partner in the twelve months before the survey.

Men: percent of men aged 15-54 years with non-regular sexual partner who had used a condom in the last sexual intercourse with such a partner in the twelve months before the survey.

G. DOMESTIC VIOLENCE

Ever experienced violence: percent of women aged 15-49 years who had ever been hit or beaten by current or former husband/partner.

Experienced violence in past year: percent of women aged 15-49 years who had been hit or beaten by current or former husband/partner in the twelve months before the survey.

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

A. EDUCATION

School Completion

Women: percent of women aged 15-49 years who had completed the fifth grade.

Men: percent of men aged 15-54 years who had completed the fifth grade.

School Participation

Girls: percent of girls aged 6-10 years who were attending school at the time of the survey.

Boys: percent of boys aged 6-10 years who were attending school at the time of the survey.

B. EXPOSURE TO MASS MEDIA

Newspaper Readership

Women: percent of women aged 15-49 years who read a newspaper at least once a week.

Men: percent of men aged 15-54 years who read a newspaper at least once a week.

Radio Listenership

Women: percent of women aged 15-49 years who listened to radio at least once a week.

Men: percent of men aged 15-54 years who listened to radio at least once a week.

Television Viewership

Women: percent of women aged 15-49 years who watched television at least once a week.

Men: percent of men aged 15-54 years who watched television at least once a week.

C. KNOWLEDGE AND ATTITUDES ABOUT HIV/AIDS

Knowledge about Sexual Transmission of HIV/AIDS¹⁵

Women: percent of women aged 15-49 years who knew of HIV/AIDS and of at least one of the following ways to avoid it through interruption of its sexual transmission route: abstinence; using a condom; avoiding multiple sex partners, sex with prostitutes, and unprotected homosexual sex.

Men: percent of men aged 15-54 years who knew of HIV/AIDS and of at least one of the ways to avoid HIV/AIDS referred to in the preceding definition.

¹⁵ In most countries, the survey sample included both married and unmarried individuals. Where this was the case, all respondents, regardless of marital status, were asked the question covered in this section. Where the survey covered only individuals who were or had been married, the data pertain only to individuals who had ever been married. (The marital status of people covered for in particular country is indicated in the full report on that country's DHS, which is located at: www.measuredhs.com/countries.)

Knowledge about Mother-to-Child Transmission of HIV/AIDS

Women: percent of women aged 15-49 years who knew of at least one way HIV/AIDS can be transmitted from mother to child during pregnancy, delivery, or breastfeeding.

Men: percent of men aged 15-54 years who knew of at least one way HIV/AIDS can be transmitted from mother to child during pregnancy, delivery, or breastfeeding.

Attitudes toward HIV/AIDS

Women: percent of women aged 15-49 years who believed that people with HIV/AIDS should be allowed to continue working or that HIV test results should remain confidential.

Men: percent of men aged 15-54 years who believed that people with HIV/AIDS should be allowed to continue working or that HIV test results should remain confidential.

D. STATUS OF WOMEN

Household Decisionmaking

Can seek own health care: percent of women age 15-49 years who could decide by themselves to seek their own health care.

Can seek children's health care: percent of women aged 15-49 years, whose children live with them, who could decide by themselves to seek health care for their children.

Can make daily household purchases: percent of women aged 15-49 years who could decide by themselves or jointly with others to make daily household purchases.

Can make large household purchases: percent of women aged 15-49 years who could decide by themselves or jointly with others to make large household purchases.

Can make meal-related decisions: percent of women aged 15-49 years who could decide by themselves what food to cook daily.

Freedom of Movement

Can travel to visit family, relatives: percent of women aged 15-49 years who could decide by themselves to visit family and relatives.

Other Decisionmaking, Attitudes

Can decide how to spend own money: percent of women aged 15-49 years who work for cash who could decide by themselves on how to use the money they earn.

Can decide whether to have sex: percent of women aged 15-49 years agreeing that they can refuse to have sex with their husband for at least one of the following reasons: he has a sexually-transmitted disease; he has had sexual relations with another woman; or the woman is tired, not in mood, or recently has given birth.

Justify domestic violence: percent of women aged 15-49 years believing that a husband/male partner would be justified in beating his wife/female partner for at least one of the following reasons: he suspects her of being unfaithful; she argues with him; she goes out without telling him; she neglects the children; she burns the food; or other, country-specific reasons (for example, she shows disrespect for her in-laws or her family does not give the expected dowry).

E. ORPHANHOOD

Maternal orphan prevalence: percent of children under 15 years of age whose natural mother had died before the survey.

Paternal orphan prevalence: percent of children under 15 years of age whose natural father had died before the survey.

Double orphan prevalence: percent of children under 15 years of age both of whose natural parents had died before the survey.

DATA AND METHODS

Any assessment of the figures featured in this report requires an appreciation of how they were prepared. The first need is to understand the basic features of the data and methods employed.

A. SOURCE OF FIGURES

The figures appearing in this report are all derived from data collected under the Demographic and Health Surveys (DHS) program conducted by ORC Macro, with support from the U.S. Agency for International Development and other external assistance organizations. Large DHS household surveys have been carried out, usually at periodic intervals, in approximately seventy-five countries across Africa, Asia, Latin America, the Middle East, and the former Soviet Union.¹⁶ This series of reports covers the fifty-six of those countries that had one or more DHS surveys undertaken since 1990, for which data were publicly available as of June 2006. (Annex C is a list of the countries for which reports have been prepared.)

In each country, the DHS program has gathered information on a large number of indicators about health, nutrition, and population (hnp) status and service use; about relevant behaviors of household members; and about household characteristics like those described below. It has done this through a set of questionnaires, similar in all countries, to collect data at the individual, household, and community levels.

The data presented here draw on responses to the individual and household questionnaires. In most cases, they are based on responses from women or other family members interviewed. The principal exceptions concern nutritional status, which is based on anthropometric measurement; immunization, which typically relies to the extent possible on record cards maintained at the household level; and those other items where a source other than interviewer response is specifically identified.

B. MEASUREMENT OF ECONOMIC STATUS

Wealth or Asset Approach

Economic status has been expressed in terms of wealth or assets: specifically, on the basis of information about household characteristics gathered through the DHS household questionnaire. (Such information was normally provided for at least 25-30, and often many more, characteristics like the presence, availability, or use of a fan, radio receiver, or automobile; housing materials like wood or concrete flooring, tile or tin roofing, or cement block walls; superior sources of water like piped or a protected well; and other attributes related to economic status.)

¹⁶ Further information about the DHS program is available at the program's website: www.measuredhs.com.

Index Construction

A single, consolidated index of living standards¹⁷ was constructed by using principal components analysis (PCA) to generate a weight for each household item with available information. A wealth index score was calculated for each household by weighting the response with respect to each item pertaining to that household by the coefficient of the first principal component as determined by application of principal components analysis, and summing the results. The resulting household scores were standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one.

All individuals usually present in each household were assigned the household's standardized wealth index score, and all individuals in the sample population were ranked according to that score. The sample population was then divided into quintiles of individuals, with all individuals in a single household being assigned to the same quintile.

The same standardized household wealth index scores originally derived for the total population sample, as just described, were also used in preparing the disaggregated estimates for female and male members of the sample population, and for rural and urban residents. In preparing those disaggregated estimates, the entire population sample was divided into quintiles of individuals; the females and males, and the rural and urban residents in each quintile of the entire sample were then separated from one another; and the mean for each of the ten resulting subgroups (five female, five male; or five rural, five urban) was calculated.

This procedure was carried out separately for each of the surveys covered.

C. CALCULATION AND PRESENTATION OF RATES

Use of Sampling Weights

Rates for all health, nutrition, and population indicators are calculated after applying the DHS sampling weights. (DHS surveys often over-sample certain small subgroups of interest – residents of a particular geographic area, for example – in order to get sample sizes large enough to produce statistically-significant results. The DHS sampling weights are used to compensate for such over-sampling in order to ensure that the results are representative of the population as a whole and not just of the DHS sample.)

Calculation of Total Population Averages

The average for the total population presented alongside the quintile-specific rates for each indicator is calculated without reference to quintile divisions. It thus equals the weighted mean of the quintile rates, with the weight assigned to each quintile rate being the proportion of the number of individuals at risk (as defined on p. 59) for the indicator concerned.

Sampling Errors

Information needed to assess the statistical significance of differences among the quintile-specific rates is presented in three ways:

- First, in all the basic tables presented in part I, rates are shown in parentheses or replaced by asterisks in cases where the standard error is likely to be unacceptably high because

¹⁷ Such an index is usually referred to as either an “asset index” or a “wealth index.” The two expressions are used interchangeably in this report; for ease of communication, “wealth index” appears more frequently despite the inexact correspondence between the items included in the index's construction and those appearing in more conventional, financially-based definitions of wealth.

of small sample size. The number of observations used to determine how to present the data for the different indicators covered were as follows:

Indicator	Unit of measure	Number of observations used to determine how quintile-specific rate was presented		
		<i>Without parentheses</i>	<i>With parentheses</i>	<i>Replaced by asterisk</i>
Infant and child mortality	Number of deaths	>500	250-499	<250
Total and adolescent fertility	Number of births	>250	125-249	<125
All other indicators	Number of individuals	>50	25-49	<25

- Second, the standard error for each quintile-specific rate (except for any rate replaced by an asterisk) appearing in the total population table is provided in part III.B. (Standard errors for the quintile-specific rates presented in the female-male and rural-urban tables are not available.)

- Third, the right-hand column of the total population table provides the standard error for the concentration index, one of the measures of inequality shown, as indicated below.

D. MEASUREMENT OF INEQUALITY

Accompanying each of the indicators presented in the total population table are the values for three statistical measures of inequality:

- *Low/High Quintile Ratio:* the ratio between the rate prevailing in the lowest (poorest) population quintile and that found in the highest (least poor) quintile.

- *Low-High Quintile Difference:* the value of the lowest quintile minus the value of the highest, expressed as an absolute value.

- *Concentration Index:* twice the area in a Lorenz-type diagram between the line of equality and the concentration curve for the indicator in question, the curve being the graph of the cumulative share of the indicator against the cumulative share in the asset distribution. (The value, which can range from -1 to +1, is negative when the hnp indicator is higher among the poor (e.g., fertility), positive when it is higher among the better-off (e.g., modern contraceptive use), and zero when on balance the indicator shows no systematic relationship with wealth.)¹⁸

¹⁸ Adam Wagstaff, Pierella Paci, and Eddy van Doorslaer, "On the Measurement of Inequalities of Health," *Social Science and Medicine* 33 (1991): 545-57. (See also chapter eight in the volume by O'Donnell, van Doorslaer, Wagstaff, and Lindelow described in the annotated bibliography that constitutes annex A.)

DISCUSSION

While a basic understanding of the data and methods employed is necessary to adequately appreciate the figures appearing in this report, it is not sufficient. For the application of the approach taken involves many subtleties that also need to be understood. Among the more important are:

A. DESCRIPTIVE NATURE OF THE RELATIONSHIPS

The hnp-poverty relationships shown in this report are no more than descriptive. They should not be taken to imply any direct causal relationships, for several reasons.

One reason is the possibility that it is not wealth or asset possession *per se* that determine a person's health condition. Rather, the determining factors could be other characteristics (such as education or ethnic background) that are simultaneously associated with both asset ownership and health status.

It is also possible that the health-poverty relationships shown are driven primarily by particular items included in the index (e.g., water and sanitation). Should this be the case, improvements in health conditions among the poor might be more effectively brought about by focusing on changing those particular components of the wealth index rather than by a general effort to increase economic status as measured by the index as a whole.

B. IMPLICATIONS OF A WEALTH/ASSET APPROACH

Wealth or Assets as a Measure of Economic Status

Reliance on a wealth index to measure economic status is a rather recent development in research on economic disparities, where such status traditionally has been defined in terms of consumption or income. The principal reason for the choice of the wealth index is pragmatic rather than conceptual: the DHS surveys, which are of interest because of the plethora of hnp information that they contain, do not collect consumption or income data; but they do have detailed information on households' physical characteristics, and on the household-level presence of and access to a wide range of goods and services. While there is some disagreement about the relative merits of using such wealth/asset information or consumption data to measure economic status, several recent studies suggest that the asset-consumption relationship is quite close.¹⁹ To the extent this is the case, an index of wealth or asset possession/availability can be taken as a

¹⁹ See, for example, Deon Filmer and Lant H. Pritchett, "Estimating Wealth Effects without Expenditure – or Tears: An Application to Educational Enrollments in States of India," *Demography* 38, no. 1 (February 2001): 115-32; Shea Rutstein and Kiersten Johnson, *The DHS Wealth Index*, DHS Comparative Reports No. 6 (Calverton, Maryland, USA: ORC Macro, August 2004) esp. 10-14; Adam Wagstaff and Naoko Watanabe, "What Difference Does the Choice of SES Make in Health Inequality Measurement?" *Health Economics* 12 (2003): 885-90.

reasonably satisfactory proxy for consumption, rather than or in addition to serving as an indicator of economic status in its own right.

C. ECONOMIC STATUS AS A MEASURE OF SOCIO-ECONOMIC WELL-BEING

Like consumption or income, a wealth index defines disparities that are primarily economic. This is by no means the only way to define inter-group inequalities that are of potential concern. Other possibilities include gender, place of residence, education, ethnic background, or other factors associated with social exclusion. Thus the economic perspective provides only a partial view of the multidimensional concepts of poverty, inequality, and inequity.

By including tables on female-male and rural-urban inequalities, this report pays adequate attention to two of inequality's other important dimensions to justify the use of the term "socio-economic" rather than simply "economic" in its title. However, the centrality of tabulations based on the wealth index means that the primary focus is on the economic dimension. The justification for this lies not in the greater importance of economic considerations, but rather in the recently-improved ability to analyze and thus begin dealing with them. Until the development of the wealth/asset approach, the assessment of economic status had been based on consumption, expenditures, or income, all of which are far more difficult to measure than such other, non-economic dimensions of inequality as gender, ethnic identity, educational level, and place of residence. As a result, assessments of health inequalities by economic status had lagged well behind measurements in terms of these other dimensions, especially gender and education. The focus on inequality's economic aspect applied here represents an effort to redress this imbalance.

D. INDEX CONSTRUCTION

Choice of Items

Use of a wealth index requires decisions about which items to include in it. In the case of secondary analyses like the one featured in this report, the choice is limited to those items included in the data sets being used. But even with this constraint, there nonetheless remains considerable room for choice, given the large number of items for which information is collected by the DHS.

The decision made in preparing this report was to include all items in each DHS household questionnaire that relate to ownership of household goods; to dwelling unit construction and characteristics; and to access to services and resources like electricity, water, and sanitation facilities. Also included were other potential indicators of wealth, such as live-in domestic servants. This decision, admittedly somewhat arbitrary, has both advantages and disadvantages.

The principal advantage is practical: use of a large number of assets increases the degree of variation across household asset scores and facilitates a more regular distribution of individuals across quintiles. It also reduces the possibility of subjectivity in selecting only some of the variables for inclusion on some *a priori* basis; and it may increase a wealth index's accuracy as a proxy for consumption.

However, including all variables is far from satisfying conceptually. For example, it means failing to discriminate with respect to the items' differing natures. It is not clear, for instance, whether access to water, sanitation, electricity, or other publicly-provided resources should be included in an index that purports to measure private household wealth.

Further, many items that are candidates for inclusion in a DHS-based wealth index might be seen as directly influencing health status: water and sanitation for infant and child mortality, for

example. It would be desirable to include quintile-specific estimates for such items; but to the extent that such items have large index coefficients, any estimates for those items would be suspect. Such items appear to be relatively few and of limited statistical significance in the index used here. However, for the sake of caution, quintile-specific estimates for items appearing in the index have nonetheless been excluded from the basic tables and appear only in supporting table III.C

Additional issues arise when comparing the findings for two different points in time covered in the basic tables. Because the nature and number of asset questions included in DHS surveys has been evolving, the items included in the wealth index differ somewhat for each of the surveys reported upon. As such, the results presented in the basic tables might differ to some extent from findings produced by some other approach, such as including in the index only those items appearing in each survey covered.

Weighting of Items

A further decision required in construction of an index concerns the weight to attach to each of the respective items. As noted earlier, the method used in this report is principal components analysis (PCA).

Adoption of this method was based on the findings, referred to earlier, that its use resulted in outcomes that approximated reasonably well those produced by taking a consumption or expenditure approach. Further, it often provides greater discrimination in economic status than does the use of consumption/expenditures. It has also emerged as the standard approach for use in analyses of the sort presented here, so that its adoption is largely non-controversial.

Yet this choice, too, is not without an arbitrary aspect; for alternative plausible methods exist. Examples include the “inverse possession” approach, which gives more weight to items possessed by only a few and less to those possessed by many;²⁰ or, perhaps, the common practice of simply assigning the same weight to each index item.

Also, the weights for any particular item vary from survey to survey, since the weights were determined separately for the population of each survey included in the basic tables. The results thus produced can be expected to differ from those generated in some other manner, such as generating common weights for all the surveys covered by pooling the data sets.

Use of Principal Components Analysis with Dichotomous Variables

An additional issue concerns the use of a technique like PCA, developed for use with continuous variables, in the construction of an index based primarily on dichotomous variables. While legitimate in principle, any reservations in this regard are of limited practical consequence, since the considerable experimentation undertaken in preparation for the tabulations presented here indicated that any inaccuracy introduced by applying PCA to the analysis of the dichotomous values used is minimal.

Economies of Scale

Calculating the values for a household wealth index also requires a decision concerning economies of scale that exist in the households covered. The calculations presented here assume complete economies of scale. The implicit assumption is that additional members do not add to household expenses on items included in the index.

²⁰ Saul S. Morris et al., “Validity of Rapid Estimates of Household Wealth and Income for Health Surveys in Rural Africa,” *Journal of Epidemiology and Community Health* 54 (2000): 381-87.

E. DEFINITION OF QUINTILES

Quintiles of Individuals

As noted earlier, the quintile-specific figures presented in this report refer to quintiles of individuals in the household population. Such quintiles need to be distinguished from quintiles of households or quintiles of only those people in the population who are “at risk”: that is, subject to the particular condition, eligible for the particular service, or capable of behaving in a particular way (children born alive for infant and under-five mortality, for example; or adult men and women for condom use or non-regular sexual partnerships).

The expression of findings in terms of quintiles of individuals has several implications:

- Because fertility is often higher in lower economic households than among better-off ones, the number of individuals per household will frequently be larger among the poor than among higher-income groups. In such cases, the number of households will vary systematically across quintiles of individuals, and the results expressed in terms of quintiles of households can differ significantly from those presented here.
- The proportion of individuals “at risk” with regard to a particular indicator is also likely to vary across quintiles in many cases. (For example, in cases where fertility is higher among poor people, a higher-than-average proportion of poor populations will consist of newborns at risk from infant mortality, young children subject to malnutrition, and pregnant women for whom antenatal care is relevant.) To facilitate the work of any investigators wishing to undertake calculations based on people at risk, the number of such people in each quintile of individuals is shown in part III.A.
- As previously indicated, the population average figure provided for each indicator is equivalent to the weighted sum of the quintile rates for that indicator, where the weight assigned to each quintile rate is the number of people at risk in each quintile as presented in part III.A. As a result of this weighting, the population average will usually differ from a simple mean of the population quintile estimates.

Quintiles of Males and Females, of Rural and Urban Residents

As also reported in the data and methods section, the tables on rural and urban residents and on men and women were prepared using the same asset scores as for the total population; and rural-urban residents and females-males were separated from one another only after the entire sample had been disaggregated into quintiles of individuals. This means that the figures given in the rural-urban and female-male tables refer to females-males and rural-urban residents belonging to each quintile of individuals in the total population, as distinct from quintiles of females, of males, of rural residents, or of urban residents alone.

The consequence of this distinction is particularly evident with regard to rural and urban residents. Since rural residents tend to be poorer than urban dwellers, they normally form a considerably higher proportion of individuals in the lower economic quintiles of the total population than in the higher ones. Conversely, urban residents tend to be concentrated in the higher economic groups. As a result, the number of individuals in each of the urban and rural quintiles usually varies greatly and systematically; and when this is the case, the figures presented in the rural-urban tables can differ significantly from those produced by a computation procedure that places the same number of rural and urban residents in each rural quintile or each urban quintile. (The results may also differ significantly from application of an approach featuring the separate calculation of index values for urban and for rural groups. While such separate index values may well be preferable conceptually, their calculation involves complexities that prevented their preparation for this report.)

F. COMPARISON OF QUINTILES ACROSS COUNTRIES

Reliance on population quintiles as basic presentational format for the data appearing in this report implicitly incorporates a relative concept of poverty. This differs from an absolute concept of poverty under which the population would be divided into groups of different sizes according to some absolute standard of living (such as people earning less than one dollar a day, between one and two dollars a day, and more than two dollars a day).

This means that, when comparing values of an indicator among people in a given quintile across countries, the comparison is between groups of people whose economic status can be quite different. The lowest quintile of a Latin American population, for example, will usually be considerably better-off than the lowest quintile in an African country.

G. COMPARISON OF QUINTILES OVER TIME

Another implication is that the wealth status of any given quintile within a particular country is likely to change over time. For instance, when a country is progressing economically, the wealth of the households in the population will tend to increase. This will raise the average asset score in most, possibly all population quintiles. As a result, the living standard enjoyed by individuals in any quintile covered by a recent survey is likely to be higher than that of individuals in that same quintile as measured in a prior survey.

H. STATISTICAL INDICATORS OF INEQUALITY

The available statistical indicators of inequality are far too numerous to permit use of more than a small proportion of them in presenting the findings featured in this report. The three indicators employed have been selected to provide a wide range of perspectives. Two are designed for ease of understanding, the third for greater technical accuracy.

The low/high quintile ratio and low-high quintile difference are the two presented for ease of understanding. The former is a relative measure, the latter an absolute measure that can produce a significantly different impression from that provided by the former.

The concentration index is provided for the benefit of technical specialists wishing greater accuracy. It measures the degree of inequality in an hnp indicator across the full wealth index distribution, rather than differences between only two of the five quintiles, and also reflects the relative size of the different asset-based divisions of the study population.

I. COMPARABILITY WITH OTHER REPORTS

Tabulations similar to those presented here can also be found in the initial series of hnp/poverty country reports, issued in 2000, and in the recent country reports issued by the DHS program. The figures presented in those reports normally resemble quite closely those appearing here for any given indicator; but there are often slight differences for one or more of several reasons. The most common is a difference in the definition of the indicator in question. (These differences are usually small and subtle. But there is one important exception: the definition of moderate malnutrition among children. In the 2000 reports, this was defined as second and third degree malnutrition taken together. Here, it is defined as second degree malnutrition alone.) Another reason, with respect to infant and child mortality, is that the figures in the DHS documents are typically based on experience during the five years before the survey in question, rather than

during the ten previous years as in this report. A further frequent reason is the use of an improved computational technique.

In addition, asset-based, quintile-specific tabulations of hnp indicators have begun to appear in an increasing number of other documents. Given the basic similarity of approach, such tabulations usually produce results that are generally congruent with those shown in part I of this report. However, significant divergences have occasionally been reported; and the absence of adequately detailed information about data and methods often prevents any fully-satisfying understanding of the approaches used. As a result, occasional doubts and frequent uncertainties about approach comparability remain.

PART IV. SUPPORTING TABLES, 2003

- A. SAMPLE SIZES**
- B. STANDARD ERRORS**
- C. ASSET DISTRIBUTION AND WEIGHTS**

Bolivia

2003 - SAMPLE SIZES**TOTAL SAMPLE**

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Number of household members						
All	15,822	15,879	15,883	15,844	15,921	79,349
Urban	790	5,196	12,520	15,011	15,729	49,247
Rural	15,032	10,683	3,363	833	192	30,103
Female	7,962	8,015	8,016	8,046	8,447	40,486
Male	7,860	7,864	7,867	7,798	7,474	38,863

Part I: HNP STATUS

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Mortality rates						
All	5,514	4,949	4,741	3,838	2,559	21,601
Urban	269	1,846	3,898	3,660	2,529	12,201
Rural	5,245	3,104	843	178	30	9,399
Female	2,764	2,457	2,265	1,828	1,295	10,609
Male	2,749	2,493	2,476	2,009	1,264	10,992
Prevalence of fever, diarrhea, acute respiratory infection						
All	2,434	2,135	2,190	1,768	1,184	9,711
Urban	118	808	1,822	1,690	1,168	5,606
Rural	2,316	1,327	368	78	16	4,105
Female	1,184	1,108	1,034	834	597	4,758
Male	1,249	1,027	1,156	934	586	4,953
Total fertility rate						
All	2,635	3,025	3,576	4,063	4,355	17,654
Urban	129	1,030	2,836	3,875	4,303	12,172
Rural	2,506	1,995	740	189	53	5,482
Age-specific fertility rate 15-19						
All	498	670	793	925	988	3,874
Urban	28	195	615	881	973	2,692
Rural	470	475	178	44	15	1,182
Children's nutritional status						
All	2,289	1,992	2,056	1,658	1,070	9,064
Urban	114	743	1,711	1,584	1,054	5,206
Rural	2,175	1,249	344	74	16	3,858
Female	1,113	1,029	972	779	537	4,431
Male	1,175	963	1,084	879	532	4,634
Children's anemia status						
All	720	613	615	469	275	2,692
Urban	34	230	509	447	268	1,487
Rural	686	384	107	21	7	1,205
Female	352	318	276	200	150	1,296
Male	368	295	340	269	125	1,396

Bolivia

2003 - SAMPLE SIZES

Part I: HNP STATUS (Cont.)

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Women's nutritional status						
All	2,635	3,025	3,576	4,063	4,355	17,654
Urban	129	1,030	2,836	3,875	4,303	12,172
Rural	2,506	1,995	740	189	53	5,482
Women's anemia status						
All	976	1,079	1,272	1,409	1,533	6,269
Urban	49	379	1,021	1,340	1,515	4,304
Rural	927	700	251	69	18	1,966
Girls' circumcision						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Women's circumcision						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Prevalence of genital discharge, ulcer, sore						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	1,029	1,153	1,236	1,373	1,406	6,197
Urban Male	49	378	954	1,292	1,390	4,064
Rural Male	981	774	282	81	16	2,134

Bolivia

2003 - SAMPLE SIZES

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Immunization coverage						
All	441	410	421	338	236	1,846
Urban	15	164	353	324	234	1,090
Rural	426	245	68	14	2	756
Female	206	226	183	166	113	894
Male	235	184	238	172	124	952
Treatment of fever						
All	731	602	681	533	303	2,851
Urban	35	233	568	512	302	1,650
Rural	696	369	114	21	2	1,201
Female	347	304	312	227	154	1,344
Male	384	298	369	306	150	1,507
Treatment of acute respiratory infection						
All	518	434	494	458	251	2,156
Urban	26	155	404	442	249	1,276
Rural	492	279	90	16	2	879
Female	251	235	210	183	116	996
Male	267	199	284	275	135	1,160
Treatment of diarrhea						
All	609	489	495	403	180	2,176
Urban	118	181	411	384	177	1,185
Rural	576	308	84	20	3	990
Female	281	221	210	152	70	933
Male	328	268	285	252	110	1,243
Antenatal and delivery care						
All	1,639	1,501	1,609	1,476	1,036	7,261
Urban	82	554	1,338	1,412	1,023	4,410
Rural	1,557	947	272	63	13	2,851
Contraceptive prevalence						
Female	1,892	2,022	2,259	2,354	2,042	10,569
Urban Female	89	687	1,800	2,231	2,017	6,824
Rural Female	1,803	1,335	459	123	25	3,744
Male	741	797	776	766	733	3,814
Urban Male	29	255	601	718	723	2,325
Rural Male	712	541	176	48	11	1,488
Contraceptive source						
Female	426	559	712	985	1,007	3,690
Urban Female	29	216	586	924	997	2,753
Rural Female	398	343	126	61	10	937
Male	na	na	na	na	na	na
Urban Male	na	na	na	na	na	na
Rural Male	na	na	na	na	na	na
Treatment of genital discharge, ulcer, sore						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	17	17	19	29	49	131
Urban Male	1	7	17	29	49	102
Rural Male	16	11	2	0	na	29

Bolivia

2003 - SAMPLE SIZES

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Sanitary disposal of stools						
All	1,575	1,443	1,558	1,422	1,003	7,001
Urban	79	534	1,296	1,362	990	4,261
Rural	1,496	910	262	60	13	2,741
Wash hands prior to preparing food						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Handwashing facilities in household?						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet ownership						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet use by children						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet use by pregnant women						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Exclusive breastfeeding						
All	141	86	107	78	69	481
Urban	5	34	92	75	69	274
Rural	136	52	15	3	0	207
Female	71	37	40	32	36	216
Male	71	48	67	46	33	265
Timely complementary breastfeeding						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Bottle-feeding						
All	453	357	381	304	232	1,727
Urban	23	136	314	288	229	991
Rural	430	221	66	16	3	736
Female	213	203	185	158	123	883
Male	240	154	196	146	109	844

Bolivia

2003 - SAMPLE SIZES

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR (Cont.)

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Iodized salt in household						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Vitamin A supplementation						
All	2,373	2,073	2,144	1,743	1,165	9,498
Urban	116	790	1,785	1,666	1,148	5,505
Rural	116	790	1,785	1,666	1,148	5,505
Female	1,219	993	1,139	924	575	4,850
Male	1,219	993	1,139	924	575	4,850
Tobacco and alcohol use, casual sexual partners, condom use for casual sex						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Urban Male	na	na	na	na	na	na
Rural Male	na	na	na	na	na	na
Domestic violence						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na

Bolivia

2003 - SAMPLE SIZES

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
School completion (Grade 5)						
Female	2,924	3,290	3,888	4,416	4,860	19,378
Urban female	138	1,103	3,072	4,206	4,803	13,323
Rural female	2,786	2,187	815	210	57	6,055
Male	3,016	3,407	3,815	4,204	4,257	18,700
Urban male	na	na	na	na	na	na
Rural male	na	na	na	na	na	na
School participation						
Female	1,438	1,298	1,149	1,003	784	5,673
Urban female	71	436	886	952	776	3,121
Rural female	1,367	862	263	51	8	2,551
Male	2,481	2,287	2,155	1,949	1,518	10,390
Urban male	na	na	na	na	na	na
Rural male	na	na	na	na	na	na
Mass media exposure						
Female	2,635	3,025	3,576	4,063	4,355	17,654
Urban female	129	1,030	2,836	3,875	4,303	12,172
Rural female	2,506	1,995	740	189	53	5,482
Male	1,047	1,155	1,242	1,375	1,407	6,227
Urban male	51	381	958	1,294	1,391	4,075
Rural male	997	774	284	81	16	2,151
Knowledge of HIV/AIDS prevention						
Female	2,635	3,025	3,576	4,063	4,355	17,654
Urban female	129	1,030	2,836	3,875	4,303	12,172
Rural female	2,506	1,995	740	189	53	5,482
Male	1,048	1,157	1,242	1,375	1,407	6,230
Urban male	51	381	958	1,294	1,391	4,075
Rural male	997	774	284	81	16	2,151
Household decisionmaking and justification of violence						
All	2,635	3,025	3,576	4,063	4,355	17,654
Urban	129	1,030	2,836	3,875	4,303	12,172
Rural	129	1,030	2,836	3,875	4,303	12,172
Orphanhood						
All	7,899	7,358	6,993	6,016	4,629	32,896
Urban	410	2,550	5,627	5,679	4,575	18,840
Rural	7,489	4,808	1,366	338	55	14,055
Female	3,934	3,660	3,408	2,925	2,340	16,267
Male	3,964	3,698	3,585	3,091	2,289	16,629

Bolivia

2003 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part I: HNP STATUS

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Childhood illness and mortality						
Infant mortality rate	5.31	5.84	5.00	4.07	4.18	2.50
Under-five mortality rate	6.52	6.81	5.66	7.26	4.46	3.24
Prevalence of fever	1.61	1.51	1.42	1.38	1.58	0.73
Prevalence of diarrhea	1.33	1.17	1.30	1.49	1.40	0.63
Prevalence of acute respiratory infection	1.33	1.28	1.33	1.64	1.52	0.73
B. Fertility						
Total fertility rate	0.21	0.20	0.14	0.09	0.09	0.09
Adolescent fertility rate	12.56	9.97	9.01	7.04	5.61	3.77
C. Nutritional status						
<i>Children:</i>						
Moderate stunting	1.19	1.31	1.19	1.00	0.72	0.60
Severe stunting	1.02	1.14	0.59	0.47	0.31	0.47
Moderate underweight	0.70	1.00	0.51	0.48	0.32	0.35
Severe underweight	0.47	0.49	0.19	0.12	0.02	0.17
Mild anemia	2.32	2.23	2.21	1.95	2.78	1.03
Moderate anemia	2.04	2.54	2.29	2.44	3.49	1.11
Severe anemia	0.50	0.57	0.56	0.86	0.34	0.27
<i>Women:</i>						
Malnutrition	0.35	0.44	0.27	0.25	0.29	0.14
Mild anemia	1.38	1.15	0.90	0.96	0.62	0.46
Moderate anemia	0.97	0.98	1.24	0.65	0.67	0.39
Severe anemia	0.17	0.24	0.21	0.14	0.13	0.08
D. Female circumcision						
<i>Prevalence of circumcision:</i>						
Girls	na	na	na	na	na	na
Women	na	na	na	na	na	na
<i>Prevalence of occlusion:</i>						
Girls	na	na	na	na	na	na
Women	na	na	na	na	na	na
E. Sexually transmitted disease						
<i>Prevalence of genital discharge:</i>						
Women	na	na	na	na	na	na
Men	0.37	0.30	0.53	0.64	0.37	0.21
<i>Prevalence of genital ulcer:</i>						
Women	na	na	na	na	na	na
Men	0.37	0.30	0.53	0.64	0.37	0.21

Bolivia

2003 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Childhood immunization						
BCG coverage	1.74	2.32	1.90	0.90	0.55	0.84
Measles coverage	3.09	4.22	3.12	3.22	3.38	1.70
DPT coverage	3.04	3.89	3.56	2.57	3.45	1.47
Full basic coverage	2.93	4.07	3.07	3.33	5.28	1.72
No basic coverage	1.27	1.68	1.25	0.62	0.20	0.59
Hepatitis B coverage	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na
B. Treatment of childhood illnesses						
<i>Treatment of fever:</i>						
Medical treatment of fever	2.76	3.10	3.16	2.98	3.76	1.49
Treatment in a public facility	2.80	3.07	3.20	2.80	3.69	1.45
Treatment in a private facility	1.15	1.34	0.84	2.26	2.67	0.73
<i>Treatment of acute respiratory infection (ARI):</i>						
Medical treatment of ARI	2.89	3.24	3.48	3.02	4.25	1.53
Treatment in a public facility	2.93	3.24	3.54	2.90	3.81	1.49
Treatment in a private facility	1.29	1.55	0.74	2.26	3.49	0.82
<i>Treatment of diarrhea:</i>						
Use of oral rehydration therapy	2.25	3.14	3.21	3.13	3.80	1.45
Medical treatment of diarrhea	2.51	3.07	2.61	3.59	4.29	1.39
Treatment in a public facility	2.51	3.06	2.64	3.05	4.03	1.35
Treatment in a private facility	0.67	0.48	0.81	1.89	2.46	0.52
C. Antenatal and delivery care						
<i>Antenatal care (ANC) visits:</i>						
To a medically trained person	2.13	2.10	1.65	0.99	0.48	1.03
To a doctor	2.21	2.03	1.64	1.02	0.50	1.31
To a nurse or trained midwife	1.28	1.03	0.38	0.28	0.18	0.49
Multiple visits to a medically trained person	2.17	2.07	1.82	1.35	1.00	1.11
<i>Antenatal care content:</i>						
Tetanus toxoid	2.04	2.31	1.72	1.42	2.25	1.00
Prophylactic antimalarial treatment	na	na	na	na	na	na
Iron supplementation	2.04	2.48	2.09	1.49	1.79	1.11
<i>Delivery attendance:</i>						
By a medically trained person	1.75	2.26	2.36	1.14	0.38	1.49
By a doctor	1.44	2.04	2.28	1.19	0.52	1.54
By a nurse or trained midwife	0.92	0.83	0.51	0.37	0.37	0.40
In a public facility	1.54	2.03	2.61	1.52	2.04	1.38
In a private facility	0.15	0.46	0.89	1.20	2.05	0.52
At home	1.59	2.20	2.58	1.21	0.35	1.58
D. Contraceptive services						
<i>Contraceptive prevalence:</i>						
Women	1.41	1.60	1.73	1.45	2.20	0.93
Men	1.58	1.78	2.10	2.40	2.19	1.09
<i>Source of contraception - public sector:</i>						
Women	2.80	2.27	2.26	2.07	2.00	1.15
Men	na	na	na	na	na	na

Bolivia

2003 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
D. Contraceptive services (cont.)						
<i>Source of contraception - private sector:</i>						
Women	1.53	2.08	2.25	2.03	1.93	1.16
Men	na	na	na	na	na	na
E. Treatment of adult illnesses						
<i>Treatment of genital discharge, ulcer, sore:</i>						
Women	na	na	na	na	na	na
Men	*	*	*	11.91	9.91	6.62
<i>Treatment of genital discharge, ulcer, sore in public medical facilities:</i>						
Women	na	na	na	na	na	na
Men	*	*	*	11.91	9.91	6.62
<i>Voluntary counseling and testing for HIV/AIDS:</i>						
Women	na	na	na	na	na	na
Men	0.19	0.29	0.59	0.75	1.48	0.45

2003 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Hygienic practices						
<i>Disposal of children's stools:</i>						
Sanitary disposal	1.97	2.07	1.67	1.20	1.05	1.12
<i>Handwashing:</i>						
Wash hands prior to preparing food	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na
B. Bednet ownership and use						
<i>Bednet ownership:</i>						
Bednet ownership	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na
<i>Bednet use:</i>						
By children	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na
C. Breastfeeding						
Exclusive breastfeeding	4.09	5.61	6.84	8.06	5.92	3.07
Timely complementary feeding	na	na	na	na	na	na
Bottle-feeding	1.96	3.57	3.11	4.32	4.25	1.52
D. Micronutrient consumption						
<i>Iodized salt:</i>						
Availability of iodized salt in household	na	na	na	na	na	na
<i>Vitamin A:</i>						
Children	1.79	1.68	2.09	1.66	1.78	0.86
Women	1.42	1.53	1.59	1.60	1.86	0.74
E. Tobacco and alcohol use						
<i>Tobacco:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Alcohol:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
F. Sexual practices						
<i>Non-regular sexual partnerships:</i>						
Women	0.23	0.18	0.17	0.16	0.19	0.09
Men	0.72	0.99	0.86	0.87	1.11	0.46
<i>Condom usage with non-regular partner:</i>						
Women	2.43	4.45	8.12	7.37	7.07	3.16
Men	6.07	6.61	5.85	5.76	4.57	2.75
G. Domestic violence						
Ever experienced violence	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na

Bolivia

2003 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Education						
<i>School completion:</i>						
Women	1.80	1.27	1.21	0.73	0.47	0.88
Men	2.03	0.99	0.82	0.52	0.30	0.66
<i>School participation:</i>						
Girls	3.70	3.25	3.63	3.20	3.13	2.16
Boys	1.66	2.49	2.22	0.89	0.81	1.10
B. Exposure to mass media						
<i>Newspaper readership:</i>						
Women	0.59	1.26	1.48	1.23	1.08	1.02
Men	1.73	2.89	2.55	1.84	1.41	1.49
<i>Radio listenership:</i>						
Women	1.73	1.06	1.48	0.76	0.67	0.66
Men	2.16	1.11	1.52	0.91	0.92	0.68
<i>Television viewership:</i>						
Women	0.67	2.08	1.40	0.54	0.23	1.32
Men	1.26	3.08	1.82	0.73	0.38	1.50
C. Knowledge and attitudes about HIV/AIDS						
<i>Knowledge about sexual transmission of HIV/AIDS:</i>						
Women	1.23	1.43	1.70	1.21	0.63	1.22
Men	1.99	2.27	1.98	1.47	1.08	1.27
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>						
Women	1.40	1.38	1.53	0.98	0.56	1.09
Men	2.31	2.04	1.85	1.30	1.11	1.09
<i>Attitudes toward HIV/AIDS:</i>						
Women	2.07	1.59	1.33	1.15	1.05	0.64
Men	2.89	2.38	1.98	1.48	1.33	0.91
D. Status of women						
<i>Household decisionmaking:</i>						
Can seek own health care	1.59	1.13	1.60	1.37	1.01	0.78
Can seek children's health care	1.83	1.96	1.64	1.36	1.75	0.97
Can make daily household purchases	1.19	0.98	1.19	0.87	0.90	0.49
Can make large household purchases	1.43	1.01	1.29	1.03	1.03	0.54
Can make meal-related decisions	1.27	1.27	1.18	0.99	1.03	0.60
<i>Freedom of movement:</i>						
Can travel to visit family/relatives	1.09	1.03	1.34	0.96	1.09	0.64
<i>Other decisionmaking, attitudes:</i>						
Can decide how to spend own money	2.90	1.94	1.70	1.41	1.69	0.97
Can decide whether to have sex	0.89	0.54	0.54	0.37	0.32	0.27
Justifies domestic violence	1.28	1.29	1.13	0.83	0.76	0.57
E. Orphanhood						
Paternal orphan prevalence	0.39	0.34	0.35	0.30	0.33	0.17
Maternal orphan prevalence	0.31	0.43	0.38	0.23	0.27	0.15
Double orphan prevalence	0.07	0.11	0.14	0.04	0.11	0.05

Bolivia

2003 - ASSET DISTRIBUTION AND WEIGHTS

(FACTOR SCORES)

Asset Variable	Unweighted		Wealth Quintiles						Factor Score
	Mean	Std. Devia- tion	Low	2nd	3rd	4th	High	Avg.	
			Percentage of Population						
Has electricity	0.722	0.448	5.0%	58.2%	93.3%	99.4%	99.9%	72.3%	0.08042
Has radio	0.821	0.383	63.1%	80.4%	81.9%	89.5%	96.3%	82.5%	0.03385
Has television	0.598	0.490	1.1%	29.3%	75.0%	92.3%	99.3%	60.3%	0.08395
Has refrigerator	0.287	0.452	0.1%	2.6%	13.6%	42.3%	89.9%	29.8%	0.07685
Has bicycle	0.455	0.498	33.4%	44.0%	39.8%	43.4%	56.9%	43.6%	0.01436
Has motorcycle/scooter	0.053	0.224	0.9%	2.3%	2.8%	4.1%	9.9%	4.0%	0.02027
Has car/truck	0.119	0.324	0.6%	3.1%	5.2%	9.4%	43.3%	12.3%	0.04846
Has telephone	0.168	0.374	0.0%	0.1%	2.1%	16.8%	72.4%	18.2%	0.07033
Has a room only for kitchen	0.762	0.426	76.5%	72.1%	66.4%	76.4%	96.4%	77.4%	0.01810
Has cellular phone	0.198	0.399	0.1%	2.4%	12.9%	36.3%	62.0%	22.9%	0.06036
Has computer	0.076	0.265	0.1%	0.1%	0.3%	2.9%	38.7%	8.3%	0.05281
Has electric water pump	0.036	0.186	0.1%	0.7%	1.3%	1.8%	14.6%	3.7%	0.03023
Uses water piped into dwelling	0.208	0.406	0.2%	2.8%	7.6%	23.7%	77.5%	22.3%	0.06852
Uses water piped into yard/plot	0.517	0.500	21.3%	56.7%	73.9%	71.2%	20.7%	49.6%	0.00322
Uses communal tap	0.056	0.230	14.5%	9.8%	5.3%	0.5%	0.0%	5.9%	-0.02302
Uses well with electrical pump	0.023	0.149	4.2%	4.0%	2.6%	0.9%	0.5%	2.4%	-0.01144
Uses well without electrical pump	0.085	0.278	21.7%	15.0%	4.4%	0.8%	0.1%	8.2%	-0.03368
Uses surface water-river, lake, etc.	0.081	0.273	35.5%	8.0%	1.0%	0.1%	0.0%	8.5%	-0.04448
Uses water from neighbors	0.009	0.094	0.8%	1.4%	1.1%	0.2%	0.0%	0.7%	-0.00669
Uses tanker truck	0.014	0.118	0.2%	1.2%	3.7%	2.6%	1.0%	1.8%	0.00267
Uses other water source	0.007	0.083	1.3%	0.8%	0.4%	0.1%	0.1%	0.5%	-0.00626
Uses flush toilet	0.316	0.465	0.0%	1.3%	20.0%	55.2%	80.3%	31.7%	0.07540
Uses septic system	0.073	0.260	0.2%	2.9%	7.0%	14.4%	13.8%	7.8%	0.02268
Uses traditional pit latrine	0.273	0.446	23.4%	39.9%	39.9%	24.6%	5.6%	26.9%	-0.02218
Uses bush/field/no facility	0.336	0.472	76.3%	55.7%	33.0%	5.6%	0.2%	33.5%	-0.06588
Uses shared Flush toilet	0.203	0.402	0.0%	0.8%	4.8%	24.4%	72.1%	20.4%	0.06888
Uses shared Traditional pit latrine	0.213	0.410	21.5%	32.7%	25.5%	17.1%	5.1%	20.5%	-0.02245
Uses shared septic system	0.054	0.226	0.2%	2.4%	4.2%	8.3%	13.0%	5.7%	0.02178
Has earth, mud, dung floor	0.320	0.466	95.8%	53.9%	13.7%	1.7%	0.0%	32.0%	-0.08074
Has rudimentary wood plank floor	0.030	0.170	1.1%	4.7%	4.2%	1.7%	0.6%	2.5%	-0.00496
Has concrete, cement floor	0.398	0.490	2.0%	31.7%	61.2%	68.4%	36.0%	40.8%	0.03186
Has terrazo, ceramic tile floor	0.097	0.296	0.1%	0.7%	2.6%	9.2%	39.3%	10.3%	0.04873
Has parquet, wood tile floor	0.073	0.260	0.0%	1.0%	5.9%	10.2%	20.7%	7.6%	0.03175
Uses carpeted floor	0.075	0.263	0.5%	7.6%	11.7%	8.2%	2.0%	6.1%	-0.00012
Uses rug floor	0.003	0.059	0.0%	0.0%	0.2%	0.4%	1.1%	0.4%	0.00788
Uses other type of flooring	0.004	0.060	0.5%	0.4%	0.5%	0.0%	0.1%	0.3%	-0.00351
Has stone walls	0.009	0.096	3.2%	0.7%	0.3%	0.0%	0.1%	0.8%	-0.01250
Has palm tree walls	0.009	0.096	3.0%	0.8%	0.1%	0.0%	0.0%	0.7%	-0.01338
Has adobe walls	0.533	0.499	78.4%	72.0%	55.2%	34.5%	13.8%	50.5%	-0.04658
Has tabique/Chinche walls	0.024	0.154	4.8%	2.3%	1.3%	0.3%	0.0%	1.7%	-0.01594
Has finished wood walls	0.061	0.240	8.5%	11.1%	4.2%	0.9%	0.2%	4.9%	-0.01934
Has blocks/brick walls	0.359	0.480	0.8%	12.7%	38.5%	64.2%	85.9%	40.9%	0.06949
Has other wall materials	0.004	0.064	1.2%	0.4%	0.4%	0.0%	0.0%	0.4%	-0.00798
Has palm tree roof	0.162	0.369	65.1%	12.4%	1.3%	0.4%	0.0%	15.0%	-0.06288
Has zinc roof	0.476	0.499	22.5%	61.8%	71.0%	55.3%	41.4%	50.9%	0.01391
Has cement roof	0.038	0.190	0.0%	0.3%	1.7%	6.8%	11.1%	4.0%	0.02457
Has ceramic tile roof	0.316	0.465	11.0%	24.7%	25.8%	37.2%	46.9%	29.3%	0.02593
Has other roof materials	0.005	0.070	1.2%	0.6%	0.1%	0.0%	0.1%	0.4%	-0.00764

Bolivia

2003 - ASSET DISTRIBUTION AND WEIGHTS (Cont.)

(FACTOR SCORES)

Asset Variable	Unweighted		Wealth Quintiles							Factor Score
	Mean	Std. Devia- tion	Low	2nd	3rd	4th	High	Avg.		
			Percentage of Population							
Has electricity for cooking	0.004	0.061	0.0%	0.0%	0.4%	0.2%	1.9%	0.5%	0.00954	
Has LPG, natural gas for cooking	0.621	0.485	0.5%	30.2%	84.1%	95.9%	97.1%	62.6%	0.08429	
Has kerosene for cooking	0.003	0.054	0.2%	0.6%	0.6%	0.1%	0.0%	0.3%	-0.00191	
Has wood, straw for cooking	0.328	0.469	92.0%	60.5%	9.8%	0.9%	0.1%	31.6%	-0.08343	
Has dung for cooking	0.017	0.131	6.7%	5.3%	0.2%	0.0%	0.1%	2.4%	-0.01603	
Does not cook	0.027	0.161	0.7%	3.4%	4.8%	2.8%	0.7%	2.5%	-0.00068	
Uses other fuel for cooking	0.000	0.012	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.00080	
Solid waste collected by town council	0.234	0.424	0.3%	7.2%	25.4%	34.6%	32.8%	20.4%	0.04022	
Solid waste collected by contractors	0.269	0.443	0.1%	3.3%	30.9%	53.7%	63.9%	30.8%	0.05787	
Solid waste collected by private company	0.004	0.061	0.0%	0.0%	0.4%	0.4%	0.9%	0.3%	0.00648	
Solid waste burnt	0.156	0.363	20.9%	26.1%	16.2%	5.5%	1.1%	13.9%	-0.03149	
Solid waste thrown in yard	0.038	0.192	10.9%	5.7%	1.6%	0.5%	0.1%	3.6%	-0.02288	
Solid waste thrown in street	0.275	0.446	63.7%	52.5%	23.8%	4.4%	0.9%	28.5%	-0.05687	
Solid waste other disposal	0.023	0.150	4.0%	5.0%	1.8%	0.8%	0.1%	2.3%	-0.01248	
Water available all day	0.700	0.458	83.9%	74.3%	70.5%	71.8%	73.1%	74.6%	-0.01315	
Water available a few hours a day	0.186	0.389	5.7%	13.0%	16.8%	20.4%	18.9%	15.1%	0.01909	
Water available some days a week	0.094	0.291	7.1%	10.1%	10.7%	6.7%	7.1%	8.4%	-0.00163	
Water available less frequently than some days a week	0.018	0.133	3.1%	2.1%	1.8%	1.0%	0.6%	1.7%	-0.00678	
Time to get to water source	13.359	9.939	16.0	11.3	9.1	4.7	4.8	13.1	-0.00556	
Number of members per sleeping room	2.817	1.863	3.6	3.1	3.1	2.7	1.7	2.8	-0.03873	
Number of rooms excluding kitchen and bathrooms	2.414	1.519	2.0	2.2	2.0	2.1	3.8	2.4	0.04285	

PART V. SUPPORTING TABLES, 1998

- A. SAMPLE SIZES**
- B. STANDARD ERRORS**
- C. ASSET DISTRIBUTION AND WEIGHTS**

Bolivia

1998 - SAMPLE SIZES

TOTAL SAMPLE

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Number of household members	10,446	10,466	10,516	10,514	10,508	52,451
All	569	4,049	8,417	10,068	10,440	33,543
Urban	9,878	6,417	2,100	445	68	18,908
Rural	5,238	5,169	5,360	5,378	5,591	26,736
Female	5,208	5,298	5,156	5,136	4,917	25,715
Male						

Part I: HNP STATUS

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Mortality rates						
All	3,602	3,211	3,002	2,378	1,640	13,832
Urban	216	1,276	2,408	2,268	1,620	7,787
Rural	3,386	1,935	594	110	20	6,045
Female	1,768	1,588	1,476	1,143	789	6,763
Male	1,834	1,624	1,526	1,234	851	7,070
Prevalence of fever, diarrhea, acute respiratory infection						
All	1,637	1,433	1,406	1,140	761	6,376
Urban	106	578	1,142	1,100	755	3,681
Rural	1,531	855	264	40	6	2,696
Female	829	690	710	544	355	3,128
Male	808	743	696	597	406	3,250
Total fertility rate						
All	4,804	5,134	6,257	7,188	7,673	31,058
Urban	262	2,155	5,144	6,931	7,619	22,111
Rural	4,543	2,979	1,113	258	54	8,947
Age-specific fertility rate 15-19						
All	870	975	1,458	1,669	1,944	6,915
Urban	62	438	1,215	1,610	1,943	5,268
Rural	808	537	242	59	1	1,647
Children's nutritional status						
All	1,478	1,291	1,299	1,056	648	5,773
Urban	99	526	1,056	1,018	642	3,341
Rural	1,379	765	242	39	6	2,431
Female	753	619	656	505	304	2,837
Male	725	672	643	552	344	2,936
Children's anemia status						
All	408	405	445	298	165	1,721
Urban	26	147	371	282	163	989
Rural	382	258	74	16	2	732
Female	204	221	213	156	87	881
Male	204	184	232	142	78	840

Bolivia

1998 - SAMPLE SIZES

Part I: HNP STATUS (Cont.)

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Women's nutritional status						
All	838	824	827	807	565	3,862
Urban	52	339	690	775	561	2,417
Rural	786	485	137	33	4	1,445
Women's anemia status						
All	482	593	706	773	789	3,343
Urban	35	256	575	745	785	2,396
Rural	447	337	131	29	4	948
Girls' circumcision						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Women's circumcision						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Prevalence of genital discharge, ulcer, sore						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Urban Male	na	na	na	na	na	na
Rural Male	na	na	na	na	na	na

Bolivia

1998 - SAMPLE SIZES

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Immunization coverage						
All	323	282	286	241	142	1,275
Urban	20	122	223	230	139	734
Rural	303	161	63	11	3	541
Female	161	140	155	118	69	643
Male	161	143	132	123	73	632
Treatment of fever						
All	550	469	427	352	223	2,021
Urban	32	176	348	330	221	1,107
Rural	519	294	79	22	1	915
Female	261	249	212	189	131	1,042
Male	289	220	215	163	92	979
Treatment of acute respiratory infection						
All	433	382	285	278	165	1,543
Urban	29	145	230	265	165	834
Rural	405	237	55	13	0	710
Female	209	185	139	121	72	726
Male	224	197	146	157	94	818
Treatment of diarrhea						
All	357	284	289	205	89	1,223
Urban	27	117	244	192	87	667
Rural	330	167	45	13	1	556
Female	190	125	146	100	30	591
Male	168	158	143	104	59	632
Antenatal and delivery care						
All	1,058	990	997	926	645	4,616
Urban	64	402	815	892	640	2,813
Rural	994	588	182	34	4	1,802
Contraceptive prevalence						
Female	1,225	1,259	1,407	1,461	1,297	6,649
Urban Female	64	516	1,149	1,397	1,284	4,410
Rural Female	1,161	743	258	65	12	2,239
Male	395	470	470	489	465	2,289
Urban Male	16	143	377	467	460	1,463
Rural Male	379	327	93	22	5	826
Contraceptive source						
Female	87	216	312	470	591	1,676
Urban Female	14	110	268	449	582	1,423
Rural Female	72	107	44	22	9	254
Male	395	470	470	489	465	2,289
Urban Male	16	143	377	467	460	1,463
Rural Male	379	327	93	22	5	826
Treatment of genital discharge, ulcer, sore						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Urban Male	na	na	na	na	na	na
Rural Male	na	na	na	na	na	na

Bolivia

1998 - SAMPLE SIZES

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Sanitary disposal of stools						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Wash hands prior to preparing food						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Handwashing facilities in household?						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet ownership						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet use by children						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Bednet use by pregnant women						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Exclusive breastfeeding						
All	96	78	78	67	41	360
Urban	9	33	65	64	41	212
Rural	87	45	13	3	0	148
Female	47	38	37	38	23	183
Male	49	39	41	30	18	177
Timely complementary breastfeeding						
All	122	112	97	78	60	469
Urban	12	42	87	74	60	275
Rural	110	71	11	4	0	196
Female	66	47	45	39	37	234
Male	56	65	52	39	24	236
Bottle-feeding						
All	342	315	279	225	155	1,316
Urban	28	125	234	217	155	759
Rural	314	190	44	8	0	556
Female	169	150	137	118	97	671
Male	174	165	141	108	58	646

Bolivia

1998 - SAMPLE SIZES

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR (Cont.)

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
Iodized salt in household						
All	2,180	2,227	2,180	2,305	2,216	11,108
Urban	88	792	1,746	2,209	2,199	7,034
Rural	2,091	1,435	434	97	17	4,074
Vitamin A supplementation						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na
Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Tobacco and alcohol use, casual sexual partners, condom use for casual sex						
Female	na	na	na	na	na	na
Urban Female	na	na	na	na	na	na
Rural Female	na	na	na	na	na	na
Male	na	na	na	na	na	na
Urban Male	na	na	na	na	na	na
Rural Male	na	na	na	na	na	na
Domestic violence						
All	na	na	na	na	na	na
Urban	na	na	na	na	na	na
Rural	na	na	na	na	na	na

Bolivia

1998 - SAMPLE SIZES

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles					Pop. Total
	Low	2nd	3rd	4th	High	
School completion (Grade 5)						
Female	1,898	2,037	2,500	2,847	3,118	12,401
Urban female	107	845	2,049	2,737	3,100	8,838
Rural female	1,791	1,193	450	110	19	3,562
Male	1,860	2,089	2,371	2,641	2,685	11,646
Urban male	87	848	1,936	2,540	2,672	8,082
Rural male	1,773	1,241	435	101	13	3,564
School participation						
Female	897	852	778	651	504	3,682
Urban female	57	328	622	615	504	2,125
Rural female	840	525	157	36	0	1,558
Male	915	903	823	680	466	3,788
Urban male	46	351	652	641	460	2,150
Rural male	869	552	171	39	7	1,638
Mass media exposure						
Female	1,709	1,836	2,245	2,601	2,795	11,187
Urban female	95	774	1,849	2,502	2,778	7,997
Rural female	1,614	1,063	396	99	18	3,190
Male	559	715	764	818	924	3,780
Urban male	23	252	612	787	917	2,592
Rural male	536	463	152	31	7	1,189
Knowledge of HIV/AIDS prevention						
Female	4,081	1,836	2,245	2,601	2,795	13,558
Urban female	95	774	1,849	2,502	2,778	7,998
Rural female	1,614	1,063	396	99	18	3,190
Male	na	na	na	na	na	na
Urban male	na	na	na	na	na	na
Rural male	na	na	na	na	na	na
Household decisionmaking and justification of violence						
All	1,709	1,836	2,245	2,601	2,795	11,187
Urban	95	774	1,849	2,502	2,778	7,997
Rural	1,614	1,063	396	99	18	3,190
Orphanhood						
All	4,976	4,793	4,483	3,831	2,871	20,954
Urban	301	1,894	3,567	3,653	2,846	12,262
Rural	4,674	2,899	916	178	25	8,692
Female	2,469	2,298	2,232	1,868	1,450	10,318
Male	2,506	2,495	2,251	1,962	1,422	10,636

Bolivia

1998 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part I: HNP STATUS

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Childhood illness and mortality						
Infant mortality rate	6.36	6.28	5.82	5.01	4.71	3.01
Under-five mortality rate	7.51	7.44	7.52	5.80	6.16	3.72
Prevalence of fever	1.45	1.63	1.55	1.88	2.30	0.77
Prevalence of diarrhea	1.19	1.24	1.38	1.27	1.49	0.61
Prevalence of acute respiratory infection	1.40	1.55	1.46	1.62	1.94	0.73
B. Fertility						
Total fertility rate	0.19	0.18	0.19	0.12	0.11	0.10
Adolescent fertility rate	14.00	12.00	10.00	9.00	5.00	5.00
C. Nutritional status						
<i>Children:</i>						
Moderate stunting	1.32	1.17	1.31	1.03	0.97	0.58
Severe stunting	0.94	0.91	0.77	0.88	0.73	0.45
Moderate underweight	0.88	0.71	0.70	0.59	0.68	0.37
Severe underweight	0.31	0.27	0.29	0.26	0.38	0.14
Mild anemia	2.01	2.17	2.20	2.94	3.59	1.03
Moderate anemia	2.80	2.46	3.21	3.22	3.68	1.40
Severe anemia	1.06	0.73	1.10	1.34	0.52	0.47
<i>Women:</i>						
Malnutrition	0.23	0.13	0.38	0.40	0.74	0.17
Mild anemia	1.96	1.90	2.05	1.70	1.61	0.80
Moderate anemia	1.49	0.91	0.98	0.81	0.71	0.43
Severe anemia	0.51	0.55	0.53	0.24	0.25	0.20
D. Female circumcision						
<i>Prevalence of circumcision:</i>						
Girls	na	na	na	na	na	na
Women	na	na	na	na	na	na
<i>Prevalence of occlusion:</i>						
Girls	*	*	*	*	*	*
Women	*	*	*	*	*	*
E. Sexually transmitted disease						
<i>Prevalence of genital discharge:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Prevalence of genital ulcer:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na

Bolivia

1998 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Childhood immunization						
BCG coverage	2.53	2.85	2.45	1.61	0.44	1.10
Measles coverage	2.79	3.29	3.45	3.73	4.86	1.70
DPT coverage	2.65	3.61	3.74	4.09	4.43	1.66
Full basic coverage	2.28	2.96	3.08	3.66	4.58	1.42
No basic coverage	2.32	2.54	1.77	1.24	0.00	0.96
Hepatitis B coverage	na	na	na	na	na	na
Yellow fever coverage	na	na	na	na	na	na
B. Treatment of childhood illnesses						
<i>Treatment of fever:</i>						
Medical treatment of fever	2.29	2.38	2.64	3.52	4.71	1.32
Treatment in a public facility	2.29	2.31	2.55	2.93	4.10	1.22
Treatment in a private facility	0.36	1.03	1.34	2.73	3.70	0.80
<i>Treatment of acute respiratory infection (ARI):</i>						
Medical treatment of ARI	2.68	3.01	3.29	3.73	4.86	1.51
Treatment in a public facility	2.67	2.89	3.22	3.44	4.97	1.49
Treatment in a private facility	0.38	1.50	2.11	3.12	4.97	1.08
<i>Treatment of diarrhea:</i>						
Use of oral rehydration therapy	2.68	2.99	2.90	3.68	4.44	1.41
Medical treatment of diarrhea	2.66	3.32	3.55	4.41	6.70	1.68
Treatment in a public facility	2.62	3.13	3.31	3.90	4.89	1.49
Treatment in a private facility	0.85	1.20	1.74	3.58	5.90	0.98
C. Antenatal and delivery care						
<i>Antenatal care (ANC) visits:</i>						
To a medically trained person	1.91	1.88	1.79	1.37	1.00	0.90
To a doctor	1.76	1.91	1.82	1.37	0.93	0.93
To a nurse or trained midwife	1.32	0.93	0.51	0.27	0.21	0.42
Multiple visits to a medically trained person	1.54	1.81	1.96	1.77	1.35	0.95
<i>Antenatal care content:</i>						
Tetanus toxoid	1.69	1.74	1.85	1.97	2.48	0.85
Prophylactic antimalarial treatment	na	na	na	na	na	na
Iron supplementation	na	na	na	na	na	na
<i>Delivery attendance:</i>						
By a medically trained person	1.31	1.84	2.23	1.56	0.51	1.11
By a doctor	1.19	1.85	2.21	1.62	0.53	1.14
By a nurse or trained midwife	0.65	0.75	0.57	0.44	0.20	0.30
In a public facility	1.14	1.73	2.09	2.09	2.38	0.98
In a private facility	0.37	1.06	1.48	1.78	2.34	0.70
At home	1.27	1.89	2.22	1.62	0.56	1.16
D. Contraceptive services						
<i>Contraceptive prevalence:</i>						
Women	0.85	1.25	1.35	1.50	1.66	0.69
Men	1.37	1.69	2.39	2.46	2.77	0.99
<i>Source of contraception - public sector:</i>						
Women	5.63	3.40	3.39	2.55	2.40	1.42
Men	na	na	na	na	na	na

Bolivia

1998 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part II: Intermediate Determinants of HNP Status - HNP SERVICE USE (Cont.)

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
D. Contraceptive services (cont.)						
<i>Source of contraception - private sector:</i>						
Women	5.64	3.52	3.36	2.74	2.49	1.45
Men	na	na	na	na	na	na
E. Treatment of adult illnesses						
<i>Treatment of genital discharge, ulcer, sore:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Treatment of genital discharge, ulcer, sore in public medical facilities:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Voluntary counseling and testing for HIV/AIDS:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na

Bolivia

1998 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part III: Intermediate Determinants of HNP Status - INDIVIDUAL AND HOUSEHOLD BEHAVIOR

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Hygienic practices						
<i>Disposal of children's stools:</i>						
Sanitary disposal	na	na	na	na	na	na
<i>Handwashing:</i>						
Wash hands prior to preparing food	na	na	na	na	na	na
Handwashing facilities in household	na	na	na	na	na	na
B. Bednet ownership and use						
<i>Bednet ownership:</i>						
Bednet ownership	na	na	na	na	na	na
Treated bednet ownership	na	na	na	na	na	na
<i>Bednet use:</i>						
By children	na	na	na	na	na	na
By pregnant women	na	na	na	na	na	na
C. Breastfeeding						
Exclusive breastfeeding	4.29	5.74	5.62	6.69	10.20	2.48
Timely complementary feeding	3.94	4.23	4.38	6.00	7.10	2.31
Bottle-feeding	2.44	2.77	3.21	4.06	4.52	1.38
D. Micronutrient consumption						
<i>Iodized salt:</i>						
Availability of iodized salt in household	0.67	0.70	0.76	0.69	0.73	0.34
<i>Vitamin A:</i>						
Children	na	na	na	na	na	na
Women	na	na	na	na	na	na
E. Tobacco and alcohol use						
<i>Tobacco:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Alcohol:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
F. Sexual practices						
<i>Non-regular sexual partnerships:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Condom usage with non-regular partner:</i>						
women	na	na	na	na	na	na
Men	na	na	na	na	na	na
G. Domestic violence						
Ever experienced violence	na	na	na	na	na	na
Experienced violence in past year	na	na	na	na	na	na

Bolivia

1998 - STANDARD ERRORS OF QUINTILE ESTIMATES FOR TOTAL POPULATION

Part IV: UNDERLYING DETERMINANTS OF HNP STATUS

Indicator	Wealth Quintiles					Pop. Avg.
	Low	2nd	3rd	4th	High	
A. Education						
<i>School completion:</i>						
Women	1.39	1.45	1.16	0.84	0.58	0.65
Men	1.65	1.24	0.79	0.55	0.37	0.52
<i>School participation:</i>						
Girls	1.26	1.11	0.59	0.47	0.55	0.46
Boys	1.15	0.94	1.01	0.49	0.41	0.44
B. Exposure to mass media						
<i>Newspaper readership:</i>						
Women	1.09	1.59	1.45	1.17	0.94	1.21
Men	2.56	2.29	1.94	1.69	1.12	0.91
<i>Radio listenership:</i>						
Women	1.68	1.63	1.41	0.81	1.22	0.77
Men	2.42	1.88	2.10	1.48	1.63	0.91
<i>Television viewership:</i>						
Women	0.97	2.06	1.33	0.55	0.38	1.28
Men	2.02	2.58	2.10	0.72	0.68	0.99
C. Knowledge and attitudes about HIV/AIDS						
<i>Knowledge about sexual transmission of HIV/AIDS:</i>						
Women	1.14	1.69	1.57	1.05	0.84	1.24
Men	2.09	2.74	2.17	0.72	0.67	1.45
<i>Knowledge about mother-to-child transmission of HIV/AIDS:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
<i>Attitudes toward HIV/AIDS:</i>						
Women	na	na	na	na	na	na
Men	na	na	na	na	na	na
D. Status of women						
<i>Household decisionmaking:</i>						
Can seek own health care	na	na	na	na	na	na
Can seek children's health care	na	na	na	na	na	na
Can make daily household purchases	na	na	na	na	na	na
Can make large household purchases	na	na	na	na	na	na
Can make meal-related decisions	na	na	na	na	na	na
<i>Freedom of movement:</i>						
Can travel to visit family/relatives	na	na	na	na	na	na
<i>Other decisionmaking, attitudes:</i>						
Can decide how to spend own money	1.47	1.90	2.00	1.71	1.54	0.91
Can decide whether to have sex	na	na	na	na	na	na
Justifies domestic violence	na	na	na	na	na	na
E. Orphanhood						
Paternal orphan prevalence	0.42	0.53	0.44	0.42	0.46	0.22
Maternal orphan prevalence	0.30	0.39	0.34	0.30	0.29	0.15
Double orphan prevalence	0.08	0.11	0.14	0.10	0.17	0.05

Bolivia

1998 - ASSET DISTRIBUTION AND WEIGHTS

(FACTOR SCORES)

Asset Variable	Unweighted		Wealth Quintiles							Factor Score
	Mean	Std. Devia- tion	Low	2nd	3rd	4th	High	Avg.		
			Percentage of Population							
Has electricity	0.655	0.475	3.6%	59.5%	96.2%	99.8%	100.0%	71.8%	0.11453	
Has radio	0.826	0.379	61.5%	83.8%	90.9%	96.4%	98.8%	86.3%	0.06199	
Has television	0.567	0.496	0.5%	37.3%	85.9%	97.7%	99.6%	64.2%	0.11413	
Has refrigerator	0.300	0.458	0.0%	6.0%	18.2%	59.5%	96.5%	36.0%	0.09763	
Has telephone	0.196	0.397	0.1%	0.1%	2.1%	24.4%	91.1%	23.6%	0.09004	
Has celular phone	0.038	0.192	0.1%	0.0%	0.2%	1.9%	25.1%	5.4%	0.04526	
Has computer	0.043	0.203	0.0%	0.0%	0.3%	0.6%	28.9%	6.0%	0.04923	
Has special room for cooking	0.775	0.417	76.7%	73.4%	73.7%	81.9%	97.8%	80.7%	0.01901	
Works own or family's agric. land	0.171	0.377	59.3%	28.2%	6.2%	1.2%	0.5%	19.1%	-0.06816	
Uses water piped into residence for drinking	0.307	0.461	1.1%	11.1%	24.6%	41.7%	84.7%	32.6%	0.08397	
Uses water piped outside of residence for drinking	0.309	0.462	7.6%	38.0%	55.6%	52.8%	14.1%	33.6%	0.02495	
Uses piped water from public tap for drinking	0.084	0.277	12.0%	18.0%	9.1%	2.0%	0.5%	8.3%	-0.02120	
Uses water from a well for drinking	0.132	0.338	30.3%	19.2%	4.1%	0.7%	0.2%	10.9%	-0.05240	
Uses water from river, canal or surface for drinking	0.142	0.349	46.7%	8.4%	0.7%	0.0%	0.0%	11.2%	-0.07394	
Uses water from tanker truck for drinking	0.010	0.101	0.1%	2.0%	4.1%	2.5%	0.4%	1.8%	0.00408	
Uses water from other source for drinking	0.016	0.127	2.2%	3.2%	1.9%	0.3%	0.0%	1.5%	-0.01041	
Uses private flush toilet	0.196	0.397	0.4%	1.1%	3.6%	28.1%	82.5%	23.1%	0.08584	
Uses shared flush toilet	0.060	0.237	0.0%	0.4%	2.8%	14.5%	7.8%	5.1%	0.02930	
Uses any flush toilet (unknown ownership)	0.002	0.045	0.0%	0.0%	0.0%	0.3%	0.7%	0.2%	0.00720	
Uses private pit latrine	0.228	0.419	19.4%	36.6%	36.3%	32.7%	7.1%	26.4%	-0.00314	
Uses shared latrine	0.105	0.306	1.9%	7.8%	21.1%	20.6%	1.6%	10.6%	0.01618	
Uses any latrine	0.003	0.051	0.1%	0.4%	0.5%	0.3%	0.1%	0.3%	0.00154	
Uses bush,field as latrine	0.406	0.491	77.9%	53.5%	35.7%	3.3%	0.2%	34.1%	-0.09171	
Has dirt, earth as principal floor material in dwelling	0.372	0.483	97.3%	57.5%	8.4%	0.6%	0.0%	32.7%	-0.11386	
Has wood, plank as principal floor material in dwelling	0.128	0.334	0.2%	6.6%	14.4%	19.0%	31.0%	14.2%	0.04589	
Has parquet or tile as principal floor material in dwelling	0.088	0.283	0.1%	0.7%	3.1%	5.1%	38.6%	9.5%	0.05508	
Has cement as principal floor material in dwelling	0.329	0.470	1.2%	27.3%	58.7%	64.1%	27.2%	35.7%	0.04540	
Has other type of flooring in dwelling	0.006	0.076	0.5%	0.9%	0.4%	0.1%	0.6%	0.5%	-0.00135	
Has cane, palm, trunks for walls	0.021	0.144	6.2%	1.7%	0.6%	0.0%	0.0%	1.7%	-0.02435	
Has stone for walls	0.013	0.115	4.2%	0.2%	0.0%	0.2%	0.1%	0.9%	-0.02258	
Has wood planks for walls	0.045	0.207	7.7%	10.5%	4.2%	0.4%	0.1%	4.6%	-0.01786	
Has unplastered brick or mud walls	0.197	0.398	53.1%	22.7%	6.2%	2.0%	0.3%	16.8%	-0.07552	
Has plastered brick walls	0.447	0.497	23.5%	53.9%	63.4%	41.5%	19.4%	40.3%	0.01403	
Has bricks, cement blocks, concrete walls	0.259	0.438	0.2%	8.1%	25.4%	55.9%	80.1%	33.9%	0.08105	
Has other material for walls	0.018	0.133	5.0%	3.0%	0.1%	0.0%	0.0%	1.6%	-0.01956	
Has natural material for roofing	0.237	0.425	75.7%	12.9%	0.9%	0.0%	0.0%	17.9%	-0.10071	
Has corrugated iron for roofing	0.448	0.497	12.6%	60.6%	73.2%	58.0%	39.2%	48.7%	0.04129	
Has tiles for roofing	0.276	0.447	9.5%	25.1%	24.3%	38.3%	50.2%	29.5%	0.04081	
Has concrete for roofing	0.031	0.173	0.1%	0.5%	1.4%	3.6%	10.5%	3.2%	0.02898	
Has other roofing	0.007	0.084	2.1%	0.9%	0.1%	0.0%	0.0%	0.6%	-0.01227	
Number of members per sleeping room	3.215	2.126	5.0	4.6	4.1	3.3	1.9	3.8	-0.04798	

PART VI. ANNEXES

- A. SOURCES OF ADDITIONAL
INFORMATION**
- B. USE OF INFORMATION FROM THIS
REPORT TO MONITOR THE
ECONOMIC STATUS OF PEOPLE
SERVED BY HNP PROGRAMS**
- C. COUNTRIES COVERED BY THE HNP-
POVERTY REPORT PROJECT**

ANNEX A. SOURCES OF ADDITIONAL INFORMATION

ADDITIONAL INEQUALITY DATA

World Bank HNP/Poverty Country Report Website:
<http://www.worldbank.org/hnp/povertyandhealth/countrydata>.

This World Bank website provides the full texts and tables for all fifty-six countries covered by the HNP/Poverty Country Report Project. (A list of the countries covered appears in annex C, at the end of this report.) Also available at the site are summary tables, organized by indicator, designed to facilitate cross-country comparisons in inequality with respect to particular indicators.

DHS Country Reports: <http://www.measuredhs.com/countries>.

All DHS final country reports produced since 2003 include quintile-specific tabulations in approximately 50-100 of the reports' HNP indicator tables. The tables deal with some of the indicators covered in this volume, and with many that are not.

UNICEF Multi-Indicator Cluster Survey Website:
<http://www.childinfo.org/MICS2/natlMICSrepz/MICSnatrep.htm>.

The UNICEF Multi-Indicator Cluster Survey (MICS) project is generally similar to the DHS program, but covers a somewhat different set of countries and indicators. The "standard tables" section for each country listed at the MICS website provides wealth-based, quintile-specific information in around 40-45 of the tables related to hnp, education, and child labor. In deriving these quintile-specific estimates, the MICS investigators have employed a wealth index similar to the one used here.

World Health Organization World Health Survey Website:
<http://www.who.int/healthinfo/survey/en/index.html>.

The World Health Organization's World Health Survey (WHS) includes such issues as self-assessed adult health status; coverage of interventions against adult chronic diseases and against maternal and child health problems; household health expenditures; insurance coverage; and health system responsiveness. Approximately seventy countries – developed as well as developing – have been covered thus far. Household wealth information has been collected and used to prepare quintile-specific estimates for many of the indicators appearing in the reports on these countries.

METHODS AND RESOURCES FOR FURTHER INEQUALITY ANALYSIS

Shea Oscar Rutstein and Kiersten Johnson, *The DHS Wealth Index*, DHS Comparative Reports No. 6 (Calverton, Maryland, USA: ORC Macro, August 2004) (Available at: http://www.measuredhs.com/pubs/pub_details.cfm?ID=470&srchTp=type).

This DHS publication, by two of the co-authors of the current report, describes in detail the construction of the wealth index that underlies the data presented in the basic tables.

Deon Filmer and Lant H. Pritchett, “Estimating Wealth Effects without Expenditure Data – or Tears: An Application to Education Enrollments in States in India,” *Demography* 38, no.1 (February 2001): 115-132.

This seminal piece gave birth to the wealth index procedure used in the current volume. It also includes three of the previously-cited country case studies demonstrating the close relationship between results produced using wealth and those based on consumption as an indicator of household economic status.

Owen O’Donnell, Eddy van Doorslaer, Adam Wagstaff, and Magnus Lindelow. *Quantitative Techniques for Health Equity Analysis*. Washington D.C.: The World Bank, forthcoming.

Among the topics covered in this comprehensive overview of available quantitative techniques are the measurement of living standards using a wealth index and other approaches (chapter 6) and the concentration index as a measure of inequality (chapter 8).

DHS Country Data Sets: <http://www.measuredhs.com/accesssurveys/search>.

The data sets for all DHS surveys undertaken since 2003 include two pieces of information for each household that are designed to help investigators prepare quintile-specific tabulations for any indicator. These are: 1) the household wealth score; and 2) the economic quintile to which individuals in the household belong. Any tabulation using these pieces of information will be comparable to the figures appearing here.

ANNEX B. USE OF INFORMATION FROM THIS REPORT TO MONITOR THE ECONOMIC STATUS OF PEOPLE SERVED BY HNP PROGRAMS

The wealth or asset approach employed in this report can be used to monitor the economic status of people served by health, nutrition, and population (hnp) programs in two ways. The first, simpler way is suitable for monitoring nationwide, facility-based programs. A second, fuller version can also be employed for other types of programs, such as initiatives undertaken only in some parts of a country, or activities like mass education or outreach programs that do not operate through facilities.

BASIC MONITORING OF NATIONWIDE FACILITY-BASED PROGRAMS

The economic distribution of patients in a nationwide, facility-based program (say, a network of rural health posts, antenatal care clinics, emergency obstetrical facilities, or hospitals) can be determined through an exit survey of facility patients, using the wealth questionnaire and the set of quintile cut-off points that immediately follow this text, and which have been created using the information presented in part III.C. The questionnaire can be employed to measure the economic status of any individual responding to the questions on it. The set of cut-off points can serve to compare the distribution of the respondents' economic status with that of the nationally-representative sample of people interviewed by the DHS survey on which the present report is based.

The first step is to use the questionnaire in interviewing an adequately-large sample of patients attending the facility-based services of interest. The wealth score for each patient can then be calculated by multiplying the response to each question by the item scores also provided on the questionnaire, and summing the results. After this has been done, the quintile cut-off points can be used to place each individual in the economic quintile to which (s)he belongs. The number of patients and percentage of total patients in each quintile can then be calculated.

Since each quintile defined by the cut-off points contains 20 percent of the individuals in the nationally-representative DHS sample, the patients belonging to any such quintile containing significantly more (or less) than 20 percent of the total are over- (under-) represented relative to the national population. When the percentage of patients in each of the five quintiles is viewed as a whole, the result is a frequency distribution that indicates the spread of service beneficiaries across economic classes of individuals.²¹ For example:

- A service that favors the poorest people would have substantially more than 20 percent of its patients in each of the lowest one or two economic quintiles; considerably less than 20 percent of its patients in each of the highest quintiles.

²¹ That is, across economic classes of all individuals in the sample population. Estimates pertaining to quintiles of only those individuals needing services require adjusting the results of the procedure described here through application of the relevant quintile-specific, sample-size figures presented in part III.A.

- A service that reaches all economic classes equally would draw roughly the same proportion of total patients from the lower and upper quintiles.
- A service that favors the least poor population groups would have well over 20 percent of its patients in each of the highest one or two quintiles, considerably less than 20 percent of its patients in each of the lowest quintiles.

FULLER MONITORING OF FACILITY-BASED AND OF OTHER PROGRAMS

While capable of providing far more information than currently exists about the distribution of a program's beneficiaries, the approach just described has important limitations. For example, it cannot deal with the many important types of health programs that do not deliver services primarily through facilities – mass media health education, household visits by health workers, and many social marketing initiatives, for example. It is also limited in its ability to assess programs working only with certain areas within a country: it can compare the economic status of the programs' beneficiaries with that of the national population, but not with that of the specific sub-national areas where the programs are active. Further, it focuses primarily on only one of the two important dimensions of monitoring the distribution of program beneficiaries: that is, incidence or focus – the percentage of program benefits that flow to the poor. It cannot deal nearly so well with the second dimension, which concerns coverage, or the percentage of the poor that the program reaches.

These limitations can be overcome by a modified version of the approach described above that relies on a household- rather than facility-based survey. A household survey can generate a set of data containing the full range of information needed to produce an equity assessment by collecting two types of information: first, about the household's wealth or assets, using the questions in the left-hand column of the attached questionnaire;²² and second, about the household members' use of or exposure to the services provided by the program(s) of interest. The collected data can be analyzed in either (or both) of two ways, depending on the type of information desired:

- One way would be to use only data from the household survey. The procedure would be analogous to that for a DHS survey employed in this report:
 - Asset information from the survey-generated data set would be used as the basis for the construction of a wealth index, weighting the individual items using some method like principal components analysis.
 - The individuals in the sample would be ranked in order of the index values for their households, then divided into groups like quintiles.
 - The coverage rates in each quintile for the service of interest would be calculated.
- A second approach would be to use the weights for each item appearing on the attached questionnaire in determining the wealth of each individual, instead of calculating the weights from the new household data set. Once the individuals' wealth is determined, the individuals would be ranked, divided into quintiles, and the coverage rate in each quintile would be calculated. In the case of programs undertaken in only one region of the country, it would

²² Or, if one is willing to forego the benefits of the second analytical approach described below, using any of several other asset questionnaires that exist. Examples include the INDEPTH health equity survey tool (available at: www.indepth-network.org/core_documents/indepthtools.htm) or the model questionnaire developed by M. Mahood Khan and David Hotchkiss of the PHR Plus project (which can be found at: www.phrplus.org).

provide a comparison of the economic status of the people served with that of the entire country rather than of only the region where the programs are active;²³ in the case of nationwide as well as regional programs, it would permit a comparison with the other service programs covered in this report.

²³ This additional perspective could be particularly helpful in an assessment of a program seeking to reach the poor by focusing on especially backward districts. A report presenting only a finding that the program was reaching the better-off people in those districts could produce an impression that it had failed to reach its intended beneficiaries. But a comparison between the economic status of the program's beneficiaries with that of the national population might well reveal that most of the beneficiaries were poor by national standards and that the program was thus considerably more successful than otherwise thought.

Bolivia

2003 - ASSET QUESTIONNAIRE

Question	Score if "Yes"	Score if "No"	Item Score
<i>1. In your household, is/are there?</i>			
Electricity	0.04990	-0.12961	_____
One or more radios	0.01580	-0.07252	_____
One or more televisions	0.06882	-0.10241	_____
One or refrigerators	0.12112	-0.04876	_____
One or more bicycles	0.01573	-0.01311	_____
One or more motorcycles, scooters	0.08589	-0.00478	_____
One or more cars, trucks	0.13190	-0.01780	_____
One or more telephones	0.15658	-0.03158	_____
One or more rooms only for kitchen	0.01012	-0.03236	_____
One or more cellular phones	0.12138	-0.03002	_____
One or more computers	0.18376	-0.01517	_____
One or more electric water pumps	0.15698	-0.00582	_____
<i>2. What is the principal source of drinking water for your household?</i>			
Piped water in residence	0.13368	-0.03512	_____
Piped water in yard, plot	0.00311	-0.00333	_____
Piped water in public tap	-0.09426	0.00562	_____
Well with electrical pump	-0.07506	0.00174	_____
Well without electrical pump	-0.11087	0.01023	_____
Lake, river, surface water	-0.14993	0.01320	_____
Neighbors	-0.07015	0.00064	_____
Tanker truck	0.02237	-0.00032	_____
Other	-0.07473	0.00053	_____
<i>3. How frequent is drinking water available in your household?</i>			
All day	-0.00861	0.02008	_____
A few hours a day	0.03990	-0.00913	_____
A couple of days a week	-0.00506	0.00052	_____
Less frequently than a couple of days a week	-0.04999	0.00092	_____
<i>4. What is the principal source of fuel for cooking in your household?</i>			
Electricity	-0.06383	0.00001	_____
LPG, natural gas	0.07271	-0.02225	_____
Kerosene	0.09547	-0.03508	_____
Wood, straw	0.10634	-0.00039	_____
Dung	-0.07315	0.01355	_____
Does not cook	-0.11444	0.00457	_____
Other	-0.09239	0.03500	_____
<i>5. What is the principal type of toilet facility used by your household?</i>			
Private flush toilet	0.11083	-0.05130	_____
Shared Flush toilet	0.13650	-0.03475	_____
Private septic system	0.08085	-0.00636	_____
Shared septic system	0.09126	-0.00520	_____
Traditional pit latrine	-0.03617	0.01359	_____
Shared traditional pit latrine	-0.04313	0.01169	_____
Bush, field as latrine	-0.09256	0.04689	_____

Bolivia

2003 - ASSET QUESTIONNAIRE

Question	Score if "Yes"	Score if "No"	Item Score
6. What is the principal material used for the floors in your household?			
Earth, mud, dung	-0.11779	0.05535	_____
Concrete, cement	0.03918	-0.02591	_____
Wood plank	-0.02840	0.00087	_____
Parquet, wood tile	0.11311	-0.00891	_____
Terrazo, ceramic tile	0.14881	-0.01596	_____
Carpet	-0.00044	0.00004	_____
Rug	0.13416	-0.00046	_____
Other	-0.05801	0.00021	_____
7. What is the principal material used for the walls of your household?			
Stone	-0.12923	0.00121	_____
Palm tree	-0.13875	0.00129	_____
Adobe	-0.04362	0.04975	_____
Tabique/Chinche	-0.10132	0.00251	_____
Finished wood	-0.07560	0.00495	_____
Blocks/brick	0.09289	-0.05198	_____
Other	-0.12340	0.00052	_____
8. What is the principal material used for the roof of your household?			
Palm tree	-0.14294	0.02766	_____
Zinc	0.01458	-0.01327	_____
Cement	0.12424	-0.00486	_____
Ceramic tile	0.03819	-0.01761	_____
Other	-0.10897	0.00054	_____
9. How does your household dispose of solid waste?			
Collected by town council	0.07271	-0.02225	_____
Collected by contractors	0.09547	-0.03508	_____
Collected by private company	0.10634	-0.00039	_____
Burnt	-0.07315	0.01355	_____
Thrown in yard	-0.11444	0.00457	_____
Thrown in street	-0.09239	0.03500	_____
Other	-0.08101	0.00192	_____
10. How long does it take to get to your household's source of drinking water?	$\left(\frac{time - 13.36}{9.94} \right) \times -0.006$		_____
11. How many people are there for each sleeping room in your household?	$\left(\frac{\# people - 2.82}{1.36} \right) \times -0.039$		_____
12. How many rooms are there in your household, excluding kitchen and bathroom?	$\left(\frac{\# rooms - 2.42}{1.52} \right) \times 0.043$		_____
Total Household Asset Score (sum of individual item scores)			_____

Bolivia

2003 - QUINTILE CUT-OFF POINTS

Wealth Quintile	Asset Index Value	
	Bottom Cut-Off	Top Cut-Off
Low	Low	-1.12334
Second	-1.12334	-0.30535
Third	-0.30535	0.36056
Fourth	0.36056	0.99264
High	0.99264	High

ANNEX C. COUNTRIES COVERED BY THE HNP - POVERTY REPORT PROJECT*

East Asia and Pacific

Cambodia	2000
Indonesia	1997, 2002-03
Philippines	1998, 2003
Vietnam	1997, 2002

Europe and Central Asia

Armenia	2000
Kazakhstan	1995, 1999
Kyrgyz Rep.	1997
Turkey	1993, 1998
Turkmenistan	2000
Uzbekistan	1996

Latin America and the Caribbean

Bolivia	1998, 2003
Brazil	1996
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* Note: electronic versions of reports for all countries are currently available at: www.worldbank.org/povertyandhealth/countrydata. While supplies last, paper copies may be obtained at no charge by sending a request to the World Bank's health advisory service: healthpop@worldbank.org.



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