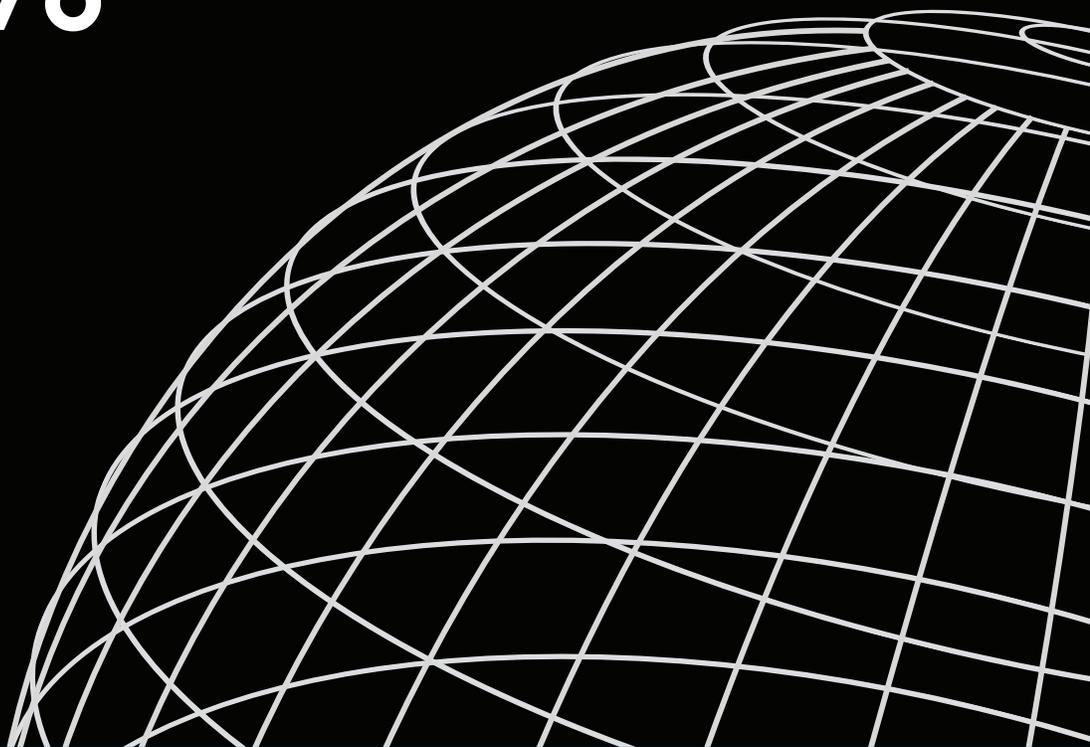




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HOUSEHOLD WEALTH RELATIVE TO COMMUNITY WEALTH: ASSOCIATIONS WITH SPECIFIC ASSET OWNERSHIP AND MATERNAL AND CHILD HEALTH INDICATORS

DHS ANALYTICAL STUDIES 76



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**Household Wealth Relative to Community Wealth:
Associations with Specific Asset Ownership and Maternal
and Child Health Indicators**

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CONTENTS

TABLES	vii
FIGURES	ix
PREFACE	xv
ACRONYMS	xvii
ABSTRACT	xix
1 INTRODUCTION	1
1.1 Background	1
1.2 Rationale	1
1.2.1 Specific asset ownership	1
1.2.2 MCH coverage	2
2 DATA AND METHODS	3
2.1 Data.....	3
2.2 Measures	3
2.2.1 Wealth inequality measures.....	3
2.2.2 Specific asset ownership	4
2.2.3 MCH outcomes	5
2.2.4 Covariates	6
2.3 Analysis.....	6
2.3.1 Identifying specific asset drivers of quintile membership.....	6
2.3.2 Assessing inequalities in MCH health indicators by household wealth relative to average community wealth	9
3 OVERALL RESULTS	11
3.1 Household wealth relative to average community wealth.....	11
3.2 Asset ownership and household wealth relative to average community wealth.....	12
3.3 Health indicators and household wealth relative to community average wealth	17
4 DISCUSSION AND CONCLUSION	21
5 COUNTRY-SPECIFIC RESULTS	25
5.1 DRC	25
5.1.1 Household wealth relative to average community wealth.....	25
5.1.2 Asset ownership and household wealth relative to average community wealth.....	25
5.1.3 Health indicators and household wealth relative to average community wealth.....	27
5.2 Ghana	31
5.2.1 Household wealth relative to average community wealth.....	31
5.2.2 Asset ownership and household wealth relative to average community wealth.....	31
5.2.3 Health indicators and household wealth relative to average community wealth.....	33

5.3	Haiti	37
5.3.1	Household wealth relative to average community wealth.....	37
5.3.2	Asset ownership and household wealth relative to average community wealth.....	37
5.3.3	Health indicators and household wealth relative to average community wealth.....	39
5.4	Indonesia.....	43
5.4.1	Household wealth relative to average community wealth.....	43
5.4.2	Asset ownership and household wealth relative to average community wealth.....	44
5.4.3	Health indicators and household wealth relative to average community wealth.....	45
5.5	Kenya	48
5.5.1	Household wealth relative to average community wealth.....	48
5.5.2	Asset ownership and household wealth relative to average community wealth.....	49
5.5.3	Health indicators and household wealth relative to average community wealth.....	50
5.6	Liberia	54
5.6.1	Household wealth relative to average community wealth.....	54
5.6.2	Asset ownership and household wealth relative to average community wealth.....	55
5.6.3	Health indicators and household wealth relative to average community wealth.....	56
5.7	Mali.....	61
5.7.1	Household wealth relative to average community wealth.....	61
5.7.2	Asset ownership and household wealth relative to average community wealth.....	61
5.7.3	Health indicators and household wealth relative to average community wealth.....	63
5.8	Nigeria.....	67
5.8.1	Household wealth relative to average community wealth.....	67
5.8.2	Asset ownership and household wealth relative to average community wealth.....	68
5.8.3	Health indicators and household wealth relative to average community wealth.....	69
5.9	Pakistan	74
5.9.1	Household wealth relative to average community wealth.....	74
5.9.2	Asset ownership and household wealth relative to average community wealth.....	74
5.9.3	Health indicators and household wealth relative to average community wealth.....	76
5.10	Senegal.....	80
5.10.1	Household wealth relative to average community wealth.....	80
5.10.2	Asset ownership and household wealth relative to average community wealth.....	81
5.10.3	Health indicators and household wealth relative to average community wealth.....	82

5.11	Zambia	86
5.11.1	Household wealth relative to average community wealth.....	86
5.11.2	Asset ownership and household wealth relative to average community wealth.....	87
5.11.3	Health indicators and household wealth relative to average community wealth.....	88
REFERENCES.....		93
APPENDIX.....		95

TABLES

Table 1	DHS surveys included in the analysis.....	3
Table 2	Distribution of household wealth relative to community average wealth, by country	12
Table 3	Summary results of effect of having electricity on relative community wealth category	13
Table 4	Summary results of effect of owning a vehicle on relative community wealth category	13
Table 5	Summary results of effect of owning a telephone on relative community wealth category	14
Table 6	Summary results of effect of having a bank account on relative community wealth category.....	14
Table 7	Summary results of effect of having an improved water source on relative community wealth category	15
Table 8	Summary results of effect of having improved sanitation on relative community wealth category.....	15
Table 9	Summary results of effect of having improved flooring on relative community wealth category.....	16
Table 10	Summary results of effect of having improved walls on relative community wealth category.....	16
Table 11	Average marginal effect of being a poor household relative to community compared to being a rich household relative to community	19
Table 12	Summary table of programmatically important differences in asset ownership	22
Appendix Table A1	Regressions of assets on household wealth quintiles and household relative to community.....	96
Appendix Table A2	Marginal effect of a household being wealthy relative to community versus a household being poor relative to community	107
Appendix Table A3	Unadjusted and adjusted odds ratios for maternal and reproductive health indicators.....	113
Appendix Table A4	Unadjusted and adjusted odds ratios for child health indicators	124
Appendix Table A5	Unadjusted and adjusted odds ratios for child nutrition indicators among children under age 5	135
Appendix Table A6	Average marginal effects (AMEs) and 95% confidence intervals (CI) of being a poor household relative to community compared to being a rich household relative to community on each outcome by country	140

FIGURES

Figure 1	Predicted probability of vehicle ownership by household wealth quintile, Mali 2018	8
Figure 2	Predicted probability of vehicle ownership by household wealth quintile, Mali 2018	9
Figure 3	Bar graph of household wealth relative to community average wealth inequality score, overall and by indicator category	17
Figure 4	Distribution of household wealth relative to community average, DRC 2013-14	25
Figure 5	Predicted probabilities of asset ownership (vehicle, telephone, and bank account) by household wealth quintile, DRC 2013-14.....	26
Figure 6	Predicted probabilities of asset ownership (improved water source, improved sanitation, and improved wall) by household wealth quintile, DRC 2013-14.....	27
Figure 7	Levels of MRH indicators, by household wealth quintile, DRC 2013-14	27
Figure 8	Predicted probabilities of MRH indicators by household wealth quintile, DRC 2013-14	28
Figure 9	Levels of child health indicators, by household wealth quintile, DRC 2013-14	29
Figure 10	Predicted probabilities of child health indicators by household wealth quintile, DRC 2013-14	29
Figure 11	Levels of child nutrition indicators, by household wealth quintile, DRC 2013-14	30
Figure 12	Predicted probabilities of child nutrition indicators by household wealth quintile, DRC 2013-14	30
Figure 13	Distribution of household wealth relative to community average, Ghana 2014.....	31
Figure 14	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Ghana 2014	32
Figure 15	Predicted probabilities of asset ownership (Improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Ghana 2014	33
Figure 16	Levels of MRH indicators, by household wealth quintile, Ghana 2014	33
Figure 17	Predicted probabilities of MRH indicators by household wealth quintile, Ghana 2014	34
Figure 18	Levels of child health indicators, by household wealth quintile, Ghana 2014	35
Figure 19	Predicted probabilities of child health indicators by household wealth quintile, Ghana 2014	35
Figure 20	Levels of child nutrition indicators, by household wealth quintile, Ghana 2014	36
Figure 21	Predicted probabilities of child nutrition indicators by household wealth quintile, Ghana 2014	36
Figure 22	Distribution of household wealth relative to community average, Haiti 2016-17.....	37

Figure 23	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Haiti 2016-17	38
Figure 24	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Haiti 2016-17.....	39
Figure 25	Levels of MRH indicators, by household wealth quintile, Haiti 2016-17	39
Figure 26	Predicted probabilities of MRH indicators by household wealth quintile, Haiti 2016-17.....	40
Figure 27	Levels of child health indicators, by household wealth quintile, Haiti 2016-17.....	41
Figure 28	Predicted probabilities of child health indicators by household wealth quintile, Haiti 2016-17.....	42
Figure 29	Levels of child nutrition indicators, by household wealth quintile, Haiti 2016-17.....	42
Figure 30	Predicted probabilities of child nutrition indicators by household wealth quintile, Haiti 2016-17.....	43
Figure 31	Distribution of household wealth relative to community average, Indonesia 2017	44
Figure 32	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Indonesia 2017	44
Figure 33	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Indonesia 2017	45
Figure 34	Levels of MRH indicators, by household wealth quintile, Indonesia 2017.....	46
Figure 35	Predicted probabilities of MRH indicators by household wealth quintile, Indonesia 2017	47
Figure 36	Levels of child health indicators, by household wealth quintile, Indonesia 2017.....	47
Figure 37	Predicted probabilities of child health indicators by household wealth quintile, Haiti 2016-2017.....	48
Figure 38	Distribution of household wealth relative to community average, Kenya 2014	49
Figure 39	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Kenya 2014.....	49
Figure 40	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Kenya 2014.....	50
Figure 41	Levels of MRH indicators, by household wealth quintile, Kenya 2014	51
Figure 42	Predicted probabilities of MRH indicators by household wealth quintile, Kenya 2014.....	51
Figure 43	Levels of child health indicators, by household wealth quintile, Kenya 2014	52
Figure 44	Predicted probabilities of child health indicators by household wealth quintile, Kenya 2014.....	53
Figure 45	Levels of child nutrition indicators, by household wealth quintile, Kenya 2014	53

Figure 46	Predicted probabilities of child nutrition indicators by household wealth quintile, Kenya 2014.....	54
Figure 47	Distribution of household wealth relative to community average, Liberia 2013.....	55
Figure 48	Predicted probabilities of asset ownership (vehicle, telephone, and bank account) by household wealth quintile, Liberia 2013.....	55
Figure 49	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Liberia 2013	56
Figure 50	Levels of MRH indicators, by household wealth quintile, Liberia 2013	57
Figure 51	Predicted probabilities of MRH indicators by household wealth quintile, Liberia 2013	58
Figure 52	Levels of child health indicators, by household wealth quintile, Liberia 2013	58
Figure 53	Predicted probabilities of child health indicators by household wealth quintile, Liberia 2013	59
Figure 54	Levels of child nutrition indicators, by household wealth quintile, Liberia 2013	60
Figure 55	Predicted probabilities of child nutrition indicators by household wealth quintile, Liberia 2013	60
Figure 56	Distribution of household wealth relative to community average, Mali 2018.....	61
Figure 57	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Mali 2018	62
Figure 58	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Mali 2018.....	63
Figure 59	Levels of MRH indicators, by household wealth quintile, Mali 2018.....	64
Figure 60	Predicted probabilities of MRH indicators by household wealth quintile, Mali 2018	65
Figure 61	Levels of child health indicators, by household wealth quintile, Mali 2018.....	65
Figure 62	Predicted probabilities of child health indicators by household wealth quintile, Mali 2018	66
Figure 63	Levels of child nutrition indicators, by household wealth quintile, Mali 2018.....	66
Figure 64	Predicted probabilities of child nutrition indicators by household wealth quintile, Mali 2018	67
Figure 65	Distribution of household wealth relative to community average, Nigeria 2018.....	68
Figure 66	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Nigeria 2018	68
Figure 67	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Nigeria 2018.....	69
Figure 68	Levels of MRH indicators, by household wealth quintile, Nigeria 2018.....	70
Figure 69	Predicted probabilities of MRH indicators by household wealth quintile, Nigeria 2018.....	71
Figure 70	Levels of child health indicators, by household wealth quintile, Nigeria 2018.....	71

Figure 71	Predicted probabilities of child health indicators by household wealth quintile, Nigeria 2018.....	72
Figure 72	Levels of child nutrition indicators, by household wealth quintile, Nigeria 2018.....	73
Figure 73	Predicted probabilities of child nutrition indicators by household wealth quintile, Nigeria 2018.....	73
Figure 74	Distribution of household wealth relative to community average, Pakistan 2017-18.....	74
Figure 75	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Pakistan 2017-18.....	75
Figure 76	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Pakistan 2017-18.....	76
Figure 77	Levels of MRH indicators, by household wealth quintile, Pakistan 2017-18.....	77
Figure 78	Predicted probabilities of MRH indicators by household wealth quintile, Pakistan 2017-18.....	77
Figure 79	Levels of child health indicators, by household wealth quintile, Pakistan 2017-18.....	78
Figure 80	Predicted probabilities of child health indicators by household wealth quintile, Pakistan 2017-18.....	79
Figure 81	Levels of child nutrition indicators, by household wealth quintile, Pakistan 2017-18.....	79
Figure 82	Predicted probabilities of child nutrition indicators by household wealth quintile, Pakistan 2017-18.....	80
Figure 83	Distribution of household wealth relative to community average, Senegal 2018....	81
Figure 84	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Senegal 2018.....	81
Figure 85	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Senegal 2018...	82
Figure 86	Levels of MRH indicators, by household wealth quintile, Senegal 2018.....	83
Figure 87	Predicted probabilities of MRH indicators by household wealth quintile, Senegal 2018.....	83
Figure 88	Levels of child health indicators, by household wealth quintile, Senegal 2018.....	84
Figure 89	Predicted probabilities of child health indicators by household wealth quintile, Senegal 2018.....	85
Figure 90	Levels of child nutrition indicators, by household wealth quintile, Senegal 2018....	85
Figure 91	Predicted probabilities of child nutrition indicators by household wealth quintile, Senegal 2018.....	86
Figure 92	Distribution of household wealth relative to community average, Zambia 2018.....	87
Figure 93	Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Zambia 2018.....	87

Figure 94	Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Zambia 2018	88
Figure 95	Levels of MRH indicators, by household wealth quintile, Zambia 2018	89
Figure 96	Predicted probabilities of MRH indicators by household wealth quintile, Zambia 2018	89
Figure 97	Levels of child health indicators, by household wealth quintile, Zambia 2018	90
Figure 98	Predicted probabilities of child health indicators by household wealth quintile, Zambia 2018	91
Figure 99	Levels of child nutrition indicators, by household wealth quintile, Zambia 2018	91
Figure 100	Predicted probabilities of child nutrition indicators by household wealth quintile, Zambia 2018	92

PREFACE

The Demographic and Health Surveys (DHS) Program is one of the principal sources of international data on fertility, family planning, maternal and child health, nutrition, mortality, environmental health, HIV/AIDS, malaria, and provision of health services.

One of the objectives of The DHS Program is to analyze DHS data and provide findings that will be useful to policymakers and program managers in low- and middle-income countries. DHS Analytical Studies serve this objective by providing in-depth research on a wide range of topics, typically including several countries and applying multivariate statistical tools and models. These reports are also intended to illustrate research methods and applications of DHS data that may build the capacity of other researchers.

The topics in this series are selected by The DHS Program in consultation with the U.S. Agency for International Development.

It is hoped that the DHS Analytical Studies will be useful to researchers, policymakers, and survey specialists, particularly those engaged in work in low- and middle-income countries.

Sunita Kishor
Director, The DHS Program

ACRONYMS

AME	average marginal effects
ANC	antenatal care
ARI	acute respiratory infection
CI	confidence interval
DHF	delivery at a health facility
DHS	Demographic and Health Survey
DPT	diphtheria-pertussis-tetanus
DRC	Democratic Republic of the Congo
EBF	exclusive breastfeeding
IUD	intrauterine device
MCH	maternal and child health
mCPR	modern contraceptive prevalence
MNCH	maternal, newborn, and child health
MRH	maternal and reproductive health
PCA	principal components analysis
RMNCH	reproductive, maternal, newborn, and child health
USAID	United States Agency for International Development
WHO	World Health Organization

ABSTRACT

This report describes inequalities in asset ownership and maternal and child health indicator coverage in 11 countries, using the most recent Demographic and Health surveys from each country. Inequalities are assessed by categorizing households according to their wealth relative to their community's average wealth (poor compared to community, similar to community, rich compared to community). The overall distribution of household wealth relative to community average wealth is presented, along with associations with specific asset ownership and maternal and child health indicator coverage. Four countries (the Democratic Republic of Congo, Zambia, Indonesia, and Liberia) are heterogeneous when assessed by household wealth relative to average community wealth. This means that large proportions of households live in communities of differing average wealth. Kenya, Mali, Pakistan, Senegal, Ghana, and Nigeria are homogenous when assessed by household wealth relative to average community wealth. This means that most households live in communities of similar average wealth. Electricity and improved walls are assets associated with homogeneity and are more likely to be owned by households that are poor relative to their community. In contrast, ownership of vehicles is more common among households that are rich relative to the community. Pakistan and Indonesia have the highest proportion of health indicator inequalities of all countries, while the most common indicator with inequality by household wealth status relative to community was health facility delivery. Despite limitations, these findings may support programs that focus interventions on improving equity in maternal and child health.

Key words: maternal health, child health, measures of inequality, asset index

1 INTRODUCTION

1.1 Background

The objective of this analysis is to further explore two aspects of rural inequality in 11 United States Agency for International Development (USAID) maternal and child health (MCH) priority countries—the importance of specific assets to a household’s wealth and the role of relative wealth within the community on a household’s probability of achieving specific health indicators.

Inequality in MCH coverage has been a persistent challenge between and within countries, with lower wealth associated with worse health outcomes (Barros et al. 2012; Boerma et al. 2008). Most research to date on inequality in MCH indicators focused on national and regional inequality. However, this research frequently neglects inequalities that occur closer to home and at the community level.

The following section describes the rationale for assessing each topic in this analysis from a relative community inequality perspective.

1.2 Rationale

1.2.1 Specific asset ownership

The Demographic and Health Survey (DHS) Program uses an asset-based wealth index to estimate a household’s living standard. Households are asked about a large number of potential household assets, for which each has been assigned a weight generated through principal components analysis (PCA). Households are assigned a score based on whether or not they own the asset, and these scores are then summed. The final wealth index value places households on a continuum of wealth. Wealth quintiles are created by dividing this continuum into five equal groups, so that 20% of the population is in each group: the poorest, the poor, the middle, the rich, and the richest.

There is relatively little literature that explores the importance of specific assets in defining the wealth quintile of a household. Patterns in the distribution of specific types of assets, such as environmental health assets,¹ across wealth quintiles have been assessed (Graham, Kaur, and Jeuland 2018). Some have argued that certain assets included in the wealth index, such as electricity or source of drinking water, can be viewed as indicators of community-level infrastructure rather than household wealth (Houweling, Kunst, and Mackenbach 2003; Howe 2009). Despite this, attempts to improve identifying household wealth status by removing these indicators have been mixed. Houweling et al. (2003) found that inequalities in child mortality changed when these community assets were removed from the wealth index. However, the direction and magnitude of these changes were not consistent across countries, and removing these indicators had little effect on the wealth index characteristics (Howe 2009).

¹ The authors cite “piped water and sanitation facilities, and other technologies such as clean cook stoves, bed nets, and point-of-use water treatment devices” as environmental assets.

1.2.2 MCH coverage

Persistent inequities in MCH outcomes have been documented over time. These inequities are persistent when using absolute or relative measures of inequality and when assessing inequalities at national or regional levels (Assaf 2016).

There is limited evidence on the association of inequality within a smaller geographic area, and specifically community, with these same MCH outcomes. Much of the available research on this topic focuses on community inequality and contraceptive use. Community-level wealth has been associated with individual contraceptive uptake in Ethiopia (Abate and Tareke 2019), and both community-level wealth and the relative wealth status of women within their communities have been shown to be associated with modern contraceptive uptake in Mozambique (Dias and de Oliveira 2015). In the child nutrition arena, greater community wealth has shown to be associated with greater odds of child stunting in Bangladesh and Kenya (Reinbold 2011).

The concept that the relative wealth of a household, as compared to its community, can affect health is closely related to the concept of relative deprivation, which proposes that an individual's health is determined by their own wealth or resources, and by their relative wealth or resources (Caner and Yiğit 2019). Relative deprivation suggests that being deprived of something while others have it will affect health in one of two ways: either by limiting access to material goods, or by negative psychosocial effects (Wilkinson 1997). Relative deprivation has been associated with mortality in South Africa (Salti 2010), poor nutritional outcomes in adults in Zambia (Cole 2012), and depression in adults in Uganda (Smith et al. 2019). There is little evidence on relative deprivation, receipt of reproductive, maternal, newborn, and child health (RMNCH) interventions, and care-seeking in low- and middle-income countries.

Although relative deprivation focuses on the feeling of deprivation, our assessment of relative community-level wealth includes those who are wealthier than their community average. This analysis considers the following question: What does a household's relative community wealth, that is, its wealth as compared with the average wealth of its community, mean for coverage of health interventions and health outcomes?

This report investigates two related issues. First, we investigate the relative contribution that particular assets make to a household's wealth status, contingent upon whether a household is poor or rich relative to the average wealth of its community. For example, within a given wealth status, are households that are poor relative to their community more or less likely to own a vehicle than households that are wealthy relative to their community? Second, we examine the association between a household's wealth status relative to its community versus use of various MCH services. For example, are women from households that are wealthy relative to their community more or less likely to receive adequate antenatal care (ANC) than women who live in households that are rich relative to their community? For reasons that will be explained in the data and methods section, we restrict our analysis to rural areas.

In the data and methods section of this report, we describe the many results in tables and graphs. The results for each country are interesting. Taken as a whole, the sum of the results is overwhelming. To facilitate easy reading, we have organized the results into two sections. In the overall results section, we present summaries that compare results across countries. At the end of the report, we present the detailed analysis for each country, after the discussion and conclusions and before the references and appendices.

2 DATA AND METHODS

2.1 Data

This report uses data from 11 high-priority USAID MCH countries with recent DHS surveys.

The community is a key element in our analysis. In general, the DHS program does not specifically collect information on communities. In our analysis, we use the sampling cluster as a proxy for communities. The sampling clusters are typically based on census enumeration areas or other partitions of the population where the population is geographically contiguous and more or less compact.² In rural areas, there is typically one health facility that serves a community or group of communities. In urban areas with denser populations, the catchment areas of health facilities are less clear. Health facilities may serve overlapping catchment areas. Households may also have access to more than one health facility. In this way, urban communities that are proxied by sampling clusters are analytically much less useful than rural communities proxied by sampling clusters. Therefore, we limited our analysis to rural areas. The study used the standard DHS urban-rural classifications, which rely on each country's own census definitions. Table 1 shows the list of countries included in this analysis, the year the DHS data were collected, total sample size, and the rural sample size for the survey.

Table 1 DHS surveys included in the analysis

	Year	Total household sample size	Rural household sample size
Democratic Republic of the Congo	2013-14	18,171	12,430
Ghana	2014	11,835	5,332
Haiti	2016-17	13,405	8,032
Indonesia	2017	47,963	24,505
Kenya	2014	36,430	22,516
Liberia	2013	9,333	4,044
Mali	2018	9,510	6,565
Nigeria	2018	40,427	21,487
Pakistan	2017-18	11,869	5,778
Senegal	2018	4,592	2,274
Zambia	2018	12,831	8,117

2.2 Measures

2.2.1 Wealth inequality measures

Using a standardized approach for measuring wealth across both urban and rural settings has been shown to be problematic (Chakraborty et al. 2016; Steinert et al. 2018). When using a standardized approach, urban households dominated the higher wealth quintiles, and rural households the bottom quintiles in most settings (Rutstein 2008). The DHS program responded to this by creating separate urban and rural wealth indices and then combining them into one national wealth index, based on the presence or absence of household items or characteristics thought to be common and having common weighting in both urban and

² There is variability in how the clusters are selected. Sometimes census tracts are combined if there are insufficient households in the tract for the second stage of sampling. Other times census tracts are subdivided if there are too many households in the tract.

rural areas. In more recent surveys, urban-specific and rural-specific wealth quintiles are by default calculated by the DHS program and included in the standardized datasets. When available, we used these wealth indices. In the older data sets,³ we used the national level continuous wealth index with the quintiles recalculated to be equal across the rural areas. Further details on the calculation of the wealth index are available at the [DHS program website](#).

To describe the relative socioeconomic position of a household to the average socioeconomic position in its community, we computed an additional measure of wealth inequality. The mean of the continuous wealth score for each cluster was calculated. These values were divided into quintiles to create community-level wealth quintiles. Each household was then categorized according to its socioeconomic position in the community relative to the community mean. Households in a lower wealth quintile compared to the average wealth quintile of its community were labeled as “poor relative to the community.” A household that was in the same wealth quintile as the average wealth quintile of their community was labeled as “similar wealth relative to the community.” If the household was in a higher wealth quintile compared to the average wealth quintile of its community, it was labeled as “wealthy relative to the community.”

2.2.2 Specific asset ownership

In this report, we assessed ownership of eight specific assets:

Electricity in the household: Households were counted as having electricity if they responded yes to the question, “*Does your household have electricity?*”

Ownership of a phone: Households were counted as owning a phone if they responded yes to the question, “*Does any member of this household own a mobile phone?*” or yes to the question, “*Does your household have a non-mobile phone?*”

Ownership of a vehicle: Households were counted as owning a vehicle if they responded yes to either of the questions, “*Does any member of this household own a motorcycle or motor scooter?*” or “*Does any member of this household own a car or a truck?*”

Ownership of a bank account: Households were counted as owning a bank account if they responded yes to the question, “*Does any member of this household have a bank account?*”

Improved water source: With some variation, we followed the World Health Organization (WHO) definition for improved water sources,⁴ which categorizes piped household water connection, public standpipe, borehole, protected dug well, protected spring, and rainwater collection as common improved drinking water sources. Unimproved drinking water sources include unprotected dug well, unprotected spring, surface water (river, dam, lake, pond, stream, canal, irrigation channel), vendor-provided water (cart with small tank/drum, tanker truck), bottled water (bottled water is considered improved only when the household uses an improved source of water for cooking and personal hygiene), and tanker truck water.⁵

³ DRC, Ghana, Kenya, and Liberia.

⁴ https://www.who.int/water_sanitation_health/monitoring/jmp2012/key_terms/en/

⁵ For Ghana, Haiti, Indonesia, Nigeria, Pakistan and Senegal, we made exceptions to this definition where a special category of water queried in the survey was a clear case of improved water.

Improved sanitation: We used the WHO definition for improved sanitation, which includes households with sewer connections, septic system connections, pour-flush latrines, ventilated improved pit latrines, and pit latrines with a slab or covered pit. Unimproved sanitation facilities include pit latrines without slabs or platforms or open pit; hanging latrines; bucket latrines; open defecation in fields; forests, bushes, bodies of water, or other open spaces; or disposal of human feces with other forms of solid waste.

Improved flooring: We followed the standard recode in which flooring coded from 31 to 39 is typically considered improved flooring such as polished wood, vinyl, ceramic tiles, or cement.

Improved walls: We followed the standard recode where wall construction coded from 31 to 39 is typically improved walls such as cement, stones, bricks, or cement block.

2.2.3 MCH outcomes

This report focuses on 11 indicators related to MCH outcomes, as defined below.

Four or more visits for antenatal care (ANC): The proportion of women age 15-49 who have attended at least four ANC visits for their most recent pregnancy in the 5 years before the survey.

Contraceptive prevalence rate for modern methods (mCPR): The proportion of women age 15-49 who are currently in a union and are using a modern contraceptive method. Modern contraceptive methods include pills, IUD, injections, implants, diaphragm, female and male condoms, female and male sterilization, foam or jelly, standard days method, and the lactational amenorrhea method. The mCPR may also include other modern contraceptive methods that are country-specific or less common but were reported by the respondent and identified in the datasets as modern methods.

Delivery in a health facility (DHF): The proportion of women age 15-49 for whom the most recent birth in the 5 years before the survey was delivered in a health facility. Health facilities could be government, private, NGO, or another type such as a maternity clinic.

Completion of three doses of DPT vaccine (DPT3): The proportion of children age 12-23 months who have received the third dose of the DPT vaccine or third dose of the Pentavalent vaccine. The DPT3 immunization is selected for the indicator because children who receive this vaccine generally have received all the other recommended immunizations.

Care-seeking for symptoms of acute respiratory infection (ARI): The proportion of children under age 5 who had symptoms of ARI (or possibly pneumonia) in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or qualified provider. Symptoms of ARI are “short, rapid breaths” that are “due to a problem in the chest.” These symptoms are not equivalent to a medical diagnosis. For all care-seeking indicators, the analysis excludes treatment sought from pharmacies, shops, or traditional healers.

Care-seeking for fever: The proportion of children under age 5 who had symptoms of fever in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or qualified provider.

Care-seeking for diarrhea: The proportion of children under age 5 who had diarrhea in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or qualified provider.

Exclusive breastfeeding: The proportion of children under age 6 months who are being breastfed and have not had any water, other liquids, or solids in the day or night before the survey. Limited to children who are living with the mother.

Stunting: Proportion of de facto⁶ children under age 5 who have a height-for-age z-score less than two standard deviations below the median of the WHO 2007 reference population. Since the Indonesian DHS survey did not include height and weight measurements for children, stunting and wasting could not be computed for this survey.

Wasting: Proportion of de facto children under age 5 who have a weight-for-height z-score that is less than two standard deviations below the median of the WHO 2007 reference population.

2.2.4 Covariates

In the multivariate regression analysis (described below) of MCH indicators, additional sociodemographic covariates beyond wealth quintile and relative community wealth were included.

For MRH indicators, the covariates were education (none, primary, secondary, or higher), number of living children (0, 1-2, 3-5, 6+), and health care decision-making (decides on own health care either alone or jointly with partner, or does not).

For the child health and child nutrition indicators, the covariates were maternal education (none, primary, secondary, or higher), sex of the child, and birth order (1, 2-4, 5+)

2.3 Analysis

We used Stata version 16.0 for the analysis. All statistical tests adjusted for the complex survey design and applied survey weights.

2.3.1 Identifying specific asset drivers of quintile membership

The construction of the DHS wealth asset index uses all possible responses to household assets and amenities as individual elements. It is therefore a tautology that the ownership of assets or access to amenities will be correlated to the asset index. However, the degree of correlation or the extent to which different assets or amenities are important at different levels of wealth is an empirical issue.

To assess the independent influence of household wealth and household wealth relative to average community wealth, we ran logistic regressions of each asset group on the five rural household wealth quintiles and the household wealth relative to community average wealth. We emphasize that we are not attempting to demonstrate causality. The nature of the household wealth index almost guarantees that household wealth and any given asset or asset group will be correlated. We are most interested in whether or not a household's wealth status relative to the community is correlated with ownership of the asset. This measure is not *ex ante* correlated with an asset. The results of these eight regressions (one for each asset) are presented as Appendix A1.

⁶ Slept in the household the previous night before the survey.

The regressions allowed us to calculate adjusted predictive margins for relative community wealth for each of the household wealth quintiles.⁷ The adjusted predictive margin represents the predicted probability with 95% CIs of asset ownership at each household wealth quintile depending on whether a household is poorer, similar, or wealthier than average community wealth. The predicted probabilities are presented graphically throughout this report with three lines – one for each of the relative household to community statuses across the wealth quintiles.⁸ Using the predicted probabilities, we also calculated the average marginal effect (AME). The AMEs⁹ are estimates of the difference in the predicted probability of an outcome between two groups. In this analysis, we compared predicted probabilities of asset ownership at each combination of wealth relative to community (poorer, similar, or wealthier) for each level of household wealth (quintile 1/poorest through quintile 5/wealthiest), in order to capture inequalities. These results are presented in Appendix A2.

Figure 1 is the predicted probability graph for vehicle ownership for the Mali 2018 survey.¹⁰ As noted above, there are three lines. The gray line shows the predicted probability for each level of household wealth for households that are wealthy relative its community. The red line is the same for households that are poor relative to average community wealth. The blue line illustrates the case of households that have a wealth status similar to the average community wealth. The red dot above wealth quintile 2 shows that the predicted probability of a household in quintile 2 that is poor relative to the community where it is located has a predicted probability of approximately 0.43 of owning a vehicle. Since the household is in quintile 2, it would be located in a community that is in the third, fourth, or fifth quintile of community wealth. The blue dot above wealth quintile 2 in the vehicle graph represents the households in a community with similar wealth (community wealth quintile 2). The gray dot above wealth quintile 2 represents households that are wealthy relative to the average community wealth. In this case, the household would be in community quintile 1. This means that households in wealth quintile 2 that are wealthy relative to their community are 20 percentage points more likely to own a vehicle than a similarly wealthy household that is poor relative to the community where it is located.

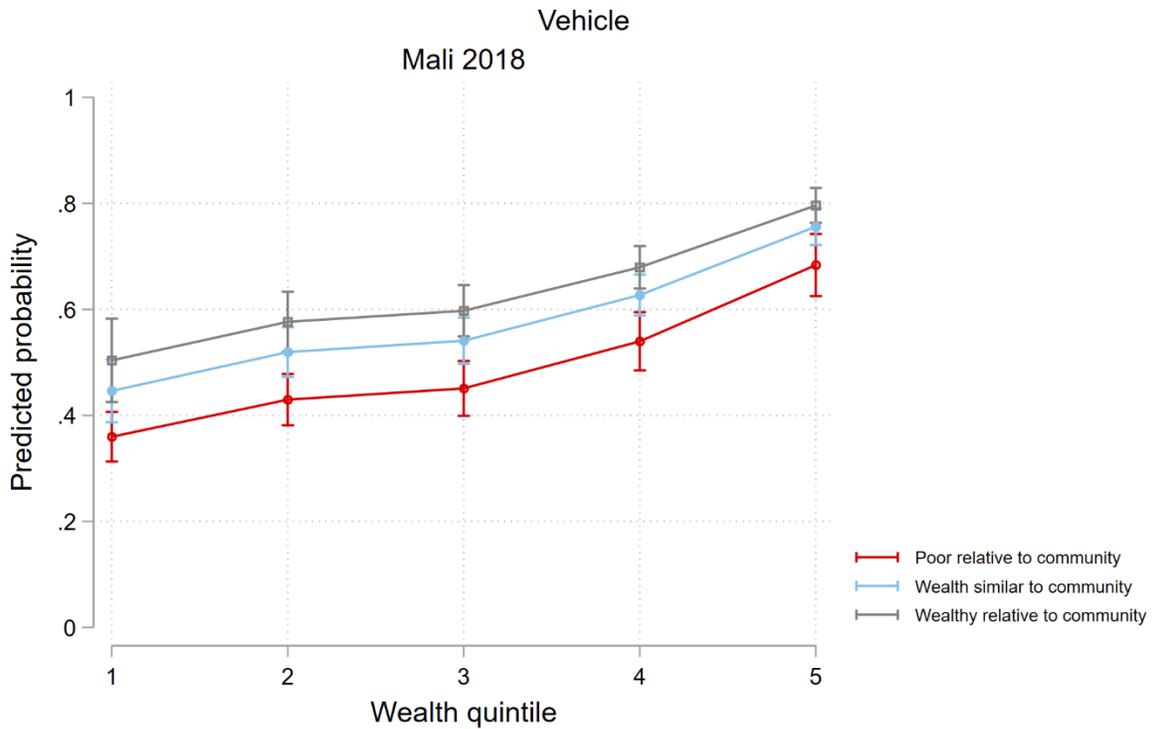
⁷ The `-margins-` command in Stata converts logistic regression output into predicted probabilities by using the odds in the formula $probability = \frac{odds}{(1+odds)}$. The `vce(unconditional)` option was used with the `-margins-` command to account for complex survey design.

⁸ The regression results, average marginal effects and simulated probabilities are estimated or calculated with functions in the Stata statistical package.

⁹ Average marginal effects compare two hypothetical populations, one where all households are poor relative to their community average wealth, and another where all households are rich relative to their community average wealth and compute the probability of ownership of each asset for each population. The difference in the two probabilities is the marginal effect. This process is repeated and then averaged across every case in the sample, which provides the average marginal effect of the outcome.

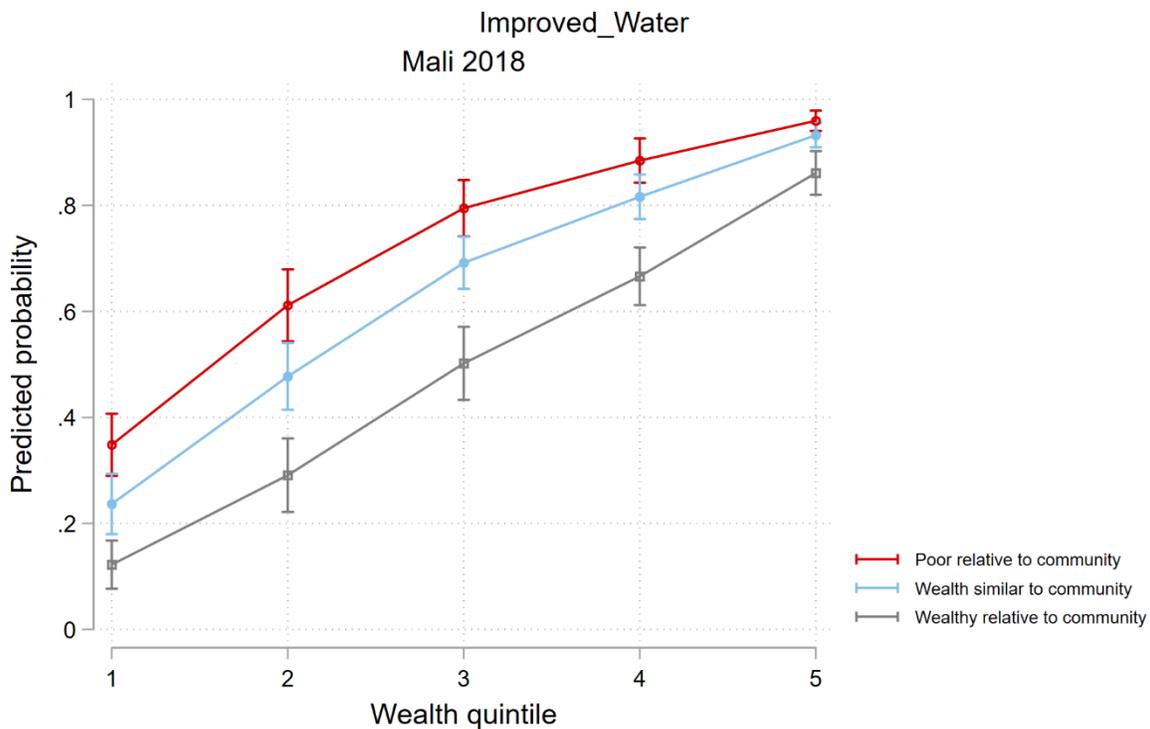
¹⁰ The graphs presented below are similar to the graphs presented for the various MCH indicators. Their interpretation is roughly parallel.

Figure 1 Predicted probability of vehicle ownership by household wealth quintile, Mali 2018



A contrasting case is access to improved water in the Mali 2018 survey. The households that are poor relative to the communities where they are located (the red line) are more likely to have improved water than the households that are wealthy relative to their communities (the gray line). As expected, in both Figures 1 and 2, the slopes of all lines are positive, which indicates a positive correlation between ownership of the asset and household wealth status. We emphasize here that the relative position of the red line (households that are poor relative to their community) and the gray line (households that are wealthy relative to their community) is not a foregone conclusion.

Figure 2 Predicted probability of vehicle ownership by household wealth quintile, Mali 2018



2.3.2 Assessing inequalities in MCH health indicators by household wealth relative to community wealth

For each of the 11 MCH indicators we performed the following analyses:

- To provide overall context, we used appropriate weights for the proportion of the population in need that satisfied the indicator definition. These are presented as graphs in the country results sections.
- We assessed bivariate and multivariate associations via logistic regressions for each MCH indicator. The covariates included household wealth quintile, household wealth relative to the community, and appropriate control variables as described in the data section of this report. The results of these regressions are shown in Appendix A3-A5.
- We calculated the predicted probability with 95% CIs of the outcome at each combination of relative community wealth and household wealth quintile, while holding the distribution of all other covariates the same in the population. (See section 2.3.1 for more description of predicted probability calculations.)
- We also calculated the AMEs.¹¹ The results of these calculations are presented in Appendix A6.

¹¹ In this case, since there are covariates in our regression equation, the average marginal effects compare two hypothetical populations, one where all households are poor relative to their community average wealth, and another where all households are rich relative to their community average wealth and compute the probability of the outcome

- We created graphs that show the predicted probabilities of achieving the various MCH indicators across household wealth quintiles for each of the household wealth statuses relative to the community. These are presented and interpreted in the country results sections.

In the discussion of AMEs, we use both statistical significance and programmatic importance to categorize findings. Although statistical significance is useful to identify differences that cannot be attributed to chance, there are cases where a statistically significant difference may not be programmatically important or actionable. In this analysis, we have set a 10% cutoff for programmatic importance. Differences above this value are discussed, regardless of their statistical significance.

for each population, leaving all other covariates values as they are for each observation. The difference in the two probabilities is the marginal effect. This process is repeated and then averaged across every case in the sample, which provides the average marginal effect of the outcome.

3 OVERALL RESULTS

In Part 1 of the results, we present the summary findings for household wealth relative to community, the specific asset drivers of wealth quintile membership and household wealth relative to community, and selected MCH indicators and household wealth relative to community. For country-specific results, please refer to Part 2 of this paper. This analysis is limited to the rural population in each country.

3.1 Household wealth relative to average community wealth

To summarize the information on household wealth relative to average community wealth, we analyzed the proportion of households that are located in a community of similar wealth, both overall, and then in the poorest and richest quintiles (see Table 2).

Random placement of the households across the three statuses relative to community would lead to 33.3% in each of the first three columns. The degree to which these proportions diverge from 33.3% is an indication of the relative homogeneity of wealth statuses in the communities.

Table 2 is sorted by column 2, the percent of households in communities that have similar wealth. In one group that includes the DRC, Zambia, Indonesia, and Liberia, the overall level of households living in communities of similar wealth was low, between 30 and 40%.¹² These countries are categorized as heterogeneous since they have relatively high proportions of households living in communities of different wealth. Households in these countries are nearly as likely to be poor or wealthy compared to their community as to be of similar wealth as their community. The other group of countries, which includes Kenya, Mali, Haiti, Pakistan, Senegal, Ghana, and Nigeria, are more homogeneous across quintiles. This resulted in higher proportions of households living in communities of similar wealth. All of these countries have over 40% of the overall population living in communities of similar wealth. In Nigeria, this proportion is 54%.

The fourth and fifth columns in Table 2 show where the degree of homogeneity is most pronounced among the poorest or wealthiest communities. In 8 of the 11 countries, the degree of homogeneity is greater among the wealthiest households than among the poorest communities.

¹² This categorization of countries is somewhat arbitrary. One of the deciding factors was the relatively large gap (43.6% versus 38.4%) between Kenya and Liberia, respectively.

Table 2 **Distribution of household wealth relative to community average wealth, by country**

	Overall			Households in poorest and richest quintile having a wealth similar to its community	
	Household is poor relative to community (%)	Household has a wealth similar to community (%)	Household is wealthy relative to community (%)	Poorest quintile (%)	Richest quintile (%)
	DRC	34.7	35.0	30.3	42.4
Zambia	33.7	36.3	30.0	48.0	54.9
Indonesia	34.4	37.0	28.7	53.4	45.9
Liberia	31.2	38.4	30.4	48.7	57.8
Kenya	31.3	43.6	25.2	67.4	57.6
Mali	25.8	44.7	29.5	54.4	70.1
Haiti	26.9	45.6	27.5	54.4	69.3
Pakistan	29.6	46.2	24.3	64.7	66.4
Senegal	28.9	49.0	22.1	60.7	76.3
Ghana	23.1	50.4	26.4	70.2	63.5
Nigeria	24.9	53.7	21.4	66.9	76.7

3.2 Asset ownership and household wealth relative to average community wealth

In the country-specific results section, we present data that show the various marginal probabilities of owning various assets based on the household wealth quintile and whether a household was poor, wealthy, or similar to its community. In the following section, we aggregate the results by asset, which allows us to quickly assess whether or not there are patterns across countries. In each of the following tables, there are five columns. The first column shows the relative position of the marginal curves. The categorizations are:

- *Poor in wealthy* – households in communities that are wealthy relative to their own household wealth status
- *Wealthy in poor* – households in communities that are poor relative to their own household wealth status
- *Similar* – households in communities that have average wealth similar to their own household wealth status

The first column indicates that the three wealth categories relative to community wealth are most likely to own the particular asset. Since the curves never cross, we can make unambiguous statements. The second column specifies the average marginal effect (AME), which is the percentage point difference between the two curves where the household is either poor or wealthy relative to the community. The third column shows which quintiles have an AME of greater than 0.10.¹³ The AME is the estimate of the difference in the predicted probability of the outcome between households that are poor relative to their community and those households that are rich relative to their community. We selected 0.10 because we believe that it is a programmatically significant difference.¹⁴

¹³ The terms 0.10, 10 percentage points, and 10% (and similar statements) are used interchangeably in this section to ease the flow of interpretation. For example, the statement “a 12-percentage point difference” is the same as “a difference in proportions of 0.12”.

¹⁴ A difference of 0.10 or greater is statistically significant at $p < .001$ in all cases. See Appendix A2 for confidence intervals and p values.

Electricity

In 5 of the 11 countries, in at least one wealth quintile, households that are poor relative to their community are 10 percentage points more likely to have electricity. In Congo and Liberia, the situation in rural areas is so dire that almost no one has electricity, and this makes comparisons impossible. The countries were sorted by their degree of homogeneity (see Table 2). In Table 3, as the degree of homogeneity increases, the number of household wealth quintiles where there is a difference of greater than point 0.1 increases.

Table 3 Summary results of effect of having electricity on relative community wealth category

	A relatively poor household in wealthier community; or a relatively wealthy household in poorer community is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Neither		
Zambia	Poor in wealthy	0.01	
Indonesia	Poor in wealthy	0.01	
Liberia	Neither	0.01	
Kenya	Poor in wealthy	0.11	5
Mali	Wealthy in poor	0.03	
Haiti	Poor in wealthy	0.15	4 5
Pakistan	Poor in wealthy	0.14	1 2
Senegal	Wealthy in poor	0.03	
Ghana	Poor in wealthy	0.15	1 2 3 4
Nigeria	Poor in wealthy	0.2	2 3 4 5

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Vehicle

In 9 of the 11 countries, vehicle ownership is higher among households that are wealthy relative to their communities. In Haiti and Liberia where this relationship is not found, vehicle ownership in the rural areas is negligible. In Ghana, Mali, Nigeria, Pakistan, and Senegal, all five quintiles show this relationship. In the other four countries, only one quintile shows the relationship. In Congo, Kenya, and Zambia, vehicle ownership is negligible until the fifth quintile. Similar to what we saw with electricity, the strength of the relationship appears to increase as the degree of homogeneity increases.

Table 4 Summary results of effect of owning a vehicle on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Wealthy in poor	0.05	5
Zambia	Wealthy in poor	0.04	5
Indonesia	Wealthy in poor	0.05	1
Liberia	Wealthy in poor	0.03	
Kenya	Wealthy in poor	0.07	5
Mali	Wealthy in poor	0.14	1 2 3 4 5
Haiti	Wealthy in poor	0.01	
Pakistan	Wealthy in poor	0.20	1 2 3 4 5
Senegal	Wealthy in poor	0.19	1 2 3 4 5
Ghana	Wealthy in poor	0.17	1 2 3 4 5
Nigeria	Wealthy in poor	0.25	1 2 3 4 5

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Telephone

In contrast to the results with electricity and ownership of a vehicle, there is not a preponderant relationship between telephone ownership and household wealth relative to community wealth across countries. The AME is less than 0.10 and the relationship is not the same across countries, although it seems to be advantageous to be poor in a wealthy community, and sometimes wealthy in a relatively poor community. Interestingly, Nigeria, the most homogeneous country, has the largest AME.

Table 5 Summary results of effect of owning a telephone on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Poor in wealthy	0.07	4 5
Zambia	Poor in wealthy	0.04	
Indonesia	Wealthy in poor	0.07	1
Liberia	Wealthy in poor	0.05	
Kenya	Wealthy in poor	0.07	1 2
Mali	Poor in wealthy	0.03	
Haiti	Wealthy in poor	0.04	
Pakistan	Wealthy in poor	0.03	
Senegal	Wealthy in poor	0.01	
Ghana	Wealthy in poor	0.02	
Nigeria	Wealthy in poor	0.11	1 2 3

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Bank account

For ownership of a bank account where there is a relatively large effect, households that are wealthy relative to their community are more likely to have bank accounts than households that are poor relative to their communities. Relative homogeneity does not appear to play a role in which countries have the strongest average marginal effect.

Table 6 Summary results of effect of having a bank account on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Neither		
Zambia	Poor in wealthy	0.15	1 2 3 4
Indonesia	Poor in wealthy	0.15	4 5
Liberia	Poor in wealthy	0.01	
Kenya	Poor in wealthy	0.11	5
Mali	Neither	0.01	
Haiti	Wealthy in poor	0.03	
Pakistan	Poor in wealthy	0.20	2 3 4 5
Senegal	Poor in wealthy	0.14	1 2
Ghana	Wealthy in poor	0.03	
Nigeria	Poor in wealthy	0.01	

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Improved water

Having improved water is a clear marker of a poor household in a relatively wealthy community. In all countries, at least two of the quintiles have a gap between the two lines of greater than 0.10. In 7 of the 11 countries, this observation holds for all household wealth quintiles. In the four countries where the relationship does not hold across all household wealth quintiles, access to improved water is nearly universal in the wealthier rural counties. The relationship appears to be stronger in countries with a higher degree of heterogeneity.

Table 7 Summary results of effect of having an improved water source on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Poor in wealthy	0.34	1 2 3 4 5
Zambia	Poor in wealthy	0.19	1 2 3 4 5
Indonesia	Poor in wealthy	0.14	1 2 3 4
Liberia	Poor in wealthy	0.34	1 2 3 4 5
Kenya	Poor in wealthy	0.15	1 2 3 4 5
Mali	Poor in wealthy	0.24	1 2 3 4 5
Haiti	Poor in wealthy	0.29	1 2 3 4 5
Pakistan	Poor in wealthy	0.09	1 2
Senegal	Poor in wealthy	0.08	1
Ghana	Poor in wealthy	0.11	1 2 3
Nigeria	Poor in wealthy	0.13	1 2 3 4 5

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Improved sanitation

The evidence about improved sanitation is not as clear as the case for improved water. In 4 of the 11 countries, for at least one quintile there is a 10-percentage point advantage for poor households living in a relatively wealthy community. In Congo, the reverse is true for every household wealth quintile. In Congo, households that are wealthy relative to their communities are more likely to have improved sanitation.

Table 8 Summary results of effect of having improved sanitation on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Wealthy in poor	0.13	1 2 3 4 5
Zambia	Poor in wealthy	0.07	
Indonesia	Poor in wealthy	0.03	
Liberia	Poor in wealthy	0.06	5
Kenya	Wealthy in poor	0.03	
Mali	Poor in wealthy	0.04	
Haiti	Wealthy in poor	0.02	
Pakistan	Poor in wealthy	0.18	1 2
Senegal	Poor in wealthy	0.06	
Ghana	Poor in wealthy	0.18	1 2 3 4
Nigeria	Poor in wealthy	0.07	4

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Improved flooring

Improved flooring does not show strong results across countries. In Indonesia and Pakistan, households that are poor relative to the average community wealth have a greater probability having improved flooring. In Mali, the reverse is true for the fourth quintile of household wealth. In no country is the relationship strong. Only in Pakistan does the average marginal effect exceed 0.10. There does not appear to be any pattern relative to the degree of homogeneity.

Table 9 Summary results of effect of having improved flooring on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Neither		
Zambia	Poor in wealthy	0.01	
Indonesia	Poor in wealthy	0.08	1 2
Liberia	Wealthy in poor	0.02	
Kenya	Poor in wealthy	0	
Mali	Wealthy in poor	0.06	4
Haiti	Wealthy in poor	0.04	
Pakistan	Poor in wealthy	0.12	2 3 4
Senegal	Wealthy in poor	0.04	
Ghana	Poor in wealthy	0.02	
Nigeria	Poor in wealthy	0.04	

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

Improved walls

In 5 of the 11 countries, a household is more likely to have improved walls if it is a poor household relative to the average wealth of its community. In the relatively homogeneous countries, if a differential effect exists, the effect is relatively large.

Table 10 Summary results of effect of having improved walls on relative community wealth category

	A relatively poor household in wealthier community, or a relatively wealthy household in poorer community, is more likely to own asset	Average marginal effect (AME) ⁺	Wealth quintiles where the AME is greater than 0.1
Congo	Poor in wealthy	0.08	4 5
Zambia	Poor in wealthy	0.02	
Indonesia	Wealthy in poor	0.02	
Liberia	Poor in wealthy	0	
Kenya	Poor in wealthy	0.12	2 3 4 5
Mali	Poor in wealthy	0.05	
Haiti	Poor in wealthy	0.02	
Pakistan	Poor in wealthy	0.14	2 3 4
Senegal	Poor in wealthy	0.03	
Ghana	Poor in wealthy	0.14	1 2 3 4
Nigeria	Poor in wealthy	0.18	2 3 4

Note: ⁺Average marginal effect of being a poor household relative to community's average wealth compared to a rich household relative to the community's average wealth.

3.3 Health indicators and household wealth relative to community average wealth

Figure 3 provides an overview of each country and each indicator category. Although there were a larger number of indicators with statistically significant AMEs, we focus on those differences large enough in magnitude to be programmatically important. The household wealth relative to wealth inequality score reflects the number of indicators with an AME we categorized as programmatically important, that is, of 0.1 (10 percentage points) or greater, and divides the sum by the total number of indicators in that category. In the overall category, the total was divided by 10 for all countries except Indonesia, which did not have child nutrition data. In Indonesia, the total was divided by eight. For maternal health indicators, the total was divided by three; for child health, the total was divided by five; and for child nutrition, the total was divided by two. This value was then multiplied by 100 to represent the percentage of the maximum possible value. Using the DRC as an example, three of ten indicators (facility delivery, vaccination, and exclusive breastfeeding) met or exceeded the 0.10 threshold. Therefore, the overall bar for DRC is 30% (3 of 10); the maternal health bar is 33.3% (1 of 3); and the child health bar is 40% (2 of 5). The nutrition bar is 0% because neither stunting nor wasting exceeded the 0.10 threshold.

Each of the 11 countries had programmatically important differences between categories of household wealth relative to average community wealth inequalities on at least one MCH indicator included in this analysis. Pakistan and Indonesia have the highest overall community wealth inequality scores, with 40% and 38% respectively. The DRC, Haiti, Kenya, and Liberia all have the second highest, with 30%. Pakistan, DRC, Haiti, and Indonesia have a higher community wealth inequality score for child health indicators compared to the MRH indicators, while in Kenya and Liberia, the highest community wealth inequality score was the MRH indicators.

Kenya, Liberia, and Mali have the highest community wealth inequality scores for MRH, while Pakistan has the highest community wealth inequality score for child health. Nigeria was the only country with any programmatically important community wealth inequalities in the child nutrition indicators.

Figure 3 Bar graph of household wealth relative to community average wealth inequality score, overall and by indicator category

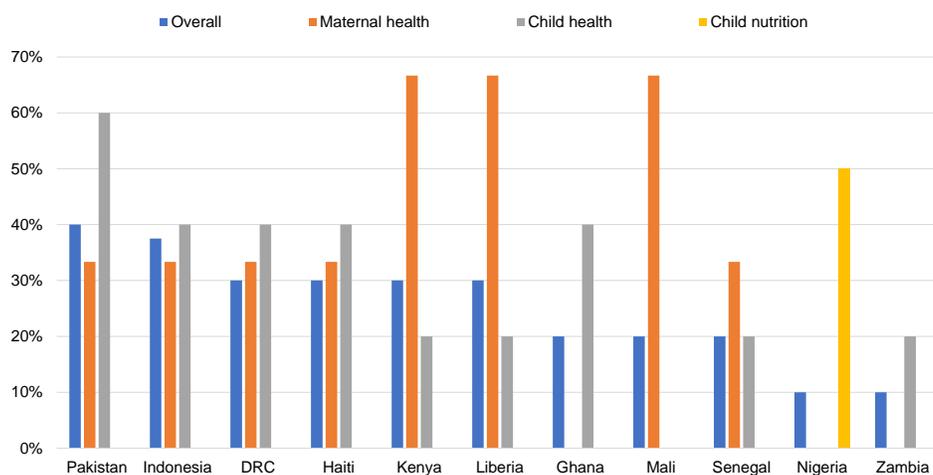


Table 11 shows the AME of a household being poor relative to the community compared to being wealthy relative to the community. The data indicate both statistical significance and programmatic importance for each AME. The highlighted cells indicate a programmatically important finding. With the exception of treatment of childhood illnesses and breastfeeding, the highlighted cells coincide with statistical significance. The general lack of statistical significance is partially explained by the relatively small sample sizes for these indicators.¹⁵ The sign on the AME's indicates whether households that are poor relative the community are favored (positive sign) or households that are wealthy relative to the community are favored (negative sign).

¹⁵ For Indonesia and Nigeria, both surveys with large sample sizes, statistical significance is achieved for several indicators with modest AMEs. For example, see the AME for ANC for Indonesia.

Table 11 Average marginal effect of being a poor household relative to community compared to being a rich household relative to community*

	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea		Exclusive breastfeeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
DRC	0.08*	0.02 - 0.15	0.19***	0.13 - 0.26	0.00	-0.02 - 0.03	0.23***	0.14 - 0.32	0.00	-0.15 - 0.15	0.00	-0.07 - 0.07	0.06	-0.02 - 0.15	0.11	-0.00 - 0.22	0.04	-0.01 - 0.09	0.00	-0.04 - 0.03
Ghana	0.04	-0.04 - 0.12	0.07	-0.04 - 0.17	-0.02	-0.08 - 0.04	0.03	-0.07 - 0.12	0.00	-0.33 - 0.32	0.10	-0.06 - 0.26	0.09	-0.10 - 0.27	-0.14	-0.31 - 0.03	0.01	-0.06 - 0.09	0.00	-0.03 - 0.04
Haiti	0.03	-0.05 - 0.12	0.11***	0.06 - 0.16	-0.01	-0.06 - 0.03	0.17**	0.05 - 0.28	-0.06	-0.22 - 0.10	0.15**	0.06 - 0.24	0.06	-0.02 - 0.14	-0.09	-0.28 - 0.09	-0.03	-0.08 - 0.02	-0.01	-0.03 - 0.02
Indonesia	0.05**	0.02 - 0.08	0.12***	0.07 - 0.17	0.00	-0.02 - 0.03	0.10*	0.02 - 0.18	-0.07	-0.20 - 0.06	-0.01	-0.07 - 0.06	-0.05	-0.15 - 0.05	-0.11	-0.22 - 0.00	NA	NA	NA	NA
Kenya	0.00	-0.04 - 0.05	0.12***	0.07 - 0.16	0.16***	0.13 - 0.19	0.02	-0.03 - 0.08	0.00	-0.10 - 0.10	-0.02	-0.09 - 0.04	-0.02	-0.10 - 0.07	-0.11	-0.28 - 0.06	-0.05**	-0.08 - 0.01	-0.03***	-0.05 - 0.01
Liberia	0.12**	0.05 - 0.19	0.13**	0.05 - 0.21	0.06*	0.01 - 0.11	0.26***	0.16 - 0.37	0.06	-0.15 - 0.27	0.05	-0.07 - 0.18	0.09	-0.05 - 0.22	0.09	-0.07 - 0.26	-0.04	-0.10 - 0.03	0.03	-0.00 - 0.06
Mali	0.15***	0.10 - 0.20	0.22***	0.14 - 0.29	0.06***	0.03 - 0.10	-0.09	-0.18 - 0.00	-0.09	-0.48 - 0.31	-0.01	-0.11 - 0.10	0.00	-0.08 - 0.08	-0.01	-0.13 - 0.10	-0.04*	-0.08 - 0.00	0.01	-0.02 - 0.03
Nigeria	0.09***	0.05 - 0.13	0.09***	0.06 - 0.13	0.02*	0.00 - 0.03	0.09**	0.03 - 0.15	0.00	-0.17 - 0.18	0.04	-0.02 - 0.10	0.03	-0.05 - 0.11	0.01	-0.06 - 0.07	-0.11***	-0.15 - 0.07	-0.03*	-0.05 - 0.00
Pakistan	0.14***	0.08 - 0.20	0.04	-0.03 - 0.12	0.04	-0.00 - 0.08	0.23***	0.15 - 0.32	0.12	-0.03 - 0.27	0.08	-0.02 - 0.19	0.03	-0.10 - 0.17	-0.20*	-0.37 - 0.04	-0.07	-0.15 - 0.01	-0.03	-0.07 - 0.00
Senegal	0.01	-0.04 - 0.06	0.13***	0.07 - 0.20	0.00	-0.04 - 0.04	0.06*	0.00 - 0.13	-0.06	-0.26 - 0.15	0.04	-0.05 - 0.12	0.01	-0.08 - 0.09	0.11*	0.00 - 0.22	-0.03*	-0.07 - 0.00	0.01	-0.01 - 0.04
Zambia	0.00	-0.05 - 0.05	0.06*	0.01 - 0.12	0.06*	0.01 - 0.11	0.06	-0.01 - 0.12	-0.14	-0.40 - 0.12	-0.05	-0.14 - 0.03	-0.02	-0.12 - 0.08	-0.04	-0.16 - 0.07	-0.01	-0.05 - 0.03	0.00	-0.02 - 0.02

Note: *p<0.05; **p<0.01; ***p<0.001

+ Other covariates included: level of education, number of living children, household health care decision-making (maternal health regressions only), and sex of child (child health regressions only).

Very programmatically important (>0.2)

Programmatically important (>0.1)

Maternal and reproductive health

For MRH, in all cases where there was a programmatically significant result, being in a household that is poor relative to the community was advantageous relative to being in a household that is wealthy relative to the community. Of the three MRH indicators, health facility delivery had the most frequent number of programmatically important AMEs, in 7 of 11 countries. In Mali, the AME was greater than 0.20 and was very programmatically important. Receiving 4+ ANC visits had the next most frequent number of programmatically important AMEs in 3 of the 11 countries. Modern contraceptive use among married women had only one programmatically important AME in Kenya. Kenya, Liberia, and Mali all had programmatically important AMEs for two of the three MRH indicators. In all cases of programmatically important AMEs, households that were poor relative to the community had greater predicted probability of the outcome compared to households that were wealthy relative to the community.

Child health

Of the five child health indicators, exclusive breastfeeding had the most frequent number of programmatically important AMEs, in 6 of 11 countries. In two countries (DRC and Senegal), households that were poor relative to the community had greater predicted probability of exclusively breastfeeding their infant at 6 months compared to households that were wealthy relative to the community. In the remaining four countries (Ghana, Indonesia, Kenya, and Pakistan), it was the reverse in that households that were wealthy relative to the community had greater predicted probability of exclusively breastfeeding (EBF) their infant at 6 months compared to households that were poor relative to the community. In Pakistan, the predicted probability of EBF among households that were wealthy relative to the community was 0.2 greater than among households that were poor relative to the community. Of the six programmatically important differences, only two are statistically significant. This is likely due to the small sample sizes and large confidence intervals.

Receipt of three doses of Pentavalent vaccine had the next most frequent number of programmatically important AMEs, in 5 of 11 countries. Three of these were AMEs greater than 0.2. Care-seeking for ARI and fever had two programmatically important AMEs. In all cases for vaccination and fever care-seeking indicators, households that were poor relative to the community had greater predicted probability of the outcome compared to the households that were wealthy relative to the community. With ARI care-seeking, Pakistan households that were poor relative to the community had the greater predicted probability of the outcome, while in Zambia, households that were wealthy relative to the community had greater predicted probability of the outcome. Many countries had small sample sizes of children with ARI symptoms. Confidence intervals for the AME estimates are wide, and the two programmatically important AMEs for ARI care-seeking were not statistically significant. There were no programmatically important AMEs in any country for diarrhea care-seeking.

Child nutrition

The only programmatically important AME for either child nutrition indicator was for stunting in Nigeria, where households that were wealthy relative to the community had greater predicted probability of having a stunted child compared to households that were poor relative to the community.

4 DISCUSSION AND CONCLUSION

This report provides an overview of relative community wealth inequality in 11 countries, and describes the specific assets responsible for these community inequalities, and their association with 10 MCH indicators. The concept of an association between a household's wealth relative to their community's wealth and health behaviors or outcomes has only been applied in a limited number of studies. This analysis examined not only which specific assets contribute to a household's relative community wealth category, but also how relative community wealth may play a role in MCH. This analysis was limited to rural populations, given the differences in the definition of urban wealth and different levels of access to health services in urban and rural populations.

This analysis provided a description of two clear patterns of distributions of relative community wealth within countries, which are either more heterogeneous countries (DRC, Indonesia, Liberia, and Zambia) or more homogenous countries (Ghana, Haiti, Mali, Nigeria, Pakistan, and Senegal). In homogenous countries, large proportions of households lived in communities of similar wealth, with smaller proportions living in communities with differing average wealth. In heterogeneous countries, there were larger proportions of households living in communities of differing average wealth. In both distributions, households in the middle quintiles were more likely to live in a community of differing average wealth, and households in the poorest and richest quintiles were more likely to live in similar communities. In 10 of the 11 countries, over 50% of the wealthiest households lived in communities of similar average wealth. This trend of clustering by socioeconomic status may be due to households in the poorest quintiles having fewer resources to live in richer communities, and the tendency of households in the richest quintiles to live among other very wealthy households. This pattern can result in inequalities in access to health care services across the rural population.

Table 12 provides a summary across countries and asset groups in the overall results section. The final column in the table shows if the asset ownership is most affected by the heterogeneity of the wealth statuses within a community.¹⁶

The two most striking assets in this table are the contrasting cases of ownership of vehicles and access to improved water. In all countries except Liberia and Haiti, where ownership of vehicles is negligible among rural households, for at least one household wealth quintile, households that are wealthy relative to their community are more likely to own a vehicle. The strength of this observation is strongest for the most homogeneous countries. In contrast, in all countries, households that are poor relative to their community are more likely to have access to an improved water source. In contrast to the result for ownership of vehicles, the strength of the relationship is strongest in relatively heterogeneous countries.

Access to improved water can be a shared community resource. In our collection of 11 countries, water piped into households or courtyards in rural areas is rare. Among the poorest households, improved water

¹⁶ The impressionistic view was based on the correlation between our homogeneity measure (percent of households that are in a community with a similar wealth) and the average marginal effect for the asset. If the correlation is above 0.25 we called it homogenous. If less than -0.25, we called it heterogeneous. If the correlation is between -0.25 and 0.25, we called it neither. We call these assessments "impressionistic" because correlations we used are based on a very small set of countries. On the other hand, for the four cases where we assessed the asset as homogeneous or heterogeneous, the correlation had an absolute value of greater than 0.50.

most frequently means a protected well that can plausibly be a community or neighborhood resource. Potentially, a greater degree of mixing relatively poor and relatively wealthy households (heterogeneity) in a community where there are shared water resources would lead to relatively poor households having greater access to improved water.

Among the collection of assets we examined, a vehicle is a good example of a private asset that does not require community infrastructure that might be necessary for electricity (a power grid), mobile phone (cell tower), a bank account (bank), or depend upon community standards or shared resources such as water and sanitation, or construction for floors and walls. Thus, a vehicle can be a way for a household to be wealthy relative to the average community wealth. With less certainty, in communities that are more similar (homogeneous), access to the infrastructure or adherence to standards of construction might be stronger. This could explain why more homogeneous countries have relatively stronger vehicle ownership among wealthy households relative to the average wealth of their communities.

Our hypotheses for both access to improved water and ownership of vehicles are far from being proven here. Further investigation across more countries and/or more detailed investigation of the nature of rural communities in a given country is needed.

Table 12 Summary table of programmatically important differences in asset ownership

	Number of countries where for at least one quintile a relatively rich household in a relatively poor community has a probability 10 percentage points higher	Number of countries where for at least one quintile a poor household in a relatively rich community has a probability 10 percentage points higher	Homogeneous or heterogeneous has strongest effect
Electricity	0	5	Homogeneous
Vehicle	9	0	Homogeneous
Telephone	3	1	Neither
Bank account	4	0	Neither
Water	0	11	Heterogeneous
Sanitation	1	3	Neither
Floor	1	2	Neither
Wall	0	5	Homogeneous

Research on wealth inequality and health outcomes has suggested that the geographic level of a community may affect the results, with smaller community units resulting in fewer associations (Wilkinson and Pickett 2006). In our analysis with survey enumeration areas as the definition of community, we found numerous statistically significant and programmatically important associations. Although there were no clear consistent patterns to the inequities by household wealth relative to community average wealth, the results of this study suggest that there are places and indicators where they make a difference.

The approach in this analysis highlights inequalities in the levels of an indicator, but does not provide insights into the overall levels of an indicator. For example, modern contraceptive use in the DRC is incredibly low at 3% for the poorest quintile and 8% for the richest quintile. However, our analysis only highlights that there are no differences in modern contraceptive use across household wealth relative to the community wealth categories.

No country had household wealth relative to community wealth inequalities in every category and every country had household wealth relative to community wealth inequities in fewer than 50% of the total number of indicators. Pakistan had the highest overall household wealth relative to community inequality

score (40%), followed closely by Indonesia (38%). Nigeria and Zambia had the lowest overall scores (10%). These findings are inconsistent when compared with previous research that used DHS wealth quintiles to assess MCH inequalities (Assaf 2016). This suggests that the effect of household wealth relative to community wealth on MCH indicators differs by context and has a different effect compared to relative national wealth. In some cases, the same countries were identified with inequalities, such as with stunting, while Nigeria had consistent inequalities across multiple measures. In other cases, inequalities were identified in our study but not in the previous literature, such as Pakistan for EBF, which had the highest household wealth relative to community wealth inequality in this analysis, but was not among the top three countries for EBF inequality on any of the inequality measures in the 2016 analysis.

Of all the indicators, health facility delivery had the most frequent community health inequalities, in 7 of the 11 countries, while care-seeking for diarrhea and wasting among children under age 5 had no relative community health inequalities. This finding aligns with previous research that found community-based interventions to be more equally distributed than those delivered in health facilities (Barros et al. 2012).

Exclusive breastfeeding was the only indicator with a varying sign of the average marginal effect. This agrees with previous literature that found consistent associations of wealth on EBF, but with different directionality. In some countries, women from wealthier households are more likely to breastfeed (Ogbo, Agho, and Page 2015; Yalçın, Berde, and Yalçın 2016), while in others, women from poorer households are more likely to breastfeed (Bbaale 2014), which indicates that social pressure for or against EBF may interact with wealth and societal and family norms to explain the difference between country results. Our findings add to previous literature which indicated that an early start to breastfeeding was the most equitable MNCH intervention (Barros et al. 2012) and suggest that a household's wealth relative to that of their community may play a role in EBF through age 6 months.

In 9 of 10 countries, households that are poor relative to their communities were more likely to use at least one maternal health care (ANC and facility delivery) or vaccination service. These services require qualified medical providers. With birth delivery, infrastructure is also required. We do not offer evidence, but it is likely that relatively wealthy communities are more likely to have adequate health services.¹⁷ A household that is poor relative to the community is potentially better able to access the services of a relatively wealthy community. This reflects our findings for water in which households that are poor relative to the community were more likely in all 11 countries to have access to an improved water source. The prevalence of EBF could be related to being poor relative to community. It is possible that powdered formula is more available and less expensive in relatively wealthy communities.

The lack of consistent patterns in use of different services by relative wealth categories and household wealth quintile is noteworthy. As shown in Appendix A6, for some services, the use across the relative wealth categories converges as household wealth increase. For other services, the use diverges as household wealth increases, and for others there is neither convergence nor divergence. The lack of a pattern in any indicator or within any one country indicates that the relationship between these three variables is complex and influenced by factors not included in this analysis. The case of Liberia is perhaps instructive. For 4+ ANC visits, the difference is largest for the poorest households and decreases with increasing household

¹⁷ Rural health services are frequently supported financially and administratively by communities. Medical providers are frequently unwilling to serve in poor communities and poorer communities are frequently inaccessible or neglected by regional or central governments.

wealth; for health facility delivery, the difference remains consistent over household wealth quintiles; and for modern contraceptive use, the difference increases with increasing household wealth. This suggests that a household's wealth relative to the community has an important but variable influence on access to specific health services and across different countries.

Definitive conclusions are not possible with this report. Additional countries must be analyzed to assure that patterns across asset groups and MCH indicators are robust. It may also be enlightening to examine additional assets such as land and animal ownership. In addition, it is uncertain if the noted relationships would remain over time, across countries, or within countries. Other issues are methodological. Our assertions of relative homogeneity and heterogeneity assume that the differences in average wealth between communities are more or less the same for all countries. We did not offer evidence that these differences are the same across countries. There is a good possibility that the differences are not the same and would be related to the overall level of inequality in a country. Another issue is that the average number of households represented by a cluster can vary across countries. The greater the number of households represented in a cluster, the greater the possibility for heterogeneity.¹⁸ Future analyses may also explore the associations of the assets investigated here, and their associations with the health indicators.

Our collection of MCH indicators is biased toward the use or provision of services rather than health outcomes. The exceptions to this are wasting and stunting. Given the apparent greater access to water (and maybe sanitation) for households that are poor relative to average wealth of their communities, future research could examine the incidence of ARI symptoms, fever, and diarrhea, as well as differences in neonatal, infant, and under-5 mortality.

There are multiple mechanisms through which a community's socioeconomic status and a household's relative socioeconomic status can influence health. Wealthier communities may have more access to health facilities and services, which can facilitate engagement with the health system. Beyond the family, a household's local community potentially plays the next most important role in forming norms around health behaviors.

¹⁸ Please note that this issue is independent of the number of households used for interviews. An example is the most recent DHS in the DRC. The data collectors combined villages or divided villages in order to achieve a target sampling frame of 500 households from which to draw the cluster sample of 34 households. In Liberia, the targeted number of households for the sampling frame seems to have been 200 households.

5 COUNTRY-SPECIFIC RESULTS

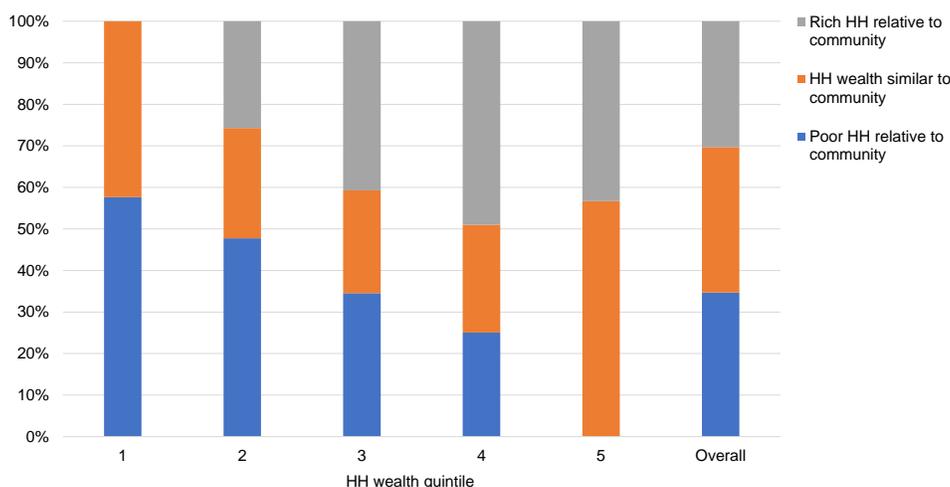
Part two of the results section provides in-depth results for each of the 11 countries in this analysis. For each country, the first section presents the overall distribution of relative community wealth; the second section shows specific assets and their associations with relative community wealth; and the final section illustrates the associations between 10 MCH indicators and relative community wealth.

5.1 DRC

5.1.1 Household wealth relative to average community wealth

In the 11 countries, the DRC has the most uniform division of the population across the three categories of household wealth relative to community wealth. The column at the far right in Figure 4 shows that 35% of households are poor compared to the average wealth of households in their community, while another 35% of households have similar wealth compared to the average wealth of households in their community.¹⁹ The remaining 30% are rich compared to their community. This distribution suggests that rural communities in the DRC have a high level of wealth heterogeneity with a relatively equal proportion of households that are richer or poorer than the average of their community. Disaggregation by household wealth quintiles shows the heterogeneity to be most apparent in the four poorest quintiles. In the wealthiest quintiles, more than 57% of the households are also in the wealthiest rural communities. This is the opposite for the poorest households, where 58% are located in communities that are on average wealthier. In the middle quintiles, no more than 27% of households are located in communities of average wealth similar to their own.

Figure 4 Distribution of household wealth relative to community average, DRC 2013-14



5.1.2 Asset ownership and household wealth relative to average community wealth

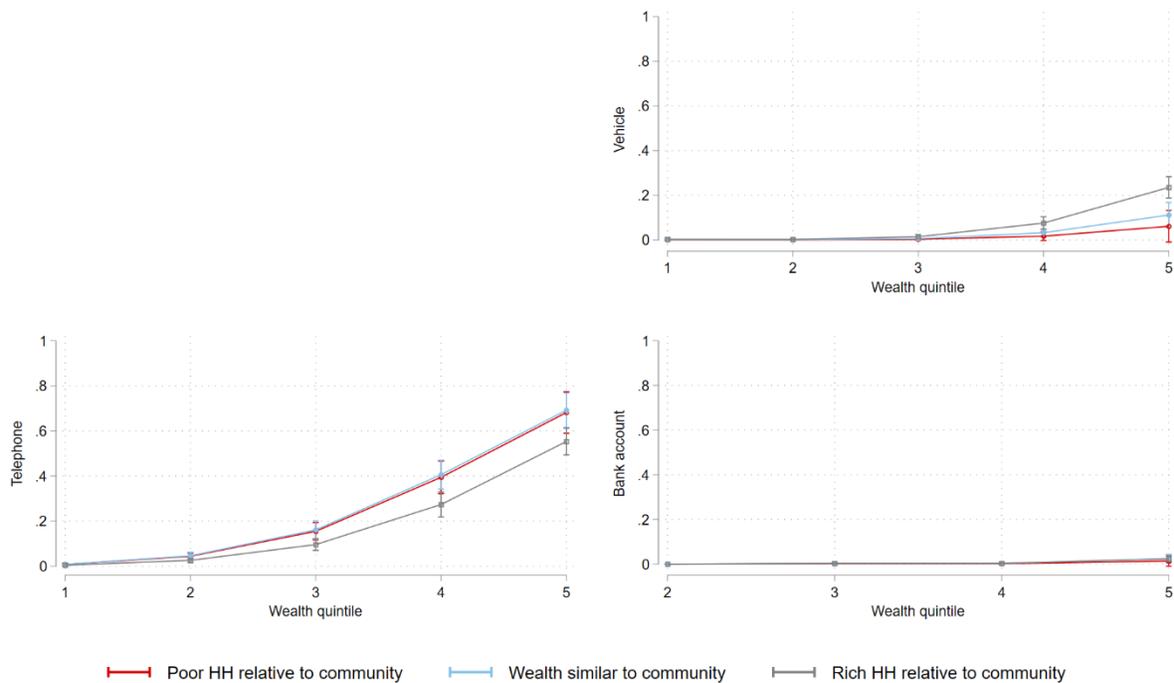
The DRC, along with Liberia and Haiti, has poverty that is greater than in the other eight countries. This limits the analysis across household quintiles and communities. Very few rural households in the DRC have

¹⁹ Please refer to the Data and Methods section where we describe household wealth versus community wealth.

access to electricity or improved floors. Thus, the asset regressions for electricity and improved flooring could not be analyzed and are not presented.

Poor rural households are also unlikely to have phones or own vehicles. At higher levels of wealth, households that are poor relative to their community are more likely to own phones. For vehicles, this is reversed with households that are wealthy relative to their community being more likely to own a vehicle at the higher levels of household wealth.

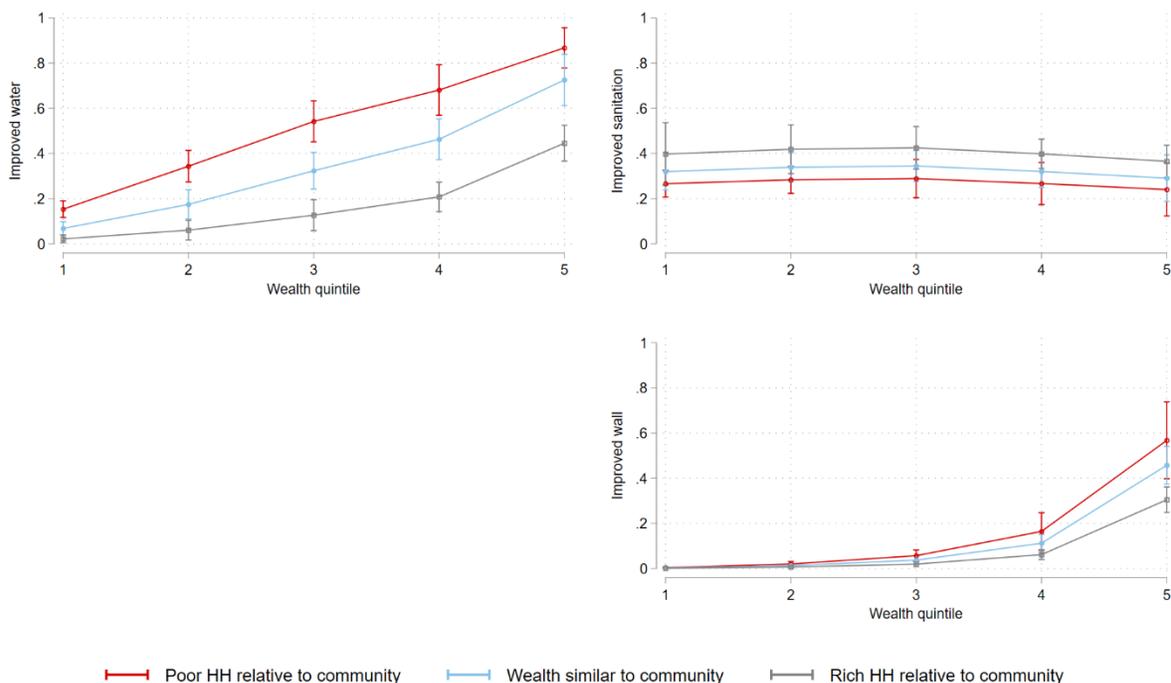
Figure 5 Predicted probabilities of asset ownership (vehicle, telephone, and bank account) by household wealth quintile, DRC 2013-14



Households that are poor relative to the community are considerably more likely to have improved water than households that are wealthy relative to the community. This is reversed for sanitation, which is unusual because conditions do not seem to improve as wealth status improves (all three curves are relatively flat for the improved sanitation chart). This is one of the few cases in the asset regressions where wealth was not significantly correlated with one of the asset measures.²⁰ In a closer look at sanitation across wealth quintiles in rural households, we found that the proportion of households with a latrine without a slab increased across the wealth quintiles, although the proportion of households that had a latrine with a slab remained constant across the quintiles. By international standards, a latrine must have a slab to be defined as improved.

²⁰ Our overwhelming expectation was that wealth would be significantly correlated with any asset because the wealth index is based on assets.

Figure 6 Predicted probabilities of asset ownership (improved water source, improved sanitation, and improved wall) by household wealth quintile, DRC 2013-14



5.1.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 7 shows the level of the three MRH indicators by wealth quintile. Across all five household wealth quintiles in the DRC, the proportion of women who attended at least four ANC visits for their most recent pregnancy remained relatively stable at approximately 40%. Facility delivery increased from approximately 60% in the poorest quintile to 90% in the richest quintile. Modern contraceptive prevalence is very low, at less than 10% across all wealth quintiles.

Figure 7 Levels of MRH indicators, by household wealth quintile, DRC 2013-14

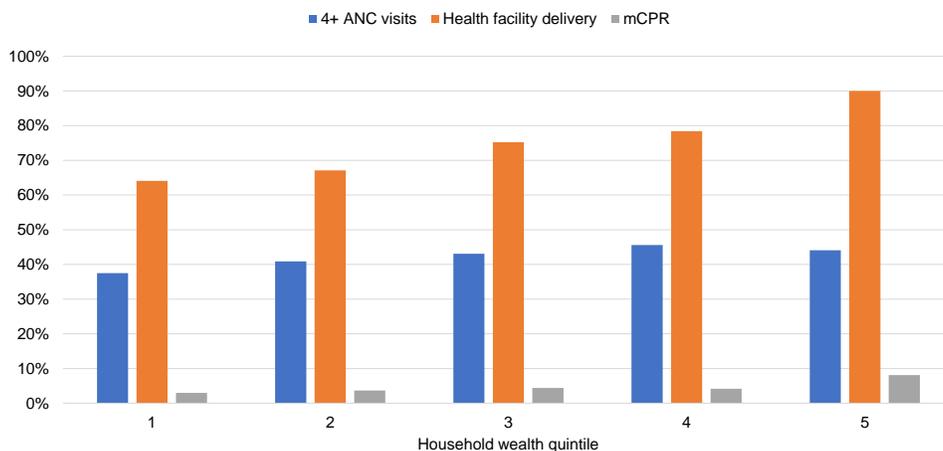
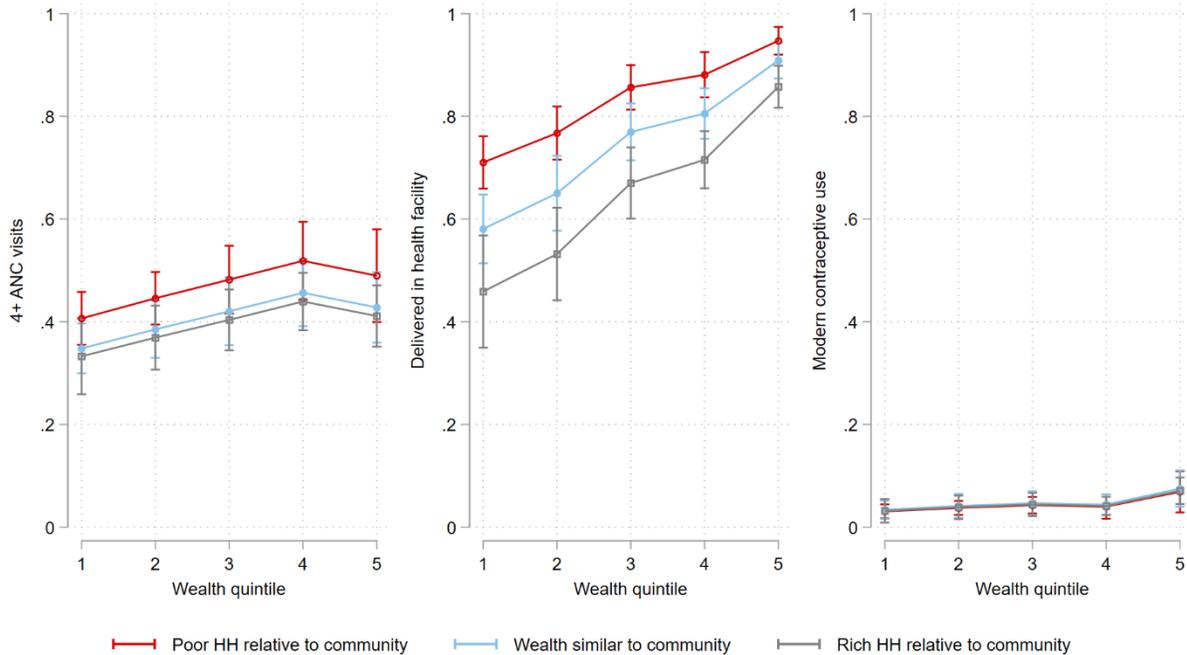


Figure 8 answers the question “At any given level of household wealth, how does the household wealth status relative to average community affect use of maternal and reproductive health services?” The predicted probabilities of each MRH outcome in DRC by relative wealth category over each household wealth quintile are shown to visualize differences in the trends for each category of relative wealth. Across all household wealth quintiles, women living in households that are poor relative to the community are much more likely to deliver in a facility. There is little or no impact of this factor on ANC or modern contraceptive use.

Figure 8 Predicted probabilities of MRH indicators by household wealth quintile, DRC 2013-14



Child health

With the exception of fever care-seeking, all child health indicators increase with increasing wealth in the DRC. The size of the increase differs, with DPT3 vaccination and ARI care-seeking increasing the greatest proportion from poorest quintile to richest, and diarrhea care-seeking and EBF increasing slightly (see Figure 9).

Figure 9 Levels of child health indicators, by household wealth quintile, DRC 2013-14

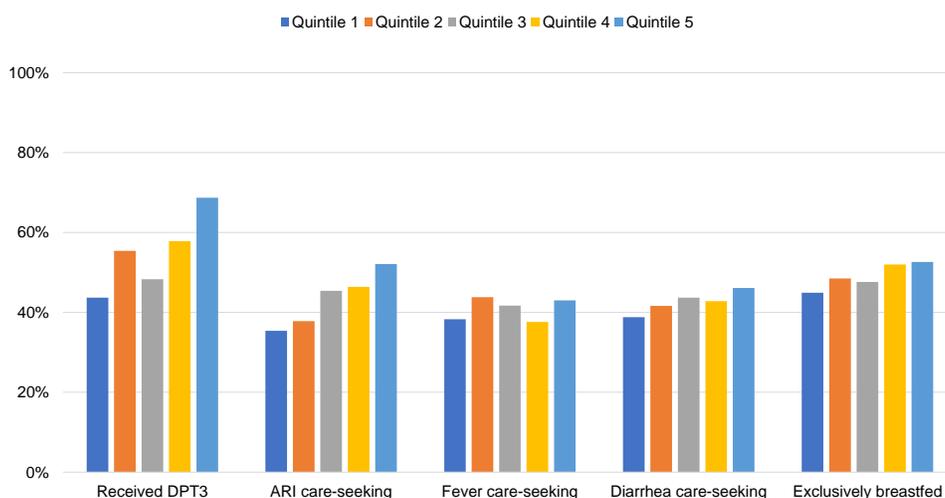
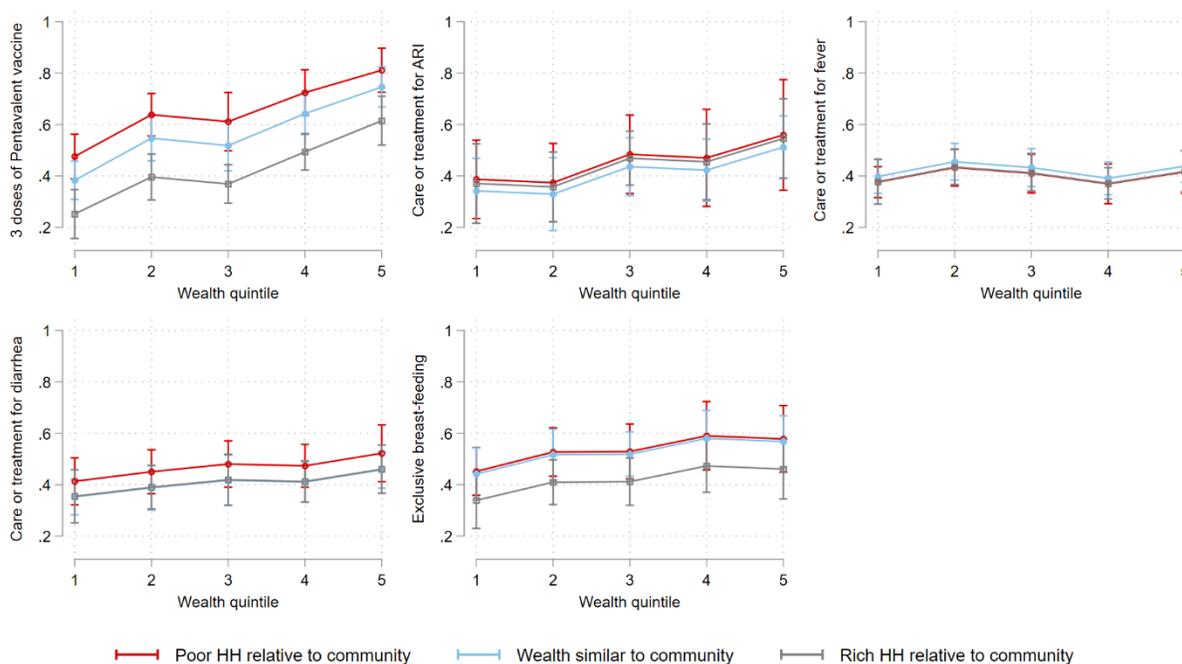


Figure 10 presents the predicted probabilities for each child health outcome. The predicted probabilities are similar across all relative wealth categories for ARI and fever care-seeking. There is slightly more diarrhea care-seeking among poor households relative to the community. The probability of EBF is similar for poor households relative to the community and for households with wealth similar to the community, although households that are rich relative to the community had an 11% lower probability of EBF when compared to poor households relative to the community, over all household wealth quintiles. The largest differences are seen in DPT3 vaccination, in which there is an approximately 20% difference in the predicted probability between households that are rich relative to the community, compared to poor households that are poor relative to the community.

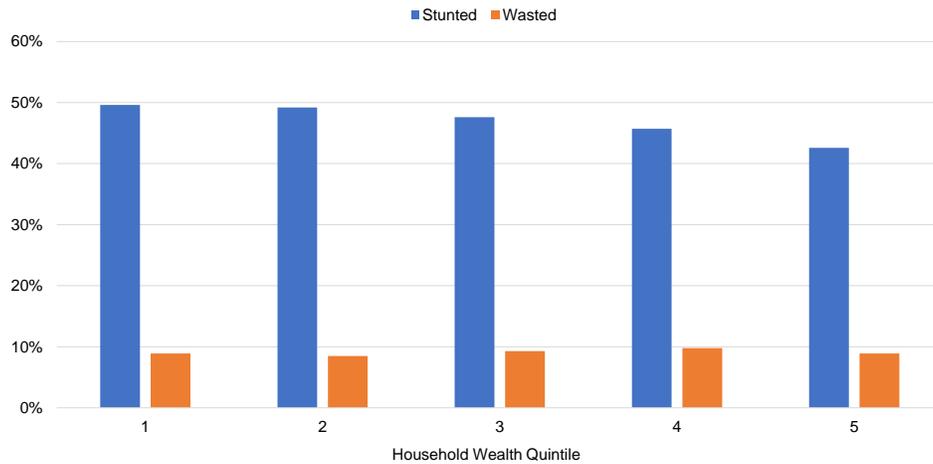
Figure 10 Predicted probabilities of child health indicators by household wealth quintile, DRC 2013-14



Child nutrition

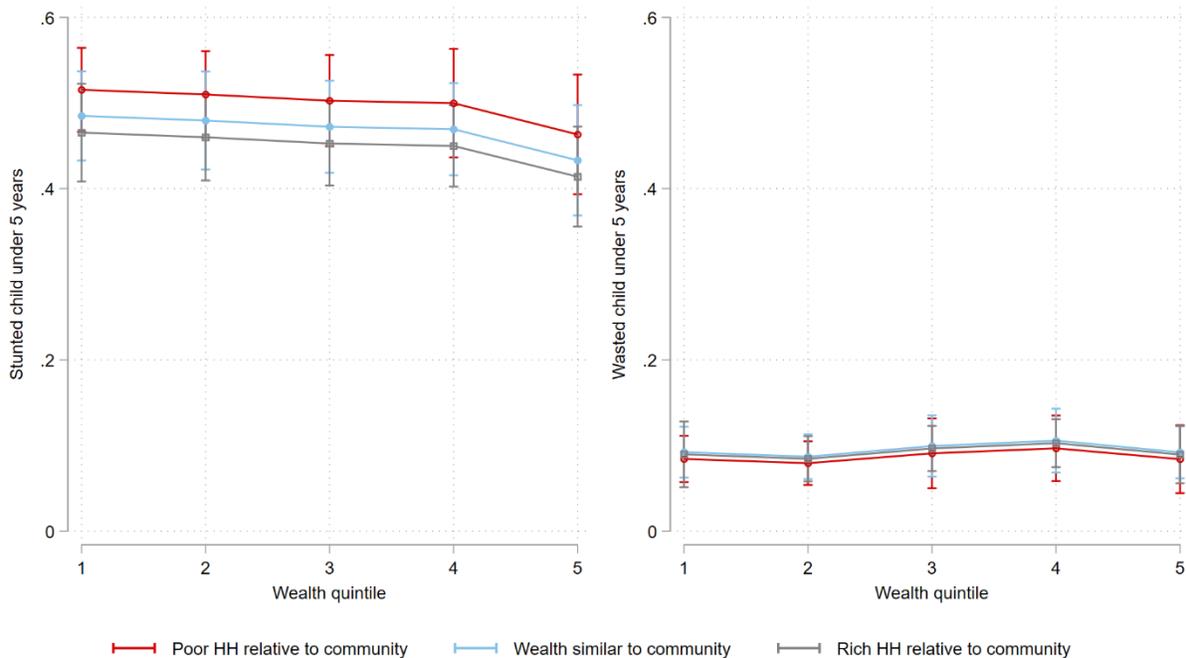
In rural areas of DRC, rates of stunting in children younger than age 5 are highest among the poorest households (50%) and decrease with increasing wealth. Rates of wasting in children younger than age 5 are stable at approximately 10% across all household wealth quintiles.

Figure 11 Levels of child nutrition indicators, by household wealth quintile, DRC 2013-14



Households that were poor relative to their community had a 4% higher probability of having a stunted child under age 5 when compared to rich households relative to their community.

Figure 12 Predicted probabilities of child nutrition indicators by household wealth quintile, DRC 2013-14

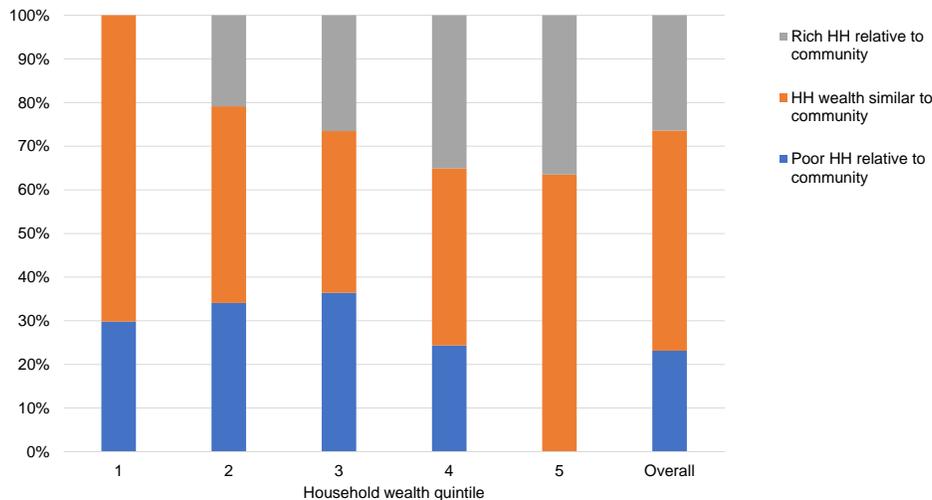


5.2 Ghana

5.2.1 Household wealth relative to average community wealth

As shown in Figure 13, half of Ghana's rural households live in communities of similar wealth to their own. By the definition, Ghana is second only to Nigeria in terms of homogeneity among the 11 countries. This homogeneity is most apparent in the fifth household wealth quintile, where over 60% of households live in communities of similar wealth.

Figure 13 Distribution of household wealth relative to community average, Ghana 2014



5.2.2 Asset ownership and household wealth relative to average community wealth

Figure 14 shows that households that are poor relative to the community are considerably more likely to have electricity than households of the same wealth status in a poorer community. The gap between the two groups diminishes at higher levels of household wealth as access to electricity approaches universality. This is reversed for vehicle ownership, where the households living in relatively poor communities are more likely to own a vehicle. In Ghana, motor scooters are less likely to be owned by wealthier rural households than poor rural households. In contrast, wealthy households are more likely to own cars. However, it is in the wealthiest of quintiles where the effect is large, and we see the moderate U shape for all three community curves for vehicles.

Figure 14 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Ghana 2014

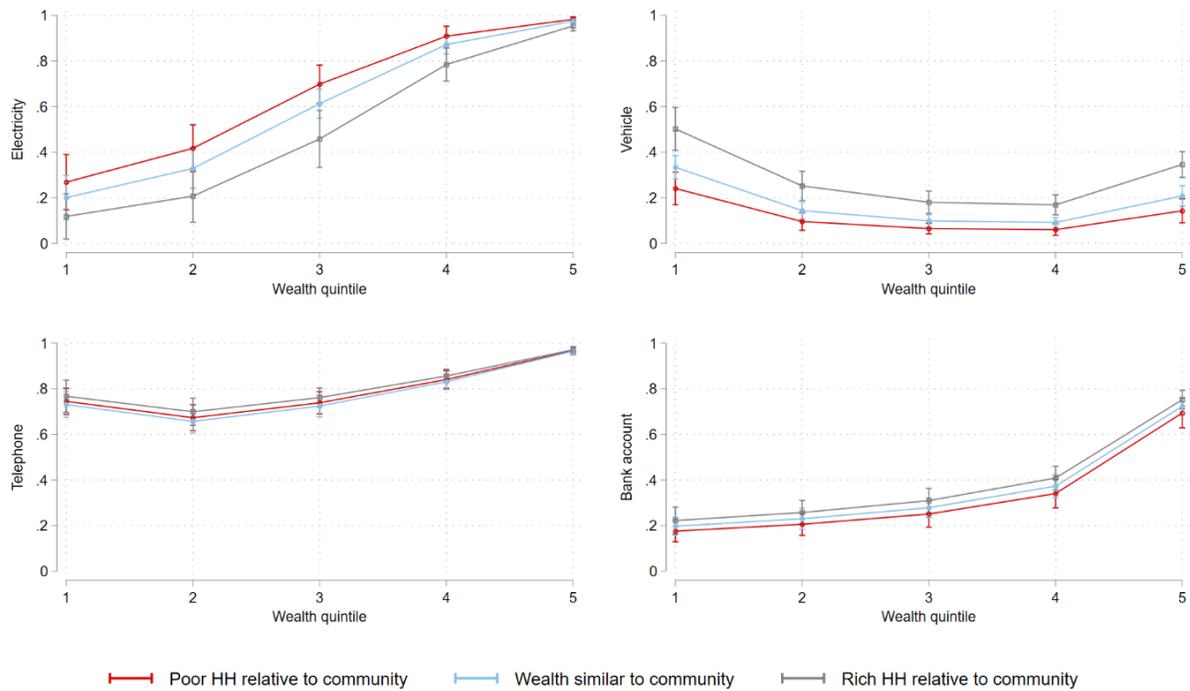
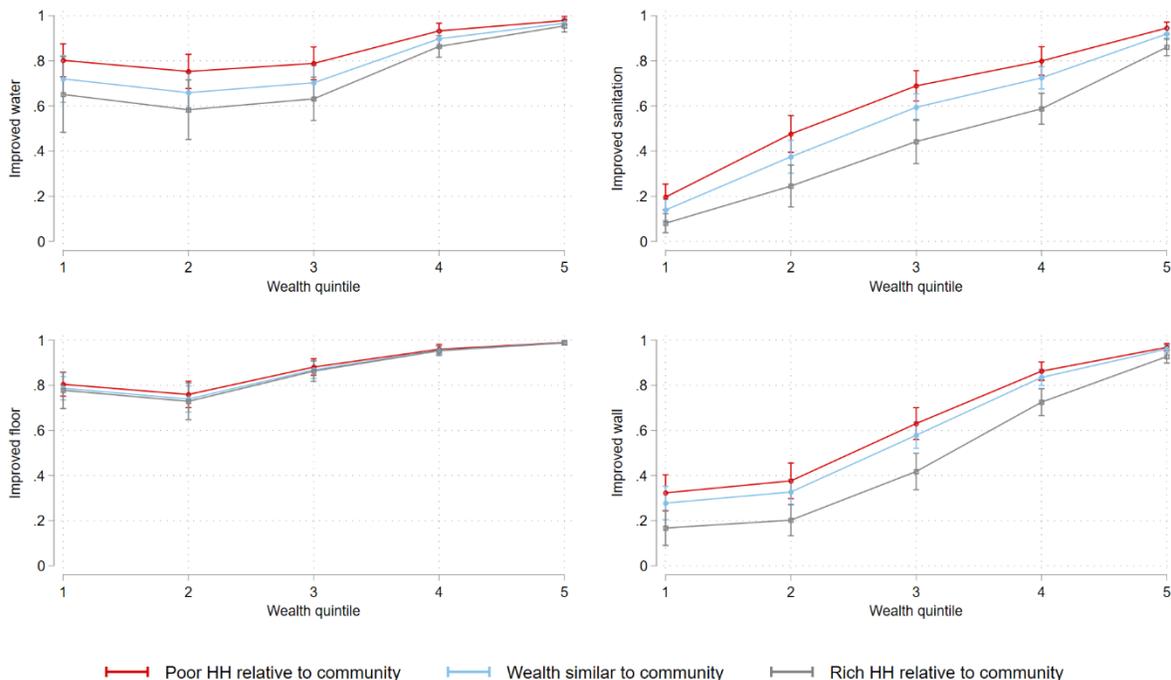


Figure 15 shows that for any given level of household wealth, improved water, sanitation, and walls are more likely to be owned by households that are poor relative to the community. In all three cases, the gaps between the two groups diminish as household wealth increases and ownership of the asset approaches 100%.

For most assets, the probability of ownership does not vary greatly across the first two or three quintiles. The only clear exception is improved sanitation where the upward slope is clear.

Figure 15 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Ghana 2014



5.2.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Ghana has high rates of 4+ ANC visits, at over 70% for all wealth quintiles. Rates of facility delivery vary by household wealth quintile, with just over 40% of women in the poorest quintile and over 80% of women in the richest quintile delivering at a health facility. While women in the poorest quintile have lower modern contraceptive use (19%), the other four quintiles are all similar at approximately 25%.

Figure 16 Levels of MRH indicators, by household wealth quintile, Ghana 2014

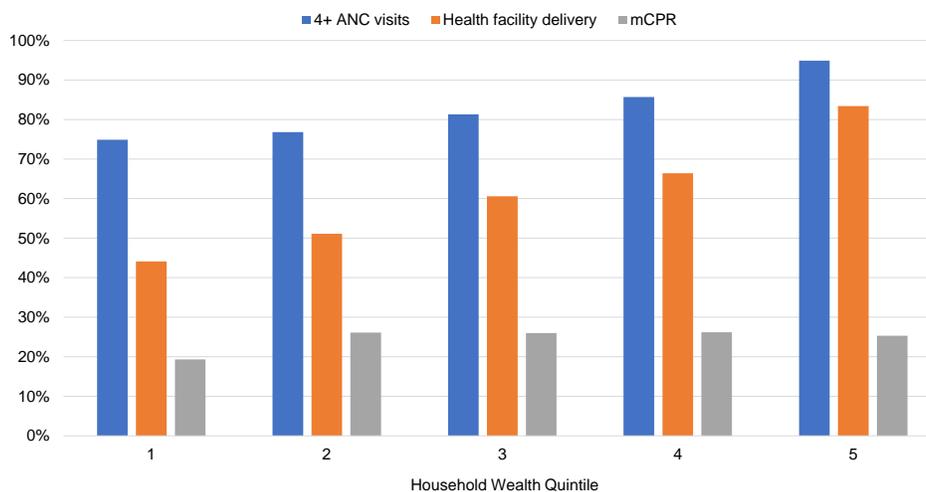
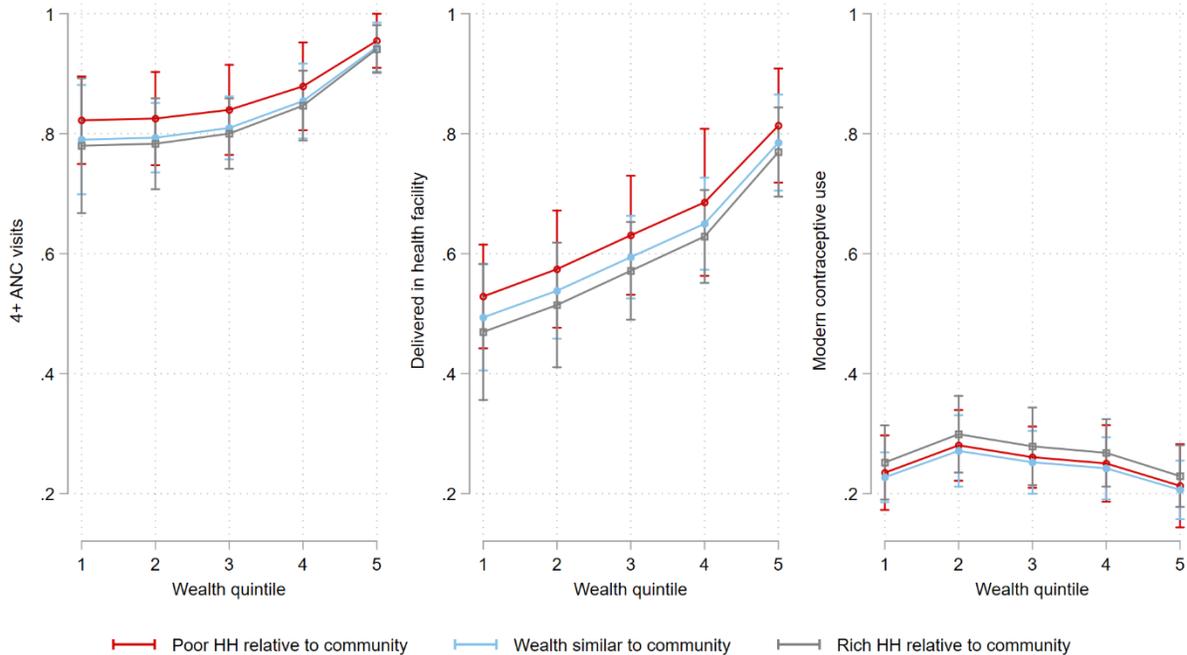


Figure 17 presents the predicted probabilities of each of these outcomes, with different lines for each of the relative community wealth categories, by household wealth quintile. In the lower three household wealth quintiles, there is a slightly (5%) higher probability that women living in poor household relative to the community received 4+ ANC visits compared to women living in a rich household relative to the community. This difference narrows for the upper two quintiles. A similar pattern can be seen in the probability of women delivering at a health facility. These differences are programmatically important or statistically significant (see Appendix A6).

Figure 17 Predicted probabilities of MRH indicators by household wealth quintile, Ghana 2014



Child health

The results presented in Figure 18 show that DPT3 vaccination rates are high in rural Ghana, with all quintiles over 80%. Care-seeking for ARI, fever, and diarrhea vary, with different patterns of care-seeking by wealth quintile. Rates of both diarrhea care-seeking and EBF decrease with increasing wealth, until the richest quintile where there is a small increase.

Figure 18 Levels of child health indicators, by household wealth quintile, Ghana 2014

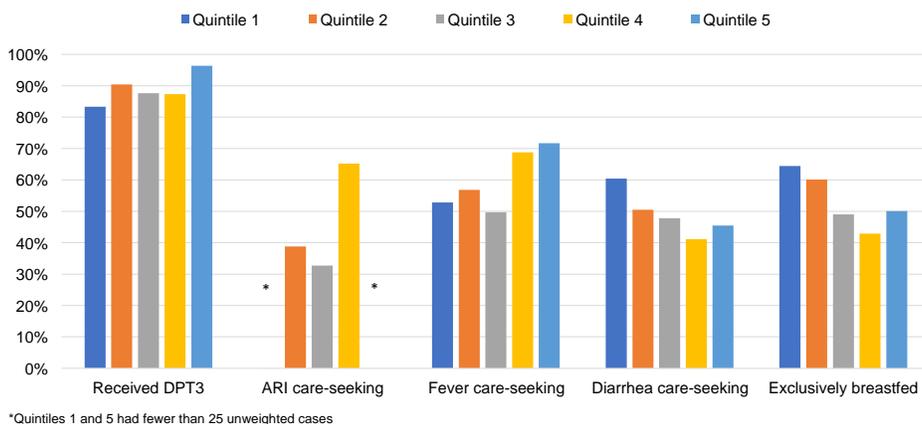
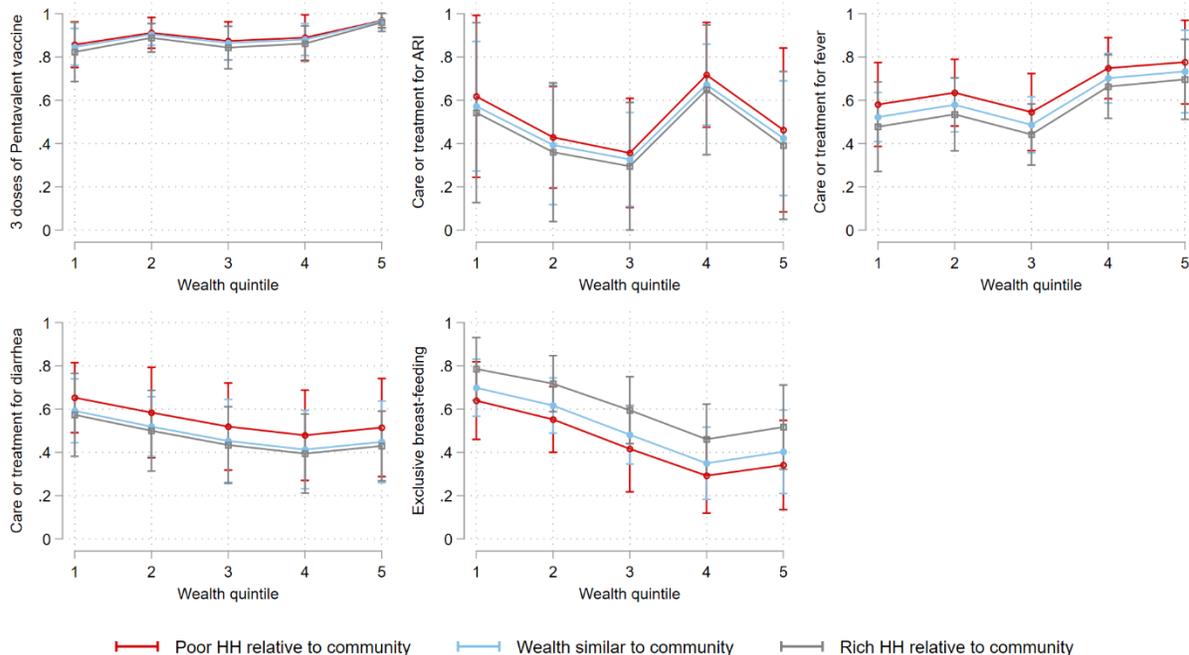


Figure 19 presents the child health outcomes for each relative community wealth category by household wealth quintile. For all child health outcomes except for EBF, there are small, non-programmatically important and nonstatistically significant differences between the relative community wealth categories. For EBF, however, there is a greater than 10% difference in the probability that women who live in rich households relative to the community exclusively breastfed their infant at age 6 months when compared to women who live in poor households relative to the community.

Figure 19 Predicted probabilities of child health indicators by household wealth quintile, Ghana 2014



Child nutrition

Rates of stunting in children under age 5 are consistently approximately 25% for the poorest quintiles and then decrease to under 15% in the richest quintile. Wasting in children under age 5 is under 10% for all quintiles, with an increase in the richest quintile.

Figure 20 Levels of child nutrition indicators, by household wealth quintile, Ghana 2014

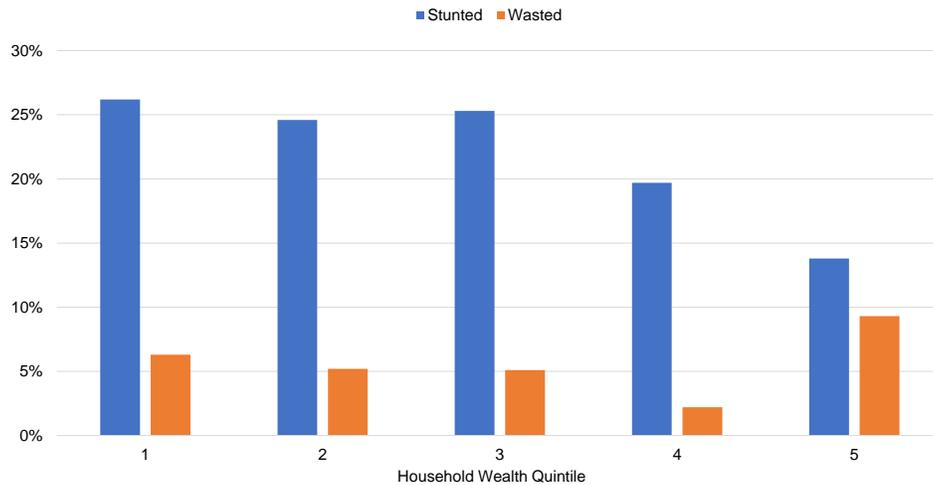
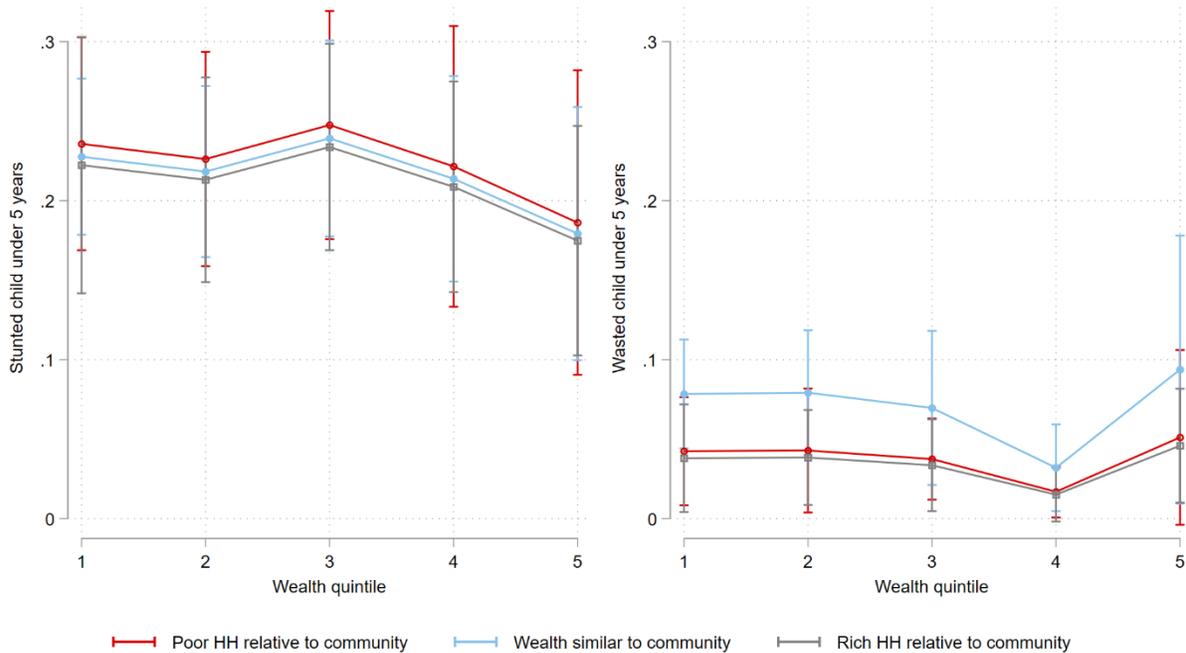


Figure 21 shows that there are no programmatically important or statistically significant differences between the relative community wealth categories in stunting or wasting among children under age 5 in Ghana.

Figure 21 Predicted probabilities of child nutrition indicators by household wealth quintile, Ghana 2014

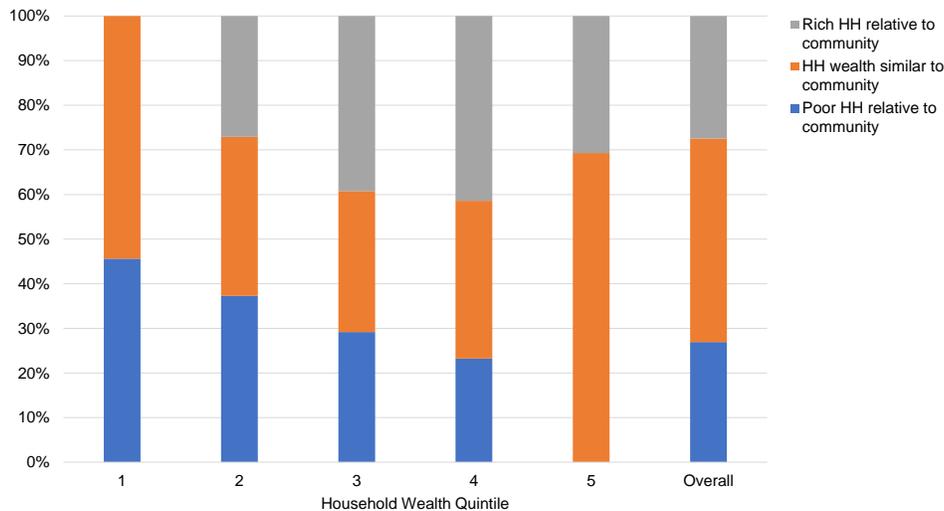


5.3 Haiti

5.3.1 Household wealth relative to average community wealth

The far-right columns in Figure 22 shows that nearly half of Haiti's rural households live in communities of similar average wealth to their own. The wealthiest quintile is the starkest example where 69% of households in the first quintile of household wealth live in the communities that are the wealthiest on average. In the poorer quintiles, there is less homogeneity.

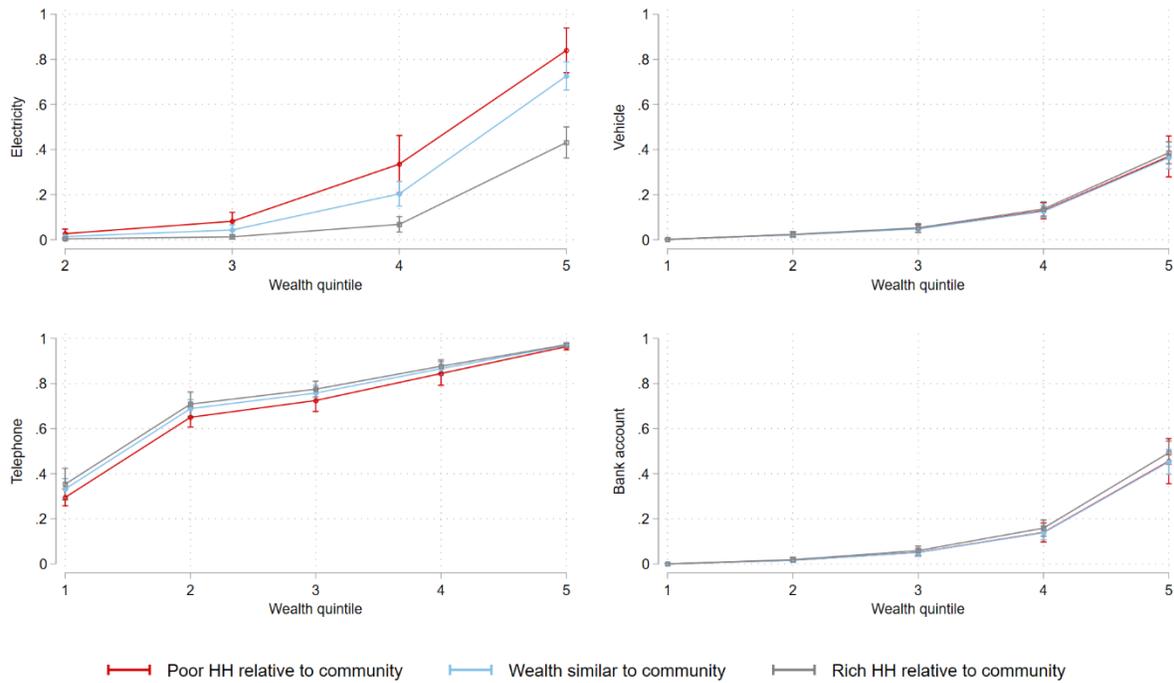
Figure 22 Distribution of household wealth relative to community average, Haiti 2016-17



5.3.2 Asset ownership and household wealth relative to average community wealth

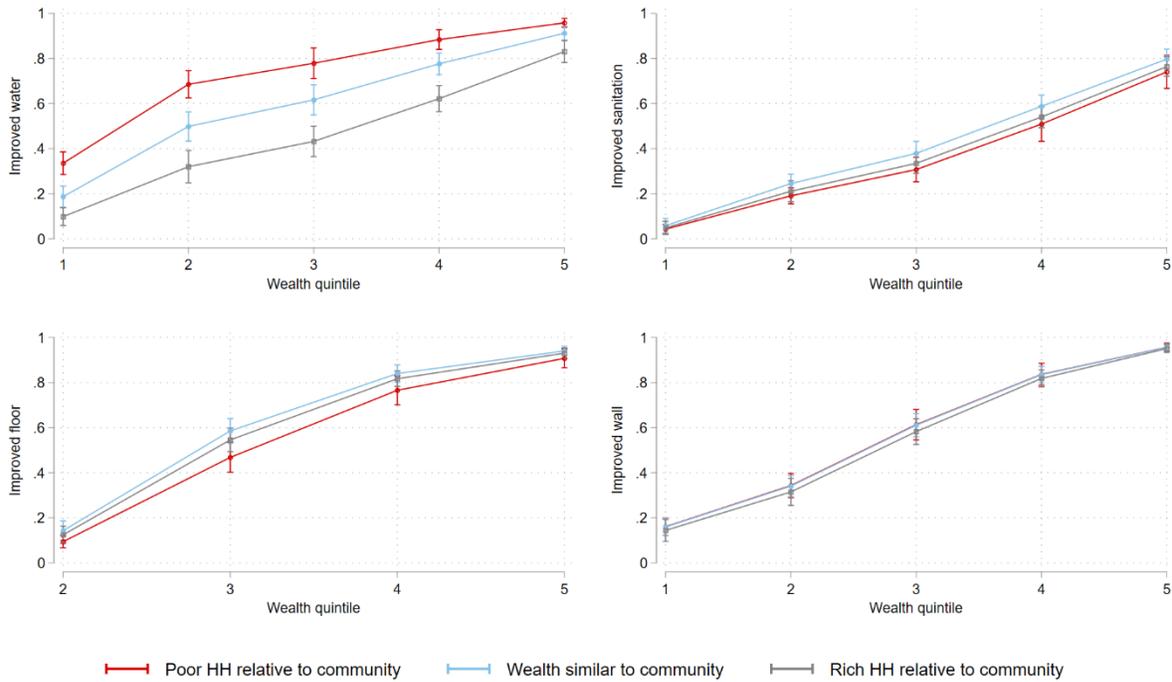
Among the poorest rural households, there is virtually no access to electricity. As household wealth increases, access to electricity increases, although access remains low even at the wealthiest quintiles. Households that are poor relative to the community are much more likely to have electricity. The gap between the households that are poor relative to the community and the households that are wealthy relative to their communities grows as household wealth status increases. Ownership of vehicles, telephones, and bank accounts are not strongly related to a household's wealth relative to the community.

Figure 23 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Haiti 2016-17



A household that is poor relative to the community is more likely to have an improved water source. The gap between the curves is persistent. Even as the wealthiest rural household in relatively wealth communities approaches 100% access to improved water, the gap persists. Ownership or access to improved sanitation, flooring, and walls is not strongly related to a whether a household is wealthy or poor relative to its community.

Figure 24 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Haiti 2016-17

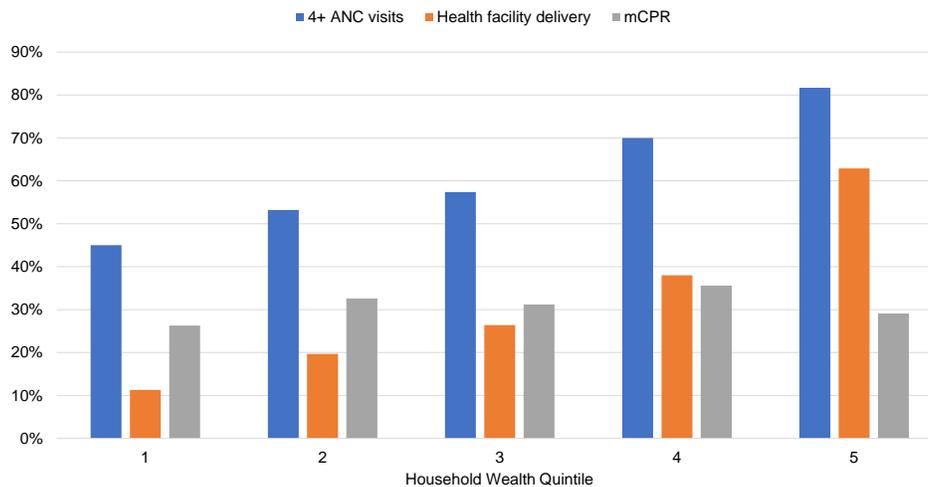


5.3.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health

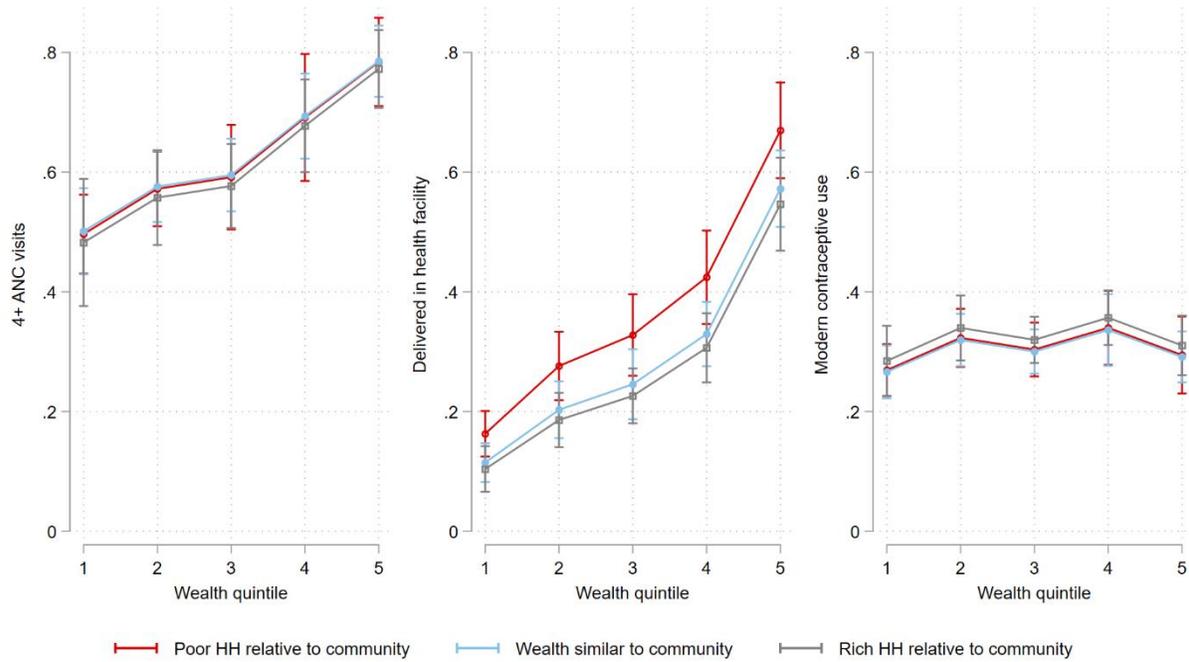
In Haiti, there are high rates of 4+ ANC visits compared to health facility delivery, with steady increases in both 4+ ANC visits and health facility delivery over the household wealth quintiles. This is in contrast to modern contraceptive use, which fluctuates around 30% at each wealth quintile (see Figure 25).

Figure 25 Levels of MRH indicators, by household wealth quintile, Haiti 2016-17



Similar patterns are shown in Figure 26, with health facility delivery showing large differences in the predicted probability of facility delivery by relative community wealth, and specifically between the households that are poor relative to their community and those that are rich relative to their community (6% at quintile 1, 10% at quintile 2, 12% at quintile 3, 15% at quintile 4, and 13% at quintile 5).

Figure 26 Predicted probabilities of MRH indicators by household wealth quintile, Haiti 2016-17



Child health

Figure 27 presents the child health indicators by wealth quintile for rural Haiti. Both DPT3 vaccination and ARI care-seeking show a sharp increase for households in the richest wealth quintile. Fever care-seeking has a more consistently positive change as wealth quintile increases. Diarrhea care-seeking and EBF show fluctuations as wealth quintiles increase.

Figure 27 Levels of child health indicators, by household wealth quintile, Haiti 2016-17

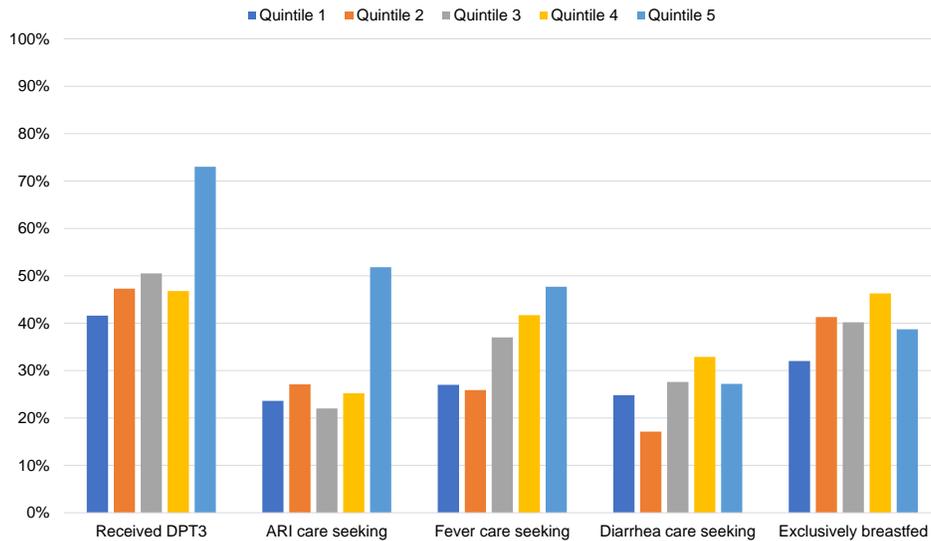
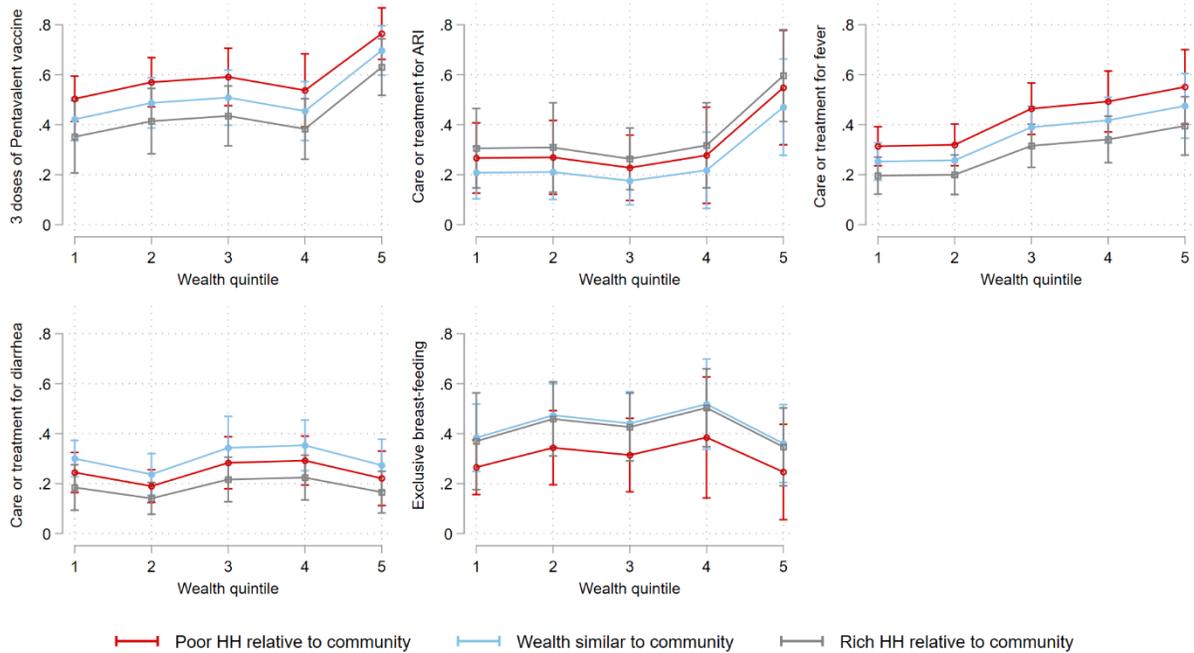


Figure 28 shows the predicted probabilities of each child health outcome for each category of relative community wealth, by household wealth quintile. The DPT3 vaccination, fever care-seeking, and EBF values have large differences in predicted probability by relative wealth category. Differences in DPT3 range from 18% in quintiles 2-4 and 13% in quintile 5 and are statistically significant. Differences in fever care-seeking range from 13% in quintiles 1 and 2 to 17% in quintiles 4 and 5 and are statistically significant. In both cases, households that are poor relative to the community have a higher probability of the outcome. With EBF, there is an approximately 10% difference across the quintiles, although households that are rich relative to the community have the higher probability of the outcome. This difference is not statistically significant.

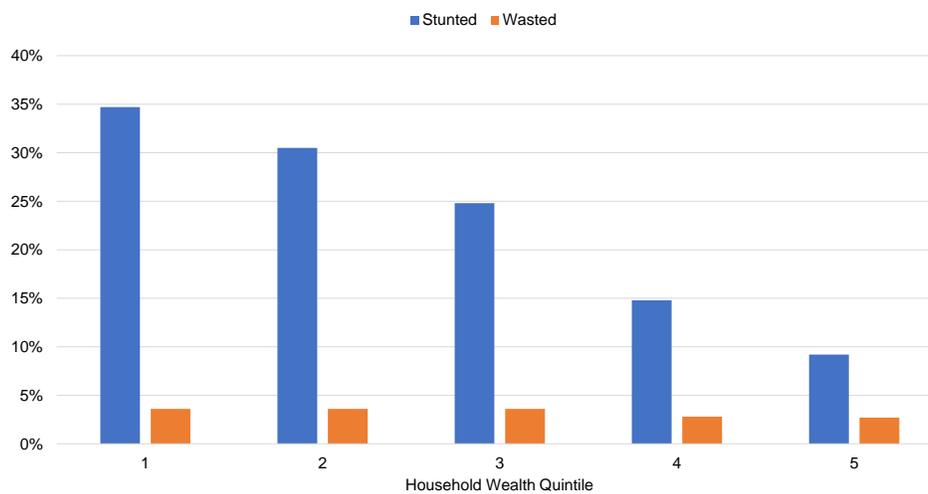
Figure 28 Predicted probabilities of child health indicators by household wealth quintile, Haiti 2016-17



Child nutrition

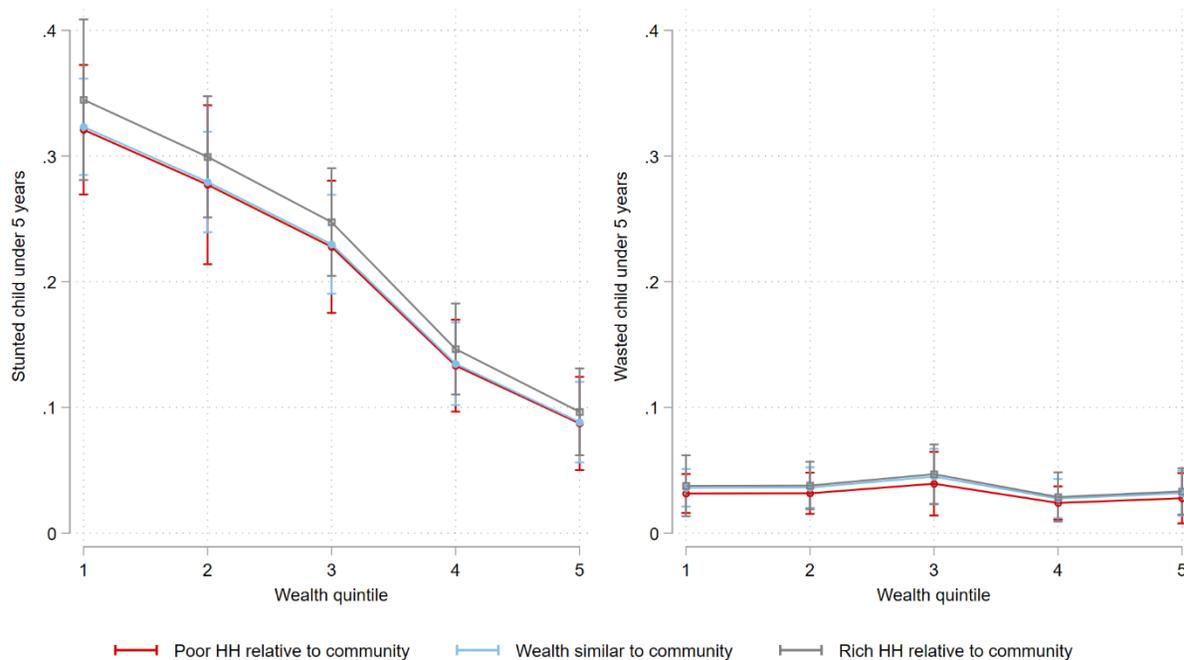
Figure 29 presents child nutrition indicators by household wealth quintile. Rates of stunting in children under age 5 decrease consistently with increasing wealth, while rates of wasting remain consistently low (3-4%) over the wealth quintiles.

Figure 29 Levels of child nutrition indicators, by household wealth quintile, Haiti 2016-17



There are no notable differences in predicted probabilities of stunting or wasting between the categories of relative community wealth.

Figure 30 Predicted probabilities of child nutrition indicators by household wealth quintile, Haiti 2016-17



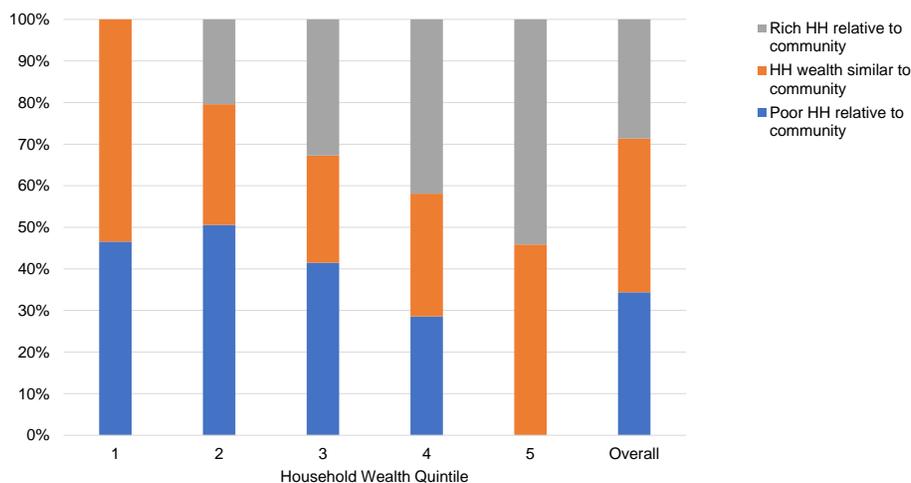
5.4 Indonesia

5.4.1 Household wealth relative to average community wealth

Figure 31 presents the distribution of wealth quintiles based on the wealth of the household relative to community in rural Indonesia. There is an even distribution of households that have higher, equal, and lower wealth than their community's average wealth. Nearly 50% of households in quintiles 1 and 2 are poor compared to the average wealth of the community in which they live. In the fifth quintile, more than 50% of the households are wealthy relative to the average wealth of their community.

Along with Liberia, DRC, and Zambia, Indonesia is classified as relatively heterogeneous in the results section of this report. Indonesia and the DRC offer a contrast among the homogeneous countries. In the DRC, only the four poorest quintiles were heterogeneous (see Section 5.1.1). In Indonesia, the heterogeneity exists across all five household quintiles, including the poorest.

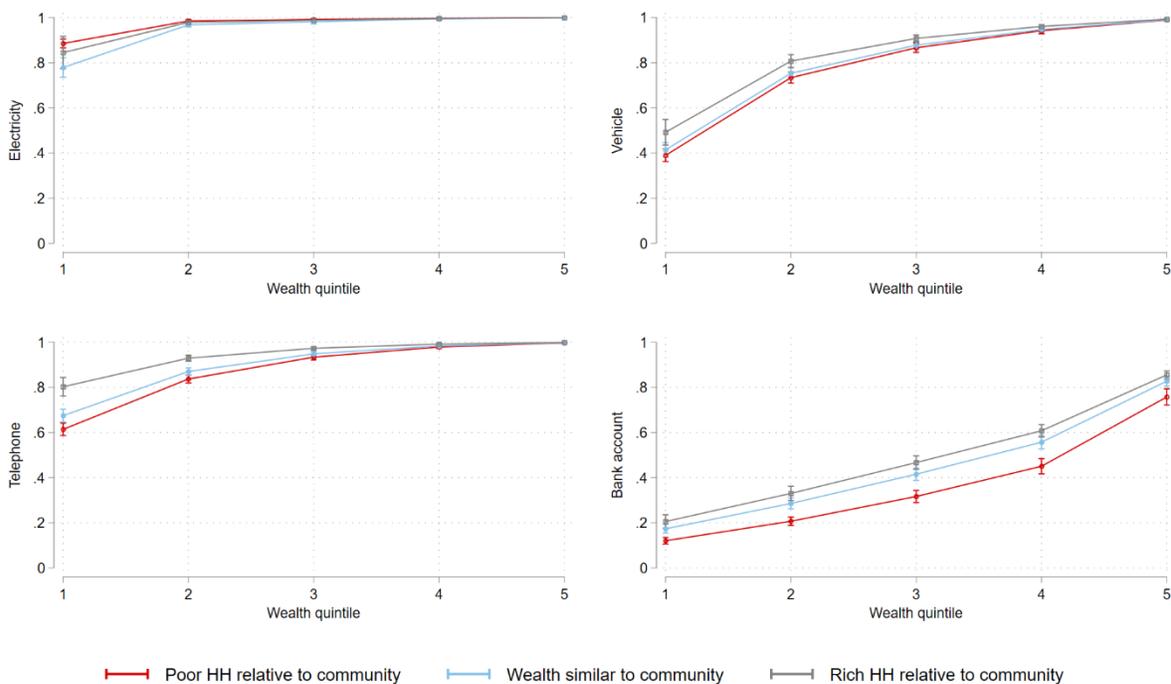
Figure 31 Distribution of household wealth relative to community average, Indonesia 2017



5.4.2 Asset ownership and household wealth relative to average community wealth

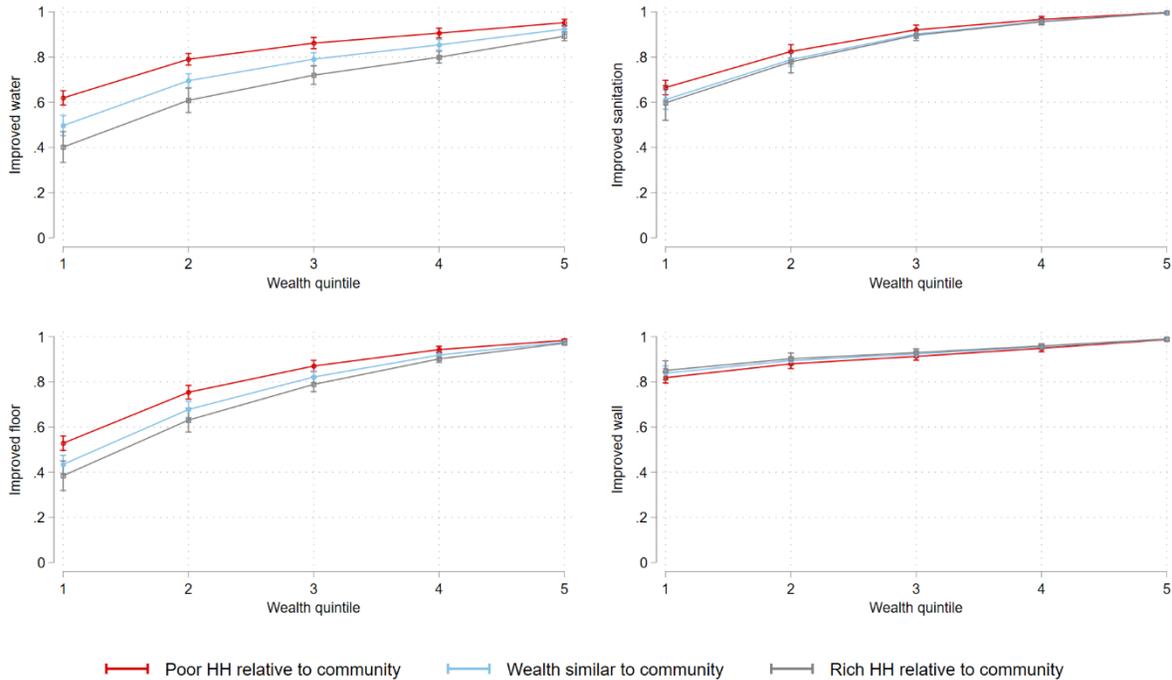
Indonesia is the wealthiest in our sample of 11 countries. Among the wealthiest rural households, ownership of electricity, telephones, and vehicles is nearly universal. Among the households classified as poor, those that are wealthy relative to their community are more likely to own a car or a telephone. The relationship holds true for having a bank account for the second, third, and fourth quintiles.

Figure 32 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Indonesia 2017



In contrast to the assets examined in Figure 33, households that are poor relative to the community are more likely to have improved water and improved flooring at low levels of household wealth. At higher levels of household wealth status, the gaps disappear as the assets are almost universally owned or accessed even in rural areas.

Figure 33 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Indonesia 2017



5.4.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 34 shows MRH indicators by household wealth quintile for rural Indonesia. For 4+ ANC visits, there is a large increase from the poorest quintile to the next, with smaller increases seen in the other quintiles. Health facility delivery increases consistently from 45% in quintile 1 to 86% in quintile 5. Modern contraceptive use fluctuates between 52% and 62% across the five quintiles.

Figure 34 Levels of MRH indicators, by household wealth quintile, Indonesia 2017

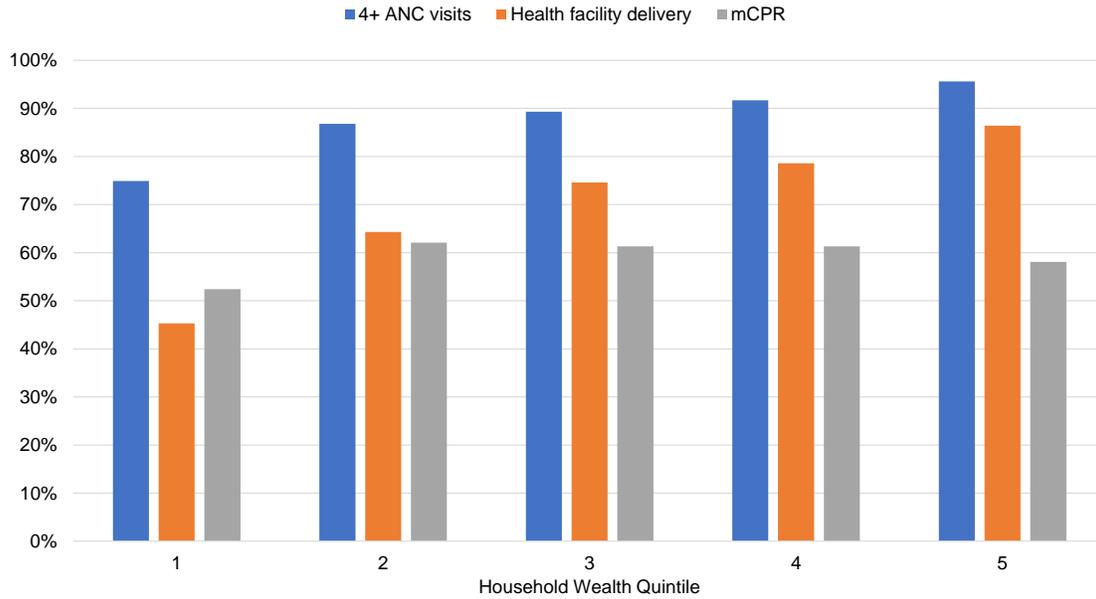
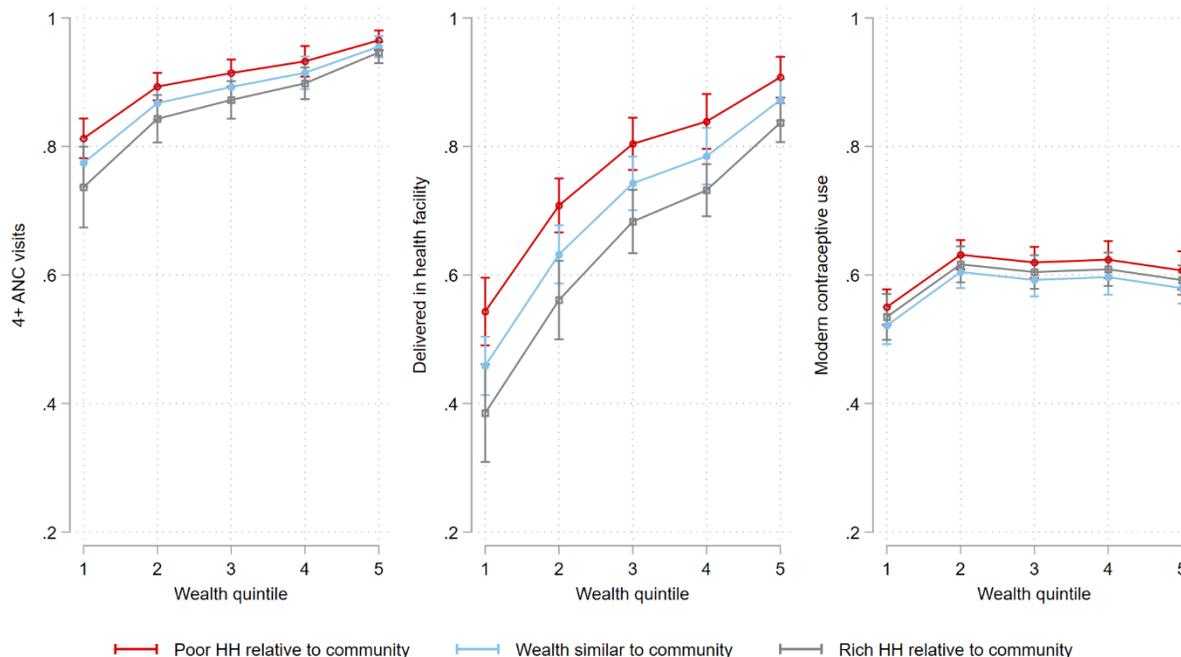


Figure 35 shows the predicted probability of the three MRH outcomes for each of the relative community wealth categories, by household wealth quintile. There is a significant difference in the predicted probability between poor and rich households compared to their community for both 4+ ANC visits and health facility delivery. In both cases, relatively poor households have a higher probability of the outcome than relatively rich households compared to their community.

Figure 35 Predicted probabilities of MRH indicators by household wealth quintile, Indonesia 2017



Child health

Figure 36 shows the levels of each child health indicator in rural Indonesia by household wealth quintile. There are general increases in DPT3 vaccination and fever care-seeking with increasing wealth. For ARI and diarrhea care-seeking, the poorest quintile has the lowest level, although the levels of each variable fluctuate across the remaining four quintiles. Rates of EBF decrease with increasing wealth.

Figure 36 Levels of child health indicators, by household wealth quintile, Indonesia 2017

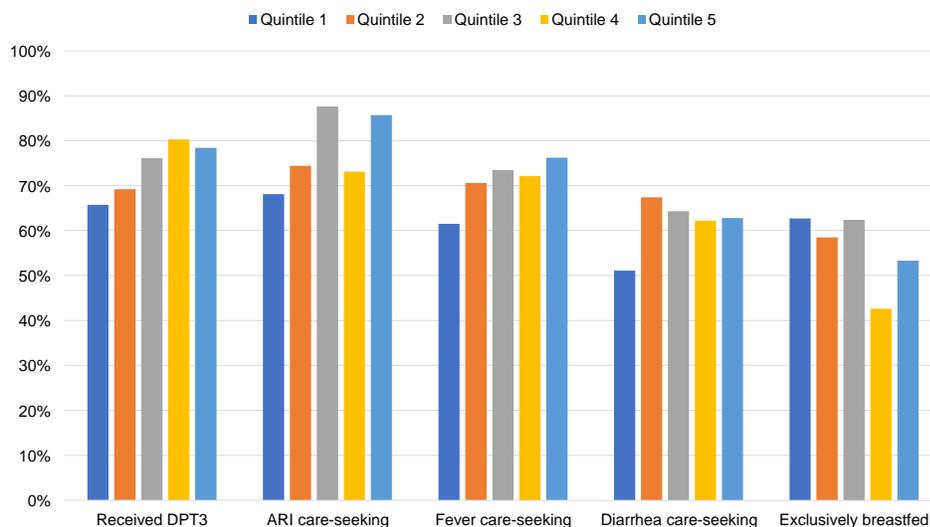
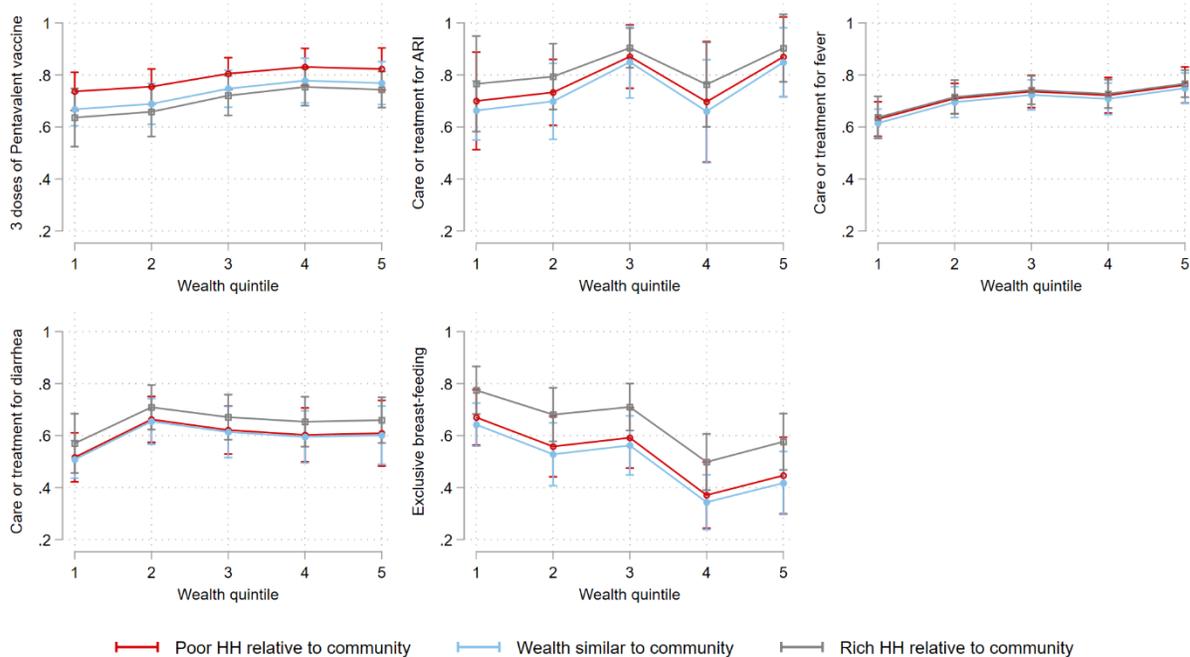


Figure 37 shows the predicted probabilities of each child health outcome for each category of relative community wealth, by household wealth quintile. Statistically significant differences are seen in the predicted probability of DPT3 vaccination, across all household wealth quintiles, with ranges from 13% in quintile 1 to 9% in quintile 5. Households that are poor relative to the community have a higher probability of DPT3 vaccination compared to households that are rich relative to the community.

There is also a programmatically important but not statistically significant difference in the predicted probability of EBF. However, households that are poor relative to the community have a lower probability of EBF when compared to households that are rich relative to the community.

Figure 37 Predicted probabilities of child health indicators by household wealth quintile, Indonesia 2017

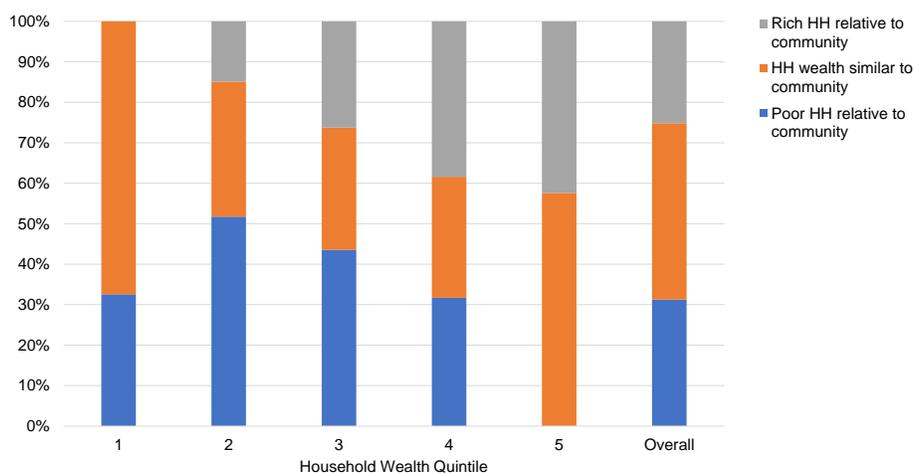


5.5 Kenya

5.5.1 Household wealth relative to average community wealth

Figure 38 presents the distribution of the relative community wealth variable by wealth quintile and overall for the rural population of Kenya. Overall, 44% of rural households in Kenya live in communities of average wealth similar to their own. In the overall results, we have categorized Kenya as being relatively homogeneous. However, among the homogeneous countries, Kenya is the least homogeneous by our chosen measure. The relative overall homogeneity is driven primarily by the poorest and richest quintiles. Counterbalancing the homogeneity of the first and second quintile, the second, third, and fourth quintiles are relatively heterogeneous, with 52% of the households in the second quintile poor relative to the community, and fewer than one-third of households in the third and fourth quintile in communities with average wealth similar to their own.

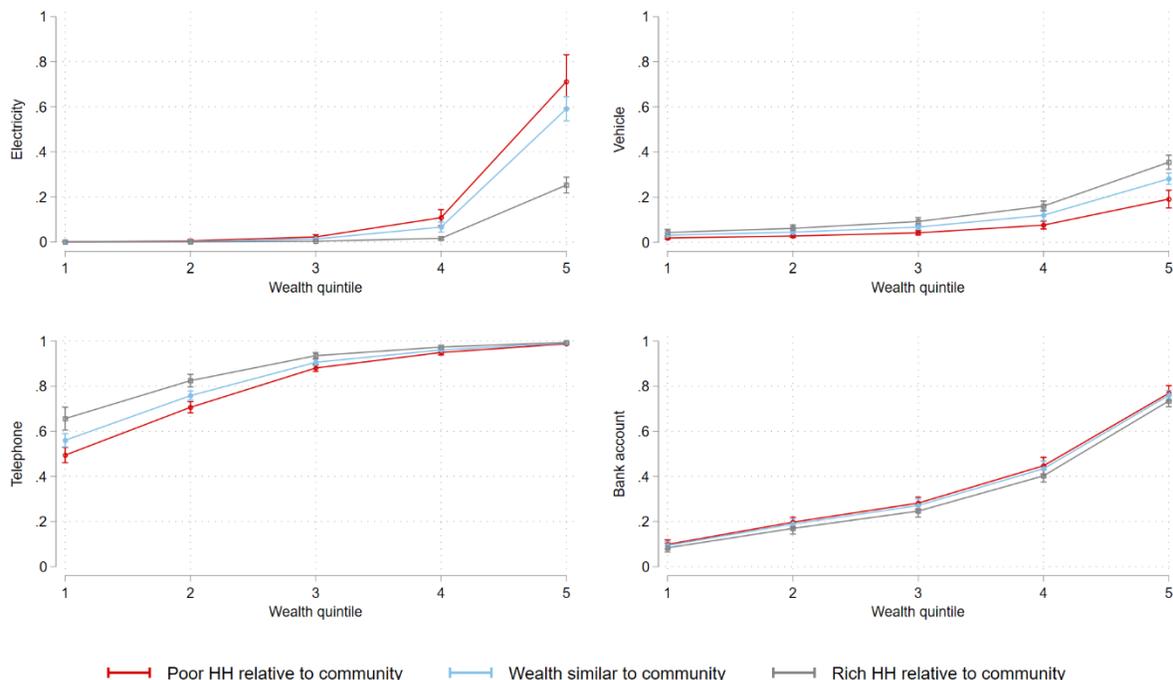
Figure 38 Distribution of household wealth relative to community average, Kenya 2014



5.5.2 Asset ownership and household wealth relative to average community wealth

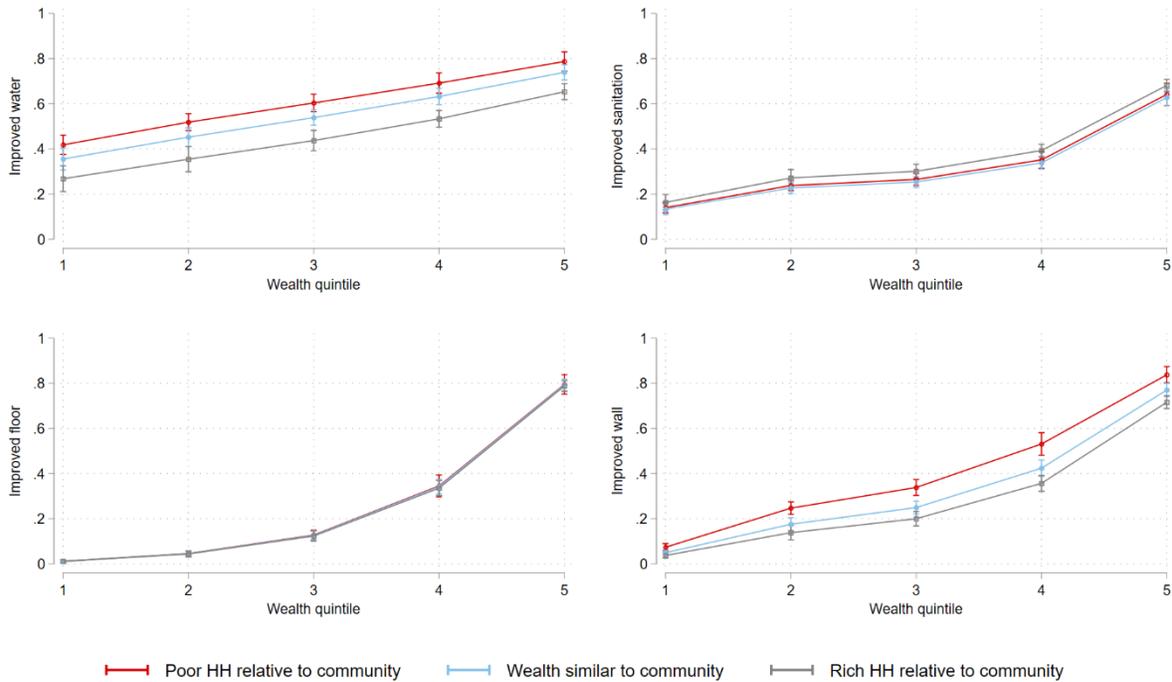
Access to electricity, ownership of a vehicle, and having a bank account are very low among the poorer households. At higher levels of household wealth, households that are poor relative to the community are more likely to have access to electricity than households that are wealthy relative to the community. This is reversed for vehicle ownership. Ownership of telephones is nearly universal for the wealthiest rural quintiles, but among the poorer quintiles, a household living in a community poor relative to its own wealth is more likely to own a telephone.

Figure 39 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Kenya 2014



Across all household wealth quintiles, households that are poor relative to the community have a higher probability of having improved water. This pattern is repeated for improved walls, except in the poorest household wealth quintile where the ownership of improved walls is almost zero.

Figure 40 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Kenya 2014



5.5.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 41 shows the levels of three MRH indicators, by household wealth quintile, for rural Kenya. Levels of 4+ ANC visits are low overall, although they increase from 43% in the poorest quintile to 64% in the richest quintile. Health facility delivery has a larger increase, starting at 28% for women in the poorest quintile and increasing to 82% in the richest quintile. Modern contraceptive prevalence is just 21% for married women in the poorest quintile, but this increases in the subsequent quintiles.

Figure 41 Levels of MRH indicators, by household wealth quintile, Kenya 2014

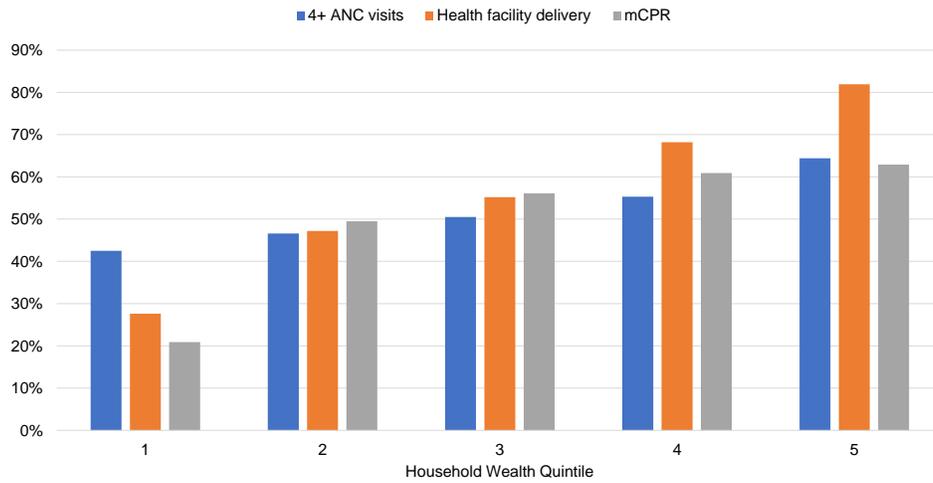
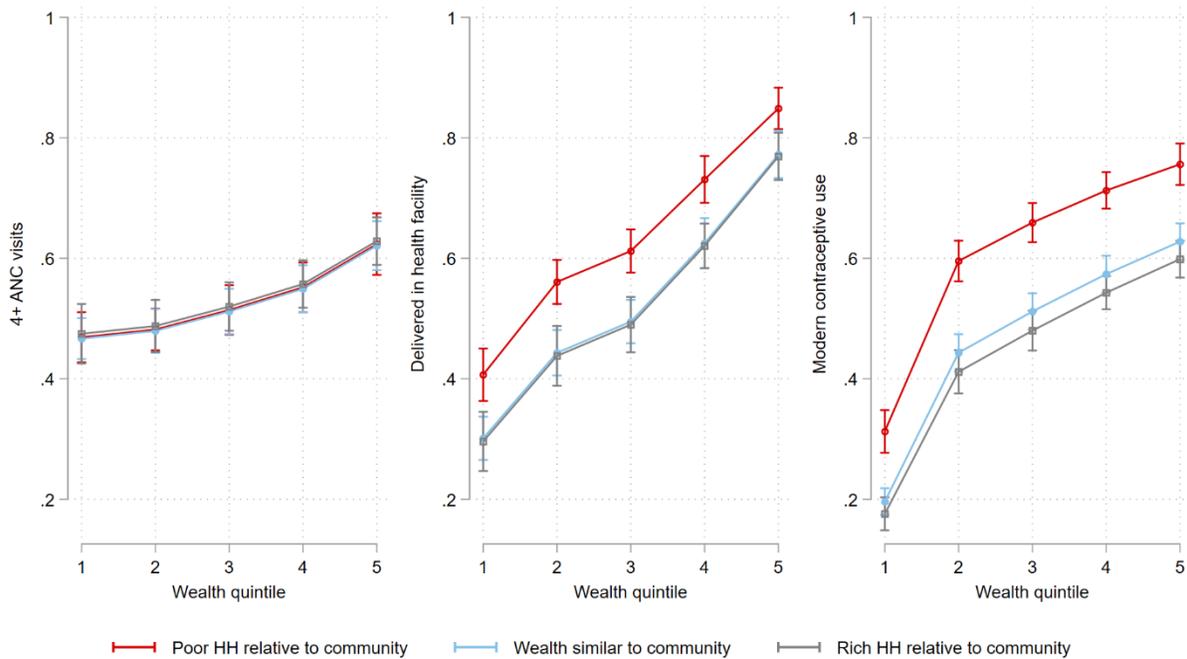


Figure 42 provides the predicted probabilities of the maternal health outcomes. There are significant and programmatically important differences in the predicted probabilities of health facility delivery and modern contraceptive use. For health facility delivery, women in households that are poor relative to the community wealth are more likely to deliver in health facilities when compared to women in households that are rich relative to the community wealth, over all household wealth quintiles. The same pattern holds for modern contraceptive use. In both cases the largest differences are seen in quintiles 2 and 3 (14% difference in health facility delivery and an 18% difference in modern contraceptive use).

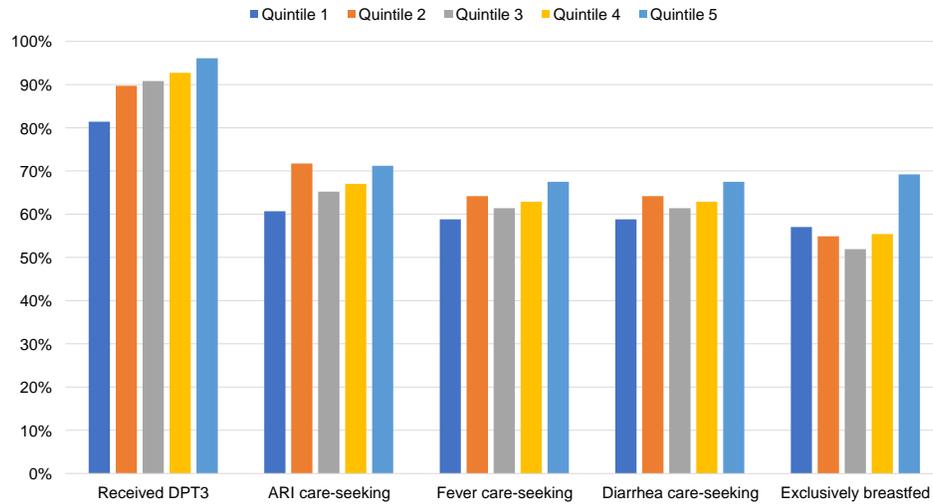
Figure 42 Predicted probabilities of MRH indicators by household wealth quintile, Kenya 2014



Child health

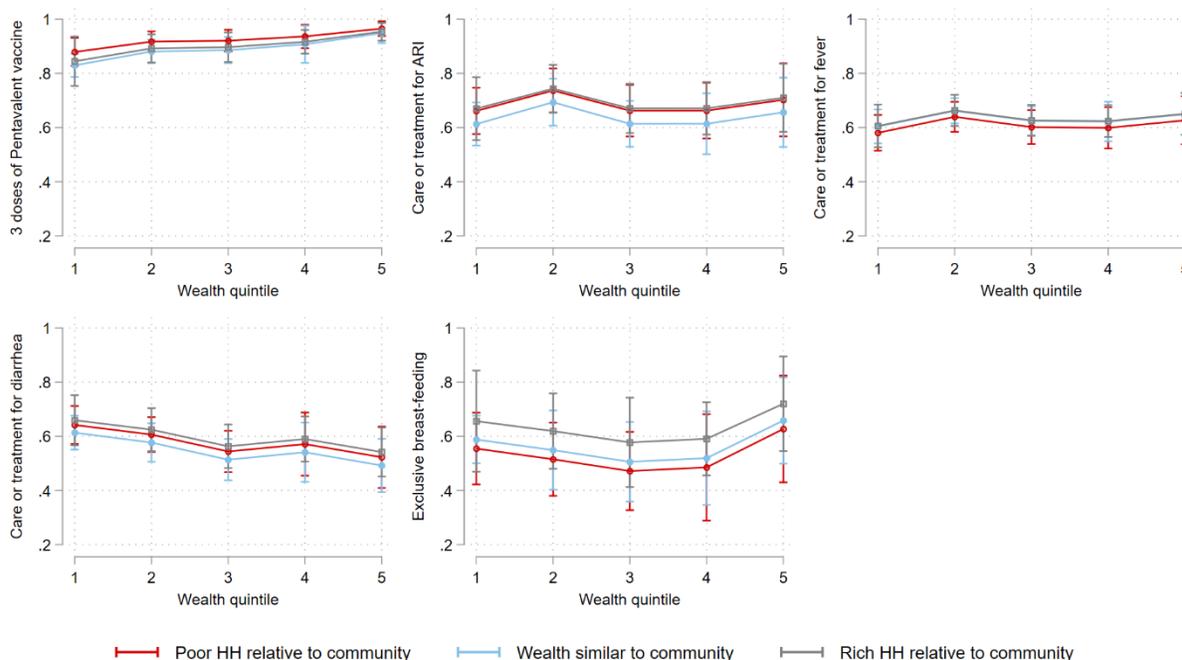
Figure 43 depicts the levels of five child health indicators by household wealth quintile for the rural population in Kenya. DPT3 vaccination has a clear increasing trend with increasing wealth. All three care-seeking indicators were lowest for the poorest quintile and highest for the richest quintile, but fluctuated for the middle three quintiles. Exclusive breastfeeding remained around 55% for the poorest four quintiles but increased to nearly 70% for the richest quintile.

Figure 43 Levels of child health indicators, by household wealth quintile, Kenya 2014



There are no statistically significant differences in the predicted probability of any child health indicator presented in Figure 44. However, there is a programmatically important difference in EBF, where women in rich households relative to the community have an approximately 10% higher predicted probability of EBF when compared to women in poor households relative to the community.

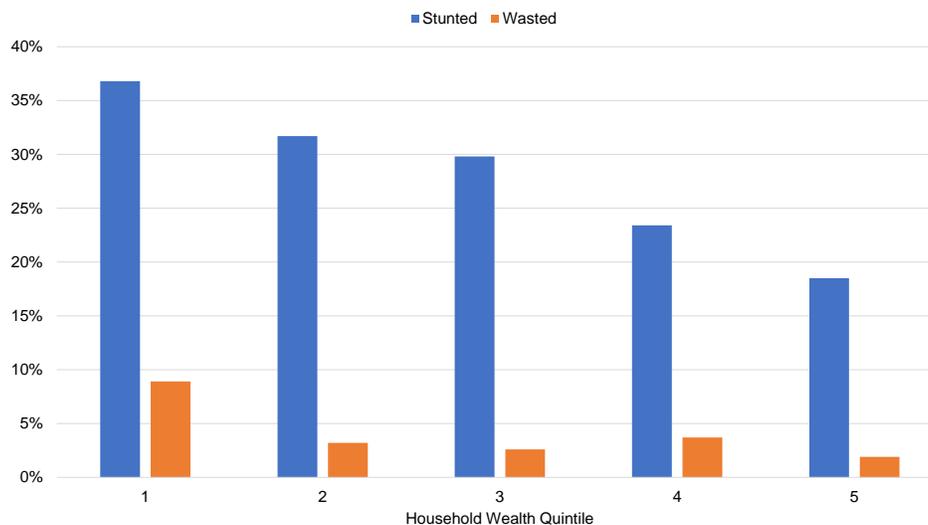
Figure 44 Predicted probabilities of child health indicators by household wealth quintile, Kenya 2014



Child nutrition

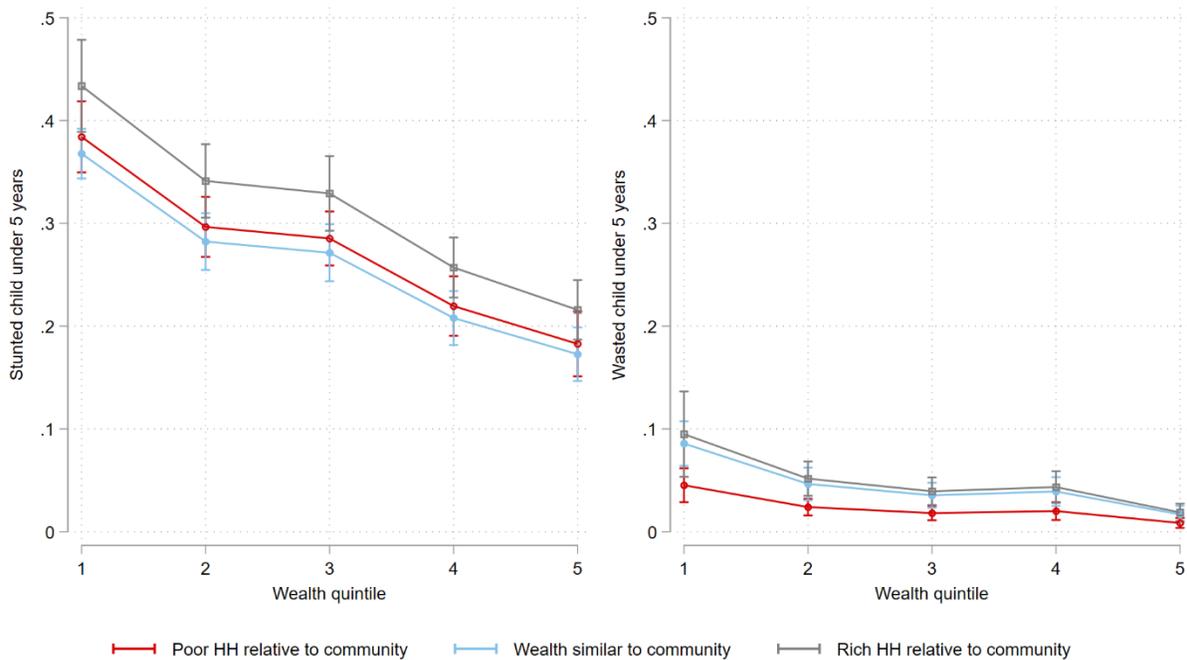
Figure 45 presents selected child nutrition indicators by household wealth quintile for rural Kenya. Both stunting and wasting decrease with increasing wealth, although stunting is much more common, found in 27% compared with 9% wasting in children under age 5 in the poorest quintile, and 19% stunting compared with 2% wasting in children under age 5 in the richest quintile.

Figure 45 Levels of child nutrition indicators, by household wealth quintile, Kenya 2014



The predicted probabilities of both stunting and wasting differed significantly by relative community wealth status. Over all five wealth quintiles, stunting had a higher predicted probability in children from rich households compared to the community when compared to either of the other categories. This difference ranged from 6% in the poorest quintile when compared to households of similar wealth to the community, to 3% in the richest quintile when compared to poor households relative to the community. Children in the poorest wealth quintile from rich households relative to the community had a 3% higher probability of wasting compared to children in the poorest wealth quintile from poor households relative to the community. This difference decreased over the wealth quintiles but remained significant. It is important to note that these differences, while statistically significant, do not meet the 10% threshold for programmatically important differences.

Figure 46 Predicted probabilities of child nutrition indicators by household wealth quintile, Kenya 2014

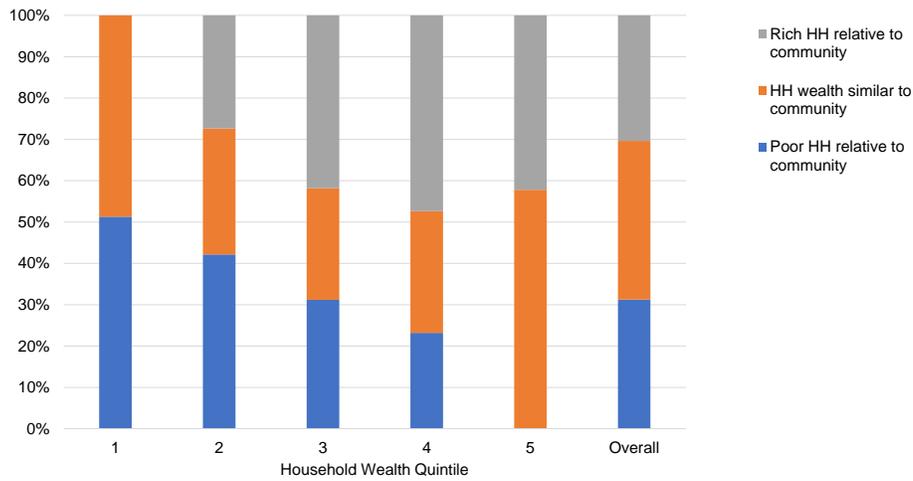


5.6 Liberia

5.6.1 Household wealth relative to average community wealth

Figure 47 presents the distribution of relative community wealth overall and by household wealth quintile in rural Liberia. Less than 40% of households live in communities with an average wealth status similar to their own. We classify Liberia as being relatively heterogeneous. Half of households in the poorest quintile live in a community that is wealthy relative to its own wealth status. In the second, third, and fourth quintiles, fewer than one-third of the households live in a community of similar wealth status.

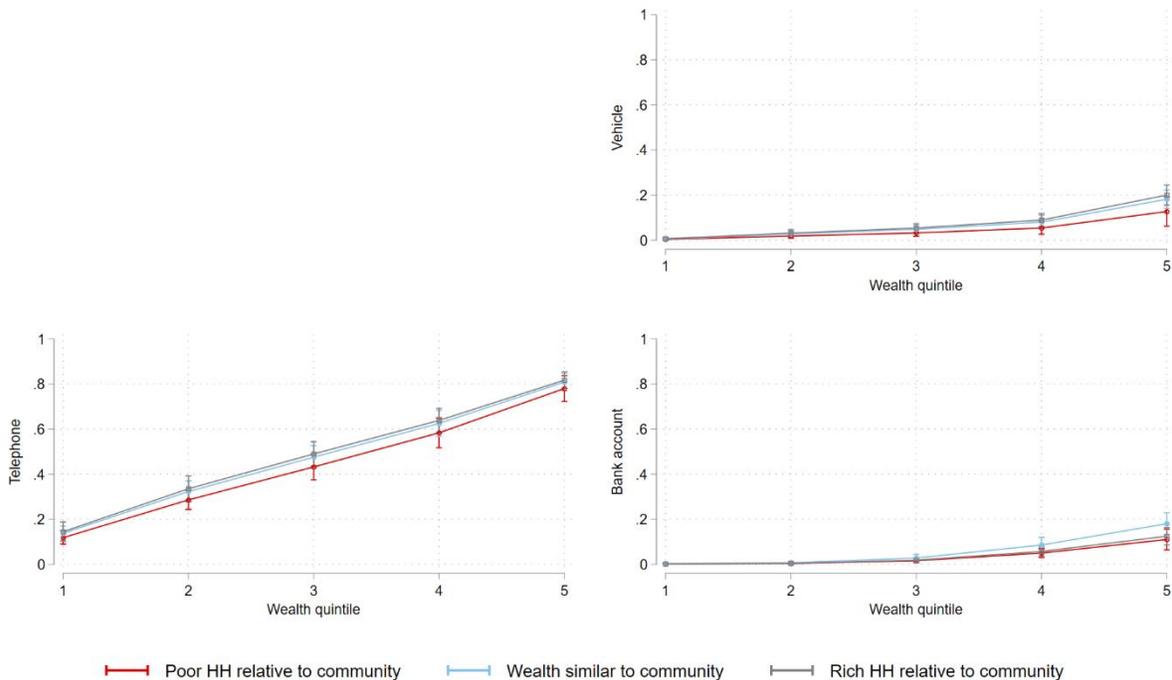
Figure 47 Distribution of household wealth relative to community average, Liberia 2013



5.6.2 Asset ownership and household wealth relative to average community wealth

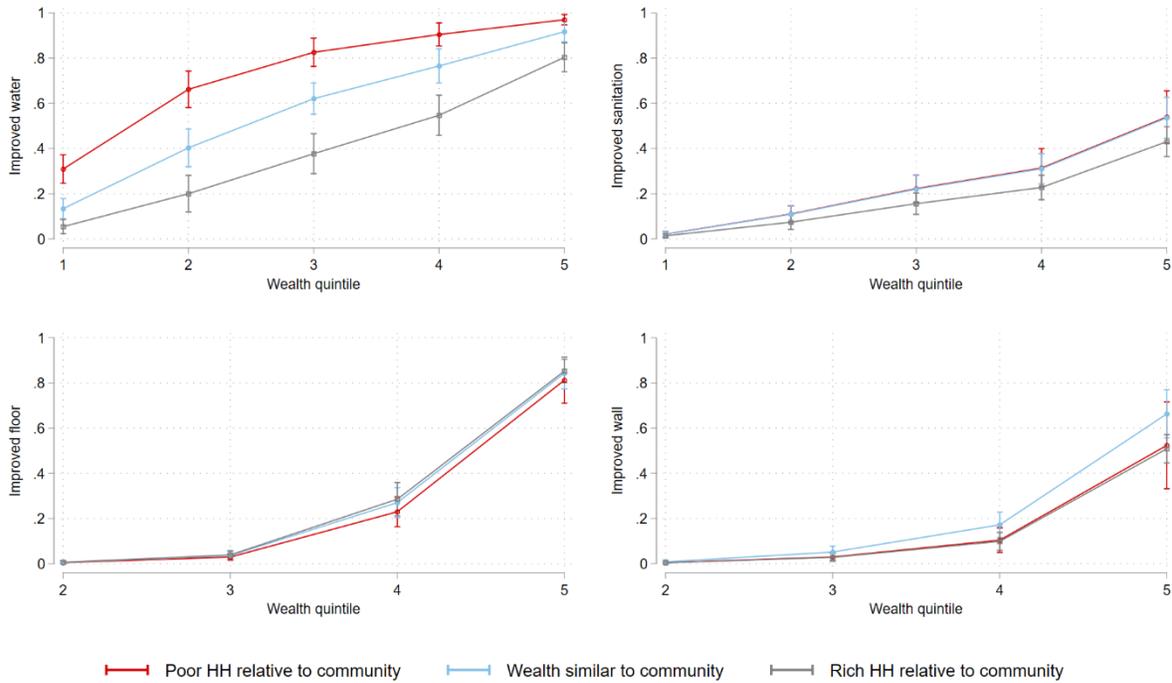
Access to electricity in rural Liberia was nearly zero in 2013, which made regression analysis impossible. Ownership of vehicles and bank accounts was also low, but analysis was possible. None of the differences across the relative wealth statuses exceeds 0.10 in the graphs of Figure 48.

Figure 48 Predicted probabilities of asset ownership (vehicle, telephone, and bank account) by household wealth quintile, Liberia 2013



Across all household wealth statuses, being poor relative to community in all wealth quintiles boosts the probability of having an improved water source. Improved sanitation, improved flooring, and improved walls (except in quintile 5) are not strongly related to a household's wealth relative to the community.

Figure 49 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Liberia 2013



5.6.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 50 shows that for all three maternal and reproductive health indicators, the indicator increases with increasing wealth. Most women across all five wealth quintiles attend 4+ ANC visits, while only 60% of women in the richest wealth quintile deliver at a health facility. Modern contraceptive use is low overall, with use by only 12% of married women in the poorest quintile and 22% of women in the richest quintile.

Figure 50 Levels of MRH indicators, by household wealth quintile, Liberia 2013

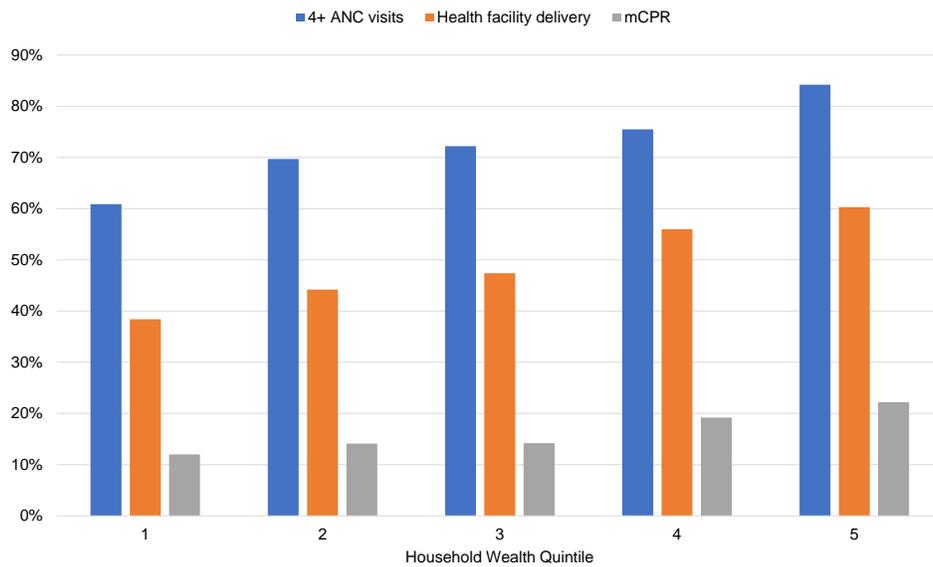
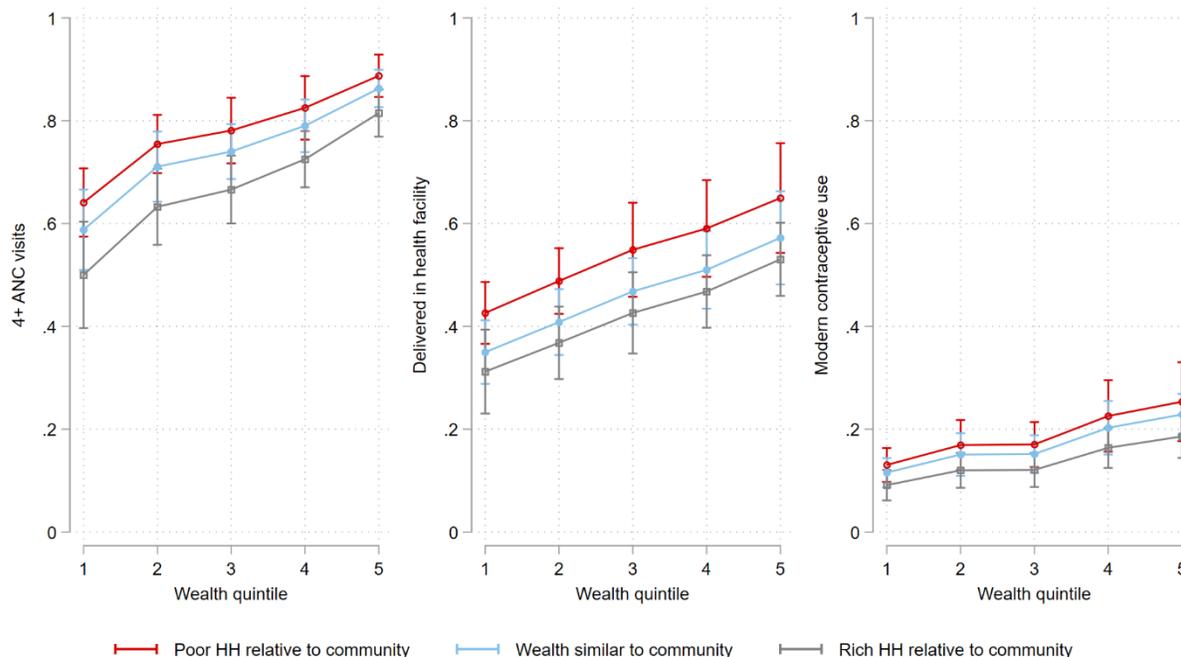


Figure 51 provides the predicted probabilities of the three MRH indicators for each category of relative community wealth by household wealth quintile. There are consistent statistically significant differences in all three indicators over all household wealth quintiles. In each case, women from poor households relative to the community have higher predicted probability of MRH when compared with women from rich households relative to the community. There are, however, slightly different patterns in these differences. The differences in the probability of 4+ ANC visits is largest for the poorest women (15%) and decreases with increasing wealth, where the difference is 7% for the richest women. Health facility delivery is consistently 12%-13% higher for women from poor households relative to the community compared with women from rich households relative to the community. Finally, the difference in predicted probability of modern contraceptive use is smallest for the poorest women (4%) and largest for the richest women (8%).

Figure 51 Predicted probabilities of MRH indicators by household wealth quintile, Liberia 2013



Child health

Figure 52 shows the levels of the five child health indicators of interest. The DPT3 and diarrhea care-seeking indicators increase consistently with increasing wealth. The ARI care-seeking is very low, at less than 40% for the poorest wealth quintile, and then varies between 50%-60% for the subsequent quintiles. Fever care-seeking and EBF increase, although not consistently, with increasing wealth.

Figure 52 Levels of child health indicators, by household wealth quintile, Liberia 2013

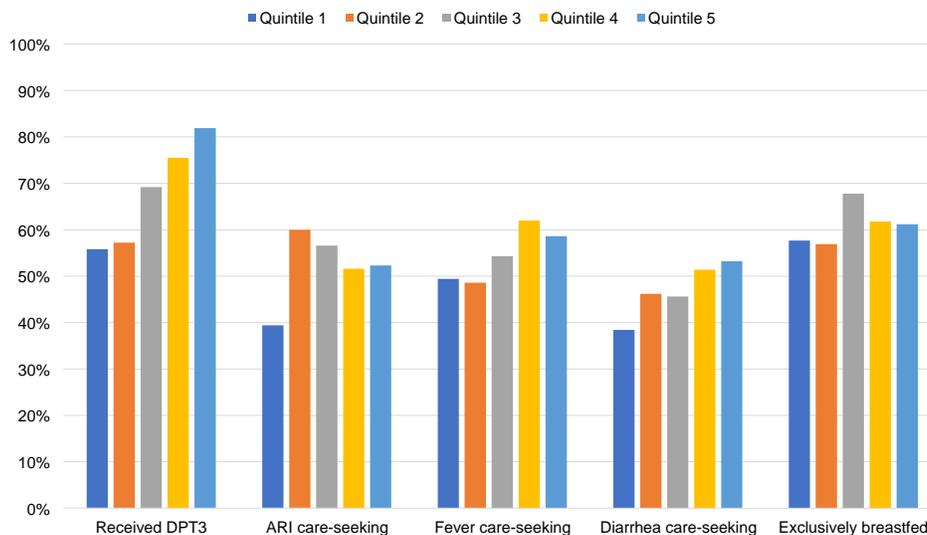
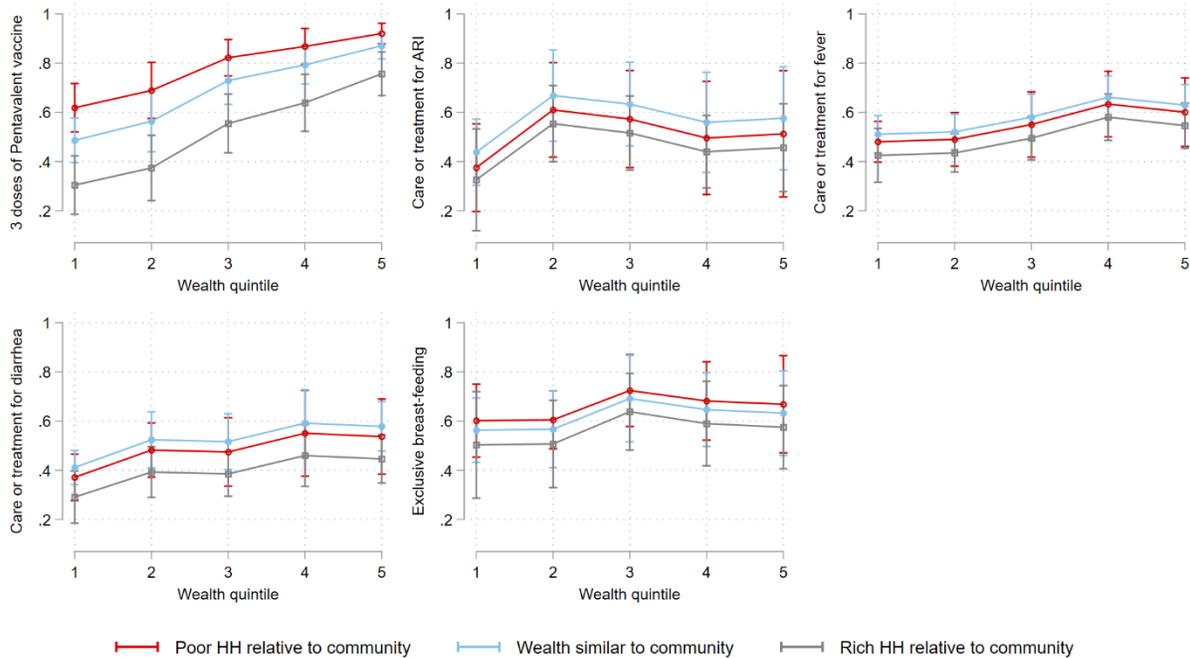


Figure 53 shows the predicted probabilities of the five child health indicators. Statistically significant and programmatically important differences are evident in DPT3 vaccination rates, where children from poor households relative to the community have higher predicted probability of DPT3 vaccination when compared with children from rich households relative to the community. While not statistically significant, differences in the probability of EBF are also programmatically important.

Figure 53 Predicted probabilities of child health indicators by household wealth quintile, Liberia 2013



Child nutrition

Figure 54 shows the levels of stunting and wasting in children under age 5 by wealth quintile. Levels of both indicators are consistent over the first four wealth quintiles, at around 35% for stunting and 6% for wasting, and decreasing in the richest quintile to 28% for stunting and 5% for wasting.

Figure 54 Levels of child nutrition indicators, by household wealth quintile, Liberia 2013

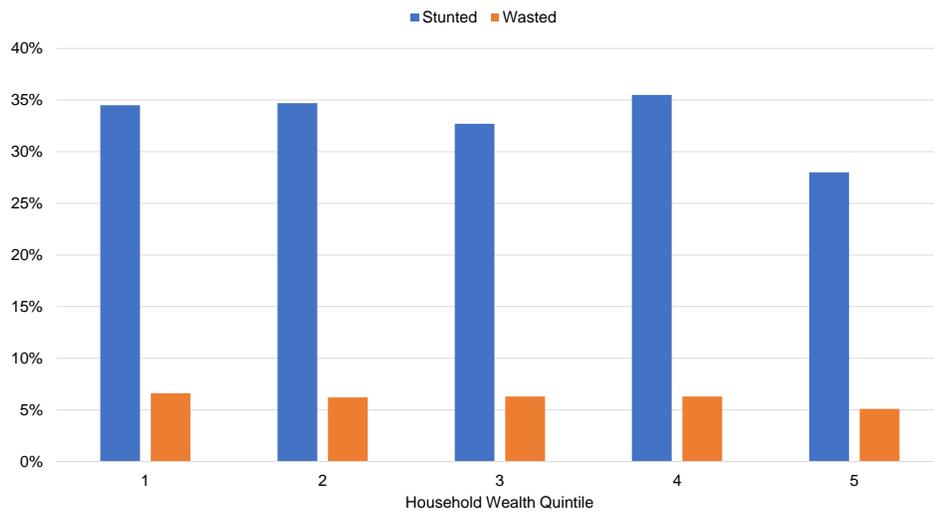
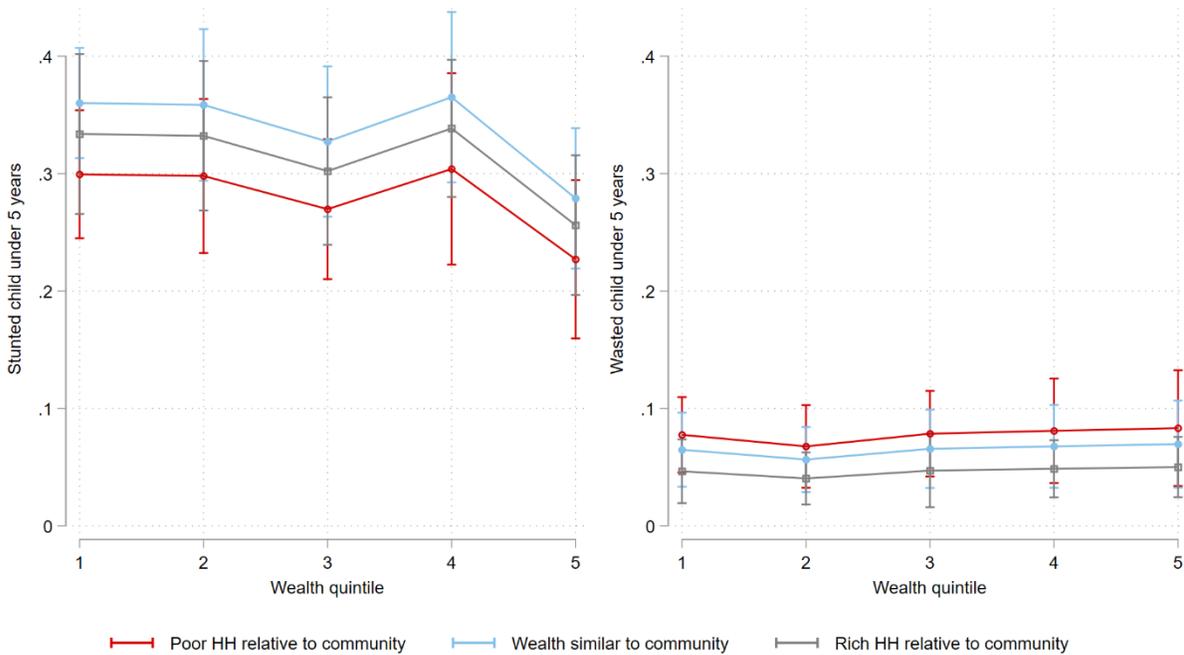


Figure 55 presents the predicted probabilities of stunting and wasting for each category of relative community wealth. None of the differences in the graphs are programmatically important or statistically significant.

Figure 55 Predicted probabilities of child nutrition indicators by household wealth quintile, Liberia 2013

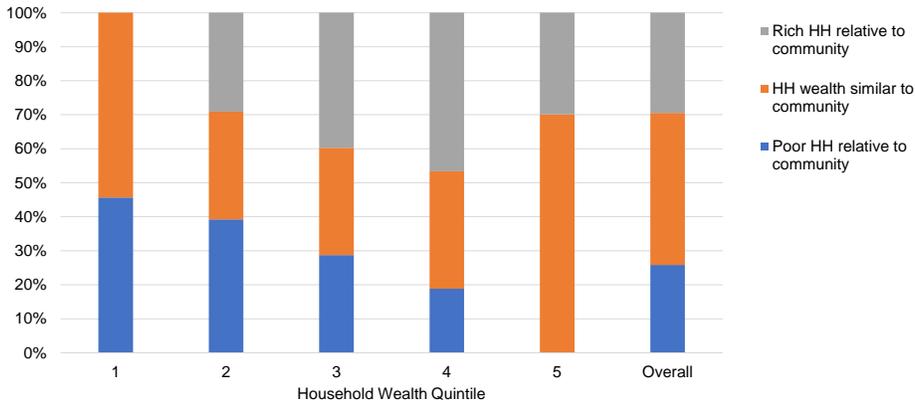


5.7 Mali

5.7.1 Household wealth relative to average community wealth

Figure 56 presents the relative community wealth of rural households in Mali by household wealth quintiles and overall. Nearly half (45%) of Mali’s rural households live in communities of similar average wealth to their own. We categorized Mali as being relatively homogeneous. This is driven to a large extent by the richest quintile, where 70% of the wealthiest households are also in the wealthiest of the rural communities. In contrast are households in the second and third wealth quintiles where fewer than one-third of the households are in communities of similar wealth status.

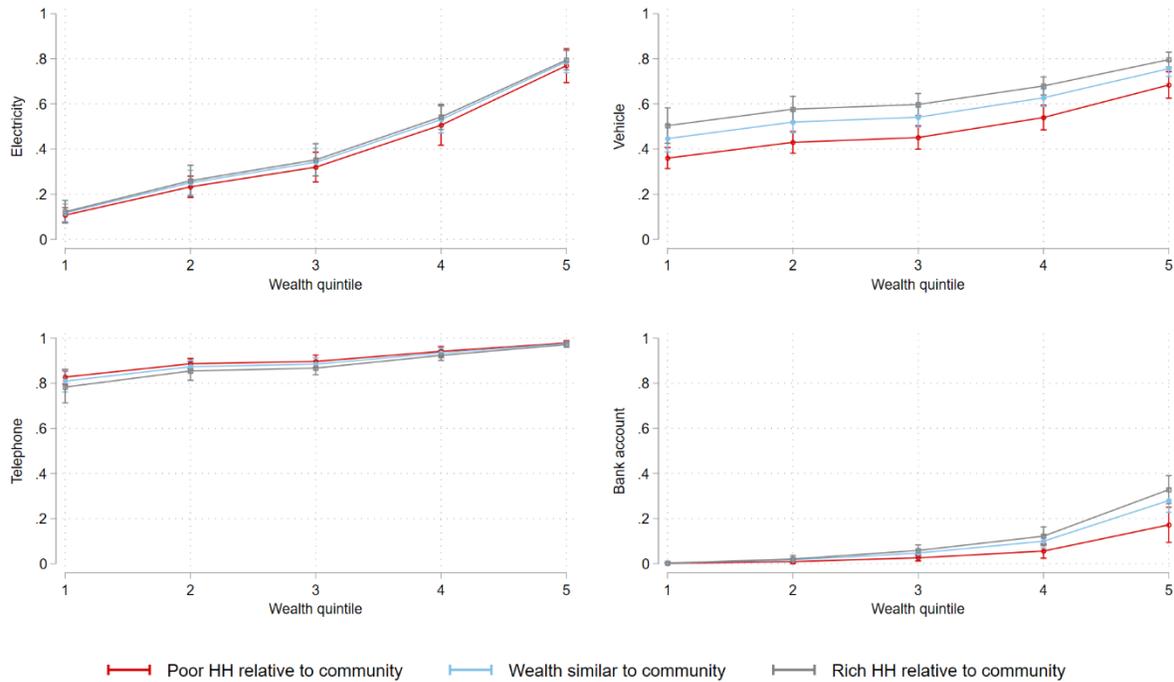
Figure 56 Distribution of household wealth relative to community average, Mali 2018



5.7.2 Asset ownership and household wealth relative to average community wealth

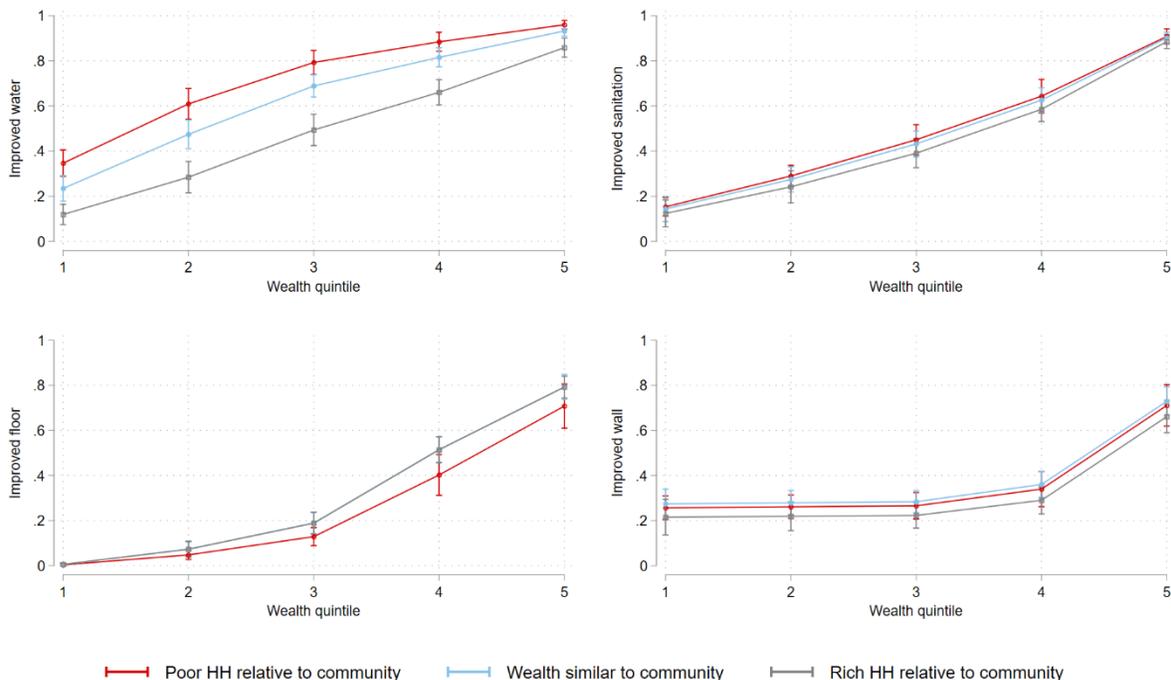
Across all household wealth quintiles, households that are wealthy relative to their community are more likely to own a vehicle. Having a bank account is rare for rural Malians, although households in the wealthiest quintile that are wealthy relative to their community are more likely to have a bank account than households with similar wealth that are poor relative to their community.

Figure 57 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Mali 2018



Across all household wealth quintiles, households that are poor relative to the community are more likely to have an improved water source than households that are wealthy relative to the community. Rural Malians in the wealthiest quintile who are wealthy relative to their communities are more likely to have improved flooring than those in households that are poor relative to their communities.

Figure 58 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Mali 2018



5.7.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 59 shows the levels of three MRH indicators by household wealth quintile in Mali. For each indicator, the level increases with increasing household wealth. However, the size of the increase across the quintiles varies. The proportion of women attending 4+ ANC visits more than doubles from 25% in the poorest quintile to 56% in the richest quintile. Health facility delivery is more common across all wealth quintiles and increases from 47% in the poorest to 88% in the richest quintile. Modern contraceptive use is low overall, plateaus at 11-12% in the first three quintiles, and then increases to 21% in the richest quintile.

Figure 59 Levels of MRH indicators, by household wealth quintile, Mali 2018

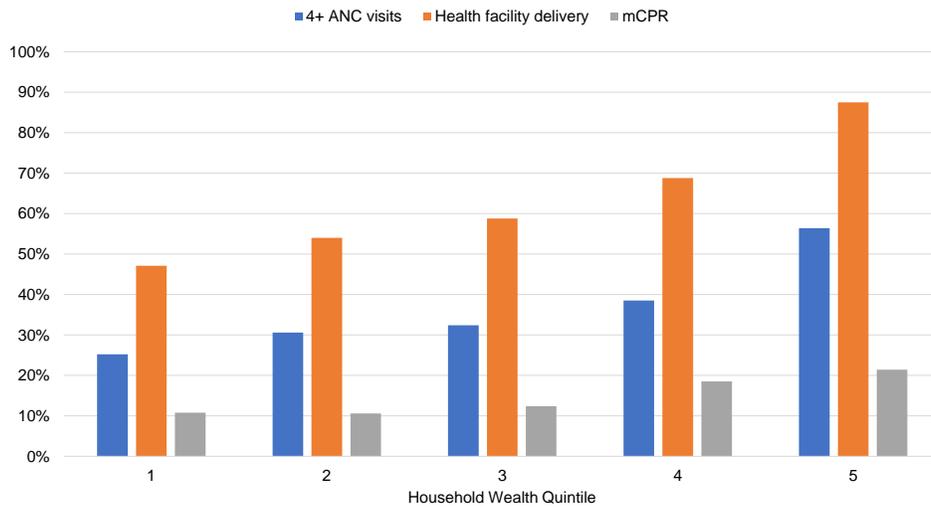
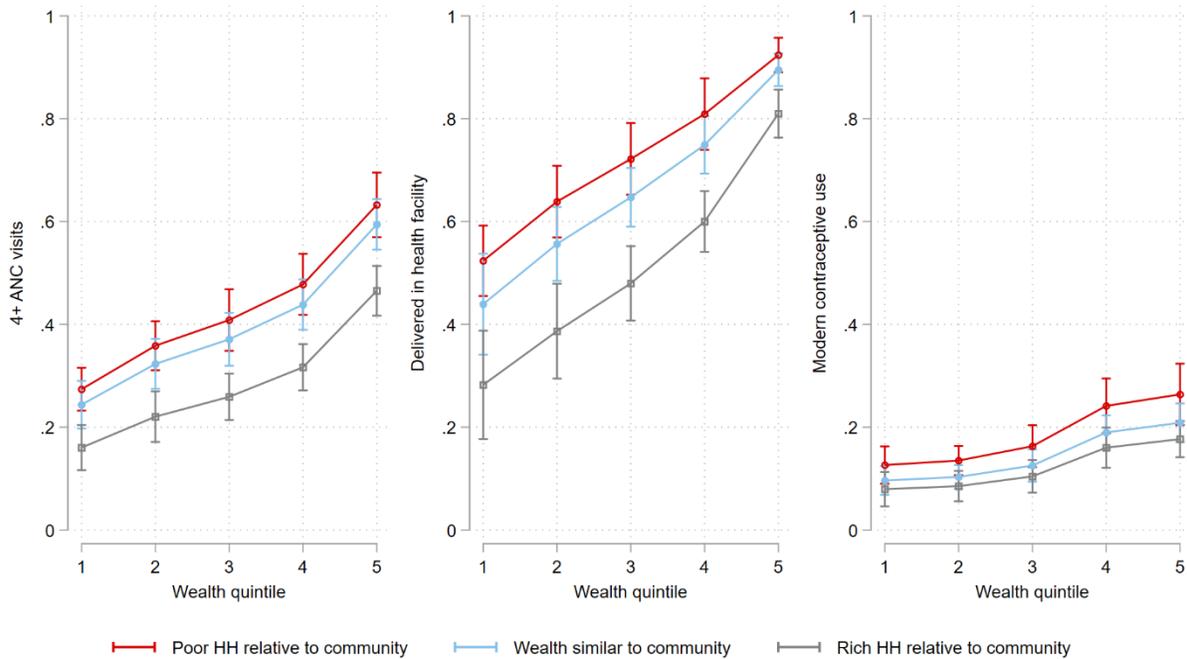


Figure 60 presents the predicted probabilities of the MRH outcomes. For each indicator, there are statistically significant differences in predicted probability by relative community wealth. Poor households relative to the community have higher probability of 4+ ANC visits compared to households that are rich relative to the community, and this difference increases from 11% in the poorest quintile to 16% in the richest quintile. With health facility delivery, in the first four household wealth quintiles, households that are poor relative to the community have a 20% higher probability of health facility delivery compared to households that are rich relative to the community. For modern contraceptive use, the difference in probabilities is lower, between 5% in the lowest two quintiles and 9% in the highest quintile, but is statistically significant.

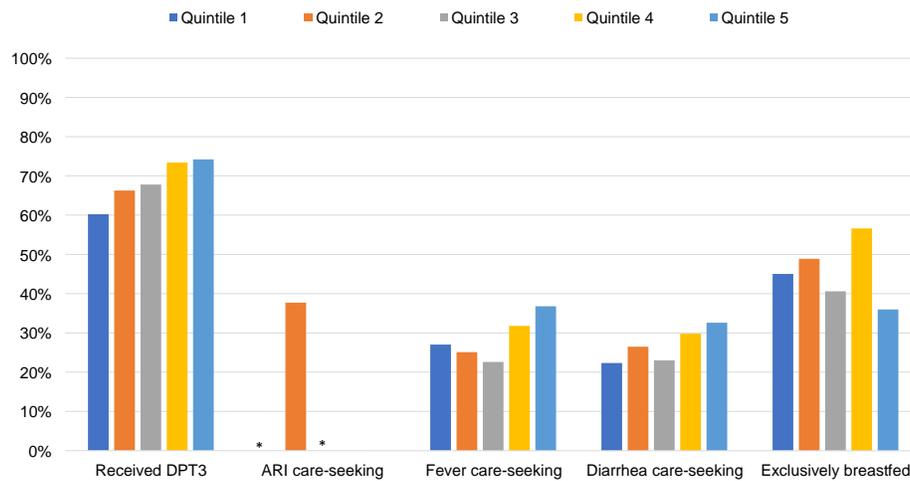
Figure 60 Predicted probabilities of MRH indicators by household wealth quintile, Mali 2018



Child health

Figure 61 presents the levels of child health indicators by household wealth quintile in the rural population of Mali. The DPT3 vaccination rates increase consistently as household wealth increases. Fever and diarrhea care-seeking increase between the poorest and richest wealth quintiles, although the levels fluctuate in the middle three quintiles. Since there were fewer than 25 unweighted cases of ARI in four of the five household wealth quintiles, the proportions were not calculated.

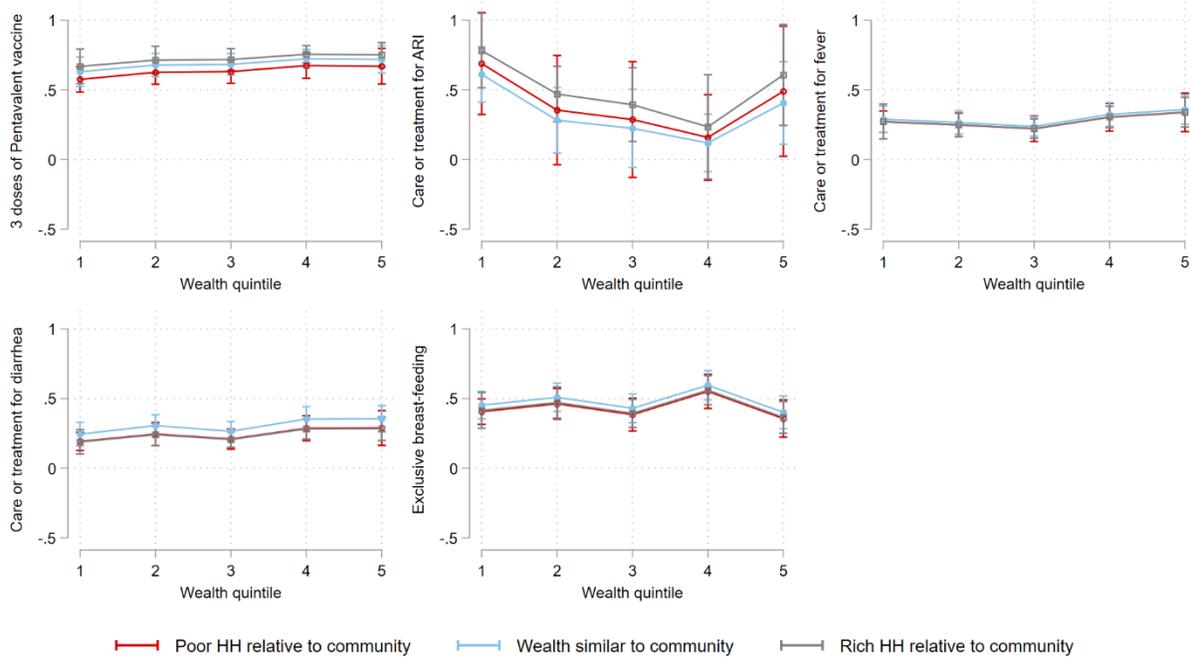
Figure 61 Levels of child health indicators, by household wealth quintile, Mali 2018



*For ARI care-seeking, quintiles 1, and 3-5 had fewer than 25 unweighted cases.

Figure 62 shows the predicted probabilities of child health indicators for different categories of relative community wealth. No statistically significant or programmatically important differences were identified for any of the child health indicators.

Figure 62 Predicted probabilities of child health indicators by household wealth quintile, Mali 2018



Child nutrition

Figure 63 shows the levels of child nutrition indicators by wealth quintile for children in rural households in Mali. Stunting remains at approximately 30% for the first four quintiles, dropping to 18% in the richest quintile, while wasting remains relatively consistent at approximately 10% for all quintiles.

Figure 63 Levels of child nutrition indicators, by household wealth quintile, Mali 2018

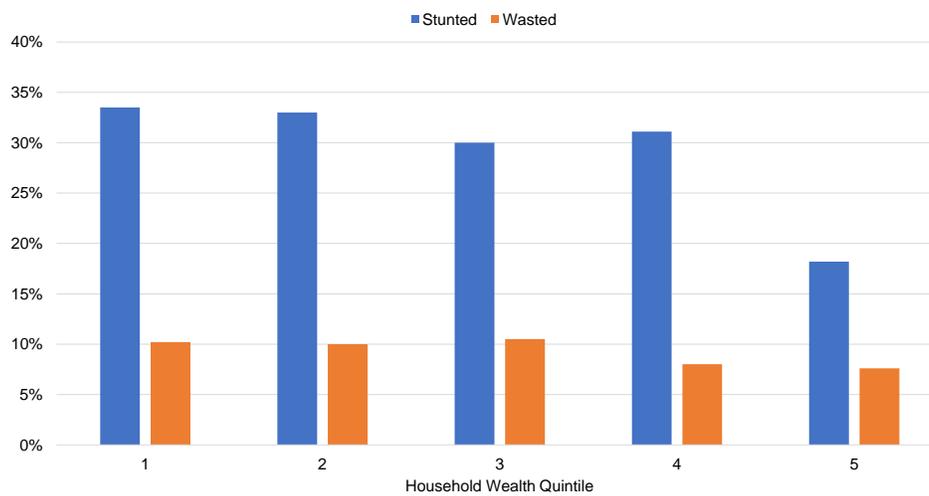
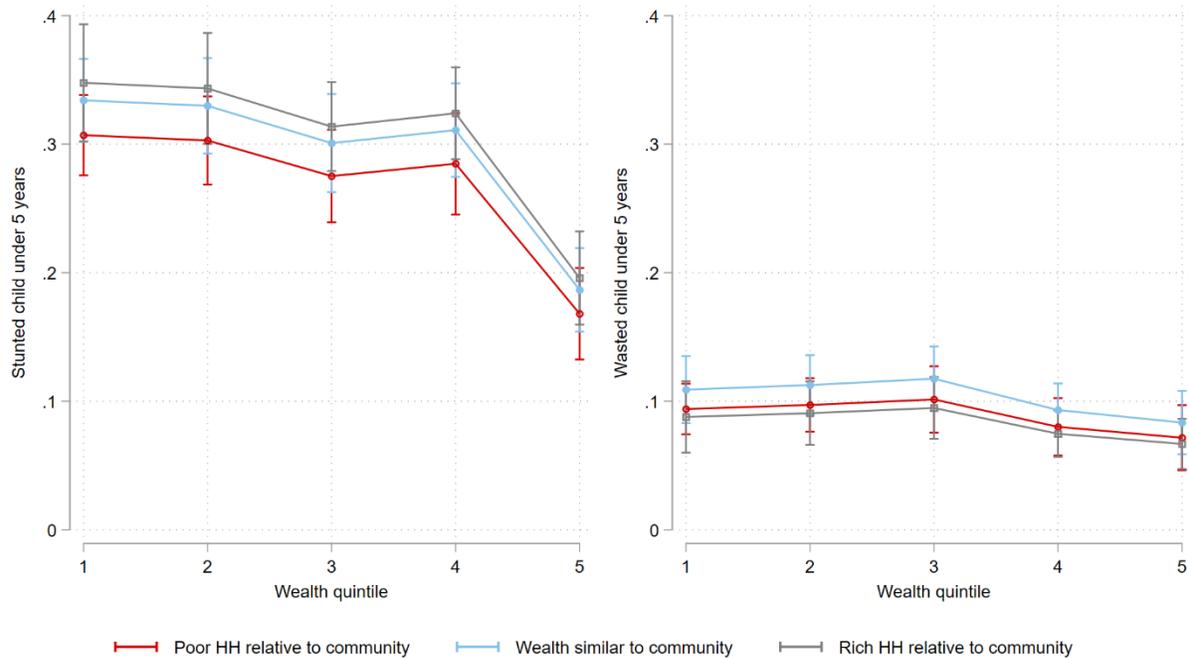


Figure 64 shows that there are statistically significant, while not programmatically important, differences in the predicted probability of stunting by relative community wealth. Over all household wealth quintiles, households that are poor relative to the community have 3%-4% lower probability of stunting than households that are rich relative to the community. There are no statistically significant or programmatically important differences in the predicted probability of wasting.

Figure 64 Predicted probabilities of child nutrition indicators by household wealth quintile, Mali 2018

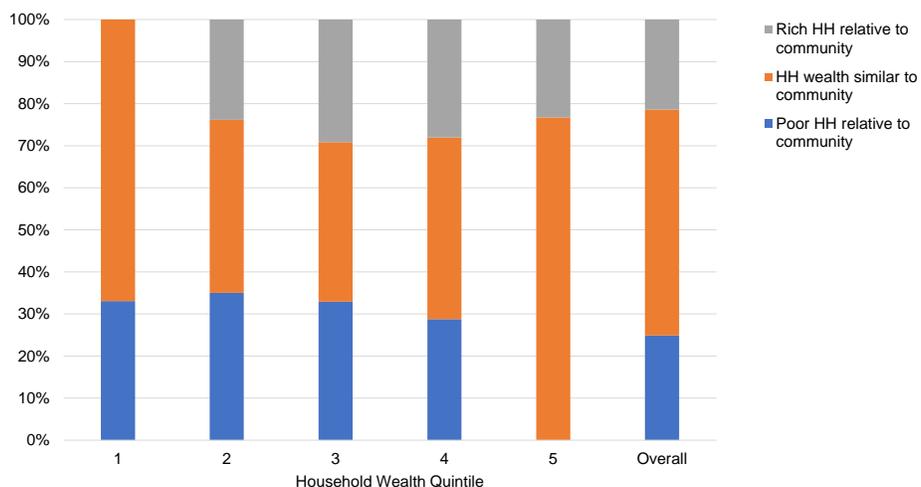


5.8 Nigeria

5.8.1 Household wealth relative to average community wealth

Figure 65 shows the relative community wealth of rural households in Nigeria by household wealth quintiles and overall. Over half (54%) of Nigeria's rural households live in communities of similar average wealth to their own. Nigeria was rated the most homogeneous by this standard. This large proportion is most striking in the richest quintile where 77% of households are also in the wealth quintile of communities. The homogeneity holds across all of the quintiles. The proportion of households that live in communities of similar wealth is 38% or greater in all quintiles.

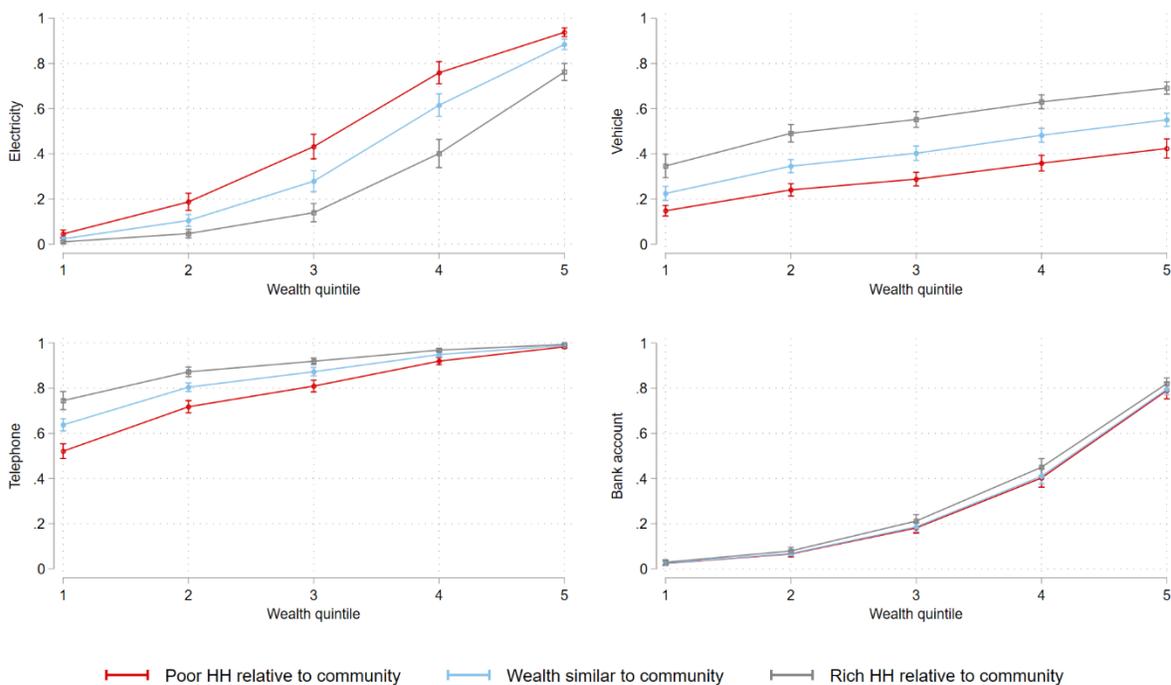
Figure 65 Distribution of household wealth relative to community average, Nigeria 2018



5.8.2 Asset ownership and household wealth relative to average community wealth

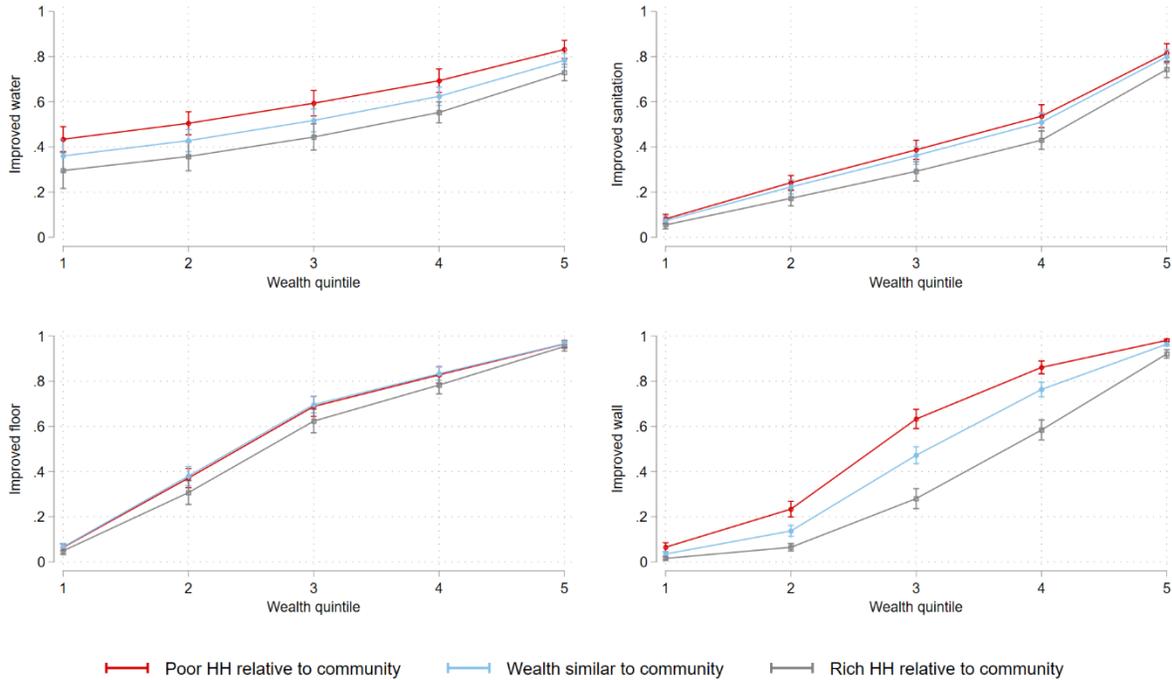
Households in household wealth quintiles 2, 3, 4 and 5 that are poor relative to their community are more likely to have electricity. Households across all quintiles that are wealthy relative to their community are more likely to own a vehicle. The same holds true for telephones among the poorer households. At higher levels of wealth, ownership of telephones is nearly universal.

Figure 66 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Nigeria 2018



Across all quintiles, households that are poor relative to their communities are more likely to have an improved water source. This same relationship holds for improved sanitation and improved walls, but only for quintile 4 and quintiles 2, 3, and 4, respectively.

Figure 67 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Nigeria 2018



5.8.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

In Figure 68, all three MRH indicators increase with increasing household wealth. As shown, 4+ ANC visits increases from 26% in the poorest quintile to 74% in the richest quintile, while health facility delivery increases from 8% in the poorest quintile to 60% in the richest. Modern contraceptive use is low overall, but also increases from 3% in the poorest quintile to 16% in the richest.

Figure 68 Levels of MRH indicators, by household wealth quintile, Nigeria 2018

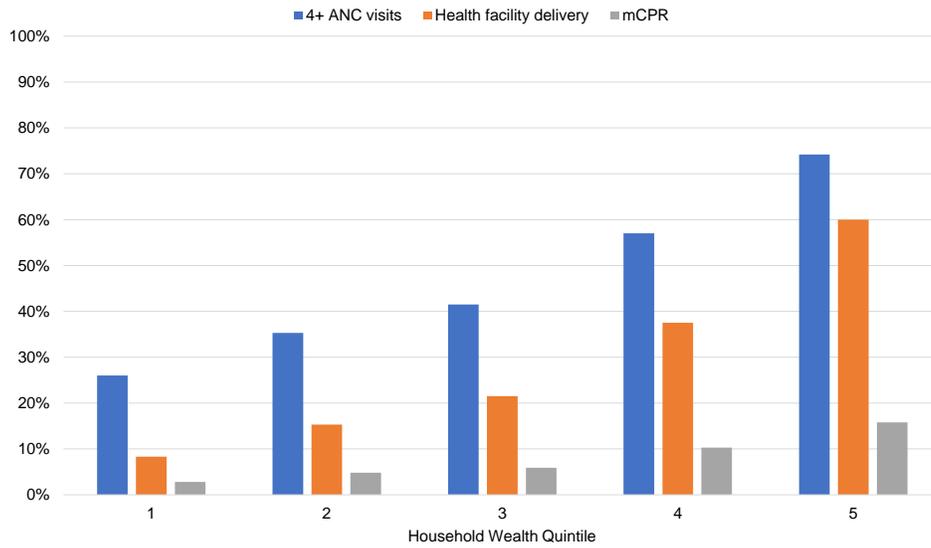
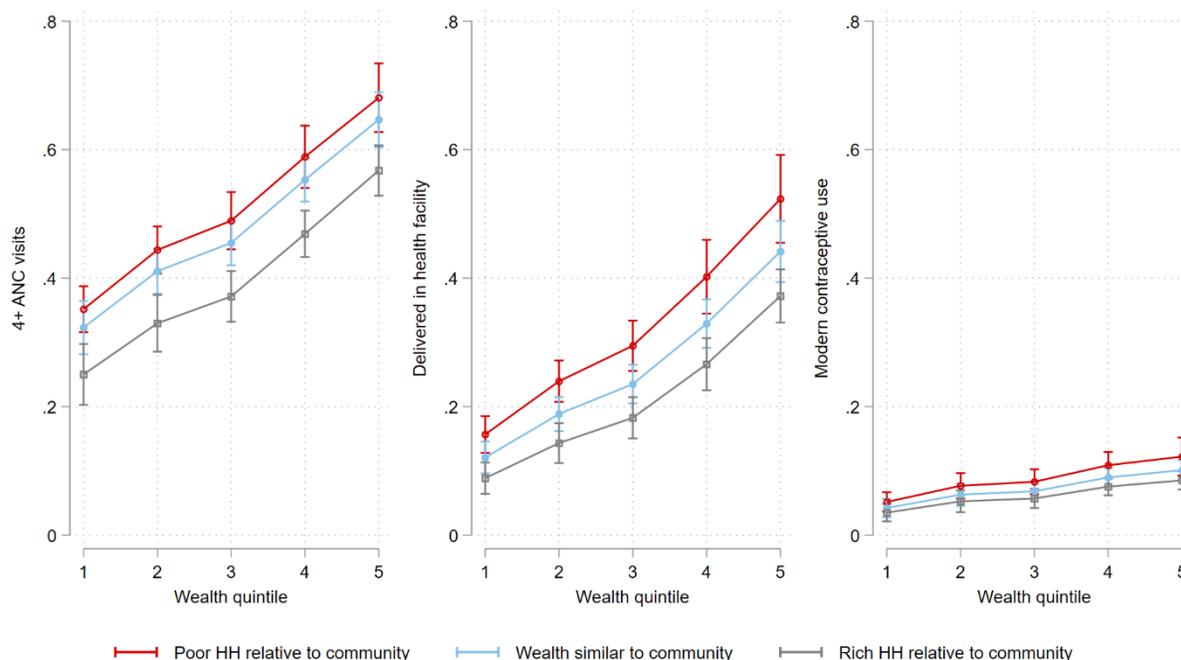


Figure 69 presents the predicted probabilities of the three MRH indicators by relative community wealth category. With 4+ ANC visits and health facility delivery, there are statistically significant differences in predicted probabilities across all five household wealth quintiles. The difference fluctuates between 8%-10% across the five quintiles for 4+ ANC visits, with households that are poor relative to the community having a higher probability compared to households that are rich relative to their community. Poor households relative to the community have a higher probability of health facility delivery compared to households that are rich relative to the community. This difference increases from 4% in the poorest quintile to 13% in the richest quintile.

Figure 69 Predicted probabilities of MRH indicators by household wealth quintile, Nigeria 2018



Child health

Figure 70 shows the levels of the five child health indicators of interest for children in rural households in Nigeria. The DPT3 vaccination and fever care-seeking indicators increase with increasing wealth. For ARI and diarrhea care-seeking, as well as EBF, the richest quintile consistently has higher levels than the poorest quintile, with fluctuations in the three middle three quintiles.

Figure 70 Levels of child health indicators, by household wealth quintile, Nigeria 2018

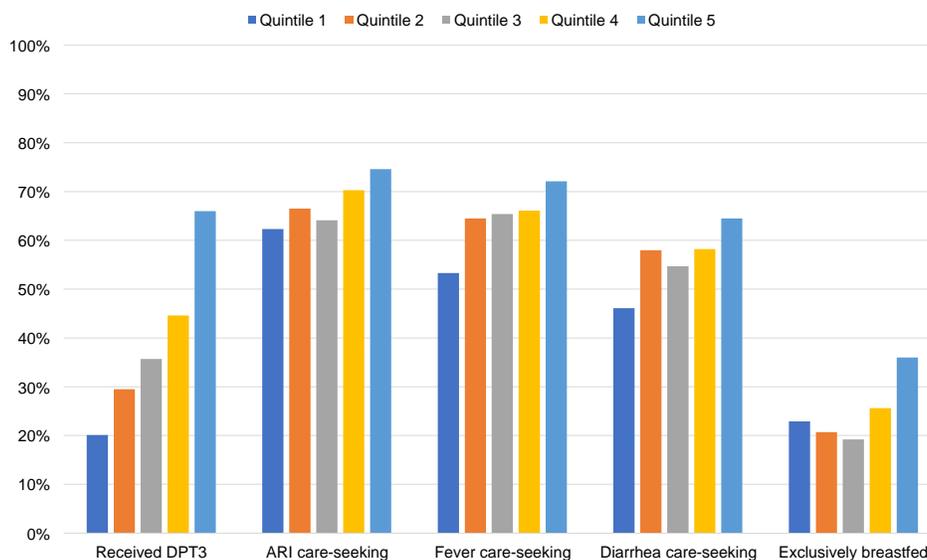
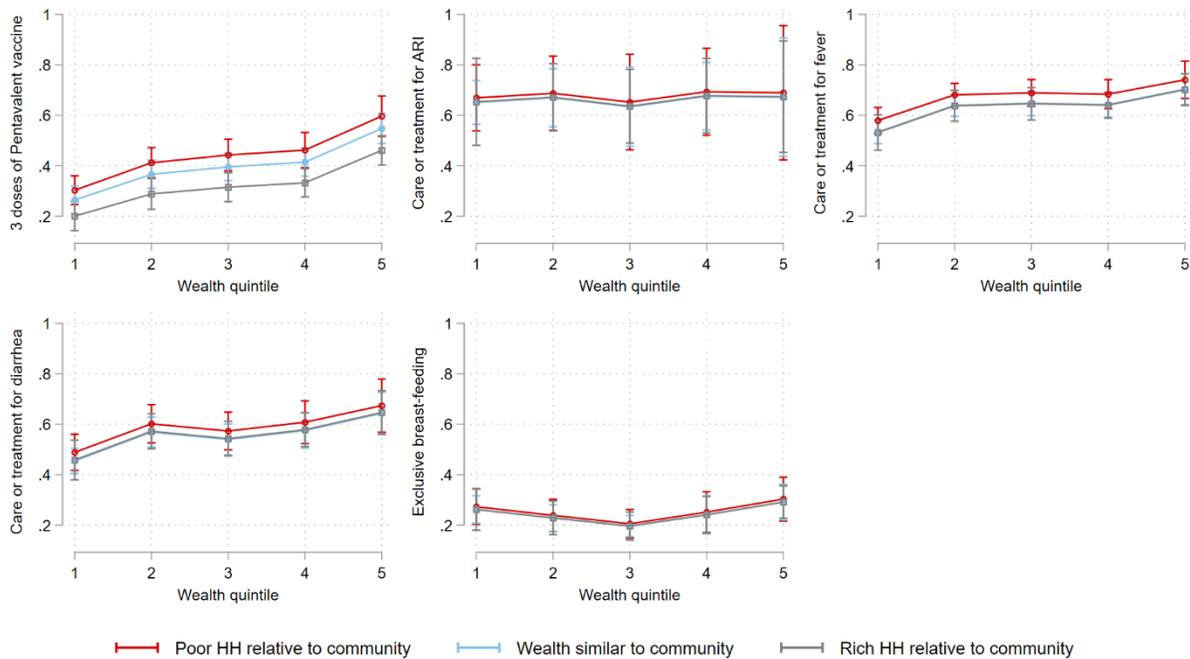


Figure 71 shows the predicted probabilities of each child health indicator by relative community wealth category. Of the five indicators, there are statistically significant and programmatically important differences only in DPT3 vaccination. In this case, children from poor households relative to the community have higher predicted probability of DPT3 vaccination when compared with children from rich households relative to the community. This difference ranges from 7% in the poorest quintile to 10% in the richest quintile.

Figure 71 Predicted probabilities of child health indicators by household wealth quintile, Nigeria 2018



Child nutrition

Figure 72 shows the high rates of stunting in children under age 5 in rural Nigerian households. The rates of stunting decrease by over half from the poorest quintile (56%) to the richest quintile (25%). Rates of wasting are 11% in the poorest quintile and decrease to 6% in the richest quintile.

Figure 72 Levels of child nutrition indicators, by household wealth quintile, Nigeria 2018

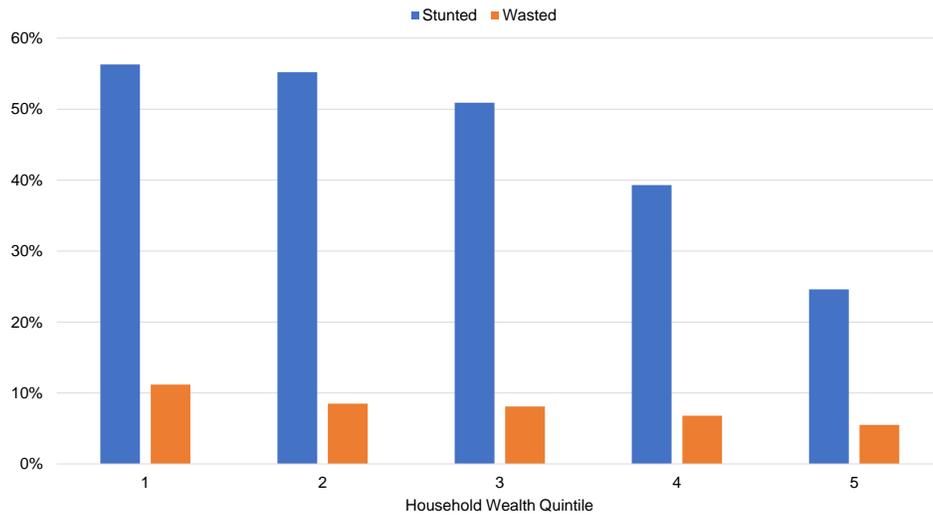
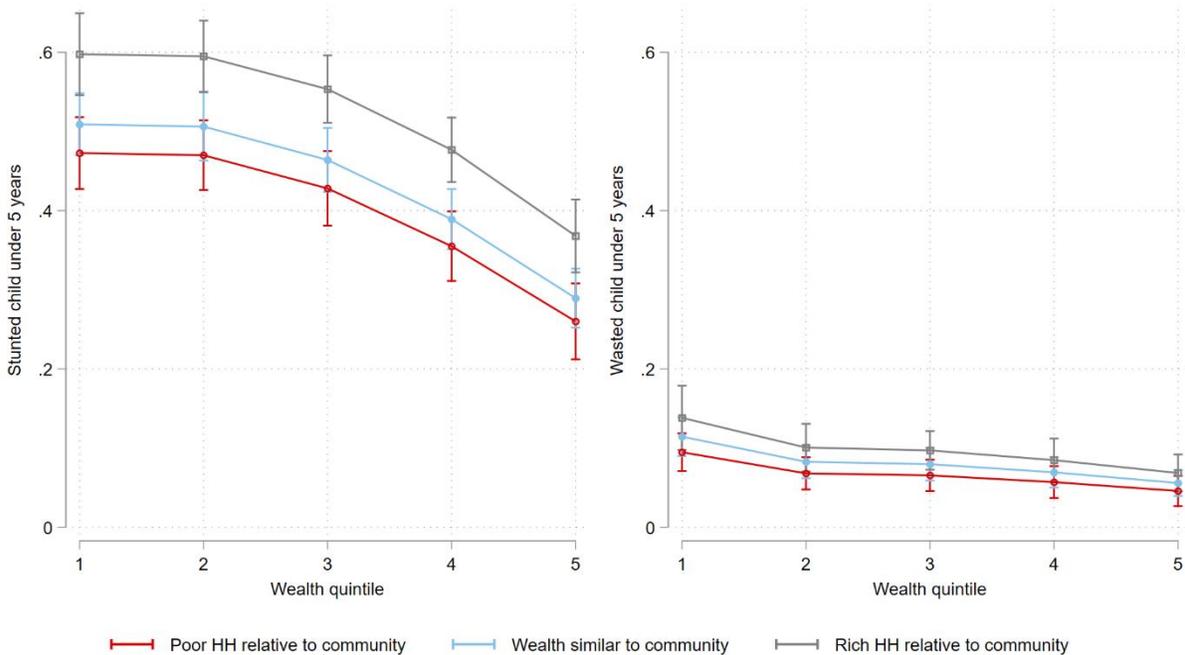


Figure 73 indicates that for both stunting and wasting, there are statistically significant differences in the predicted probabilities according to relative community wealth. In both cases, households that are rich relative to the community have a higher probability of wasting and stunting, across household wealth quintiles. However, this difference decreases as household wealth increases – from 12% in quintile 1 to 9% in quintile 5 for stunting, and 4% in quintile 1 to 2% in quintile 5 for wasting.

Figure 73 Predicted probabilities of child nutrition indicators by household wealth quintile, Nigeria 2018

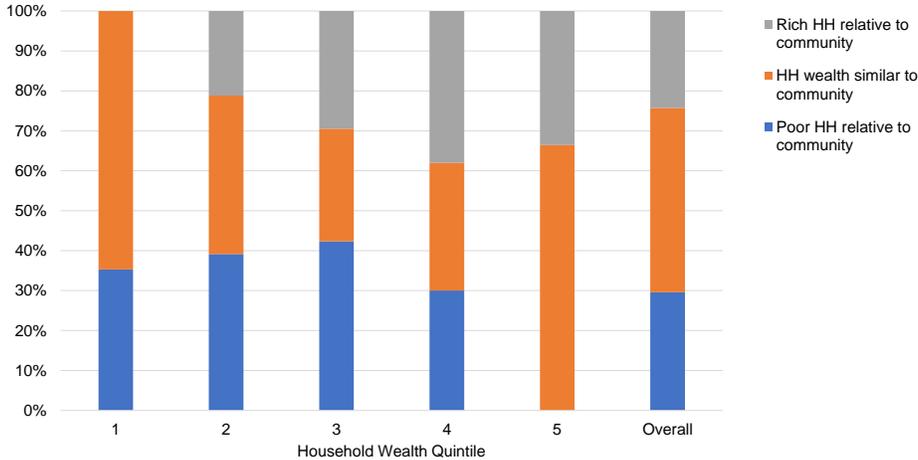


5.9 Pakistan

5.9.1 Household wealth relative to average community wealth

Figure 74 presents the relative community wealth of rural households in Pakistan by household wealth quintiles and overall. A total of 46% of Pakistan’s rural households live in communities of average wealth similar to their own. We classified Pakistan as being relatively homogeneous. This homogeneity is driven equally by the poorest and richest quintiles, where high proportions of households (65% and 66%, respectively) live in communities of average wealth similar to their own. Quintile 2 is also relatively homogeneous. In contrast, quintiles 3 and 4 are relatively heterogeneous. Each has fewer than one-third of the households living in communities of similar wealth.

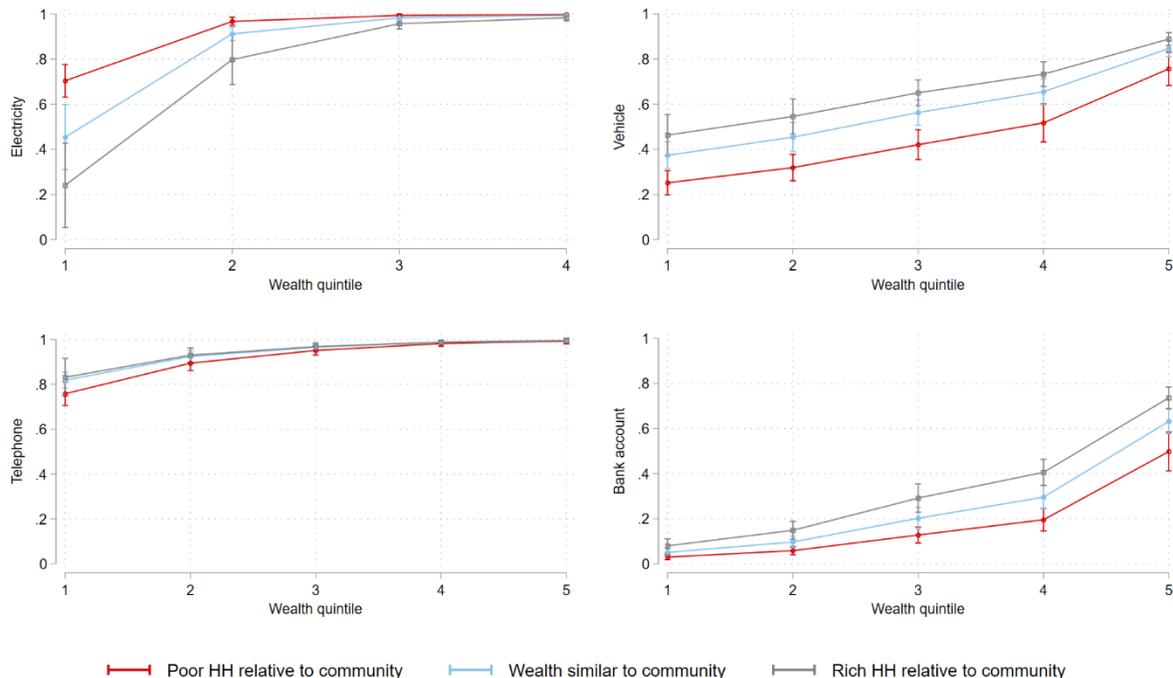
Figure 74 Distribution of household wealth relative to community average, Pakistan 2017-18



5.9.2 Asset ownership and household wealth relative to average community wealth

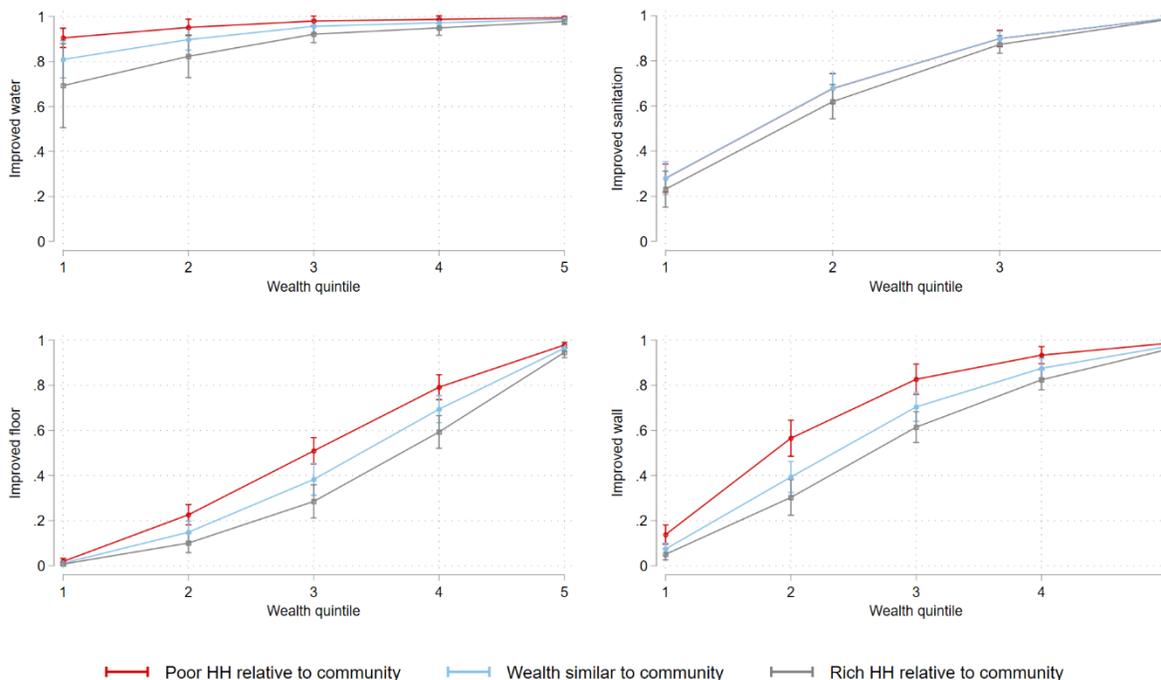
Across all quintiles, vehicle ownership is more likely in households that are wealthy relative to their communities. The same relationship holds for bank accounts, but only for quintiles 3, 4, and 5. Among the households in the poorest two quintiles, those that are poor relative to their communities are more likely to have electricity. In household wealth quintiles 3, 4, and 5, access to electricity is nearly universal.

Figure 75 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Pakistan 2017-18



Households in the poorest quintiles (1 and 2) that are poor relative to their communities are more likely to have an improved water source than those that are relatively wealthy. At higher levels of household wealth, there is nearly universal access to water among all rural households. In the middle quintiles of household wealth (2, 3 and 4), those that are poor relative to their communities are more likely to have improved walls or floors. At low levels of household wealth, there is very little ownership of these assets. At high levels of wealth, there is near universal ownership in rural communities.

Figure 76 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Pakistan 2017-18

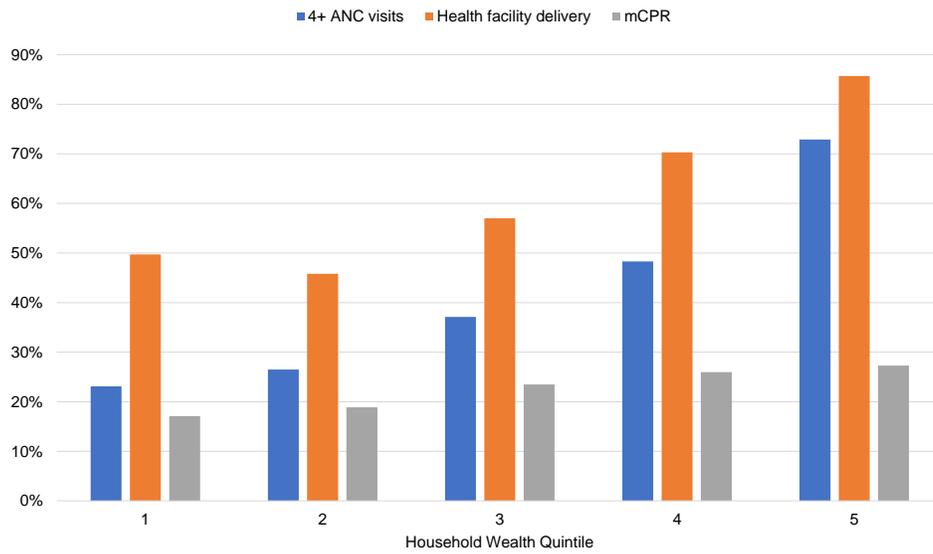


5.9.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

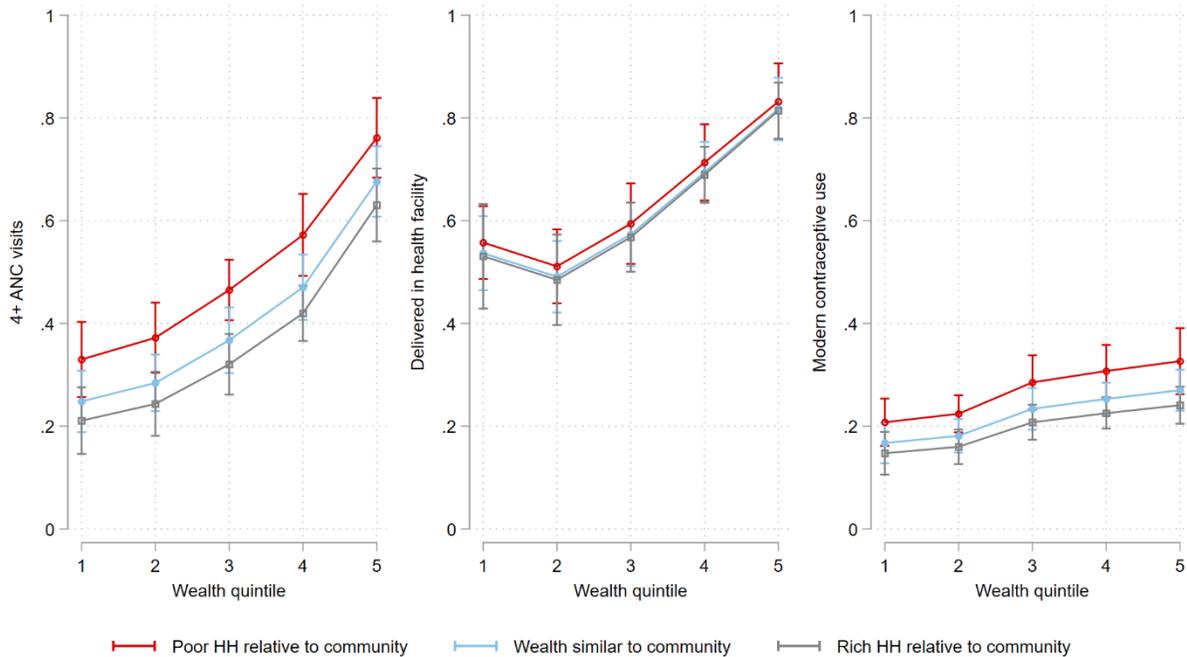
Figure 77 provides MRH indicators by household wealth quintile for rural Pakistan. The proportion of women receiving 4+ ANC visits increases with increasing household wealth from 23% in the poorest quintile to 73% in the richest quintile. Health facility delivery fluctuates around 50% in the first three household wealth quintiles, and then increases to 70% in the fourth and 86% in the fifth quintile. Modern contraceptive use remains low in the lower quintiles, at 17% in quintile 1 and 19% in quintile 2, and then increases in the higher quintiles, with 27% in quintile 5.

Figure 77 Levels of MRH indicators, by household wealth quintile, Pakistan 2017-18



Similar patterns are shown in Figure 78, with 4+ ANC visits showing large differences in the predicted probability of facility delivery by relative community wealth. More specifically, these differences were between the households that are poor relative to the community and those that are rich relative to the community (12% at quintile 1, 14% at quintile 2, 16% at quintile 3, 17% at quintile 4, and 12% at quintile 5). Differences in the predicted probabilities of health facility delivery and modern contraceptive use by relative community wealth were not statistically significant or programmatically important.

Figure 78 Predicted probabilities of MRH indicators by household wealth quintile, Pakistan 2017-18



Child health

Figure 79 shows the levels of the five child health indicators in rural Pakistan. The DPT3 and ARI care-seeking indicators increase consistently with increasing wealth. Both fever and diarrhea care-seeking decrease from the first to the second quintile and then increase in the last three quintiles. Exclusive breastfeeding fluctuates from quintile to quintile, with an overall decrease from the poorest to the richest quintiles.

Figure 79 Levels of child health indicators, by household wealth quintile, Pakistan 2017-18

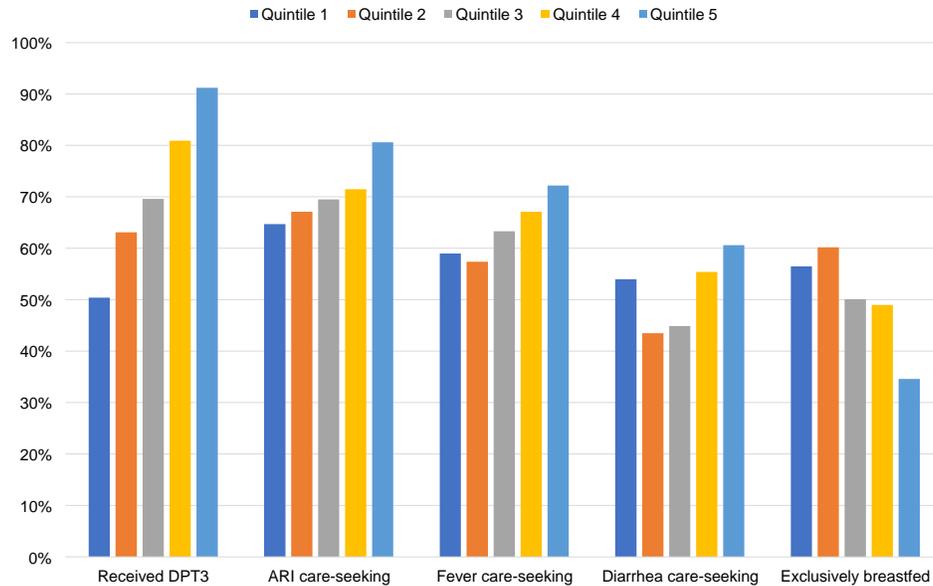
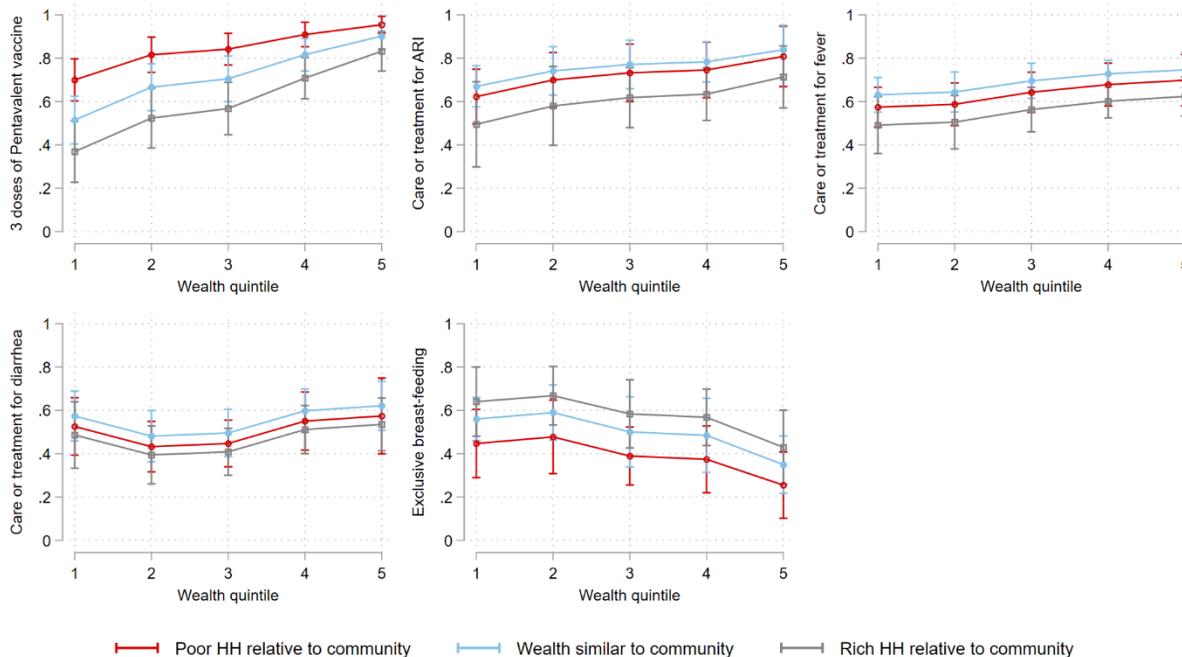


Figure 80 presents the predicted probabilities for each child health outcome. The largest differences are seen in DPT3 vaccination. In the poorest quintile, households that are poor relative to the community have a 34% higher probability of DPT3 vaccination compared to rich households relative to their community. The size of this difference decreases with increasing wealth but remains statistically significant for all wealth quintiles. The probability of EBF is statistically significantly higher in households that are rich relative to the community when compared to poor households relative to their community, across all household wealth quintiles. This difference remains stable, at approximately 20% for all wealth quintiles. Although any differences seen in the probabilities of the three care-seeking indicators are not statistically significant, differences in the probability of ARI care-seeking are greater than 10% for four of the five household wealth quintiles.

Figure 80 Predicted probabilities of child health indicators by household wealth quintile, Pakistan 2017-18



Child nutrition

Figure 81 shows that in rural areas of Pakistan, the rates of stunting in children younger than age 5 are highest among the poorest households (60%) and then decrease with increasing wealth. Rates of wasting in children younger than age 5 fluctuate between 11% and 4% over all household wealth quintiles.

Figure 81 Levels of child nutrition indicators, by household wealth quintile, Pakistan 2017-18

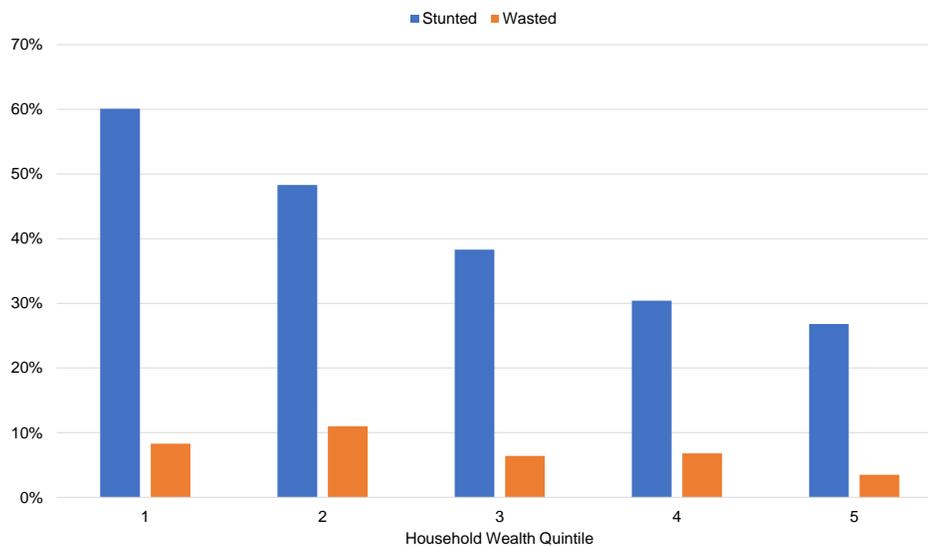
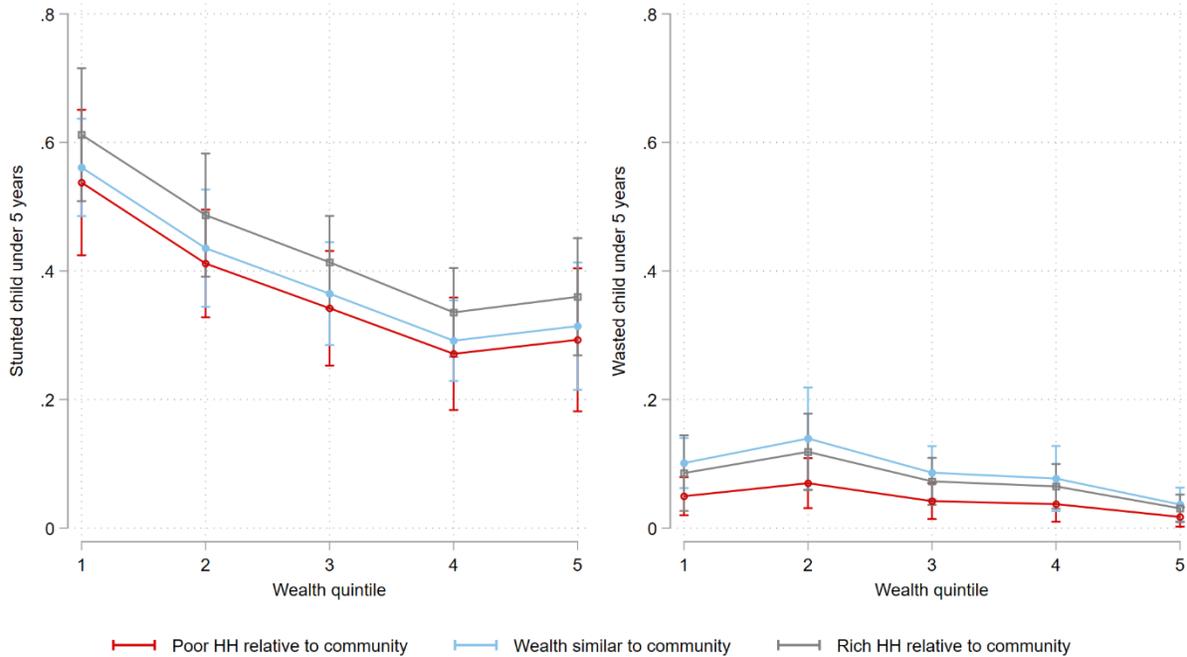


Figure 82 presents the predicted probabilities of stunting and wasting for each category of relative community wealth. The differences in probabilities by relative community wealth indicated in the graphs are not programmatically important or statistically significant.

Figure 82 Predicted probabilities of child nutrition indicators by household wealth quintile, Pakistan 2017-18

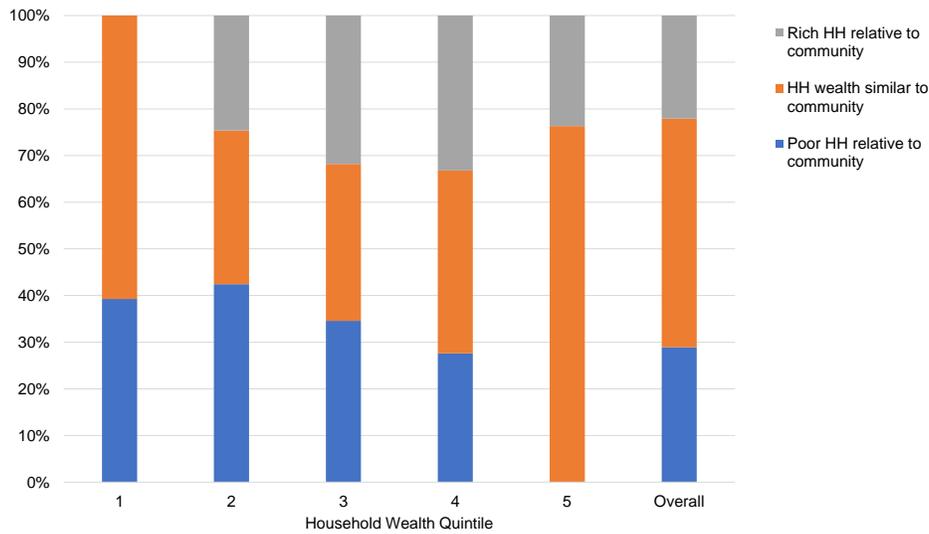


5.10 Senegal

5.10.1 Household wealth relative to average community wealth

Nearly half (49%) of Senegal’s rural households live in communities of average wealth similar to their own. We classified Senegal as homogeneous. This homogeneity is most striking in the wealthiest household wealth quintile where 76% of households live in communities of similar wealth. The homogeneity is less striking in the other wealth quintiles. In wealth quintiles 2 and 3, the percent of households in communities with similar wealth is about one-third.

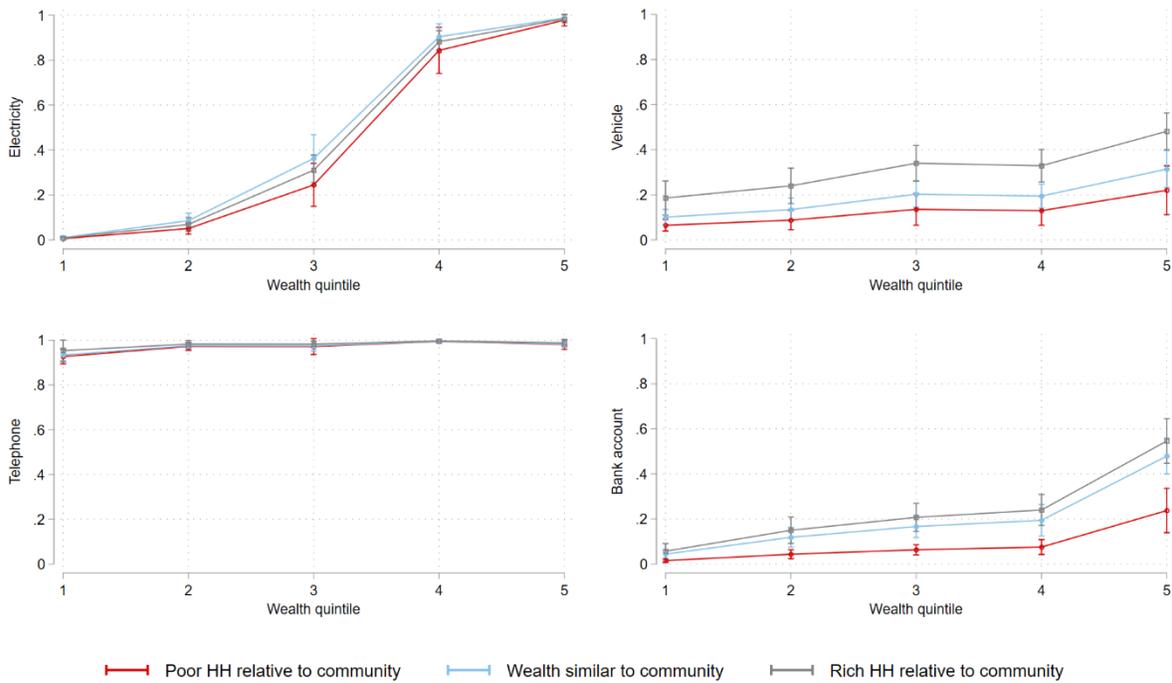
Figure 83 Distribution of household wealth relative to community average, Senegal 2018



5.10.2 Asset ownership and household wealth relative to average community wealth

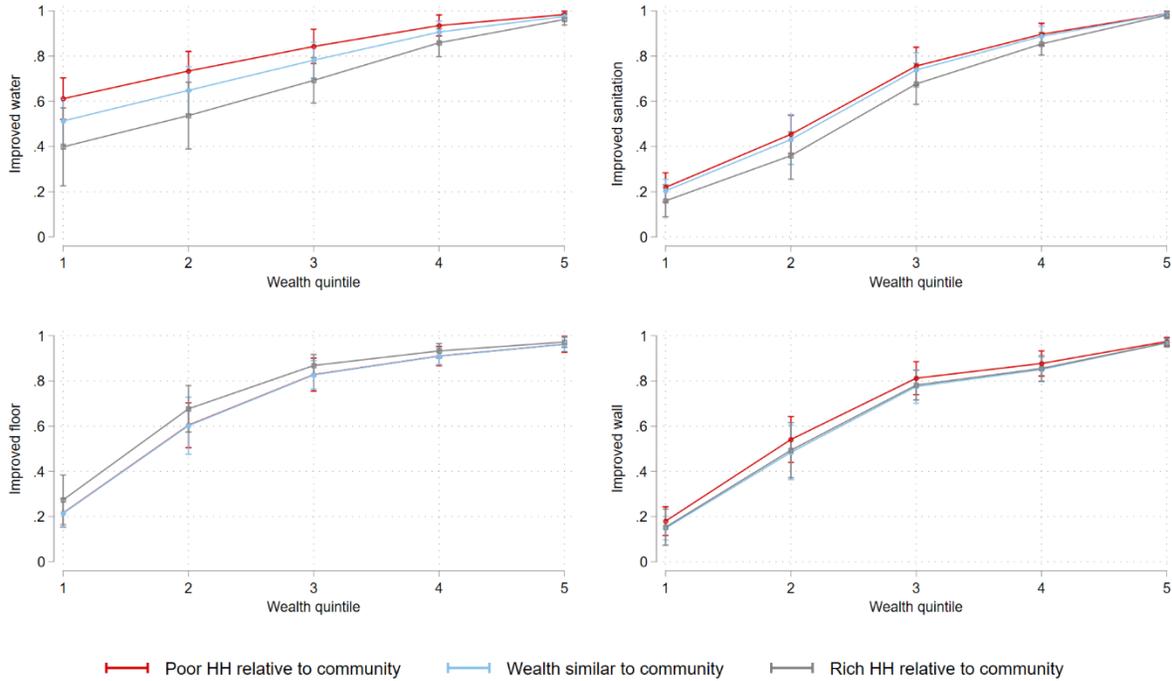
Vehicles and bank accounts are more likely to be owned by households that are wealthy relative to their communities. This is true for all household quintiles, except for the poorest, for the ownership of a bank account. Ownership of a phone is nearly universal across all wealth categories.

Figure 84 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Senegal 2018



Among the poorest three quintiles of household wealth, access to improved water source is greater for households that are poor relative to their community. There are no other apparent strong relationships among the other three assets.

Figure 85 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Senegal 2018



5.10.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Figure 86 presents the levels of three MRH indicators by household wealth quintile. For each indicator, there are increases with increasing wealth. Health facility delivery increases most drastically, from 50% in the poorest quintile to 91% in the richest quintile. Modern contraceptive use adds only 1 percentage point per quintile from the first to the fourth quintile, until it increases to 24% in the fifth quintile.

Figure 86

Levels of MRH indicators, by household wealth quintile, Senegal 2018

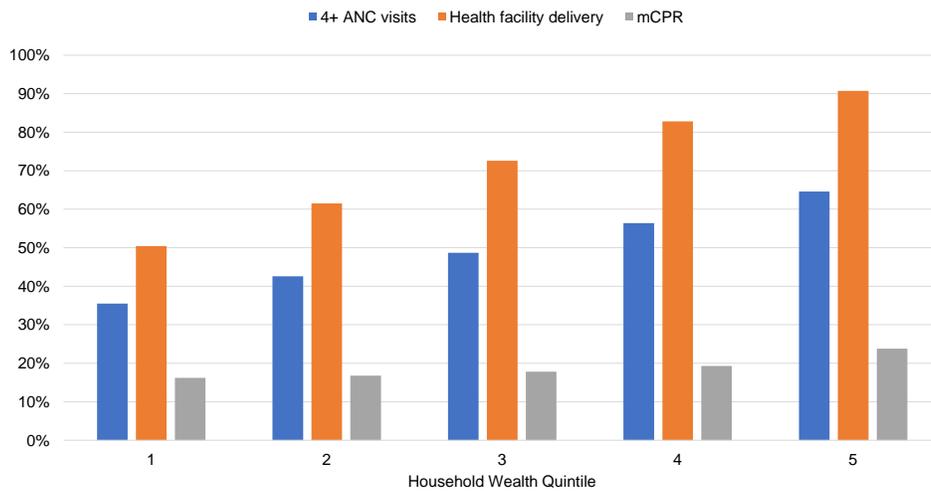
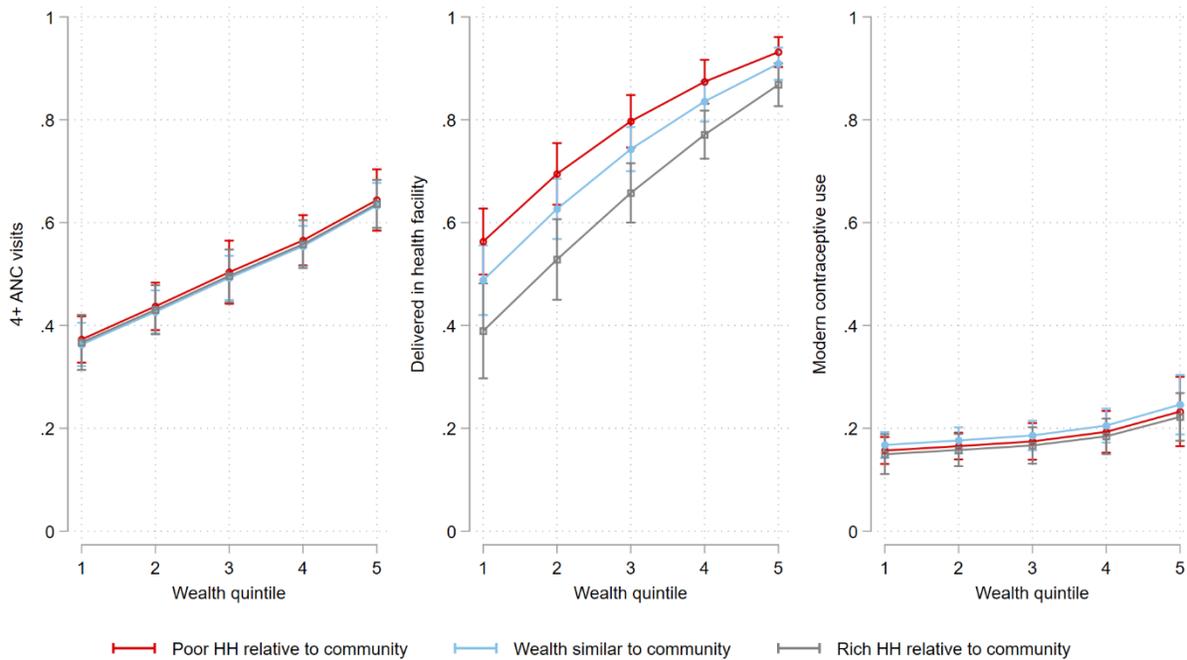


Figure 87 provides the predicted probabilities of the three MRH indicators by relative community wealth. There are statistically significant and programmatically important differences in health facility delivery, where women in households that are poor compared to the community have a higher probability of facility delivery than women in households that are rich compared to the community, across all household wealth quintiles. There are no statistically significant or programmatically important difference in the other two indicators.

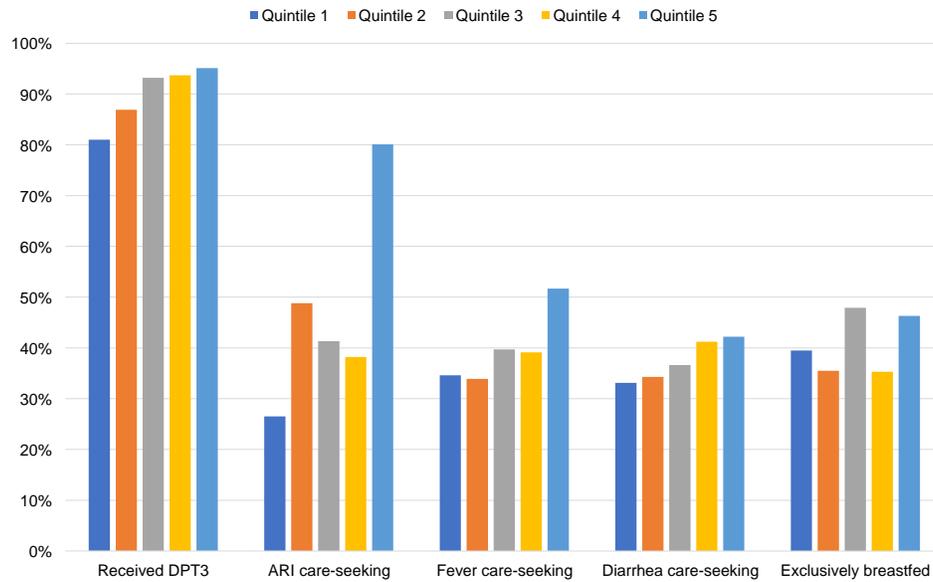
Figure 87 Predicted probabilities of MRH indicators by household wealth quintile, Senegal 2018



Child health

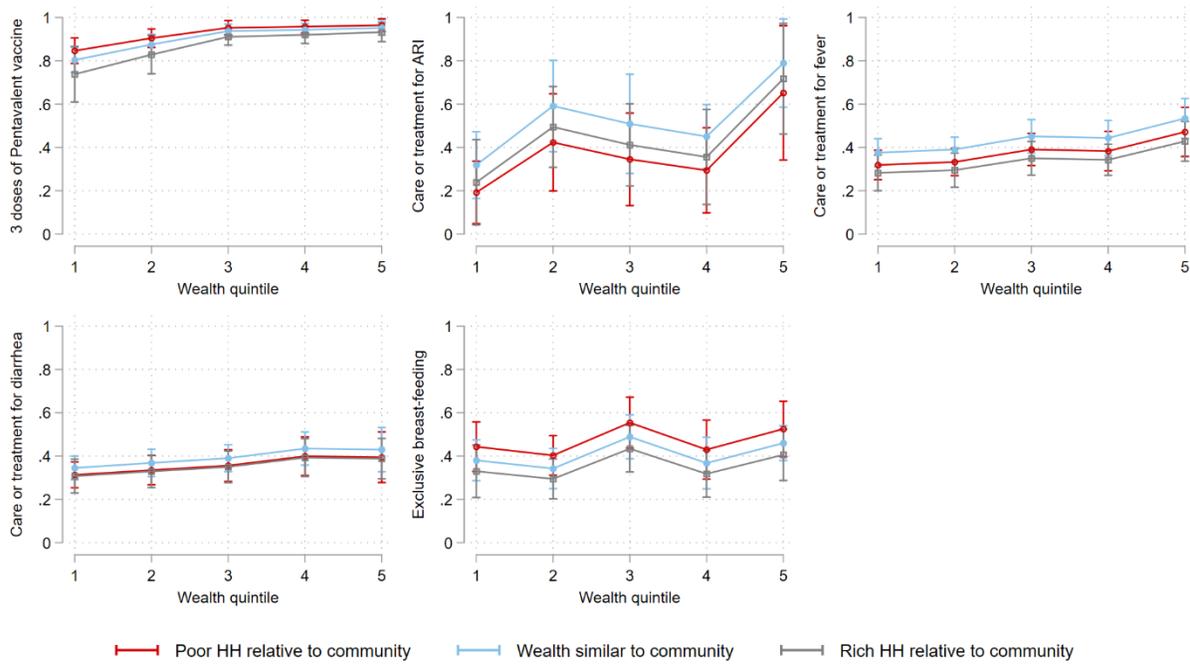
Figure 88 shows the levels of five child health indicators by household wealth quintile for rural households in Senegal. Only DPT3 vaccination and diarrhea care-seeking show consistent increases with increasing household wealth. For ARI care-seeking, fever care-seeking, and EBF, the richest quintiles have higher levels than the poorest, but the levels of the middle three quintiles fluctuate.

Figure 88 Levels of child health indicators, by household wealth quintile, Senegal 2018



As shown in Figure 89, there are statistically significant and programmatically important differences in the predicted probability of EBF. Households that are poor relative to the community have a higher probability of EBF compared to households that are rich relative to the community. There were no statistically significant or programmatically important differences in predicted probabilities in the other four indicators.

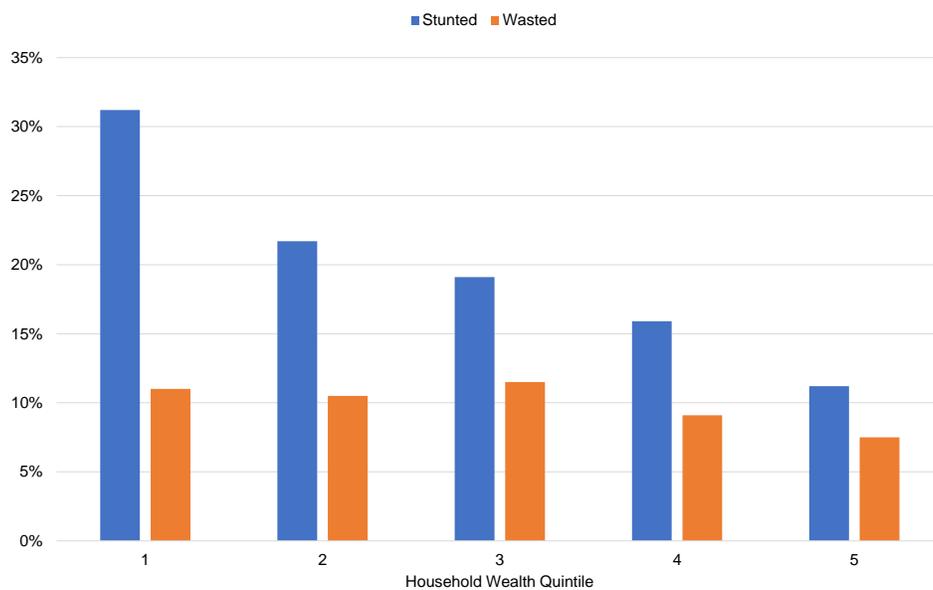
Figure 89 Predicted probabilities of child health indicators by household wealth quintile, Senegal 2018



Child nutrition

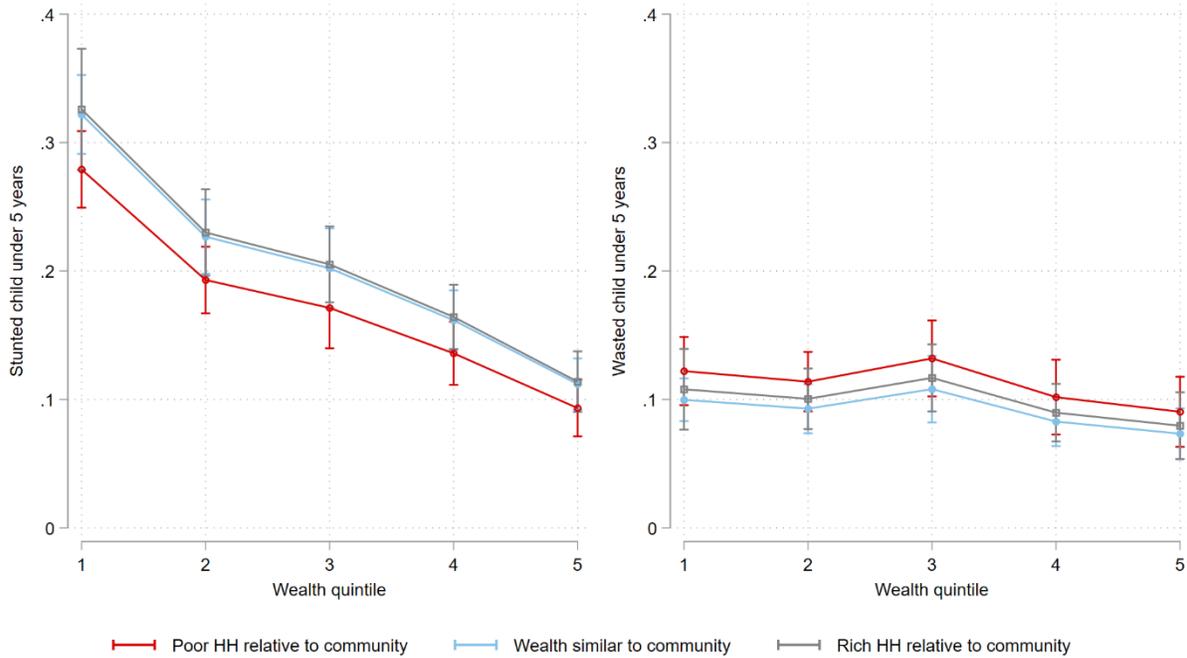
Figure 90 shows steep decreases in stunting over the five household wealth quintiles, from 31% in quintile 1 to 11% in quintile 5. Wasting remains relatively flat, at 11% in quintile 1 and 8% in quintile 5.

Figure 90 Levels of child nutrition indicators, by household wealth quintile, Senegal 2018



As shown in Figure 91, there are statistically significant but not programmatically important differences in the predicted probability of stunting by relative community wealth. Households that are rich relative to the community have a higher probability of stunting compared to households that are poor relative to the community over all five household wealth quintiles. There are no differences in the predicted probabilities for wasting.

Figure 91 Predicted probabilities of child nutrition indicators by household wealth quintile, Senegal 2018

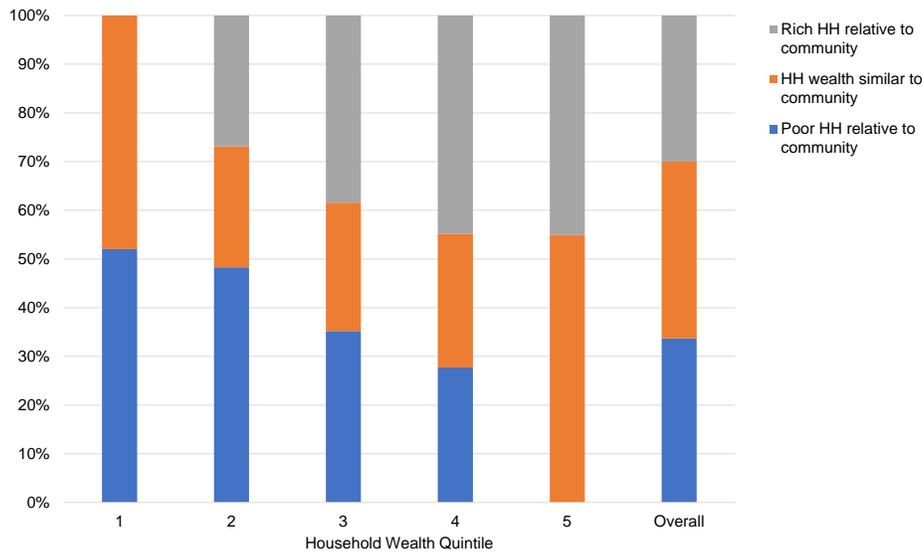


5.11 Zambia

5.11.1 Household wealth relative to average community wealth

Figure 92 presents the distribution of relative community wealth over the five household wealth quintiles and overall for rural households in Zambia. The distribution across the three relative wealth statuses is nearly even. A household is almost as likely to be relatively poor, relative rich, or similar in wealth status to its community. Zambia was the second most heterogeneous country in our study. For quintiles 2, 3 and 4, fewer than one-third of the households are in communities with similar average levels of wealth. The poorest households are more likely to be in a relatively wealthy community than in a community of similar average wealth.

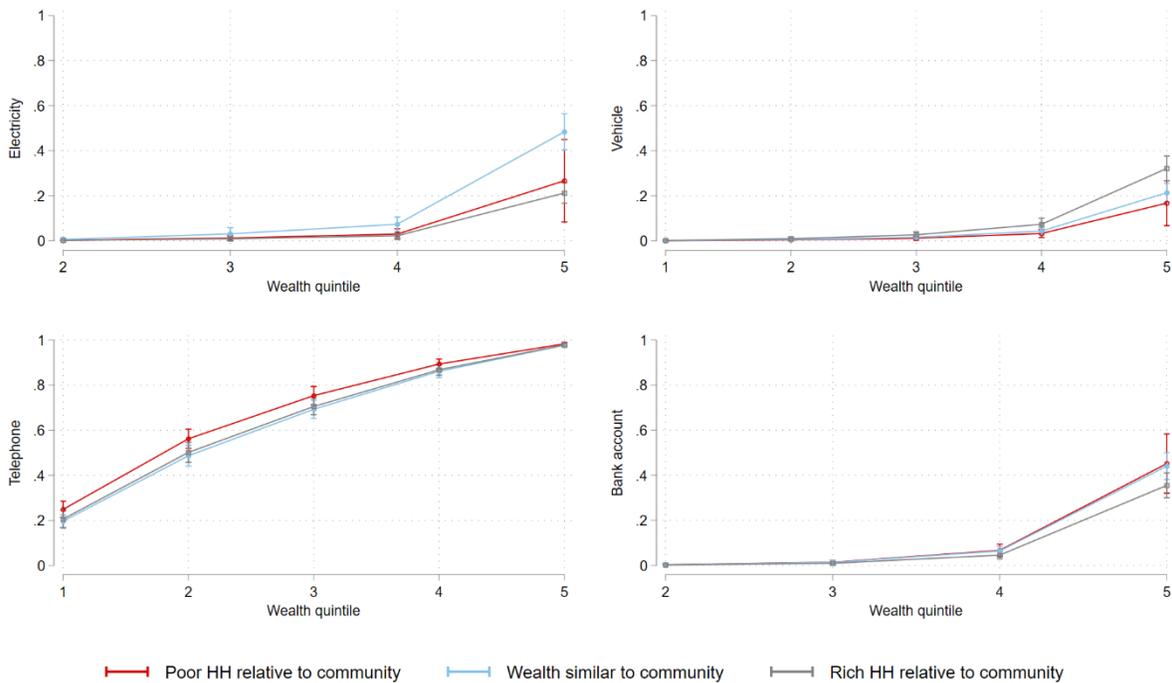
Figure 92 Distribution of household wealth relative to community average, Zambia 2018



5.11.2 Asset ownership and household wealth relative to average community wealth

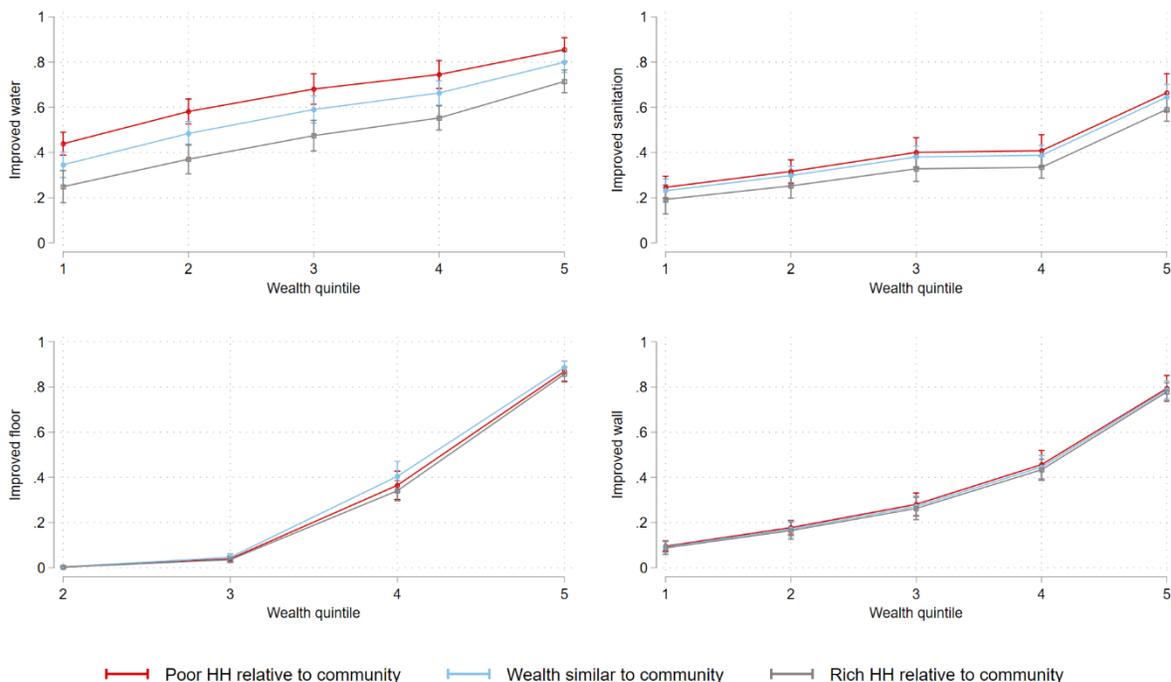
With the exception of the wealthiest quintiles, electricity, vehicle ownership, and bank accounts are rare. Access to electricity is more likely among the wealthiest rural households in communities with average wealth similar to theirs. Vehicle ownership is more likely among the wealthiest rural households that are wealthy relative to their community.

Figure 93 Predicted probabilities of asset ownership (electricity, vehicle, telephone, and bank account) by household wealth quintile, Zambia 2018



Across all household wealth quintiles, households that are poor relative to the community are more likely to have access to an improved water source. Improved sanitation, improved flooring, and improved walls are not strongly associated with a household's wealth relative to its community.

Figure 94 Predicted probabilities of asset ownership (improved water, improved sanitation, improved floor, and improved wall) by household wealth quintile, Zambia 2018



5.11.3 Health indicators and household wealth relative to average community wealth

Maternal and reproductive health (MRH)

Levels of each of the three MRH indicators are shown in Figure 95. The number of 4+ ANC visits is the same (65%-66%) across all five wealth quintiles. Health facility delivery is high overall, and increases with increasing wealth, from 72% in the poorest quintile to 91% in the richest quintile. Modern contraceptive use is higher in the richest quintile (51%) compared to the poorest (34%), but fluctuates in the middle quintiles.

Figure 95 Levels of MRH indicators, by household wealth quintile, Zambia 2018

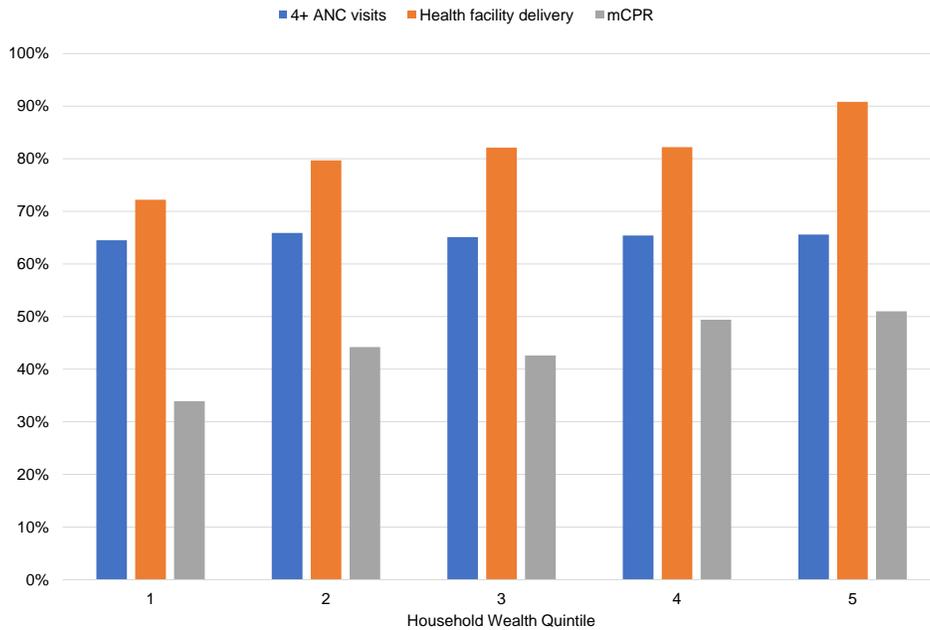
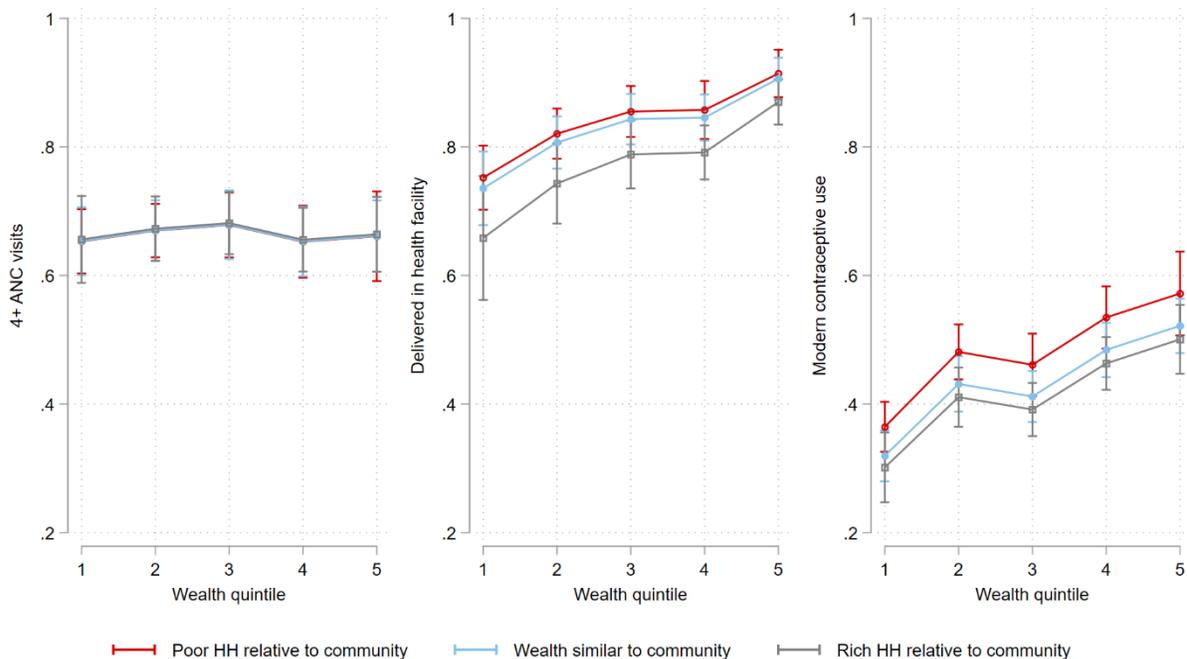


Figure 96 shows the predicted probabilities of the three MRH indicators for each category of relative community wealth. With both health facility delivery and modern contraceptive use, women in households that are poor compared to the community have higher probabilities than women in households that are rich compared to the community. The differences do not approach the 10% cutoff for programmatic importance. There are no differences in predicted probabilities for 4+ ANC visits.

Figure 96 Predicted probabilities of MRH indicators by household wealth quintile, Zambia 2018



Child health

Figure 97 depicts the levels of five child health indicators by household wealth quintile for the rural population in Zambia. DPT3 vaccination was lowest for the poorest quintile (87%) and highest for the richest quintile (98%) but plateaued at 90-91% in the middle three quintiles. There were too few ARI cases in the third to fifth quintiles to have reliable estimates. The remaining three indicators – fever care-seeking, diarrhea care-seeking, and EBF – had no clear pattern over household wealth.

Figure 97 Levels of child health indicators, by household wealth quintile, Zambia 2018

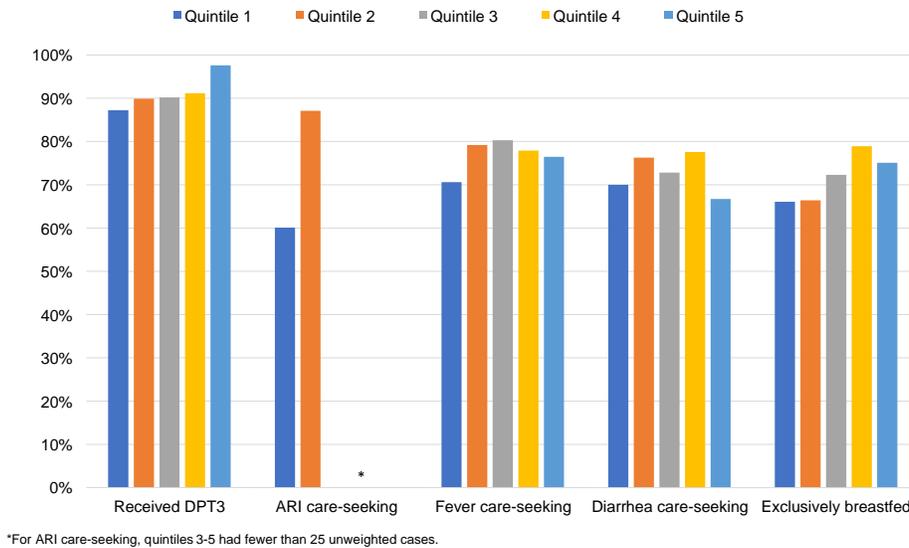
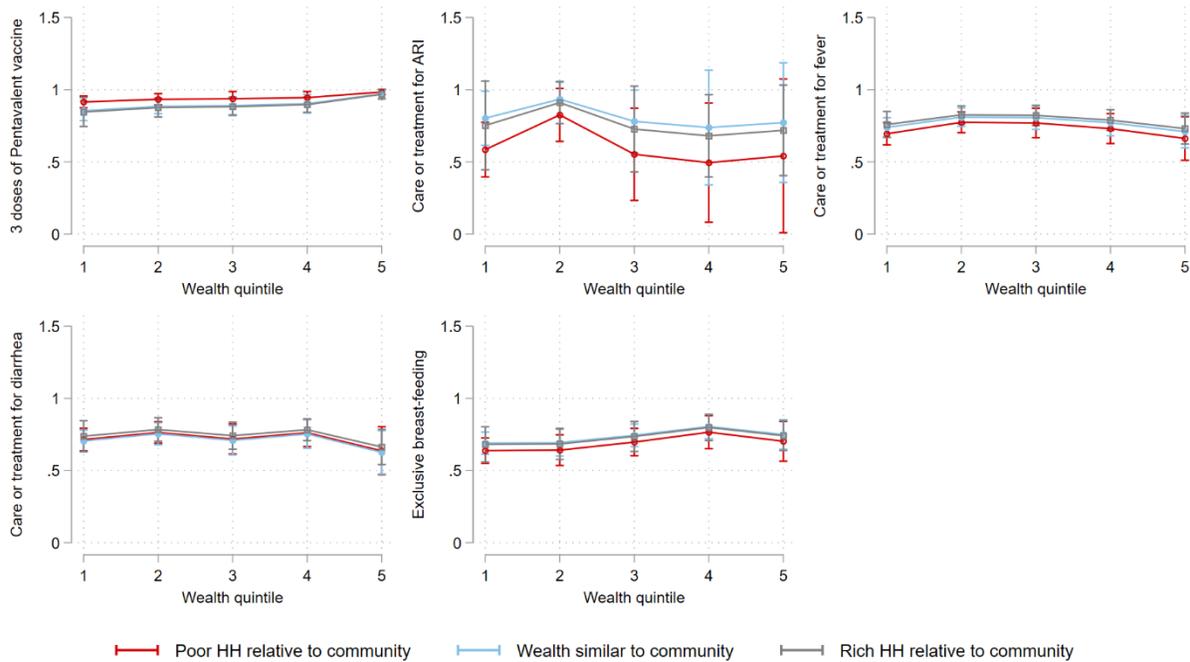


Figure 98 shows the predicted probabilities of the five child health indicators. There are no consistent statistically significant differences in the predicted probabilities by relative community wealth category in any indicator. The programmatically important differences in the probabilities of ARI care-seeking in certain household wealth quintiles are based on fewer than 25 unweighted cases, have wide confidence intervals, and should be interpreted with caution.

Figure 98 Predicted probabilities of child health indicators by household wealth quintile, Zambia 2018



Child nutrition

Figure 99 shows the levels of child nutrition indicators by household wealth quintile. Both stunting and wasting in children under age 5 are lower in the richest quintile compared to the poorest (29% and 39% for stunting; 3% and 5% for wasting), although they fluctuate in the middle three quintiles.

Figure 99 Levels of child nutrition indicators, by household wealth quintile, Zambia 2018

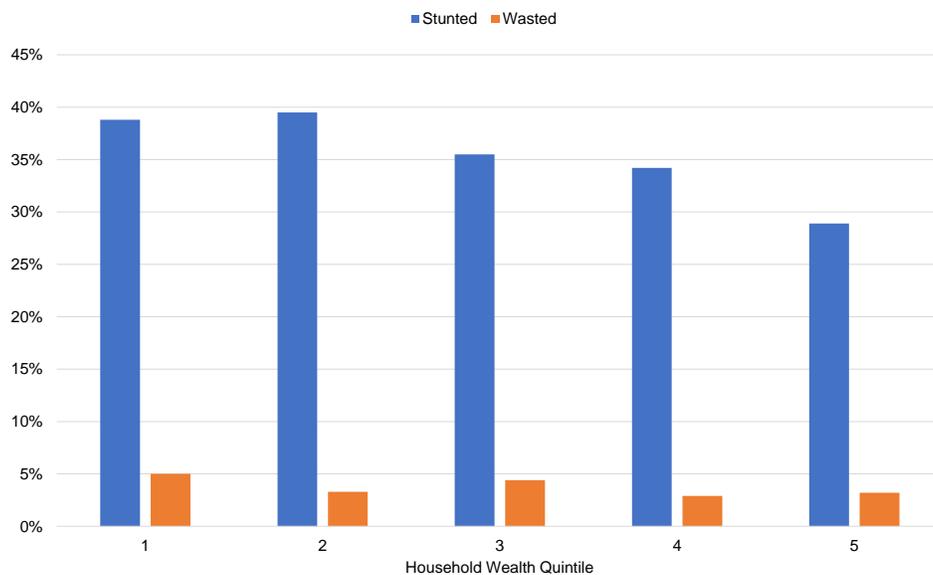
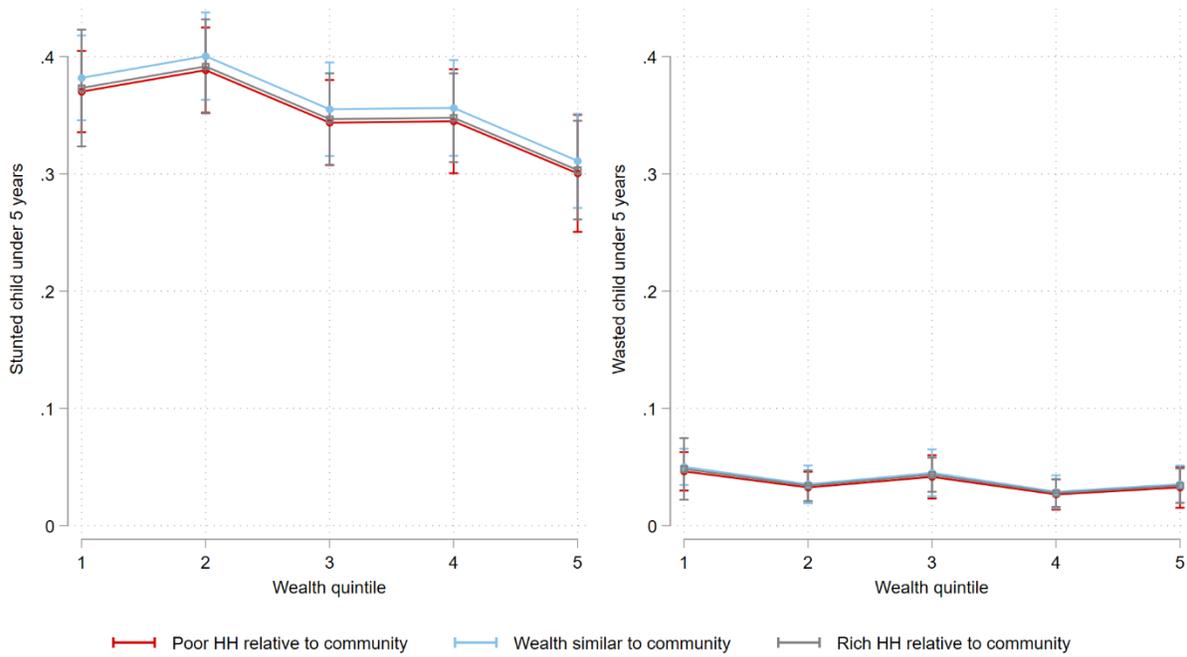


Figure 100 shows that there are no differences in the predicted probabilities of stunting or wasting by relative community wealth category in Zambia.

Figure 100 Predicted probabilities of child nutrition indicators by household wealth quintile, Zambia 2018



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APPENDIX

Appendix Table A1 Regressions of assets on household wealth quintiles and household relative to average community wealth

		DRC																							
		Electricity			Telephone			Vehicle			Bank			Improved water			Improved sanitation			Improved flooring			Improved walls		
Relative community wealth	Wealth quintile	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI		
	Quintile 1 (Poorest)	+		0.04***	0.02 - 0.10	0.22	0.03 - 1.82	+		0.15***	0.11 - 0.22	0.89	0.61 - 1.30	+		0.07***	0.04 - 0.14			0.07***	0.04 - 0.14				
	Quintile 2	+		0.25***	0.18 - 0.34	0.18***	0.07 - 0.47	0.01***	0.00 - 0.10	0.44***	0.33 - 0.59	0.97	0.73 - 1.30	+		0.34***	0.22 - 0.54			0.34***	0.22 - 0.54				
	Quintile 3 (Reference)																								
	Quintile 4	0.11*	0.02 - 0.62	3.55***	2.76 - 4.57	5.62***	2.69 - 11.70	1.01	0.27 - 3.83	1.80***	1.31 - 2.49	0.90	0.70 - 1.15	+		3.25***	1.99 - 5.29			3.25***	1.99 - 5.29				
	Quintile 5			11.68***	8.48 - 16.08	21.10***	10.53 - 42.27	7.07***	2.55 - 19.65	5.53***	3.01 - 10.14	0.78	0.49 - 1.23	+		21.64***	12.18 - 38.45			21.64***	12.18 - 38.45				
	Poor relative to community	+		0.95	0.72 - 1.25	0.52	0.18 - 1.47	0.56	0.10 - 3.24	2.47***	1.73 - 3.54	0.77	0.57 - 1.05	+		1.56	0.91 - 2.66			1.56	0.91 - 2.66				
	Wealth similar to community (reference)																								
	Wealthy relative to community	0.67	0.17 - 2.73	0.55***	0.41 - 0.74	2.45**	1.36 - 4.39	0.97	0.38 - 2.53	0.30***	0.19 - 0.49	1.40*	1.01 - 1.96	0.64	0.35 - 1.15	0.52***	0.36 - 0.76			0.52***	0.36 - 0.76				
	Observations	3,622		12,729		12,729		9,346		12,729		12,729		1,863		12,729				12,729			12,729		

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity

Continues...

Appendix Table A1—Continued

		Ghana															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
Relative wealth	Community	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Quintile 1 (Poorest)		0.16***	0.09 - 0.29	1.03	0.74 - 1.44	4.58***	3.20 - 6.55	0.64**	0.48 - 0.85	1.09	0.61 - 1.94	0.11***	0.07 - 0.16	0.56**	0.37 - 0.84	0.28***	0.19 - 0.41
Quintile 2		0.31***	0.22 - 0.43	0.73*	0.57 - 0.93	1.53*	1.06 - 2.21	0.77	0.59 - 1.02	0.82	0.59 - 1.14	0.41***	0.32 - 0.52	0.43***	0.31 - 0.60	0.35***	0.27 - 0.47
Quintile 3 (Reference)																	
Quintile 4		4.31***	2.97 - 6.24	1.87***	1.39 - 2.49	0.92	0.67 - 1.27	1.54***	1.21 - 1.97	3.70***	2.57 - 5.33	1.80***	1.34 - 2.41	3.23***	2.05 - 5.10	3.68***	2.90 - 4.67
Quintile 5		24.34***	14.65 - 40.44	10.42***	6.82 - 15.92	2.40***	1.68 - 3.43	6.78***	5.21 - 8.82	12.28***	6.24 - 24.17	7.79***	5.24 - 11.56	12.75***	5.95 - 27.34	17.72***	11.14 - 28.18
Poor relative to community		1.46*	1.02 - 2.10	1.08	0.86 - 1.35	0.63*	0.45 - 0.90	0.87	0.67 - 1.13	1.58*	1.11 - 2.25	1.51**	1.15 - 1.99	1.11	0.81 - 1.53	1.24	0.94 - 1.65
Wealth similar to community (reference)																	
Wealthy relative to community		0.53**	0.35 - 0.81	1.21	0.96 - 1.54	2.01***	1.54 - 2.63	1.16	0.95 - 1.41	0.73	0.52 - 1.01	0.54***	0.41 - 0.72	0.95	0.68 - 1.32	0.52***	0.38 - 0.71
Observations		5,896		5,896		5,896		5,896		5,896		5,896		5,896		5,896	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Haiti															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
Relative wealth	Wealth quintile	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
	Quintile 1 (Poorest)	+		0.16***	0.12 - 0.20	0.03***	0.01 - 0.08	0.00***	0.00 - 0.01	0.14***	0.10 - 0.20	0.10***	0.06 - 0.18	+		0.12***	0.09 - 0.17
	Quintile 2	0.31**	0.15 - 0.64	0.71**	0.57 - 0.87	0.44**	0.26 - 0.73	0.31***	0.17 - 0.55	0.62***	0.49 - 0.79	0.53***	0.43 - 0.66	0.12***	0.09 - 0.16	0.33***	0.27 - 0.41
	Quintile 3 (Reference)																
	Quintile 4	5.68***	3.51 - 9.17	2.07***	1.56 - 2.73	2.85***	2.00 - 4.06	3.01***	2.19 - 4.13	2.16***	1.70 - 2.74	2.34***	1.90 - 2.87	3.72***	2.91 - 4.75	3.23***	2.51 - 4.16
	Quintile 5	58.96***	30.90 - 112.50	10.10***	7.09 - 14.38	11.31***	7.76 - 16.50	15.50***	10.79 - 22.28	6.45***	4.30 - 9.67	6.43***	4.75 - 8.71	11.13***	7.57 - 16.35	13.85***	9.49 - 20.21
	Poor relative to community	1.98*	1.18 - 3.31	0.84	0.69 - 1.03	1.03	0.71 - 1.48	1.01	0.70 - 1.46	2.19***	1.70 - 2.83	0.73**	0.58 - 0.90	0.62**	0.45 - 0.85	1.01	0.79 - 1.28
	Wealth similar to community (reference)																
	Wealthy relative to community	0.29***	0.20 - 0.42	1.10	0.88 - 1.37	1.10	0.86 - 1.39	1.18	0.92 - 1.50	0.47***	0.38 - 0.60	0.82*	0.68 - 1.00	0.85	0.66 - 1.10	0.89	0.71 - 1.11
	Observations			8,888		8,888		8,888		8,888		8,888		6,763		8,888	

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity

Continues...

Appendix Table A1—Continued

		Indonesia															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
		Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile	Quintile 1 (Poorest)	0.06***	0.04 - 0.11	0.11***	0.09 - 0.14	0.10***	0.08 - 0.12	0.30***	0.25 - 0.35	0.26***	0.21 - 0.32	0.17***	0.13 - 0.22	0.17***	0.13 - 0.21	0.43***	0.34 - 0.55
	Quintile 2	0.56*	0.33 - 0.93	0.37***	0.30 - 0.44	0.43***	0.37 - 0.50	0.56***	0.50 - 0.63	0.60***	0.52 - 0.70	0.41***	0.34 - 0.49	0.46***	0.39 - 0.54	0.70**	0.56 - 0.87
	Quintile 3 (Reference)																
	Quintile 4	3.18**	1.35 - 7.50	3.23***	2.29 - 4.53	2.50***	2.00 - 3.14	1.77***	1.57 - 1.99	1.55***	1.32 - 1.81	2.52***	1.81 - 3.50	2.46***	2.06 - 2.93	1.77***	1.37 - 2.28
	Quintile 5	28.61***	6.40 - 127.86	20.82***	8.74 - 49.60	14.08***	8.71 - 22.77	6.74***	5.72 - 7.94	3.21***	2.52 - 4.11	31.14***	14.19 - 68.35	9.07***	6.81 - 12.07	7.28***	4.37 - 12.13
Relative community wealth	Poor relative to community	2.20***	1.64 - 2.93	0.77***	0.66 - 0.89	0.90	0.79 - 1.03	0.65***	0.58 - 0.73	1.65***	1.42 - 1.92	1.26*	1.05 - 1.52	1.46***	1.25 - 1.70	0.87	0.71 - 1.06
	Wealth similar to community (reference)																
	Wealthy relative to community	1.55	0.96 - 2.52	1.96***	1.55 - 2.47	1.37***	1.15 - 1.64	1.23***	1.10 - 1.38	0.68***	0.57 - 0.81	0.94	0.73 - 1.21	0.81*	0.67 - 0.98	1.10	0.85 - 1.42
	Observations	23,403		23,403		23,403		23,403		23,403		23,403		23,403		23,403	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Kenya																							
		Electricity			Telephone			Vehicle			Bank			Improved water			Improved sanitation			Improved flooring			Improved walls		
Wealth quintile	Relative community wealth	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI		
		Quintile 1 (Poorest)	0.04***	0.01 - 0.11	0.13***	0.11 - 0.16	0.45***	0.32 - 0.63	0.28***	0.22 - 0.35	0.47***	0.38 - 0.59	0.45***	0.37 - 0.56	0.08***	0.05 - 0.14	0.16***	0.12 - 0.20							
Quintile 2	0.22*	0.06 - 0.80	0.33***	0.28 - 0.38	0.65**	0.49 - 0.85	0.63***	0.53 - 0.73	0.71***	0.61 - 0.82	0.87*	0.76 - 0.99	0.33***	0.25 - 0.42	0.64***	0.55 - 0.75									
Quintile 3 (Reference)																									
Quintile 4	5.30***	3.74 - 7.51	2.53***	1.96 - 3.28	1.89***	1.49 - 2.39	2.06***	1.79 - 2.38	1.47***	1.28 - 1.69	1.50***	1.33 - 1.70	3.59***	3.05 - 4.22	2.21***	1.91 - 2.56									
Quintile 5	108.03***	65.25 - 178.87	10.81***	7.55 - 15.48	5.43***	4.43 - 6.65	8.46***	7.13 - 10.04	2.43***	2.00 - 2.94	4.96***	4.18 - 5.90	26.36***	21.37 - 32.52	10.08***	8.19 - 12.40									
Poor relative to community	1.71*	1.03 - 2.83	0.77***	0.67 - 0.87	0.60***	0.48 - 0.76	1.05	0.91 - 1.22	1.30***	1.13 - 1.51	1.06	0.93 - 1.21	1.01	0.83 - 1.24	1.54***	1.29 - 1.84									
Wealth similar to community (reference)																									
Wealthy relative to community	0.23***	0.18 - 0.31	1.50***	1.22 - 1.85	1.40***	1.18 - 1.67	0.88	0.76 - 1.01	0.66***	0.57 - 0.78	1.27***	1.11 - 1.44	0.97	0.83 - 1.14	0.75***	0.64 - 0.88									
Observations		22,516		22,516		22,516		22,516		22,516		22,516		22,516		22,516									

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Liberia															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
Relative wealth	quintile	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
	Quintile 1 (Poorest)	+		0.18***	0.13 - 0.24	0.12***	0.05 - 0.28	0.11***	0.04 - 0.28	0.09***	0.06 - 0.14	0.07***	0.04 - 0.13	+		+	
	Quintile 2	+		0.53***	0.42 - 0.66	0.57*	0.35 - 0.91	0.25***	0.11 - 0.56	0.41***	0.30 - 0.56	0.43***	0.30 - 0.62	+		0.16***	0.06 - 0.43
	Quintile 3 (Reference)																
	Quintile 4	3.19	0.40 - 25.13	1.84***	1.44 - 2.35	1.72*	1.14 - 2.60	3.24***	1.94 - 5.43	1.99***	1.42 - 2.81	1.60**	1.14 - 2.23	9.89***	6.41 - 15.26	3.84***	2.41 - 6.11
	Quintile 5	52.32***	10.88 - 251.70	4.65***	3.55 - 6.10	4.37***	2.97 - 6.42	7.58***	4.19 - 13.72	6.75***	4.01 - 11.37	4.09***	2.71 - 6.18	143.25***	77.32 - 265.41	36.47***	19.71 - 67.50
	Poor relative to community	2.01	0.35 - 11.47	0.84	0.68 - 1.03	0.66	0.39 - 1.09	0.56*	0.36 - 0.88	2.90***	2.11 - 3.97	1.02	0.69 - 1.49	0.81	0.56 - 1.16	0.56*	0.33 - 0.94
	Wealth similar to community (reference)																
	Wealthy relative to community	1.04	0.47 - 2.30	1.06	0.86 - 1.30	1.13	0.81 - 1.56	0.65*	0.43 - 0.98	0.37***	0.26 - 0.52	0.65**	0.49 - 0.88	1.08	0.69 - 1.68	0.53**	0.34 - 0.82
	Observations	3,104		5,883		5,883		5,883		5,883		5,883		4,384		4,384	

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity

Continues...

Appendix Table A1—Continued

		Mali																																						
		Electricity			Telephone			Vehicle			Bank			Improved water			Improved sanitation			Improved flooring			Improved walls																	
Wealth quintile	Relative community wealth	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI																	
		Quintile 1 (Poorest)	0.26***	0.18 - 0.37	0.55***	0.40 - 0.77	0.68**	0.53 - 0.89	0.04***	0.01 - 0.16	0.14***	0.10 - 0.19	0.22***	0.14 - 0.34	0.02***	0.01 - 0.07	0.96	0.70 - 1.30	0.64***	0.52 - 0.80	0.90	0.69 - 1.17	0.92	0.76 - 1.10	0.34**	0.15 - 0.77	0.41***	0.33 - 0.51	0.50***	0.37 - 0.66	0.34***	0.23 - 0.50	0.98	0.76 - 1.27						
Quintile 2																																								
Quintile 3 (Reference)																																								
Quintile 4		2.18***	1.70 - 2.80	1.85***	1.29 - 2.66	1.43***	1.17 - 1.74	2.24***	1.41 - 3.58	1.98***	1.57 - 2.50	2.20***	1.75 - 2.78	4.55***	3.40 - 6.10	1.42**	1.12 - 1.81																							
Quintile 5		7.10***	4.97 - 10.15	5.21***	3.38 - 8.05	2.63***	2.06 - 3.36	7.91***	4.98 - 12.56	6.14***	4.24 - 8.90	12.04***	8.68 - 16.71	16.38***	10.99 - 24.40	6.79***	4.69 - 9.83																							
Poor relative to community		0.91	0.70 - 1.18	1.13	0.86 - 1.48	0.70***	0.57 - 0.85	0.53*	0.31 - 0.91	1.72***	1.33 - 2.24	1.08	0.84 - 1.39	0.63**	0.45 - 0.89	0.91	0.69 - 1.21																							
Wealth similar to community (reference)																																								
Wealthy relative to community		1.05	0.85 - 1.29	0.85	0.64 - 1.12	1.26**	1.06 - 1.49	1.26	0.92 - 1.72	0.45***	0.36 - 0.57	0.84	0.66 - 1.08	0.99	0.77 - 1.29	0.73*	0.56 - 0.94																							
Observations		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Nigeria																																	
		Electricity			Telephone			Vehicle			Bank			Improved water			Improved sanitation			Improved flooring			Improved walls												
Wealth quintile	Relative community wealth	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI												
		Quintile 1 (Poorest)	0.06***	0.04 - 0.09	0.26***	0.21 - 0.31	0.43***	0.35 - 0.53	0.11***	0.08 - 0.16	0.53***	0.38 - 0.73	0.14***	0.10 - 0.19	0.03***	0.02 - 0.04	0.04***	0.03 - 0.06	0.30***	0.24 - 0.38	0.60***	0.51 - 0.70	0.78**	0.68 - 0.91	0.32***	0.26 - 0.40	0.70***	0.57 - 0.86	0.50***	0.42 - 0.60	0.27***	0.22 - 0.33	0.18***	0.15 - 0.21	
Quintile 2																																			
Quintile 3 (Reference)																																			
Quintile 4		4.14***	3.38 - 5.07	2.70***	2.25 - 3.23	1.38***	1.20 - 1.58	3.05***	2.62 - 3.55	1.55***	1.30 - 1.85	1.83***	1.54 - 2.17	2.18***	1.80 - 2.64	3.61***	3.03 - 4.30	19.82***	14.68 - 26.75	13.68***	9.37 - 19.97	1.82***	1.54 - 2.15	16.98***	14.05 - 20.51	3.38***	2.65 - 4.30	7.02***	5.53 - 8.91	12.51***	8.27 - 18.91	29.94***	22.91 - 39.14		
Quintile 5		1.97***	1.63 - 2.38	0.62***	0.54 - 0.70	0.60***	0.53 - 0.68	0.97	0.83 - 1.13	1.36**	1.13 - 1.64	1.11	0.94 - 1.31	0.96	0.81 - 1.15	1.92***	1.59 - 2.32																		
Poor relative to community																																			
Wealth similar to community (reference)																																			
Wealthy relative to community		0.42***	0.33 - 0.53	1.66***	1.39 - 1.98	1.83***	1.62 - 2.06	1.18*	1.03 - 1.34	0.74***	0.63 - 0.89	0.73***	0.61 - 0.86	0.72**	0.57 - 0.92	0.43***	0.36 - 0.53																		
Observations		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Pakistan																																				
		Electricity			Telephone			Vehicle			Bank			Improved water			Improved sanitation			Improved flooring			Improved walls															
Wealth quintile	Relative community wealth	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI															
		Quintile 1 (Poorest)	0.01***	0.01 - 0.04	0.16***	0.10 - 0.26	0.46***	0.34 - 0.64	0.21***	0.14 - 0.32	0.19***	0.08 - 0.48	0.04***	0.03 - 0.07	0.02***	0.01 - 0.04	0.03***	0.02 - 0.05	0.18***	0.09 - 0.35	0.43***	0.27 - 0.71	0.65***	0.51 - 0.81	0.42***	0.31 - 0.57	0.40***	0.23 - 0.67	0.24***	0.18 - 0.32	0.28***	0.21 - 0.37	0.27***	0.20 - 0.36				
Quintile 2																																						
Quintile 3 (Reference)																																						
Quintile 4	2.68	0.95 - 7.56	2.80**	1.31 - 6.00	1.48**	1.13 - 1.93	1.66***	1.23 - 2.23	1.61	0.83 - 3.12	8.23***	4.14 - 16.37	3.65***	2.81 - 4.75	2.94***	2.10 - 4.12																						
Quintile 5																																						
Poor relative to community	2.86***	1.56 - 5.24	0.69*	0.51 - 0.95	0.56***	0.44 - 0.72	0.58***	0.43 - 0.78	2.25**	1.24 - 4.07	1.00	0.72 - 1.38	1.67***	1.25 - 2.24	2.00***	1.39 - 2.90																						
Wealth similar to community (reference)																																						
Wealthy relative to community	0.38**	0.21 - 0.70	1.09	0.66 - 1.82	1.45**	1.14 - 1.83	1.63***	1.30 - 2.04	0.53*	0.29 - 0.97	0.77	0.54 - 1.09	0.64**	0.47 - 0.88	0.67**	0.50 - 0.89																						
Observations		4,738	5,778	5,778	5,778	5,778	5,778	5,778	5,778	5,778	4,738	5,778	5,778	5,778	5,778	5,778																						

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Senegal															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
Wealth quintile	Relative community wealth	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
		Quintile 1 (Poorest)	0.02***	0.01 - 0.04	0.37	0.13 - 1.07	0.44**	0.27 - 0.72	0.23***	0.13 - 0.40	0.39**	0.23 - 0.69	0.09***	0.06 - 0.14	0.06***	0.03 - 0.10	0.05***
Quintile 2	0.16***	0.10 - 0.26	1.03	0.37 - 2.88	0.61	0.36 - 1.05	0.67	0.41 - 1.10	0.59*	0.39 - 0.91	0.27***	0.17 - 0.44	0.32***	0.19 - 0.53	0.27***	0.17 - 0.42	
Quintile 3 (Reference)																	
Quintile 4	16.60***	9.72 - 28.36	5.04	0.96 - 26.30	0.95	0.65 - 1.40	1.21	0.76 - 1.91	1.79*	1.11 - 2.87	2.79***	1.83 - 4.27	2.11**	1.25 - 3.54	1.65*	1.09 - 2.50	
Quintile 5	137.72***	43.55 - 435.53	1.49	0.48 - 4.70	1.80*	1.15 - 2.83	4.60***	2.89 - 7.32	1.32	0.61 - 2.86	25.39***	10.35 - 62.30	5.32***	2.20 - 12.87	8.94***	4.46 - 17.91	
Poor relative to community	0.57	0.32 - 1.00	0.90	0.47 - 1.72	0.62*	0.39 - 0.97	0.34***	0.23 - 0.51	1.39	0.93 - 2.09	1.10	0.75 - 1.60	1.01	0.64 - 1.60	1.26	0.79 - 1.99	
Wealth similar to community (reference)																	
Wealthy relative to community	0.79	0.48 - 1.30	1.44	0.58 - 3.59	2.03***	1.48 - 2.78	1.31	0.89 - 1.93	0.91	0.56 - 1.49	0.74	0.48 - 1.15	1.38	0.89 - 2.15	1.04	0.69 - 1.57	
Observations		2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A1—Continued

		Zambia															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
		Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Adjusted odds ratio	95% CI						
Wealth quintile	Quintile 1 (Poorest)	+		0.11***	0.09 - 0.14	0.06**	0.01 - 0.48	+		0.37***	0.27 - 0.49	0.49***	0.37 - 0.64	+		0.27***	0.20 - 0.37
	Quintile 2	0.18***	0.07 - 0.46	0.42***	0.36 - 0.50	0.34*	0.12 - 0.93	0.22*	0.06 - 0.84	0.65***	0.54 - 0.79	0.69***	0.57 - 0.83	0.08***	0.03 - 0.21	0.55***	0.45 - 0.69
	Quintile 3 (Reference)																
	Quintile 4	2.50*	1.22 - 5.13	2.75***	2.14 - 3.53	2.88***	1.63 - 5.08	4.97***	2.85 - 8.68	1.37**	1.09 - 1.72	1.03	0.86 - 1.23	13.98***	10.29 - 18.98	2.15***	1.73 - 2.67
	Quintile 5	29.67***	11.17 - 78.78	18.43***	12.70 - 26.74	17.21***	10.83 - 27.34	57.01***	32.56 - 99.85	2.77***	2.07 - 3.71	2.96***	2.27 - 3.86	161.43***	109.60 - 237.77	9.86**	7.41 - 13.12
Relative community wealth	Poor relative to community	0.39*	0.17 - 0.90	1.35**	1.11 - 1.65	0.74	0.37 - 1.50	1.05	0.63 - 1.72	1.48**	1.16 - 1.90	1.09	0.86 - 1.38	0.85	0.59 - 1.21	1.04	0.82 - 1.34
	Wealth similar to community (reference)																
	Wealthy relative to community	0.29***	0.19 - 0.43	1.06	0.86 - 1.30	1.75**	1.25 - 2.44	0.70*	0.51 - 0.96	0.63***	0.50 - 0.78	0.79*	0.65 - 0.97	0.76	0.57 - 1.01	0.95	0.76 - 1.20
	Observations	6,263		8,117		8,117		6,263		8,117		8,117		6,263		8,117	

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity

Appendix Table A2 Marginal effect of a household being wealthy relative to community versus a household being poor relative to community

DRC																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	+	-0.00	-0.01 - 0.00	0.00	-0.00 - 0.01	0.00	-0.00 - 0.01	+	-0.13***	-0.16 - -0.10	0.13*	0.01 - 0.25	-0.00	-0.00 - 0.00	+	
Quintile 2	+	-0.02**	-0.03 - -0.01	0.00	-0.00 - 0.00	0.00	-0.00 - 0.00	+	-0.28***	-0.35 - -0.22	0.14*	0.02 - 0.25	-0.01	-0.02 - 0.00	+	
Quintile 3 (Reference)	+	-0.06**	-0.10 - -0.02	0.01*	0.00 - 0.02	0.00	-0.00 - 0.01		-0.42***	-0.53 - -0.30	0.14*	0.02 - 0.25	-0.02	-0.04 - 0.00	+	
Quintile 4	+	-0.12**	-0.20 - -0.04	0.06***	0.02 - 0.09	0.00	-0.00 - 0.00		-0.47***	-0.62 - -0.33	0.13*	0.03 - 0.24	-0.05	-0.12 - 0.02	+	
Quintile 5	+	-0.13**	-0.21 - -0.05	0.17***	0.09 - 0.25	0.01	-0.01 - 0.03		-0.42***	-0.52 - -0.33	0.12**	0.03 - 0.22	-0.11	-0.24 - 0.02	+	
Observations	3,622	12,729	12,729	12,729	9,346	12,729	12,729	12,729	12,729	12,729	12,729	12,729	12,729	12,729	0	
Note: *p<0.05, **p<0.01, ***p<0.001; + omitted due to collinearity																
Ghana																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	-0.15***	-0.22 - -0.08	0.02	-0.03 - 0.07	0.26***	0.18 - 0.35	0.05	-0.00 - 0.09	-0.15*	-0.28 - -0.03	-0.12***	-0.16 - -0.07	-0.03	-0.10 - 0.05	-0.16***	-0.21 - -0.10
Quintile 2	-0.21***	-0.32 - -0.10	0.03	-0.03 - 0.08	0.16***	0.10 - 0.21	0.05	-0.00 - 0.10	-0.17**	-0.29 - -0.05	-0.23***	-0.32 - -0.14	-0.03	-0.11 - 0.05	-0.17***	-0.24 - -0.10
Quintile 3 (Reference)	-0.24***	-0.38 - -0.10	0.02	-0.03 - 0.07	0.12***	0.07 - 0.16	0.06*	0.00 - 0.12	-0.16**	-0.26 - -0.05	-0.25***	-0.35 - -0.14	-0.02	-0.07 - 0.03	-0.21***	-0.30 - -0.13
Quintile 4	-0.12**	-0.20 - -0.05	0.02	-0.02 - 0.05	0.11***	0.07 - 0.15	0.07*	0.00 - 0.14	-0.07**	-0.11 - -0.02	-0.21***	-0.30 - -0.13	-0.01	-0.02 - 0.01	-0.14***	-0.20 - -0.08
Quintile 5	-0.03**	-0.05 - -0.01	0.00	-0.00 - 0.01	0.20***	0.15 - 0.26	0.06	-0.00 - 0.12	-0.02**	-0.04 - -0.01	-0.08***	-0.12 - -0.05	-0.00	-0.01 - 0.00	-0.04***	-0.06 - -0.02
Observations	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	5,896	
Note: *p<0.05, **p<0.01, ***p<0.001																

Continues...

Appendix Table A2—Continued

Haiti																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	+		0.06	-0.01 - 0.13	0.00	-0.00 - 0.00	0.00	-0.00 - 0.00	-0.24***	-0.28 - -0.19	0.01	-0.01 - 0.02	+		-0.02	-0.06 - 0.02
Quintile 2	+		0.06	-0.01 - 0.12	0.00	-0.01 - 0.01	0.00	-0.00 - 0.01	-0.37***	-0.45 - -0.28	0.02	-0.03 - 0.07	+		-0.03	-0.10 - 0.04
Quintile 3 (Reference)			0.05	-0.01 - 0.11	0.00	-0.02 - 0.02	0.01	-0.01 - 0.03	-0.35***	-0.42 - -0.27	0.03	-0.04 - 0.09	0.08		-0.03	-0.11 - 0.05
Quintile 4			0.03	-0.01 - 0.07	0.01	-0.04 - 0.05	0.02	-0.03 - 0.07	-0.26***	-0.32 - -0.21	0.03	-0.04 - 0.10	0.05		-0.02	-0.06 - 0.03
Quintile 5			0.01	-0.00 - 0.02	0.02	-0.08 - 0.11	0.04	-0.06 - 0.14	-0.13***	-0.17 - -0.09	0.02	-0.03 - 0.08	0.02		-0.01	-0.02 - 0.01
Observations	6,763		8,888		8,888		8,888		8,888		8,888		6,763		8,888	

Note: *p<0.05, **p<0.01, ***p<0.001; + omitted due to collinearity

Indonesia																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	-0.04	-0.11 - 0.03	0.19***	0.15 - 0.23	0.10***	0.05 - 0.15	0.09***	0.06 - 0.11	-0.19***	-0.26 - -0.13	-0.07	-0.14 - 0.01	-0.14***	-0.21 - -0.08	0.03	-0.01 - 0.07
Quintile 2	-0.01	-0.02 - 0.00	0.09***	0.07 - 0.11	0.07***	0.04 - 0.11	0.12***	0.09 - 0.15	-0.15***	-0.20 - -0.10	-0.05	-0.10 - 0.01	-0.12***	-0.18 - -0.07	0.02	-0.01 - 0.05
Quintile 3 (Reference)	-0.00	-0.01 - 0.00	0.04***	0.03 - 0.05	0.04***	0.02 - 0.06	0.15***	0.11 - 0.19	-0.11***	-0.15 - -0.08	-0.02	-0.05 - 0.00	-0.08***	-0.12 - -0.04	0.02	-0.00 - 0.04
Quintile 4	-0.00	-0.00 - 0.00	0.01***	0.01 - 0.02	0.02***	0.01 - 0.03	0.16***	0.12 - 0.19	-0.09***	-0.11 - -0.06	-0.01	-0.02 - 0.00	-0.04***	-0.06 - -0.02	0.01	-0.00 - 0.02
Quintile 5	-0.00	-0.00 - 0.00	0.00*	0.00 - 0.00	0.00**	0.00 - 0.01	0.10***	0.07 - 0.13	-0.05***	-0.06 - -0.03	-0.00	-0.00 - 0.00	-0.01***	-0.02 - -0.01	0.00	-0.00 - 0.01
Observations	23,403		23,403		23,403		23,403		23,403		23,403		23,403		23,403	

Note: *p<0.05, **p<0.01, ***p<0.001

Continues...

Appendix Table A2—Continued

Kenya																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	+	0	0.16***	0.11 - 0.21	0.02***	0.01 - 0.03	-0.02*	-0.03	-0.16***	-0.09	0.02	-0.05	0	0.01	-0.04***	-0.03
Quintile 2	0	-0.01	0.12***	0.08 - 0.15	0.03***	0.02 - 0.05	-0.03*	-0.05	-0.17***	-0.11	0.03	-0.07	0	-0.02	-0.11***	-0.06
Quintile 3 (Reference)	-0.02***	-0.02	0.05***	0.04 - 0.07	0.05***	0.03 - 0.07	-0.04*	-0.07	-0.17***	-0.11	0.04	-0.07	0	-0.05	-0.14***	-0.1
Quintile 4	-0.09***	-0.08	0.02***	0.02 - 0.03	0.08***	0.06 - 0.11	-0.04*	-0.08	-0.16***	-0.1	0.04	-0.08	-0.01	-0.12	-0.17***	-0.13
Quintile 5	-0.46***	-0.26	0.01***	0.00 - 0.01	0.16***	0.12 - 0.20	-0.03*	-0.06	-0.10***	-0.05	0.04	-0.08	-0.01	-0.08	-0.12***	-0.08
Observations	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516	22,516

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity.

Liberia																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	+	0.03	-0.01 - 0.06	0.00	-0.00 - 0.01	0.00	-0.00 - 0.00	-0.26***	-0.31 - -0.20	-0.01	-0.01 - 0.00	+	+	+	+	+
Quintile 2	+	0.05	-0.01 - 0.11	0.01	-0.00 - 0.03	0.00	-0.00 - 0.00	-0.46***	-0.56 - -0.36	-0.04*	-0.07 - -0.00	+	+	+	+	+
Quintile 3 (Reference)	+	0.06	-0.01 - 0.12	0.02*	0.00 - 0.04	0.00	-0.01 - 0.01	-0.45***	-0.55 - -0.34	-0.07	-0.13 - 0.00	0.01	0.01	-0.01 - 0.03	-0.00	-0.02 - 0.02
Quintile 4	-0.00	-0.01 - 0.01	0.06	-0.01 - 0.12	0.04*	0.00 - 0.07	0.01	-0.02 - 0.03	-0.36***	-0.44 - -0.27	-0.09	-0.17 - 0.00	0.06	-0.05 - 0.16	-0.01	-0.07 - 0.06
Quintile 5	-0.05	-0.23 - 0.12	0.04	-0.01 - 0.08	0.07*	0.01 - 0.14	0.01	-0.03 - 0.06	-0.17***	-0.22 - -0.12	-0.11*	-0.22 - -0.00	0.04	-0.04 - 0.12	-0.02	-0.20 - 0.17
Observations	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104	3,104

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity.

Continues...

Appendix Table A2—Continued

Mali																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	0.01	-0.02 - 0.05	-0.04	-0.10 - 0.02	0.14***	0.08 - 0.20	0.00	-0.00 - 0.00	-0.23***	-0.28 - -0.17	-0.03	-0.07 - 0.01	0.00	-0.00 - 0.00	-0.04	-0.10 - 0.02
Quintile 2	0.03	-0.04 - 0.09	-0.03	-0.07 - 0.01	0.15***	0.09 - 0.21	0.01**	0.00 - 0.02	-0.32***	-0.40 - -0.24	-0.05	-0.12 - 0.02	0.03	-0.00 - 0.05	-0.04	-0.11 - 0.02
Quintile 3 (Reference)	0.03	-0.04 - 0.11	-0.03	-0.07 - 0.01	0.15***	0.09 - 0.21	0.03**	0.01 - 0.05	-0.29***	-0.37 - -0.22	-0.06	-0.15 - 0.03	0.06*	0.00 - 0.11	-0.04	-0.11 - 0.03
Quintile 4	0.04	-0.05 - 0.12	-0.02	-0.04 - 0.00	0.14***	0.08 - 0.20	0.07***	0.03 - 0.10	-0.22***	-0.27 - -0.17	-0.06	-0.14 - 0.03	0.11*	0.01 - 0.21	-0.05	-0.13 - 0.03
Quintile 5	0.02	-0.04 - 0.09	-0.01	-0.02 - 0.00	0.11***	0.06 - 0.16	0.16***	0.07 - 0.24	-0.10***	-0.13 - -0.07	-0.02	-0.05 - 0.01	0.08	-0.00 - 0.17	-0.05	-0.13 - 0.03
Observations	6,565		6,565		6,565		6,565		6,565		6,565		6,565		6,565	
Note: *p<0.05, **p<0.01, ***p<0.001																
Nigeria																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	-0.04***	-0.05 - -0.02	0.22***	0.18 - 0.26	0.20***	0.16 - 0.24	0.01	-0.00 - 0.01	-0.16***	-0.21 - -0.11	-0.03***	-0.04 - 0.01	-0.02*	-0.03 - 0.00	-0.05***	-0.07 - -0.03
Quintile 2	-0.14***	-0.17 - -0.11	0.15***	0.13 - 0.18	0.25***	0.21 - 0.29	0.01*	0.00 - 0.03	-0.17***	-0.23 - -0.11	-0.07***	-0.11 - -0.03	-0.06*	-0.12 - -0.01	-0.17***	-0.20 - -0.14
Quintile 3 (Reference)	-0.29***	-0.35 - -0.24	0.11***	0.09 - 0.13	0.26***	0.23 - 0.30	0.03*	0.00 - 0.06	-0.17***	-0.24 - -0.11	-0.10***	-0.15 - -0.04	-0.06*	-0.12 - -0.01	-0.35***	-0.41 - -0.29
Quintile 4	-0.36***	-0.43 - -0.29	0.05***	0.04 - 0.06	0.27***	0.23 - 0.31	0.05*	0.00 - 0.09	-0.16***	-0.22 - -0.10	-0.11***	-0.16 - -0.05	-0.04*	-0.09 - 0.00	-0.28***	-0.33 - -0.23
Quintile 5	-0.18***	-0.21 - -0.14	0.01***	0.01 - 0.01	0.27***	0.23 - 0.31	0.03	-0.00 - 0.06	-0.11***	-0.14 - -0.07	-0.07***	-0.11 - -0.04	-0.01*	-0.02 - 0.00	-0.06***	-0.08 - -0.04
Observations	23,647		23,647		23,647		23,647		23,647		23,647		23,647		23,647	
Note: *p<0.05, **p<0.01, ***p<0.001																

Continues...

Appendix Table A2—Continued

Pakistan																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	-0.46***	-0.65 - -0.28	0.07	-0.01 - 0.15	0.21***	0.13 - 0.29	0.05***	0.03 - 0.07	-0.22*	-0.41 - -0.02	-0.05	-0.13 - 0.03	-0.01**	-0.02 - 0.00	-0.09***	-0.13 - -0.05
Quintile 2	-0.17**	-0.29 - -0.05	0.04	-0.01 - 0.08	0.23***	0.15 - 0.30	0.09***	0.06 - 0.13	-0.13*	-0.23 - -0.03	-0.06	-0.15 - 0.04	-0.13***	-0.17 - -0.08	-0.26***	-0.38 - -0.15
Quintile 3 (Reference)	-0.04**	-0.06 - -0.02	0.02	-0.00 - 0.04	0.23***	0.15 - 0.31	0.16***	0.11 - 0.22	-0.06***	-0.09 - -0.02	-0.03	-0.07 - 0.02	-0.22***	-0.31 - -0.14	-0.21***	-0.30 - -0.13
Quintile 4	-0.01*	-0.03 - -0.00	0.01	-0.00 - 0.01	0.22***	0.14 - 0.29	0.21***	0.15 - 0.27	-0.04**	-0.06 - -0.01	-0.00	-0.01 - 0.00	-0.20***	-0.28 - -0.12	-0.11***	-0.15 - -0.07
Quintile 5	+		0.00	-0.00 - 0.01	0.13***	0.07 - 0.19	0.24***	0.16 - 0.32	-0.02**	-0.03 - -0.00	+		-0.03***	-0.05 - -0.02	-0.03***	-0.04 - -0.01
Observations	4,738		5,778		5,778		5,778		5,778		4,738		5,778		5,778	

Note: *p<0.05, **p<0.01, ***p<0.001; + omitted due to collinearity

Senegal																
Wealth quintile	Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	0.00	-0.00 - 0.01	0.03	-0.03 - 0.08	0.12**	0.05 - 0.19	0.04**	0.01 - 0.07	-0.10	-0.27 - 0.06	-0.06	-0.13 - 0.01	0.06	-0.04 - 0.16	-0.03	-0.10 - 0.05
Quintile 2	0.02	-0.02 - 0.05	0.01	-0.01 - 0.03	0.15***	0.08 - 0.23	0.11***	0.05 - 0.16	-0.10	-0.25 - 0.06	-0.09	-0.21 - 0.02	0.07	-0.04 - 0.19	-0.05	-0.19 - 0.09
Quintile 3 (Reference)	0.07	-0.05 - 0.18	0.01	-0.02 - 0.04	0.20***	0.12 - 0.29	0.14***	0.08 - 0.20	-0.08	-0.20 - 0.05	-0.08	-0.17 - 0.02	0.04	-0.03 - 0.11	-0.03	-0.12 - 0.06
Quintile 4	0.04	-0.04 - 0.12	0.00	-0.00 - 0.01	0.20***	0.12 - 0.28	0.16***	0.10 - 0.23	-0.06	-0.14 - 0.02	-0.04	-0.09 - 0.01	0.02	-0.02 - 0.06	-0.02	-0.09 - 0.04
Quintile 5	0.01	-0.01 - 0.02	0.01	-0.01 - 0.03	0.26***	0.16 - 0.37	0.31***	0.22 - 0.40	-0.07	-0.16 - 0.02	-0.01	-0.01 - 0.00	0.01	-0.01 - 0.03	-0.01	-0.02 - 0.01
Observations	2,850		2,850		2,850		2,850		2,850		2,850		2,850		2,850	

Note: *p<0.05, **p<0.01, ***p<0.001

Continues...

Appendix Table A2—Continued

		Zambia															
		Electricity		Telephone		Vehicle		Bank		Improved water		Improved sanitation		Improved flooring		Improved walls	
Wealth quintile		Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI	Marginal effect	95% CI
Quintile 1 (Poorest)	+	-0.04*	-0.08 - -0.01	0.00	-0.00 - 0.00	0.00	-0.00 - 0.00	+		-0.19***	-0.25 - -0.13	-0.05*	-0.10 - -0.00	+		-0.01	-0.03 - 0.02
Quintile 2	+	-0.06*	-0.11 - -0.01	0.01	-0.00 - 0.01	0.01	-0.00 - 0.01	+		-0.21***	-0.29 - -0.13	-0.06*	-0.13 - -0.00	+		-0.01	-0.06 - 0.03
Quintile 3 (Reference)	-0.00	-0.01 - 0.01	-0.09 - -0.01	0.02**	0.00 - 0.03	-0.00	-0.01 - 0.00	-0.00		-0.21***	-0.28 - -0.13	-0.07	-0.15 - 0.00	-0.00		-0.02	-0.08 - 0.04
Quintile 4	-0.01	-0.03 - 0.02	-0.05 - -0.00	0.04**	0.01 - 0.07	-0.02	-0.05 - 0.01	-0.02		-0.19***	-0.26 - -0.12	-0.07	-0.15 - 0.00	-0.02		-0.02	-0.10 - 0.05
Quintile 5	-0.05	-0.24 - -0.14	-0.00*	-0.01 - -0.00	0.15**	0.06 - 0.25	-0.10	-0.23 - 0.04	-0.10		-0.14***	-0.18 - -0.10	-0.07*	-0.14 - -0.00	-0.01	-0.05 - 0.03	-0.07 - 0.03
Observations	6,263	8,117	8,117	8,117	8,117	8,117	8,117	8,117	8,117	8,117	8,117	8,117	8,117	6,263	8,117	8,117	8,117

Note: *p<0.05; **p<0.01; ***p<0.001; + omitted due to collinearity

Appendix Table A3 Unadjusted and adjusted odds ratios for maternal and reproductive health indicators

Covariates	DRC											
	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.15	0.96 - 1.38	1.18	0.94 - 1.47	1.14	0.90 - 1.46	1.36*	1.01 - 1.82	1.27	0.74 - 2.18	1.23	0.71 - 2.14
Poor	1.26*	1.01 - 1.57	1.36*	1.02 - 1.83	1.70***	1.31 - 2.20	2.48***	1.74 - 3.52	1.49	0.93 - 2.37	1.41	0.84 - 2.39
Middle	1.39**	1.11 - 1.75	1.58**	1.16 - 2.16	2.03***	1.54 - 2.67	3.09***	2.05 - 4.63	1.44	0.85 - 2.43	1.32	0.67 - 2.58
Rich	1.31*	1.03 - 1.67	1.41	0.99 - 1.99	5.03***	3.29 - 7.68	7.54***	4.50 - 12.63	2.87***	1.60 - 5.14	2.36*	1.14 - 4.89
Relative community wealth												
Poor household relative to community (Ref)	0.81*	0.69 - 0.96	0.77*	0.62 - 0.97	0.76	0.58 - 1.00	0.54***	0.41 - 0.73	1.42	0.84 - 2.41	1.05	0.62 - 1.75
Wealth similar to community	0.84	0.69 - 1.02	0.71*	0.54 - 0.94	0.64***	0.50 - 0.82	0.32***	0.22 - 0.48	1.36	0.90 - 2.05	0.96	0.54 - 1.72
Wealthy household relative to community												
Education												
None (Ref)	1.57***	1.33 - 1.85	1.52***	1.26 - 1.83	2.20***	1.85 - 2.61	1.98***	1.65 - 2.38	1.72**	1.17 - 2.51	1.62*	1.10 - 2.37
Primary	1.77**	1.22 - 2.57	1.67*	1.06 - 2.63	3.14**	1.38 - 7.15	2.45*	1.07 - 5.58	5.49***	3.26 - 9.27	4.75***	2.84 - 7.96
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	1.01*	0.85 - 1.19	1.01	0.85 - 1.20	1.32* +	1.06 - 1.64	1.28*	1.04 - 1.58	1.15	0.86 - 1.54	1.09	0.82 - 1.45
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	1.01	0.61 - 1.65	1.13	0.57 - 2.21	0.76	0.43 - 1.34	0.95	0.52 - 1.73	3.73*	1.18 - 11.84	3.53*	1.12 - 11.13
1-2	0.89	0.55 - 1.44	1.06	0.55 - 2.04	0.58	0.33 - 1.03	0.74	0.41 - 1.32	3.14*	1.00 - 9.84	3.39*	1.08 - 10.62
3-5	0.74	0.44 - 1.25	0.89	0.45 - 1.75	0.61	0.34 - 1.08	0.77	0.42 - 1.42	3.41*	1.02 - 11.41	3.66*	1.10 - 12.18
6+												
Observations	7,861		6,757		7,861		6,757		8,668		8,668	

Note: *p<0.05, **p<0.01, ***p<0.001; +n=6,757

Continues...

Appendix Table A3—Continued

Ghana												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.11	0.70 - 1.75	1.02	0.62 - 1.67	1.32	0.93 - 1.89	1.21	0.86 - 1.70	1.48*	1.06 - 2.07	1.28	0.90 - 1.80
Poor	1.46	0.85 - 2.51	1.13	0.63 - 2.02	1.95**	1.31 - 2.91	1.54*	1.02 - 2.32	1.47*	1.02 - 2.11	1.15	0.78 - 1.70
Middle	2.00*	1.06 - 3.76	1.58	0.76 - 3.29	2.51***	1.59 - 3.94	1.98**	1.18 - 3.31	1.49*	1.06 - 2.10	1.09	0.75 - 1.59
Rich	6.18***	2.98 - 12.83	4.63**	1.76 - 12.19	6.36***	4.02 - 10.06	4.03***	2.20 - 7.36	1.42	0.97 - 2.06	0.88	0.60 - 1.30
Relative community wealth												
Poor household relative to community (Ref)	0.95	0.63 - 1.43	0.79	0.50 - 1.24	0.97	0.64 - 1.48	0.81	0.55 - 1.19	0.87	0.68 - 1.12	0.96	0.73 - 1.26
Wealth similar to community	1.03	0.67 - 1.60	0.73	0.39 - 1.39	1.16	0.79 - 1.69	0.73	0.43 - 1.22	1.02	0.77 - 1.36	1.12	0.81 - 1.56
Wealthy household relative to community												
Education												
None (Ref)	2.18**	1.51 - 3.15	1.45	0.99 - 2.13	2.58***	1.99 - 3.35	1.51**	1.14 - 1.98	1.46***	1.20 - 1.76	1.58***	1.29 - 1.93
Primary	3.63**	1.49 - 8.85	2.94	0.65 - 13.27	7.34***	2.92 - 18.47	4.66**	1.57 - 13.81	2.25*	1.12 - 4.52	3.34**	1.62 - 6.92
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	2.04**	1.27 - 3.27	1.68*	1.12 - 2.51	2.23***	1.64 - 3.05	1.82***	1.37 - 2.41	1.44*	1.09 - 1.91	1.30	0.97 - 1.73
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	1.53	0.51 - 4.63	3.25	0.71 - 14.90	0.42	0.12 - 1.48	0.31	0.05 - 1.79	3.67***	1.84 - 7.32	4.10***	2.00 - 8.38
1-2	1.32	0.45 - 3.90	2.61	0.59 - 11.51	0.29	0.08 - 1.02	0.25	0.04 - 1.37	4.03***	2.09 - 7.78	4.80***	2.41 - 9.54
3-5	0.82	0.27 - 2.47	2.18	0.47 - 10.07	0.20*	0.06 - 0.71	0.23	0.04 - 1.30	4.07***	2.03 - 8.17	5.33***	2.54 - 11.20
6+												
Observations	2,516		2,145		2,516		2,145		2,997		2,997	

Note: *p<0.05; **p<0.01; ***p<0.001; +n=2,145

Continues...

Appendix Table A3—Continued

Haiti												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)												
Poor	1.39*	1.07 - 1.80	1.37*	1.02 - 1.84	1.91***	1.37 - 2.67	2.02***	1.41 - 2.89	1.36*	1.05 - 1.75	1.30*	1.01 - 1.68
Middle	1.65***	1.25 - 2.17	1.49*	1.06 - 2.09	2.80***	2.00 - 3.93	2.61***	1.75 - 3.91	1.27*	1.01 - 1.59	1.19	0.92 - 1.53
Rich	2.85***	1.96 - 4.15	2.32***	1.44 - 3.74	4.78***	3.46 - 6.61	4.04***	2.68 - 6.09	1.55**	1.18 - 2.04	1.41*	1.01 - 1.96
Richest	5.47***	3.71 - 8.06	3.81***	2.41 - 6.03	13.25***	9.57 - 18.33	11.74***	7.79 - 17.68	1.15	0.88 - 1.52	1.14	0.81 - 1.59
Relative community wealth												
Poor household relative to community (Ref)												
Wealth similar to community	1.33*	1.01 - 1.75	0.95	0.69 - 1.30	1.23	0.96 - 1.59	0.59***	0.45 - 0.76	0.97	0.79 - 1.19	1.00	0.80 - 1.26
Wealthy household relative to community	1.35*	1.01 - 1.78	0.86	0.58 - 1.28	1.18	0.89 - 1.58	0.51***	0.38 - 0.70	1.14	0.94 - 1.37	1.07	0.85 - 1.35
Education												
None (Ref)												
Primary	2.41***	1.95 - 2.98	1.65***	1.34 - 2.04	3.63***	3.00 - 4.40	1.75***	1.37 - 2.25	1.18	0.99 - 1.40	1.23*	1.01 - 1.50
Secondary or higher	18.24***	3.35 - 99.21	8.18*	1.20 - 55.74	17.24***	8.87 - 33.50	4.07***	1.96 - 8.46	0.52**	0.32 - 0.84	0.66	0.39 - 1.13
Health care decision making												
Someone else makes health care decisions (Ref)												
Decides on own health care either alone or jointly with partner	1.14*	0.92 - 1.41	1.15	0.90 - 1.48	1.11*	0.90 - 1.36	1.16	0.92 - 1.46	1.18*	1.02 - 1.37	1.16	0.99 - 1.36
Number of living children												
None (Ref)												
1-2	3.31**	1.46 - 7.53	2.67	0.98 - 7.25	1.45	0.68 - 3.08	1.45	0.40 - 5.31	5.52***	3.03 - 10.06	5.45***	2.96 - 10.05
3-5	2.27*	1.04 - 4.96	2.22	0.83 - 5.96	0.68	0.31 - 1.48	0.91	0.25 - 3.39	6.97***	3.74 - 12.97	7.09***	3.79 - 13.26
6+	1.64	0.70 - 3.86	2.10	0.74 - 5.97	0.38*	0.16 - 0.89	0.71	0.17 - 2.92	4.13***	2.17 - 7.87	4.49***	2.34 - 8.64
Observations	3,388		2,965		3,388		2,965		4,944		4,944	

Note: *p<0.05; **p<0.01; ***p<0.001; +n=2,965

Continues...

Appendix Table A3—Continued

		Indonesia											
		4+ ANC visits				Delivered in health facility				Modern contraceptive use			
Covariates		Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile	Poorest (Ref)												
	Poor	2.21***	1.74 - 2.80	1.97***	1.54 - 2.51	2.17***	1.77 - 2.67	2.08***	1.64 - 2.63	1.49***	1.30 - 1.71	1.45***	1.26 - 1.67
	Middle	2.81***	2.13 - 3.70	2.52***	1.87 - 3.40	3.54***	2.81 - 4.45	3.55***	2.71 - 4.66	1.44***	1.25 - 1.65	1.37***	1.18 - 1.60
	Rich	3.73***	2.66 - 5.24	3.29***	2.23 - 4.84	4.43***	3.45 - 5.68	4.53***	3.26 - 6.28	1.44***	1.25 - 1.66	1.40***	1.19 - 1.65
	Richest	7.31***	5.07 - 10.53	6.66***	4.21 - 10.54	7.66***	5.84 - 10.05	8.64***	5.94 - 12.54	1.26***	1.10 - 1.45	1.30**	1.10 - 1.52
Relative community wealth	Poor household relative to community (Ref)												
	Wealth similar to community	0.80	0.63 - 1.02	0.83	0.66 - 1.05	0.78*	0.63 - 0.96	0.73**	0.59 - 0.90	0.85**	0.77 - 0.95	0.93	0.83 - 1.04
	Wealthy household relative to community	1.18	0.93 - 1.50	0.61**	0.45 - 0.82	1.07	0.86 - 1.33	0.50***	0.37 - 0.68	0.97	0.88 - 1.08	0.98	0.87 - 1.11
Education	None (Ref)												
	Primary	2.88**	2.20 - 3.77	1.86***	1.40 - 2.48	2.31***	1.85 - 2.87	1.42**	1.15 - 1.76	1.52***	1.34 - 1.72	1.46***	1.29 - 1.66
	Secondary or higher	5.22***	3.81 - 7.17	2.39***	1.70 - 3.37	4.03***	3.16 - 5.16	1.76***	1.37 - 2.25	0.93	0.82 - 1.06	0.96	0.83 - 1.11
Health care decision making	Someone else makes health care decisions (Ref)												
	Decides on own health care either alone or jointly with partner	1.54***	1.24 - 1.91	1.41**	1.12 - 1.78	1.18-	0.99 - 1.42	1.10	0.91 - 1.33	1.04	0.91 - 1.18	1.01	0.88 - 1.16
Number of living children	None (Ref)												
	1-2	10.02***	4.32 - 23.25	10.41***	4.03 - 26.88	5.15***	2.24 - 11.83	5.75***	2.28 - 14.52	30.48***	21.02 - 44.19	29.71***	20.51 - 43.04
	3-5	5.21***	2.21 - 12.29	6.32***	2.41 - 16.58	2.83*	1.23 - 6.52	3.58**	1.40 - 9.12	30.56***	20.92 - 44.65	30.58***	20.91 - 44.72
	6+	1.70	0.70 - 4.10	3.41*	1.27 - 9.14	0.97	0.39 - 2.38	1.99	0.73 - 5.41	13.30***	8.54 - 20.71	14.73***	9.37 - 23.15
Observations		7,786	7,527	7,527	7,786	7,527	7,527	7,527	7,527	17,147	17,147	17,147	17,147

Note: *p<0.05; **p<0.01; ***p<0.001; +n=7,527

Continues...

Appendix Table A3—Continued

Kenya												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.18*	1.01 - 1.39	1.05	0.88 - 1.26	2.35***	1.96 - 2.81	1.95***	1.59 - 2.39	3.72***	3.13 - 4.42	3.38***	2.84 - 4.01
Poor	1.38***	1.17 - 1.63	1.20	0.98 - 1.47	3.23***	2.65 - 3.95	2.44***	1.97 - 3.04	4.85***	4.09 - 5.75	4.50***	3.78 - 5.37
Middle	1.67***	1.41 - 1.98	1.40**	1.14 - 1.71	5.62***	4.59 - 6.88	4.35***	3.39 - 5.57	5.90***	5.01 - 6.95	5.87***	4.89 - 7.04
Rich	2.44***	2.06 - 2.90	1.89***	1.50 - 2.39	11.87***	9.32 - 15.12	9.27***	6.90 - 12.46	6.44***	5.40 - 7.66	7.46***	6.07 - 9.17
Relative community wealth												
Poor household relative to community (Ref)	1.03	0.91 - 1.15	1.00	0.86 - 1.16	0.72***	0.63 - 0.83	0.63***	0.53 - 0.74	0.57***	0.50 - 0.65	0.55***	0.48 - 0.64
Wealth similar to community	1.19*	1.03 - 1.37	0.98	0.83 - 1.17	1.15	0.97 - 1.37	0.55***	0.44 - 0.69	0.80**	0.70 - 0.93	0.46***	0.39 - 0.54
Wealthy household relative to community												
Education												
None (Ref)	1.41***	1.25 - 1.59	1.22*	1.05 - 1.41	2.98***	2.62 - 3.39	1.57***	1.35 - 1.83	2.18***	1.96 - 2.42	1.32***	1.18 - 1.49
Primary	2.48***	2.09 - 2.94	1.79***	1.45 - 2.19	8.11***	6.62 - 9.94	2.74***	2.16 - 3.46	2.12***	1.82 - 2.47	1.19	1.00 - 1.43
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	1.00*	0.89 - 1.11	0.97	0.87 - 1.09	1.18** +	1.06 - 1.31	1.15*	1.02 - 1.30	1.06	0.96 - 1.16	0.97	0.88 - 1.07
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	0.80	0.31 - 2.07	0.74	0.24 - 2.31	0.85	0.30 - 2.42	0.64	0.14 - 2.97	21.95***	11.63 - 41.44	23.39***	12.18 - 44.89
1-2	0.69	0.27 - 1.77	0.63	0.20 - 1.95	0.38	0.14 - 1.08	0.34	0.07 - 1.57	27.31***	14.82 - 50.33	32.40***	17.21 - 61.01
3-5	0.51	0.20 - 1.29	0.55	0.18 - 1.71	0.19**	0.07 - 0.54	0.24	0.05 - 1.10	14.06***	7.67 - 25.77	21.50***	11.42 - 40.45
6+												
Observations	9,785		8,152	9,785	8,152		8,152		12,230		12,230	

Note: *p<0.05, **p<0.01, ***p<0.001; + n=8,152

Continues...

Appendix Table A3—Continued

Liberia												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)												
Poor	1.47*	1.07 - 2.02	1.73**	1.21 - 2.48	1.27	0.97 - 1.66	1.29	0.98 - 1.70	1.20	0.88 - 1.64	1.37	0.98 - 1.90
Middle	1.66**	1.20 - 2.31	2.01***	1.34 - 2.99	1.44*	1.08 - 1.93	1.65**	1.18 - 2.32	1.21	0.91 - 1.62	1.38*	1.01 - 1.87
Rich	1.98***	1.41 - 2.78	2.66***	1.73 - 4.08	2.04***	1.49 - 2.79	1.96***	1.34 - 2.87	1.74**	1.22 - 2.48	1.97**	1.31 - 2.97
Richest	3.41***	2.42 - 4.81	4.45***	2.91 - 6.80	2.44***	1.67 - 3.56	2.53***	1.57 - 4.08	2.08***	1.54 - 2.82	2.31***	1.58 - 3.38
Relative community wealth												
Poor household relative to community (Ref)												
Wealth similar to community	0.93	0.72 - 1.21	0.79	0.58 - 1.08	0.90	0.69 - 1.18	0.70*	0.54 - 0.92	1.06	0.80 - 1.42	0.84	0.59 - 1.18
Wealthy household relative to community	0.92	0.70 - 1.22	0.54**	0.37 - 0.79	0.91	0.69 - 1.22	0.59**	0.42 - 0.83	0.90	0.67 - 1.19	0.63**	0.45 - 0.88
Education												
None (Ref)												
Primary	1.73***	1.30 - 2.31	1.76**	1.21 - 2.57	2.04***	1.57 - 2.66	1.61**	1.17 - 2.22	1.90***	1.50 - 2.40	2.00***	1.55 - 2.58
Secondary or higher	3.16*	1.26 - 7.87	1.27	0.44 - 3.65	4.67***	2.00 - 10.90	3.22*	1.17 - 8.87	2.79***	1.53 - 5.07	2.70**	1.41 - 5.17
Health care decision making												
Someone else makes health care decisions (Ref)												
Decides on own health care either alone or jointly with partner	1.08 +	0.82 - 1.42	1.13	0.85 - 1.51	1.02 +	0.80 - 1.30	1.09	0.84 - 1.41	1.26	0.97 - 1.64	1.25	0.96 - 1.63
Number of living children												
None (Ref)												
1-2	1.22	0.57 - 2.61	1.78	0.51 - 6.21	1.40	0.66 - 2.95	1.12	0.28 - 4.47	3.58**	1.58 - 8.10	3.99**	1.72 - 9.24
3-5	1.13	0.53 - 2.42	1.77	0.50 - 6.22	0.87	0.42 - 1.82	0.83	0.21 - 3.26	5.34***	2.37 - 12.07	6.71***	2.88 - 15.64
6+	1.04	0.49 - 2.22	1.81	0.50 - 6.55	0.80	0.37 - 1.73	0.82	0.20 - 3.28	5.30***	2.35 - 11.98	6.97***	3.02 - 16.07
Observations	3,493		2,761		3,493		2,761		3,863		3,863	

Note: +p<0.05, **p<0.01, ***p<0.001; + n=2,761

Continues...

Appendix Table A3—Continued

Mali												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.31*	1.02 - 1.69	1.48**	1.15 - 1.92	1.32	0.99 - 1.76	1.62**	1.18 - 2.22	0.98	0.69 - 1.39	1.08	0.76 - 1.54
Poor	1.42**	1.10 - 1.85	1.84***	1.38 - 2.45	1.61**	1.18 - 2.18	2.38***	1.61 - 3.53	1.16	0.85 - 1.60	1.36	0.96 - 1.92
Middle	1.86***	1.42 - 2.43	2.44***	1.81 - 3.29	2.47***	1.73 - 3.54	3.90***	2.39 - 6.36	1.87**	1.27 - 2.74	2.25***	1.48 - 3.41
Rich	3.84***	2.89 - 5.11	4.60***	3.33 - 6.36	7.88***	5.08 - 12.21	11.21***	6.44 - 19.51	2.24***	1.57 - 3.21	2.54***	1.66 - 3.89
Relative community wealth												
Poor household relative to community (Ref)	1.29*	1.05 - 1.58	0.83	0.68 - 1.01	1.17	0.90 - 1.54	0.67*	0.50 - 0.91	1.02	0.81 - 1.28	0.71**	0.56 - 0.90
Wealth similar to community	0.87	0.72 - 1.06	0.50***	0.39 - 0.65	0.78	0.60 - 1.00	0.34***	0.22 - 0.52	0.88	0.69 - 1.12	0.60***	0.44 - 0.81
Wealthy household relative to community												
Education												
None (Ref)	2.18***	1.76 - 2.70	1.57***	1.27 - 1.95	3.53***	2.63 - 4.74	2.05***	1.52 - 2.78	2.43***	1.96 - 3.00	2.42***	1.89 - 3.10
Primary	4.65***	1.90 - 11.41	2.03	0.81 - 5.10	6.38*	1.28 - 31.81	1.56	0.38 - 6.35	2.54*	1.06 - 6.08	2.08	0.79 - 5.43
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	0.97 +	0.76 - 1.24	1.04	0.80 - 1.33	1.02 +	0.79 - 1.32	1.15	0.89 - 1.49	1.15	0.91 - 1.45	1.11	0.87 - 1.40
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	1.45	0.76 - 2.75	1.30	0.60 - 2.81	1.32	0.65 - 2.68	1.55	0.61 - 3.94	7.14***	3.98 - 12.80	7.34***	4.11 - 13.10
1-2	1.30	0.68 - 2.46	1.27	0.59 - 2.75	1.00	0.49 - 2.02	1.34	0.53 - 3.40	8.46***	4.78 - 15.00	10.33***	5.86 - 18.23
3-5	1.37	0.71 - 2.62	1.56	0.71 - 3.42	0.96	0.47 - 1.95	1.49	0.59 - 3.76	8.95***	4.98 - 16.09	12.48***	7.00 - 22.26
6+												
Observations	4,642		4,495		4,642		4,495		5,963		5,963	

Note: *p<0.05, **p<0.01, ***p<0.001; + n=4,495

Continues...

Appendix Table A3—Continued

Nigeria												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.55***	1.31 - 1.85	1.51***	1.26 - 1.81	2.00***	1.60 - 2.52	1.78***	1.43 - 2.22	1.77**	1.23 - 2.56	1.55*	1.10 - 2.19
Poor	2.03***	1.63 - 2.51	1.84***	1.46 - 2.31	3.04***	2.35 - 3.94	2.44***	1.90 - 3.15	2.22***	1.54 - 3.21	1.69**	1.19 - 2.41
Middle	3.78***	3.07 - 4.65	2.82***	2.21 - 3.59	6.67***	5.06 - 8.80	4.16***	3.10 - 5.59	4.02***	2.87 - 5.62	2.32***	1.59 - 3.38
Rich	8.19***	6.52 - 10.28	4.28***	3.22 - 5.69	16.62***	12.55 - 22.02	7.18***	5.19 - 9.92	6.61***	4.76 - 9.18	2.66***	1.72 - 4.12
Relative community wealth												
Poor household relative to community (Ref)	1.00	0.88 - 1.15	0.83**	0.73 - 0.96	1.00	0.86 - 1.16	0.66***	0.56 - 0.78	0.99	0.82 - 1.19	0.78*	0.65 - 0.95
Wealth similar to community	0.89	0.75 - 1.05	0.64***	0.52 - 0.78	0.88	0.72 - 1.08	0.54***	0.42 - 0.68	0.86	0.69 - 1.07	0.78*	0.61 - 0.99
Wealthy household relative to community												
Education												
None (Ref)	3.00***	2.60 - 3.46	1.93***	1.66 - 2.24	4.88***	4.17 - 5.71	2.66***	2.24 - 3.16	3.88***	3.22 - 4.66	2.67***	2.16 - 3.30
Primary	7.35***	6.15 - 8.78	3.52***	2.85 - 4.35	12.14***	9.96 - 14.80	4.90***	4.00 - 6.00	5.25***	4.30 - 6.42	3.45***	2.67 - 4.46
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	2.49***	2.18 - 2.85	1.50***	1.32 - 1.71	2.93***	2.52 - 3.40	1.48***	1.27 - 1.73	2.91***	2.43 - 3.49	1.63***	1.33 - 2.00
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	1.33	0.93 - 1.91	0.91	0.61 - 1.37	1.50	0.95 - 2.37	0.87	0.49 - 1.55	12.19***	6.43 - 23.11	10.67***	5.61 - 20.30
1-2	1.14	0.80 - 1.62	0.87	0.59 - 1.28	1.11	0.71 - 1.74	0.75	0.42 - 1.32	17.13***	8.72 - 33.66	17.15***	8.75 - 33.59
3-5	0.96	0.66 - 1.39	0.93	0.62 - 1.40	0.74	0.47 - 1.16	0.69	0.39 - 1.23	13.99***	6.93 - 28.23	18.74***	9.32 - 37.69
6+												
Observations	14,082		13,320		14,082		13,320		18,485		18,485	

Note: *p<0.05, **p<0.01, ***p<0.001; + n=13,320

Continues...

Appendix Table A3—Continued

		Pakistan											
		4+ ANC visits				Delivered in health facility				Modern contraceptive use			
Covariates		Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile	Poorest (Ref)	1.20	0.84 - 1.71	1.21	0.86 - 1.71	0.86	0.62 - 1.19	0.82	0.60 - 1.14	1.13	0.83 - 1.55	1.11	0.80 - 1.55
	Poor	1.97***	1.43 - 2.70	1.80***	1.28 - 2.55	1.34	0.98 - 1.85	1.17	0.82 - 1.67	1.49*	1.08 - 2.05	1.59**	1.13 - 2.24
	Middle	3.11***	2.16 - 4.49	2.82***	1.91 - 4.16	2.40***	1.71 - 3.37	2.02***	1.36 - 3.00	1.70***	1.25 - 2.32	1.79***	1.27 - 2.52
	Rich	8.99***	6.13 - 13.17	6.88***	4.37 - 10.84	6.07***	3.94 - 9.35	4.07***	2.37 - 6.99	1.82***	1.32 - 2.50	1.98***	1.34 - 2.92
Relative community wealth	Poor household relative to community (Ref)	0.94	0.70 - 1.26	0.61***	0.47 - 0.79	1.16	0.87 - 1.55	0.83	0.64 - 1.09	0.82	0.66 - 1.02	0.80	0.64 - 1.00
	Wealth similar to community	0.98	0.74 - 1.31	0.50***	0.36 - 0.67	1.37*	1.00 - 1.88	0.81	0.56 - 1.18	0.80*	0.64 - 0.99	0.79	0.61 - 1.02
	Wealthy household relative to community												
Education	None (Ref)	2.84***	2.17 - 3.72	1.58***	1.22 - 2.06	2.23***	1.71 - 2.90	1.40*	1.07 - 1.84	1.33**	1.10 - 1.62	1.43***	1.17 - 1.75
	Primary	6.49***	4.70 - 8.97	2.27***	1.61 - 3.19	5.56***	3.75 - 8.24	2.11***	1.40 - 3.20	1.40*	1.06 - 1.85	1.85***	1.35 - 2.54
	Secondary or higher	1.43*** +	1.17 - 1.75	1.31*	1.06 - 1.61	1.29** +	1.07 - 1.57	1.24*	1.03 - 1.50	1.49***	1.27 - 1.75	1.16	0.99 - 1.37
Health care decision making	Someone else makes health care decisions (Ref)												
	Decides on own health care either alone or jointly with partner												
Number of living children	None (Ref)	1.35	0.66 - 2.75	1.02	0.45 - 2.30	0.63	0.27 - 1.49	0.47	0.19 - 1.18	64.88***	13.97 - 301.39	65.72***	14.11 - 306.07
	1-2	0.95	0.46 - 1.94	0.77	0.34 - 1.75	0.36*	0.14 - 0.86	0.28**	0.11 - 0.73	198.19***	40.95 - 959.20	223.18***	46.33 - 1,075.08
	3-5	0.51	0.25 - 1.04	0.60	0.26 - 1.39	0.25**	0.10 - 0.61	0.27**	0.10 - 0.69	223.91***	46.00 - 1,089.84	303.37***	63.54 - 1,448.42
	6+												
Observations		3,645		3,595		3,645		3,595		6,036		6,036	

Note: *p<0.05; **p<0.01; ***p<0.001; + n=3,595

Continues...

Appendix Table A3—Continued

Senegal												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)												
Poor	1.35**	1.11 - 1.65	1.31*	1.06 - 1.62	1.57***	1.23 - 2.01	1.80***	1.35 - 2.40	1.05	0.84 - 1.30	1.07	0.85 - 1.34
Middle	1.73***	1.39 - 2.14	1.72***	1.36 - 2.17	2.61***	1.99 - 3.42	3.15***	2.28 - 4.34	1.12	0.88 - 1.42	1.14	0.88 - 1.48
Rich	2.35***	1.91 - 2.89	2.21***	1.77 - 2.74	4.74***	3.46 - 6.50	5.61***	3.82 - 8.24	1.23	0.96 - 1.58	1.30	0.98 - 1.72
Richest	3.32***	2.64 - 4.18	3.07***	2.36 - 4.01	9.64***	6.33 - 14.68	11.12***	6.91 - 17.88	1.62**	1.15 - 2.27	1.67*	1.11 - 2.51
Relative community wealth												
Poor household relative to community (Ref)												
Wealth similar to community	1.21*	1.01 - 1.44	0.93	0.77 - 1.12	1.03	0.79 - 1.35	0.71**	0.54 - 0.91	1.24*	1.01 - 1.52	1.13	0.92 - 1.37
Wealthy household relative to community	1.35**	1.10 - 1.65	0.95	0.76 - 1.19	1.01	0.75 - 1.35	0.47***	0.33 - 0.66	1.09	0.88 - 1.36	1.00	0.76 - 1.32
Education												
None (Ref)												
Primary	1.53***	1.20 - 1.94	1.30	0.96 - 1.75	3.35***	2.43 - 4.62	1.84**	1.24 - 2.73	0.96	0.75 - 1.23	1.41*	1.03 - 1.93
Secondary or higher	7.74***	3.59 - 16.68	6.46***	2.60 - 16.04		omitted because of collinearity			3.05***	1.72 - 5.39	4.30***	2.18 - 8.48
Health care decision making												
Someone else makes health care decisions (Ref)												
Decides on own health care either alone or jointly with partner	1.15 +	0.97 - 1.36	1.11	0.94 - 1.32	1.06 +	0.86 - 1.31	0.96	0.78 - 1.17	1.36***	1.16 - 1.60	1.19*	1.00 - 1.41
Number of living children												
None (Ref)												
1-2	1.26	0.63 - 2.53	1.13	0.49 - 2.62	1.05	0.50 - 2.21	0.62	0.27 - 1.41	13.72***	7.13 - 26.38	13.62***	7.03 - 26.38
3-5	1.13	0.55 - 2.29	1.06	0.45 - 2.48	0.55	0.27 - 1.11	0.36*	0.16 - 0.80	24.15***	12.64 - 46.14	26.36***	13.49 - 51.52
6+	0.74	0.36 - 1.49	0.75	0.33 - 1.74	0.37**	0.18 - 0.77	0.28**	0.13 - 0.64	29.02***	14.64 - 57.51	33.81***	16.65 - 68.64
Observations	5,392		5,119		5,392		5,088		7,102		7,102	

Note: +p<0.05; **p<0.01; ***p<0.001; + n=5,119

Continues...

Appendix Table A3—Continued

Zambia												
Covariates	4+ ANC visits				Delivered in health facility				Modern contraceptive use			
	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI	Unadjusted odds ratio	95% CI	Adjusted odds ratio	95% CI
Wealth quintile												
Poorest (Ref)	1.06	0.86 - 1.31	1.08	0.84 - 1.38	1.51***	1.19 - 1.91	1.53**	1.13 - 2.06	1.54***	1.28 - 1.86	1.64***	1.34 - 2.01
Poor	1.03	0.82 - 1.28	1.12	0.86 - 1.47	1.77***	1.38 - 2.26	1.98***	1.42 - 2.78	1.44***	1.19 - 1.74	1.51***	1.21 - 1.88
Middle	1.04	0.84 - 1.29	1.00	0.76 - 1.32	1.78***	1.35 - 2.34	2.02***	1.35 - 3.02	1.90***	1.57 - 2.30	2.05***	1.62 - 2.58
Rich	1.05	0.83 - 1.32	1.04	0.74 - 1.46	3.80***	2.57 - 5.61	3.62***	2.20 - 5.97	2.03***	1.63 - 2.53	2.39***	1.82 - 3.14
Richest												
Relative community wealth												
Poor household relative to community (Ref)	0.99	0.82 - 1.18	0.98	0.79 - 1.23	1.04	0.82 - 1.33	0.87	0.65 - 1.16	0.95	0.80 - 1.12	0.84	0.69 - 1.01
Wealth similar to community	0.98	0.83 - 1.16	1.00	0.80 - 1.25	1.08	0.85 - 1.37	0.66*	0.45 - 0.95	1.01	0.85 - 1.20	0.76*	0.61 - 0.94
Wealthy household relative to community												
Education												
None (Ref)	1.09	0.95 - 1.26	1.19	0.99 - 1.42	1.90***	1.52 - 2.39	1.38*	1.07 - 1.77	1.28***	1.11 - 1.48	1.18*	1.02 - 1.35
Primary	1.27	0.91 - 1.78	1.53	0.96 - 2.46	9.18***	4.63 - 18.20	3.89**	1.52 - 9.97	1.12	0.82 - 1.54	0.90	0.63 - 1.29
Secondary or higher												
Health care decision making												
Someone else makes health care decisions (Ref)	0.98 +	0.80 - 1.19	0.96	0.78 - 1.17	1.31* +	1.03 - 1.66	1.20	0.94 - 1.53	1.03	0.89 - 1.21	0.96	0.82 - 1.13
Decides on own health care either alone or jointly with partner												
Number of living children												
None (Ref)	1.17	0.61 - 2.27	1.23	0.52 - 2.90	0.43	0.16 - 1.11	0.20*	0.05 - 0.89	33.51***	13.18 - 85.24	34.80***	13.70 - 88.40
1-2	1.19	0.82 - 2.27	1.21	0.52 - 2.81	0.21**	0.08 - 0.54	0.10**	0.02 - 0.46	41.49***	16.55 - 103.99	43.50***	17.40 - 108.80
3-5	1.20	0.63 - 2.29	1.29	0.56 - 2.95	0.16***	0.06 - 0.41	0.08**	0.02 - 0.37	36.77***	14.56 - 92.87	39.45***	15.69 - 99.20
6+												
Observations	4,961		3,790		4,961		3,790		5,002		5,002	

Note: *p<0.05; **p<0.01; ***p<0.001; + n=3,790

Appendix Table A4 Unadjusted and adjusted odds ratios for child health indicators

		DRC																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio	
		95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	
Wealth quintile	Poorest (Ref)																				
	Poorest	1.13-2.28	1.95***	1.32-2.88	1.11	0.51-2.39	0.94	0.48-1.85	1.26	0.96-1.65	1.27	0.93-1.73	1.12	0.74-1.70	1.16	0.76-1.79	1.16	0.72-1.86	1.36	0.83-2.21	
	Middle	0.83-1.74	1.74*	1.08-2.80	1.51	0.84-2.73	1.52	0.87-2.68	1.16	0.85-1.57	1.16	0.82-1.62	1.22	0.77-1.94	1.31	0.82-2.10	1.12	0.71-1.74	1.37	0.87-2.16	
	Rich	1.29-2.43	2.91***	1.86-4.54	1.58	0.79-3.18	1.43	0.76-2.70	0.97	0.73-1.30	0.97	0.68-1.38	1.18	0.82-1.72	1.28	0.86-1.90	1.33	0.80-2.21	1.76*	1.00-3.08	
	Richest	1.85-4.34	4.77***	2.79-8.16	1.99*	1.11-3.57	2.10*	1.13-3.89	1.22	0.89-1.66	1.18	0.83-1.67	1.35	0.92-1.98	1.55*	1.00-2.40	1.36	0.80-2.34	1.67	0.94-2.99	
Relative community wealth	Poor relative to community (Ref)																				
	Wealth similar to community	0.67-1.23	0.68*	0.48-0.95	0.99	0.54-1.84	0.79	0.42-1.48	1.11	0.86-1.43	1.07	0.84-1.38	0.87	0.63-1.19	0.76	0.53-1.09	1.06	0.73-1.54	0.97	0.66-1.41	
	Wealthy relative to community	0.46-0.88	0.37***	0.24-0.58	1.28	0.72-2.29	0.99	0.51-1.90	1.03	0.78-1.35	0.99	0.74-1.34	0.91	0.64-1.28	0.77	0.54-1.11	0.76	0.51-1.14	0.64	0.40-1.01	
Maternal education	None (Ref)																				
	Primary	0.54-1.10	0.73	0.51-1.05	1.13	0.69-1.84	0.98	0.61-1.58	1.25	0.99-1.59	1.25	0.98-1.59	0.93	0.65-1.33	0.89	0.63-1.27	0.77	0.54-1.10	0.76	0.54-1.08	
	Secondary or higher	0.74-1.64	0.92	0.61-1.39	1.93	0.86-4.31	1.49	0.69-3.24	1.25	0.94-1.66	1.22	0.90-1.65	1.11	0.70-1.75	1.06	0.65-1.74	0.84	0.56-1.25	0.87	0.55-1.38	
Birth order	First (Ref)																				
	Second thru fourth	0.67-1.30	0.95	0.68-1.32	0.61	0.36-1.03	0.56*	0.32-0.97	1.22	0.87-1.72	1.23	0.87-1.74	1.15	0.81-1.63	1.18	0.82-1.70	1.57	0.93-2.67	1.61	0.96-2.69	
	Fifth or higher	0.65-1.22	0.89	0.64-1.23	0.39**	0.22-0.71	0.38**	0.20-0.71	0.93	0.70-1.22	0.95	0.71-1.28	0.99	0.70-1.40	1.03	0.74-1.44	1.54*	1.02-2.31	1.59*	1.05-2.42	
Sex of child	Male child (Ref)																				
	Female child	0.82-1.34	1.04	0.80-1.35	0.71	0.49-1.02	0.75	0.52-1.08	1.06	0.90-1.25	1.05	0.89-1.25	1.04	0.80-1.34	1.05	0.80-1.37	0.92	0.68-1.24	0.91	0.67-1.25	
Observations		2,393	2,393		778	778	778		3,648	3,648	3,648	3,648		1,907	1,907		1,348	1,348			

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Ghana																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.89	1.73	0.92 - 3.90	0.61	0.14 - 2.70	0.44	0.07 - 2.66	1.18	0.64 - 2.17	1.27	0.62 - 2.58	0.67	0.34 - 1.31	0.73	0.36 - 1.50	0.83	0.40 - 1.72	0.68	0.33 - 1.43	
	Poorest Middle	1.42	1.16	0.59 - 3.46	0.47	0.11 - 1.97	0.32	0.06 - 1.67	0.88	0.49 - 1.60	0.86	0.42 - 1.77	0.60	0.27 - 1.31	0.56	0.24 - 1.30	0.53	0.25 - 1.13	0.38*	0.17 - 0.88	
	Rich	1.38	1.35	0.54 - 3.54	1.80	0.41 - 7.90	1.61	0.32 - 8.22	1.97*	1.02 - 3.81	2.21*	1.04 - 4.68	0.46	0.17 - 1.25	0.47	0.18 - 1.22	0.41	0.17 - 1.01	0.22**	0.08 - 0.62	
	Richest	5.41**	1.68 - 17.41	5.22* 1.48 - 18.48	0.99	0.23 - 4.23	0.51	0.07 - 3.56	2.27	0.88 - 5.86	2.59	0.78 - 8.61	0.55	0.22 - 1.34	0.55	0.21 - 1.46	0.55	0.21 - 1.48	0.27*	0.10 - 0.77	
Relative community wealth	Poor relative to community (Ref)	1.11	0.45 - 2.74	0.95	0.44 - 2.05	1.05	0.32 - 3.47	1.13	0.26 - 4.84	0.95	0.50 - 1.80	0.76	0.40 - 1.44	0.73	0.36 - 1.47	0.79	0.38 - 1.63	1.22	0.52 - 2.88	1.25	0.59 - 2.64
	Wealth similar to community	1.04	0.43 - 2.51	0.75	0.29 - 1.95	0.79	0.19 - 3.29	1.01	0.22 - 4.54	0.96	0.49 - 1.88	0.63	0.30 - 1.34	0.57	0.28 - 1.17	0.69	0.31 - 1.51	1.20	0.50 - 2.89	1.86	0.85 - 4.06
	Wealthy relative to community																				
Maternal education	None (Ref)	2.05	0.94 - 4.44	2.16*	1.05 - 4.43	3.07	0.94 - 10.07	4.88*	1.09 - 21.79	1.05	0.62 - 1.79	0.89	0.50 - 1.60	0.71	0.35 - 1.41	0.85	0.43 - 1.70	0.85	0.44 - 1.63	1.49	0.74 - 3.00
	Primary	1.76	0.93 - 3.36	1.56	0.82 - 2.98	2.12	0.70 - 6.44	2.44	0.63 - 9.45	1.29	0.78 - 2.12	0.89	0.52 - 1.52	0.86	0.45 - 1.64	1.07	0.55 - 2.11	0.96	0.49 - 1.86	2.29*	1.12 - 4.71
	Secondary or higher																				
Birth order	First (Ref)	1.41	0.71 - 2.82	1.93	0.97 - 3.85	0.88	0.23 - 3.38	1.32	0.34 - 5.15	1.22	0.65 - 2.31	1.42	0.78 - 2.59	1.74	0.84 - 3.62	1.93	0.96 - 3.89	1.65	0.85 - 3.20	2.08*	1.01 - 4.29
	Second thru fourth	1.40	0.68 - 2.85	2.29*	1.08 - 4.89	0.72	0.16 - 3.18	0.64	0.12 - 3.54	0.65	0.35 - 1.19	0.75	0.41 - 1.39	0.97	0.46 - 2.05	0.97	0.47 - 2.01	2.05	0.93 - 4.54	2.50*	1.11 - 5.61
	Fifth or higher																				
Sex of child	Male child (Ref)	1.46	0.78 - 2.71	1.48	0.74 - 2.93	0.72	0.34 - 1.55	0.62	0.28 - 1.38	1.60*	1.10 - 2.33	1.65**	1.13 - 2.42	1.57*	1.04 - 2.37	1.70*	1.12 - 2.59	0.65	0.41 - 1.02	0.63	0.39 - 1.02
	Female child	676	676	676	130	130	522	522	522	522	410	410	410	410	410	410	370	370	370	370	370

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Haiti																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.26	0.81 - 1.97	1.32	0.84 - 2.08	1.20	0.45 - 3.21	1.01	0.40 - 2.55	0.94	0.58 - 1.53	1.03	0.64 - 1.63	0.62	0.37 - 1.06	0.72	0.44 - 1.18	1.49	0.82 - 2.72	1.46	0.75 - 2.85
	Poorest Middle	1.43	0.88 - 2.34	1.44	0.82 - 2.53	0.91	0.42 - 1.99	0.80	0.34 - 1.91	1.59*	1.04 - 2.43	1.90**	1.23 - 2.93	1.16	0.64 - 2.07	1.23	0.66 - 2.27	1.43	0.79 - 2.59	1.28	0.66 - 2.50
	Rich	1.23	0.76 - 2.01	1.15	0.61 - 2.16	1.09	0.46 - 2.61	1.06	0.35 - 3.19	1.93**	1.25 - 2.98	2.13**	1.33 - 3.41	1.48	0.91 - 2.43	1.28	0.75 - 2.18	1.83	0.80 - 4.16	1.76	0.65 - 4.75
	Richest	3.79***	2.34 - 6.14	3.31***	1.80 - 6.07	3.47**	1.38 - 8.72	3.56*	1.30 - 9.79	2.46**	1.36 - 4.43	2.70**	1.41 - 5.17	1.13	0.64 - 2.02	0.88	0.45 - 1.69	1.34	0.61 - 2.95	0.90	0.34 - 2.39
Relative community wealth	Poor relative to community (Ref)	0.89	0.59 - 1.34	0.65*	0.43 - 0.98	1.17	0.58 - 2.37	0.70	0.33 - 1.46	0.96	0.67 - 1.38	0.70	0.48 - 1.03	1.29	0.85 - 1.95	1.31	0.87 - 1.98	1.58	0.86 - 2.89	1.63	0.85 - 3.11
	Wealth similar to community	0.70	0.44 - 1.10	0.48**	0.28 - 0.82	1.52	0.75 - 3.10	1.36	0.60 - 3.07	0.81	0.55 - 1.19	0.50**	0.32 - 0.78	0.67	0.41 - 1.10	0.67	0.41 - 1.12	1.72	0.85 - 3.49	1.53	0.65 - 3.57
Maternal education	None (Ref)	1.20	0.79 - 1.84	1.08	0.70 - 1.66	0.49	0.24 - 1.00	0.37*	0.16 - 0.87	1.21	0.89 - 1.66	0.98	0.72 - 1.34	1.09	0.62 - 1.91	1.06	0.58 - 1.96	0.58	0.33 - 1.04	0.59	0.31 - 1.11
	Primary	3.11***	1.96 - 4.95	2.37**	1.32 - 4.26	1.25	0.63 - 2.49	0.70	0.25 - 1.97	2.09***	1.50 - 2.90	1.33	0.89 - 1.98	2.11**	1.26 - 3.54	1.96*	1.01 - 3.80	1.11	0.59 - 2.08	1.08	0.50 - 2.31
	Secondary or higher	0.73	0.49 - 1.08	0.88	0.58 - 1.33	0.69	0.37 - 1.28	0.69	0.32 - 1.47	0.84	0.63 - 1.13	0.98	0.71 - 1.37	0.95	0.63 - 1.42	1.11	0.73 - 1.68	0.62	0.33 - 1.16	0.65	0.35 - 1.21
	First (Ref)	0.58*	0.38 - 0.89	0.90	0.54 - 1.52	0.65	0.30 - 1.39	0.67	0.26 - 1.71	0.61*	0.41 - 0.91	0.83	0.51 - 1.34	0.68	0.42 - 1.09	0.91	0.53 - 1.58	0.85	0.48 - 1.50	0.91	0.48 - 1.73
	Second thru fourth																				
	Fifth or higher																				
Sex of child	Male child (Ref)	1.27	0.87 - 1.83	1.28	0.88 - 1.86	1.40	0.91 - 2.17	1.39	0.88 - 2.18	1.09	0.81 - 1.48	1.15	0.83 - 1.60	0.97	0.67 - 1.40	0.94	0.65 - 1.35	1.03	0.64 - 1.66	1.08	0.68 - 1.72
	Female child	844	844	844	419	419	419	419	1,296	1,296	1,296	1,296	845	845	845	845	519	519	519	519	519

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Indonesia																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.17	0.81 - 1.70	1.11	0.74 - 1.66	1.36	0.65 - 2.84	1.18	0.50 - 2.76	1.51**	1.11 - 2.04	1.43*	1.05 - 1.96	1.98**	1.28 - 3.07	1.84*	1.15 - 2.94	0.84	0.51 - 1.39	0.82	0.35 - 1.09
	Poorest Middle	1.67**	1.13 - 2.46	1.49	0.96 - 2.31	3.30*	1.13 - 9.58	2.91	0.91 - 9.37	1.74**	1.25 - 2.42	1.64**	1.15 - 2.34	1.72*	1.13 - 2.63	1.54	0.97 - 2.45	0.99	0.59 - 1.65	0.71	0.41 - 1.23
	Rich	2.13**	1.32 - 3.44	1.78*	1.00 - 3.17	1.27	0.57 - 2.83	0.98	0.39 - 2.49	1.62**	1.18 - 2.22	1.52*	1.06 - 2.18	1.57	1.00 - 2.49	1.42	0.87 - 2.34	0.44**	0.27 - 0.73	0.29**	0.16 - 0.50
	Richest	1.89**	1.21 - 2.96	1.68	0.95 - 3.00	2.81	0.89 - 8.88	2.89	0.86 - 9.68	2.00***	1.42 - 2.82	1.87**	1.27 - 2.77	1.62*	1.02 - 2.56	1.46	0.86 - 2.49	0.68	0.40 - 1.15	0.39**	0.21 - 0.73
Relative community wealth	Poor relative to community (Ref)	0.71	0.51 - 1.01	0.71	0.49 - 1.03	0.89	0.42 - 1.87	0.89	0.38 - 2.05	0.93	0.71 - 1.22	0.95	0.71 - 1.25	0.93	0.65 - 1.33	1.00	0.70 - 1.42	0.92	0.59 - 1.44	0.90	0.56 - 1.46
	Wealth similar to community	0.74	0.51 - 1.09	0.56*	0.36 - 0.88	1.71	0.85 - 3.44	1.53	0.69 - 3.40	1.23	0.92 - 1.64	1.03	0.75 - 1.42	1.36	0.92 - 2.01	1.26	0.82 - 1.95	1.20	0.76 - 1.90	1.62	0.99 - 2.65
	Wealthy relative to community																				
Maternal education	None (Ref)	2.24	0.79 - 6.36	1.74	0.63 - 4.80	2.45	0.52 - 11.62	2.19	0.38 - 12.67	1.77	0.88 - 3.59	1.52	0.79 - 2.90	3.02*	1.17 - 7.79	2.51	0.97 - 6.48	1.47	0.41 - 5.31	1.78	0.38 - 8.23
	Primary	5.15**	1.84 - 14.42	3.64*	1.32 - 10.01	2.05	0.46 - 9.04	1.30	0.23 - 7.49	2.08*	1.05 - 4.13	1.61	0.85 - 3.03	2.87*	1.11 - 7.42	2.20	0.84 - 5.78	1.83	0.52 - 6.47	2.88	0.60 - 13.86
	Secondary or higher																				
Birth order	First (Ref)	0.85	0.61 - 1.18	1.01	0.72 - 1.42	0.80	0.39 - 1.61	0.69	0.35 - 1.38	1.07	0.87 - 1.31	1.09	0.87 - 1.35	0.88	0.66 - 1.18	0.89	0.66 - 1.21	1.10	0.75 - 1.60	1.18	0.80 - 1.74
	Second thru fourth																				
	Fifth or higher	0.41***	0.24 - 0.69	0.64	0.36 - 1.13	0.71	0.28 - 1.76	0.66	0.26 - 1.66	0.89	0.60 - 1.31	1.07	0.72 - 1.60	1.32	0.71 - 2.45	1.46	0.78 - 2.74	1.19	0.64 - 2.23	1.32	0.63 - 2.75
Sex of child	Male child (Ref)	1.14	0.85 - 1.53	1.13	0.83 - 1.54	0.89	0.47 - 1.71	0.93	0.46 - 1.86	0.86	0.69 - 1.06	0.85	0.69 - 1.05	1.18	0.86 - 1.63	1.17	0.84 - 1.62	1.12	0.80 - 1.56	1.10	0.79 - 1.54
Observations		1,790		1,790		446		446		2,810		2,810		1,344		1,344		899		899	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Kenya																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)																				
	Poorest	2.00**	1.30 - 3.09	1.53	0.90 - 2.60	1.64*	1.06 - 2.55	1.44	0.88 - 2.36	1.26	0.94 - 1.68	1.29	0.95 - 1.75	0.88	0.64 - 1.23	0.86	0.61 - 1.22	0.92	0.55 - 1.52	0.85	0.44 - 1.66
	Middle	2.27**	1.39 - 3.71	1.61	0.88 - 2.96	1.21	0.81 - 1.82	1.00	0.62 - 1.62	1.12	0.83 - 1.50	1.09	0.79 - 1.51	0.71	0.50 - 1.00	0.66*	0.45 - 0.97	0.81	0.47 - 1.40	0.72	0.36 - 1.42
	Rich	2.91**	1.51 - 5.59	2.05	0.86 - 4.86	1.31	0.82 - 2.10	1.00	0.57 - 1.78	1.19	0.86 - 1.64	1.08	0.74 - 1.58	0.85	0.58 - 1.25	0.74	0.46 - 1.19	0.94	0.51 - 1.71	0.75	0.33 - 1.71
	Richest	5.62***	2.69 - 11.73	3.89**	1.68 - 9.04	1.60	0.88 - 2.90	1.21	0.61 - 2.39	1.46	1.00 - 2.13	1.21	0.79 - 1.87	0.72	0.48 - 1.07	0.61*	0.38 - 0.98	1.69	0.74 - 3.90	1.35	0.59 - 3.08
Relative community wealth	Poor relative to community (Ref)																				
	Wealth similar to community	0.64*	0.41 - 1.00	0.78	0.48 - 1.29	0.79	0.54 - 1.15	0.83	0.55 - 1.25	1.08	0.86 - 1.36	1.08	0.85 - 1.37	0.91	0.69 - 1.18	0.85	0.64 - 1.12	1.25	0.76 - 2.07	1.21	0.68 - 2.16
	Wealthy relative to community	1.09	0.62 - 1.90	0.76	0.41 - 1.41	1.04	0.67 - 1.60	1.00	0.64 - 1.57	1.13	0.86 - 1.49	1.10	0.83 - 1.46	0.93	0.68 - 1.28	1.07	0.74 - 1.55	1.73	0.87 - 3.44	1.57	0.77 - 3.19
Maternal education	None (Ref)																				
	Primary	2.59***	1.78 - 3.76	1.55	0.97 - 2.47	1.45	0.97 - 2.15	1.20	0.72 - 2.01	0.97	0.74 - 1.26	0.86	0.64 - 1.17	0.73	0.52 - 1.03	0.76	0.53 - 1.11	1.08	0.67 - 1.73	1.17	0.64 - 2.15
	Secondary or higher	4.46***	2.66 - 7.47	1.52	0.75 - 3.09	2.16**	1.33 - 3.49	1.69	0.88 - 3.24	1.41*	1.01 - 1.96	1.15	0.77 - 1.72	0.91	0.63 - 1.31	1.00	0.63 - 1.58	1.10	0.59 - 2.03	0.90	0.39 - 2.07
Birth order	First (Ref)																				
	Second thru fourth	0.64	0.41 - 1.02	0.73	0.45 - 1.18	0.66*	0.45 - 0.97	0.69	0.47 - 1.03	0.80	0.63 - 1.02	0.83	0.65 - 1.05	1.04	0.79 - 1.36	1.05	0.79 - 1.40	0.82	0.52 - 1.29	0.71	0.43 - 1.16
	Fifth or higher	0.28***	0.17 - 0.45	0.37***	0.22 - 0.64	0.54**	0.35 - 0.83	0.58*	0.37 - 0.92	0.64***	0.49 - 0.82	0.68**	0.52 - 0.88	0.82	0.61 - 1.09	0.79	0.57 - 1.08	0.62	0.37 - 1.06	0.58	0.32 - 1.05
Sex of child	Male child (Ref)																				
	Female child	0.95	0.70 - 1.31	1.00	0.73 - 1.36	0.99	0.75 - 1.31	1.03	0.77 - 1.36	0.99	0.83 - 1.17	0.99	0.83 - 1.17	0.95	0.77 - 1.18	0.93	0.75 - 1.16	0.99	0.65 - 1.52	1.03	0.68 - 1.56
Observations		2,791		2,791		1,195		1,195		3,274		3,274		2,012		2,012		585		585	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Liberia																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.06	0.61-1.82	1.37	0.76-2.46	2.30	0.98-5.44	2.67*	1.01-7.08	0.97	0.70-1.34	1.04	0.73-1.48	1.38	0.89-2.12	1.58	0.98-2.54	0.97	0.52-1.80	1.02	0.50-2.06
	Poorest	1.78*	1.12-2.84	2.86***	1.68-4.86	2.00	0.94-4.25	2.28	0.94-5.54	1.22	0.80-1.85	1.33	0.83-2.12	1.34	0.92-1.96	1.53	0.94-2.49	1.55	0.68-3.53	1.75	0.67-4.56
	Middle	2.43***	1.45-4.07	4.07***	2.29-7.22	1.64	0.69-3.90	1.66	0.61-4.53	1.67*	1.12-2.48	1.88**	1.18-3.01	1.70	0.97-2.97	2.09*	1.11-3.93	1.19	0.57-2.49	1.42	0.64-3.17
	Rich	3.57***	2.17-5.87	7.17***	4.09-12.55	1.69	0.73-3.90	1.78	0.64-4.89	1.45	0.94-2.25	1.63	0.99-2.71	1.82**	1.21-2.74	1.98*	1.18-3.32	1.16	0.53-2.54	1.34	0.53-3.41
	Richest																				
Relative community wealth	Poor relative to community (Ref)	0.84	0.55-1.28	0.58*	0.37-0.92	1.19	0.58-2.47	1.22	0.58-2.57	1.22	0.86-1.73	1.13	0.80-1.61	1.23	0.82-1.85	1.19	0.77-1.82	0.90	0.52-1.55	0.85	0.46-1.58
	Wealth similar to community	0.61	0.37-1.01	0.27***	0.15-0.48	0.93	0.43-2.05	0.78	0.31-1.93	1.00	0.65-1.54	0.80	0.48-1.34	0.89	0.55-1.44	0.70	0.40-1.22	0.78	0.42-1.45	0.67	0.32-1.38
	Wealthy relative to community																				
Maternal education	None (Ref)	1.29	0.91-1.82	1.08	0.74-1.58	1.03	0.61-1.75	1.02	0.57-1.80	1.08	0.80-1.45	0.96	0.71-1.31	1.15	0.84-1.58	1.01	0.71-1.42	0.94	0.55-1.61	0.96	0.56-1.64
	Primary	1.62	0.93-2.81	0.93	0.52-1.66	2.44*	1.13-5.28	2.70*	1.02-7.11	1.26	0.85-1.87	0.97	0.63-1.49	1.73*	1.08-2.77	1.27	0.75-2.15	1.12	0.57-2.17	1.18	0.56-2.50
	Secondary or higher																				
Birth order	First (Ref)	0.87	0.49-1.54	1.00	0.55-1.80	0.79	0.39-1.64	0.97	0.45-2.10	1.03	0.70-1.53	1.05	0.70-1.57	0.73	0.49-1.11	0.79	0.51-1.22	1.46	0.81-2.65	1.58	0.88-2.85
	Second thru fourth	0.69	0.39-1.20	0.79	0.43-1.46	0.82	0.36-1.85	1.28	0.52-3.11	0.70	0.47-1.05	0.70	0.46-1.07	0.58**	0.38-0.87	0.64	0.40-1.01	1.28	0.75-2.19	1.43	0.83-2.48
	Fifth or higher																				
Sex of child	Male child (Ref)	1.20	0.89-1.61	1.10	0.81-1.50	0.65*	0.43-0.99	0.65*	0.43-0.99	0.84	0.66-1.07	0.86	0.68-1.10	0.94	0.70-1.26	0.95	0.70-1.27	0.92	0.60-1.41	0.95	0.61-1.46
	Female child	961	961	961	365	365	365	365	1,552	1,552	1,186	1,186	1,186	1,186	1,186	497	497	497	497	497	497

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Mali																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.30	0.82-2.05	1.24	0.79-1.93	0.35*	0.12-0.99	0.24	0.06-1.00	0.91	0.58-1.44	0.89	0.53-1.48	1.25	0.75-2.09	1.37	0.81-2.31	1.17	0.75-1.82	1.26	0.79-2.01
	Poorest Middle	1.39	0.91-2.14	1.26	0.80-1.99	0.33	0.09-1.20	0.17	0.02-1.30	0.79	0.50-1.26	0.76	0.43-1.34	1.04	0.66-1.64	1.12	0.67-1.85	0.83	0.53-1.32	0.91	0.55-1.53
	Rich	1.83**	1.17-2.86	1.53	0.92-2.55	0.12	0.01-1.10	0.08*	0.01-0.56	1.27	0.80-2.00	1.17	0.67-2.06	1.47	0.90-2.41	1.70	0.99-2.91	1.59	0.95-2.68	1.80*	1.01-3.21
	Richest	1.90*	1.07-3.38	1.50	0.78-2.90	0.48	0.12-1.95	0.42	0.08-2.27	1.58	0.91-2.75	1.38	0.70-2.72	1.68	0.99-2.86	1.71	0.92-3.19	0.69	0.41-1.17	0.81	0.43-1.52
Relative community wealth	Poor relative to community (Ref)	1.36	0.95-1.94	1.23	0.85-1.78	0.84	0.16-4.33	0.68	0.13-3.53	1.20	0.80-1.79	1.10	0.72-1.70	1.48	1.00-2.18	1.40	0.93-2.11	1.12	0.74-1.70	1.30	0.87-1.95
	Wealth similar to community	1.74**	1.24-2.43	1.49	0.98-2.28	0.83	0.13-5.15	1.49	0.23-9.83	1.10	0.73-1.65	1.03	0.61-1.74	1.16	0.79-1.69	1.01	0.65-1.59	1.03	0.68-1.57	1.06	0.65-1.72
	Wealthy relative to community	1.18	0.83-1.69	1.16	0.81-1.65	0.50	0.07-3.38	0.64	0.08-5.03	1.47	0.95-2.30	1.51	0.96-2.37	1.09	0.73-1.63	1.11	0.73-1.70	0.96	0.58-1.59	0.96	0.56-1.64
Maternal education	None (Ref)	1.67	0.99-2.81	1.55	0.88-2.74	1.22	0.18-8.06	1.23	0.09-16.51	1.77*	1.05-2.95	1.59	0.92-2.73	1.26	0.75-2.12	1.16	0.66-2.05	0.55*	0.33-0.93	0.57	0.31-1.03
	Primary higher	0.88	0.62-1.25	0.97	0.69-1.37	0.46	0.08-2.54	0.51	0.08-3.07	1.37	0.87-2.17	1.49	0.94-2.39	1.34	0.83-2.15	1.46	0.90-2.38	1.17	0.77-1.78	1.14	0.73-1.77
	Second thru fourth	0.97	0.67-1.41	1.22	0.84-1.77	0.37	0.07-1.95	0.36	0.06-2.10	1.23	0.74-2.04	1.55	0.92-2.64	1.47	0.92-2.36	1.74*	1.05-2.88	1.25	0.80-1.95	1.15	0.72-1.85
	Fifth or higher	1.01	0.79-1.29	1.03	0.80-1.32	1.26	0.49-3.21	1.29	0.46-3.60	0.94	0.70-1.24	0.97	0.73-1.28	0.73*	0.56-0.95	0.73*	0.56-0.97	0.93	0.68-1.26	0.94	0.69-1.28
Sex of child	Male child (Ref)	1,438	1,438	1,438	1,438	86	86	86	86	1,174	1,174	1,174	1,228	1,228	1,228	1,228	1,228	751	751	751	751
Observations	Female child	1,438	1,438	1,438	1,438	86	86	86	86	1,174	1,174	1,174	1,228	1,228	1,228	1,228	1,228	751	751	751	751

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Nigeria																				
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding				
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI			
Wealth quintile	Poorest (Ref)	1.67**	1.23 - 2.28	1.68**	1.22 - 2.31	1.20	0.70 - 2.06	1.09	0.59 - 2.00	1.60***	1.26 - 2.02	1.55***	1.23 - 1.96	1.61***	1.23 - 2.11	1.58**	1.20 - 2.09	0.88	0.62 - 1.25	0.83	0.57 - 1.21	
	Poorest Middle	2.22***	1.60 - 3.08	1.93***	1.36 - 2.73	1.08	0.57 - 2.05	0.93	0.43 - 2.01	1.66***	1.26 - 2.17	1.61***	1.23 - 2.11	1.41*	1.06 - 1.88	1.41*	1.04 - 1.91	0.80	0.56 - 1.13	0.68*	0.47 - 0.98	
	Rich	3.20***	2.29 - 4.49	2.10***	1.46 - 3.02	1.43	0.76 - 2.70	1.12	0.52 - 2.40	1.71***	1.33 - 2.20	1.57**	1.19 - 2.09	1.63**	1.19 - 2.23	1.62**	1.15 - 2.30	1.16	0.76 - 1.76	0.89	0.51 - 1.56	
	Richest	7.73***	5.51 - 10.83	3.80***	2.55 - 5.66	1.78	0.63 - 5.02	1.10	0.32 - 3.72	2.27***	1.69 - 3.04	2.08***	1.43 - 3.02	2.12***	1.43 - 3.16	2.17***	1.42 - 3.30	1.90***	1.36 - 2.65	1.16	0.70 - 1.92	
Relative community wealth	Poor relative to community (Ref)	0.98	0.79 - 1.21	0.83	0.65 - 1.06	0.91	0.51 - 1.62	0.92	0.52 - 1.62	0.85	0.69 - 1.04	0.85	0.69 - 1.06	0.87	0.65 - 1.17	0.89	0.67 - 1.18	1.03	0.75 - 1.42	0.92	0.68 - 1.23	
	Wealth similar to community	0.80	0.62 - 1.03	0.63**	0.47 - 0.85	0.94	0.46 - 1.95	0.98	0.44 - 2.22	1.00	0.78 - 1.29	0.84	0.63 - 1.11	1.08	0.79 - 1.49	0.89	0.64 - 1.25	0.98	0.69 - 1.40	0.97	0.67 - 1.40	
	Wealthy relative to community																					
Maternal education	None (Ref)	3.13***	2.43 - 4.03	2.50***	1.90 - 3.29	1.25	0.66 - 2.37	1.27	0.70 - 2.30	1.69***	1.38 - 2.08	1.48***	1.20 - 1.83	1.44**	1.13 - 1.84	1.27	0.99 - 1.64	1.27	0.90 - 1.79	1.23	0.85 - 1.77	
	Primary	6.32***	5.03 - 7.95	4.24***	3.30 - 5.44	2.66**	1.46 - 4.82	2.69*	1.19 - 6.09	1.48**	1.16 - 1.89	1.17	0.89 - 1.55	1.25	0.92 - 1.70	0.98	0.71 - 1.37	2.45***	1.80 - 3.34	2.00**	1.26 - 3.16	
	Secondary or higher																					
Birth order	First (Ref)	0.92	0.75 - 1.13	1.02	0.81 - 1.29	0.92	0.48 - 1.78	1.03	0.54 - 1.96	0.94	0.78 - 1.14	0.94	0.78 - 1.14	1.13	0.88 - 1.46	1.15	0.89 - 1.48	0.81	0.56 - 1.17	0.88	0.60 - 1.30	
	Second thru fourth																					
	Fifth or higher	0.73**	0.59 - 0.91	1.23	0.97 - 1.57	0.95	0.52 - 1.73	1.17	0.62 - 2.21	0.95	0.77 - 1.18	1.02	0.82 - 1.27	1.06	0.82 - 1.39	1.12	0.86 - 1.46	0.57**	0.40 - 0.82	0.71	0.48 - 1.05	
Sex of child	Male child (Ref)																					
	Female child	1.10	0.95 - 1.27	1.09	0.93 - 1.26	0.95	0.65 - 1.38	0.95	0.65 - 1.39	0.90	0.79 - 1.03	0.91	0.79 - 1.04	0.98	0.84 - 1.15	1.00	0.85 - 1.17	1.15	0.93 - 1.43	1.13	0.91 - 1.40	
Observations		3,959		3,959		565		565		5,390		5,390		2,858		2,858		2,098		2,098		2,098

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Pakistan																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI	Unad-justed Odds Ratio	Ad-justed Odds Ratio	95% CI		
Wealth quintile	Poorest (Ref)	1.68	1.94*	1.15 - 3.27	1.11	1.42	0.63 - 1.95	0.93	1.06	0.64 - 1.37	1.06	0.71 - 1.56	0.66	0.37 - 1.16	0.69	0.39 - 1.21	1.17	0.71 - 1.93	1.13	0.67 - 1.92	
	Poorest	2.25**	2.34**	1.27 - 4.30	1.24	1.67	0.67 - 2.30	1.20	1.34	0.78 - 1.84	1.34	0.84 - 2.12	0.70	0.38 - 1.26	0.73	0.39 - 1.37	0.77	0.42 - 1.43	0.79	0.38 - 1.61	
	Middle	4.17***	4.44***	2.28 - 8.65	1.37	1.79	0.79 - 2.38	1.41	1.57	0.96 - 2.08	1.57	0.97 - 2.54	1.06	0.59 - 1.91	1.11	0.59 - 2.06	0.74	0.39 - 1.41	0.74	0.34 - 1.59	
	Rich	10.18***	9.29***	3.86 - 22.40	2.27*	2.59	1.00 - 5.14	1.80*	1.72	1.14 - 2.85	1.72	0.93 - 3.19	1.31	0.74 - 2.32	1.22	0.58 - 2.56	0.41*	0.21 - 0.81	0.42*	0.20 - 0.87	
Relative community wealth	Poor relative to community (Ref)	0.58*	0.41***	0.25 - 0.69	1.20	1.15	0.73 - 1.99	1.35	1.24	0.96 - 1.89	1.24	0.88 - 1.75	1.38	0.92 - 2.06	1.24	0.78 - 1.98	1.31	0.73 - 2.35	1.56	0.79 - 3.09	
	Wealth similar to community	0.47**	0.24***	0.13 - 0.43	0.76	0.57	0.42 - 1.38	0.85	0.70	0.58 - 1.24	0.70	0.45 - 1.09	0.99	0.62 - 1.57	0.87	0.51 - 1.50	1.68	0.84 - 3.40	2.40*	1.17 - 4.91	
Maternal education	None (Ref)	2.97***	1.89*	1.07 - 3.36	0.87	0.76	0.48 - 1.56	1.25	1.14	0.87 - 1.79	1.14	0.79 - 1.63	1.32	0.84 - 2.07	1.32	0.81 - 2.13	0.54	0.27 - 1.09	0.60	0.30 - 1.17	
	Primary	6.30***	3.69 - 10.74	2.39**	2.21**	1.25 - 3.91	1.62	1.71**	1.16 - 2.53	1.22	0.74 - 2.00	1.53*	1.01 - 2.34	1.33	0.79 - 2.26	0.45**	0.27 - 0.77	0.71	0.40 - 1.26		
	Secondary or higher	1.19	0.79 - 1.80	1.37	0.67	0.45 - 1.01	0.68	0.81	0.64 - 1.03	0.83	0.64 - 1.07	0.82	0.55 - 1.23	0.81	0.54 - 1.20	0.98	0.63 - 1.50	1.07	0.70 - 1.64		
Birth order	First (Ref)	0.73	0.45 - 1.19	1.25	0.70	0.42 - 1.17	0.81	0.67*	0.49 - 0.91	0.78	0.56 - 1.09	0.96	0.60 - 1.54	1.10	0.70 - 1.74	1.06	0.60 - 1.86	0.97	0.54 - 1.73		
	Second thru fourth																				
	Fifth or higher																				
Sex of child	Male child (Ref)	0.76*	0.58 - 0.99	0.72*	0.93	0.62 - 1.38	0.92	0.85	0.67 - 1.06	0.87	0.68 - 1.10	1.00	0.76 - 1.34	1.01	0.75 - 1.35	1.29	0.91 - 1.83	1.27	0.88 - 1.82		
	Female child	1,012	1,012	720	720	720	720	1,915	1,915	993	993	993	993	993	993	619	619	619	619		

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Senegal																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio	
		95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	
Wealth quintile	Poorest (Ref)																				
	Poorest	1.02-2.39	1.72*	1.12-2.66	2.64*	1.02-6.83	3.20*	1.11-9.21	0.97	0.68-1.37	1.06	0.77-1.48	1.06	0.76-1.46	1.11	0.80-1.53	0.84	0.52-1.35	0.85	0.52-1.37	
	Middle	3.22***	1.92-5.39	3.67***	1.93-6.99	1.95	0.77-4.94	2.27	0.81-6.34	1.24	0.89-1.75	1.37	0.96-1.96	1.17	0.85-1.62	1.21	0.87-1.70	1.40	0.85-2.33	1.58	0.91-2.71
	Rich	3.47***	1.93-6.23	4.12***	2.08-8.14	1.71	0.67-4.36	1.78	0.74-4.27	1.21	0.84-1.74	1.33	0.88-2.00	1.42	0.99-2.02	1.46*	1.02-2.08	0.83	0.46-1.52	0.95	0.50-1.78
	Richest	4.54***	2.12-9.71	4.94***	2.08-11.72	11.15***	2.74-45.34	8.49**	2.12-34.05	2.02***	1.34-3.05	1.91**	1.19-3.07	1.48	0.97-2.26	1.43	0.88-2.32	1.32	0.80-2.18	1.40	0.83-2.34
Relative community wealth	Poor relative to community (Ref)																				
	Wealth similar to community	0.83	0.51-1.36	0.73	0.44-1.19	2.52*	1.04-6.15	2.11	0.84-5.29	1.46**	1.11-1.92	1.29	0.98-1.71	1.23	0.93-1.63	1.17	0.88-1.56	0.86	0.57-1.30	0.79	0.50-1.23
	Wealthy relative to community	0.90	0.52-1.54	0.50*	0.26-0.96	1.61	0.57-4.50	1.31	0.48-3.57	1.02	0.73-1.41	0.85	0.58-1.23	1.13	0.81-1.58	0.98	0.67-1.41	0.69	0.44-1.07	0.62	0.38-1.00
Maternal education	None (Ref)																				
	Primary	1.37	0.88-2.15	1.20	0.76-1.91	2.05*	1.08-3.89	1.85	0.81-4.24	1.22	0.87-1.70	1.19	0.87-1.63	1.10	0.76-1.60	1.10	0.74-1.65	2.05***	1.38-3.04	2.15***	1.43-3.25
	Secondary or higher	2.97**	1.34-6.59	2.34*	1.03-5.34	1.67	0.59-4.74	2.10	0.74-5.98	2.04***	1.43-2.92	1.91**	1.27-2.86	1.39	0.89-2.16	1.32	0.84-2.07	1.33	0.82-2.15	1.31	0.74-2.32
Birth order	First (Ref)																				
	Second thru fourth	1.07	0.69-1.68	1.26	0.80-1.97	1.32	0.53-3.27	1.30	0.54-3.14	1.04	0.78-1.39	1.17	0.88-1.57	1.03	0.75-1.42	1.07	0.78-1.47	0.78	0.54-1.14	0.79	0.53-1.19
	Fifth or higher	0.93	0.57-1.51	1.25	0.76-2.07	1.33	0.51-3.43	1.86	0.66-5.23	0.94	0.69-1.27	1.19	0.87-1.63	0.98	0.73-1.32	1.08	0.79-1.48	0.99	0.66-1.49	1.18	0.73-1.91
Sex of child	Male child (Ref)																				
	Female child	0.86	0.62-1.20	0.88	0.63-1.24	0.60	0.35-1.02	0.78	0.44-1.39	0.92	0.71-1.19	0.91	0.71-1.16	0.83	0.64-1.08	0.83	0.64-1.08	1.02	0.73-1.41	1.02	0.74-1.41
Observations		1,593	1,593	248	248	1,523	1,523	1,489	1,489	1,489	1,489	1,523	1,489	1,489	1,489	1,489	1,489	774	774	774	774

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A4—Continued

		Zambia																			
		3 doses of Pentavalent vaccine				Treatment for ARI symptoms				Advice or treatment sought for fever symptoms				Advice or treatment sought for diarrhea				Exclusive breastfeeding			
		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio		Unad-justed Odds Ratio		Ad-justed Odds Ratio	
		95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	Ratio	95% CI	
Wealth quintile	Poorest (Ref)																				
	Poorest	0.74 - 2.32	1.30	0.69 - 2.46	4.49	0.99 - 20.42	3.84	0.80 - 18.43	1.59*	1.05 - 2.42	1.51	0.97 - 2.38	1.39	0.88 - 2.19	1.29	0.80 - 2.06	1.01	0.63 - 1.63	1.01	0.61 - 1.68	
	Middle	0.69 - 2.65	1.38	0.62 - 3.09	1.91	0.48 - 7.64	0.86	0.18 - 4.01	1.70	0.99 - 2.90	1.48	0.84 - 2.59	1.15	0.68 - 1.94	1.02	0.58 - 1.79	1.34	0.84 - 2.15	1.31	0.82 - 2.09	
	Rich	0.76 - 3.07	1.60	0.66 - 3.84	1.58	0.29 - 8.56	0.66	0.08 - 5.78	1.47	0.92 - 2.35	1.19	0.70 - 2.05	1.49	0.90 - 2.45	1.28	0.72 - 2.25	1.92*	1.08 - 3.39	1.86*	1.00 - 3.44	
	Richest	5.99**	2.01 - 17.85	5.71**	1.65 - 19.78	2.34	0.41 - 13.38	0.82	0.06 - 10.77	1.35	0.77 - 2.38	0.86	0.44 - 1.66	0.86	0.47 - 1.57	0.70	0.34 - 1.43	1.54	0.84 - 2.81	1.35	0.69 - 2.63
Relative community wealth	Poor relative to community (Ref)																				
	Wealth similar to community	0.33 - 1.17	0.54	0.29 - 1.00	1.93	0.50 - 7.47	3.47	0.82 - 14.73	1.18	0.78 - 1.80	1.19	0.78 - 1.82	0.85	0.58 - 1.26	0.95	0.64 - 1.43	1.32	0.89 - 1.95	1.26	0.85 - 1.88	
	Wealthy relative to community	0.38 - 1.33	0.49	0.23 - 1.05	1.84	0.61 - 5.55	2.27	0.44 - 11.78	1.41	0.93 - 2.14	1.36	0.84 - 2.22	1.03	0.65 - 1.64	1.10	0.66 - 1.86	1.43	0.85 - 2.41	1.23	0.70 - 2.17	
Maternal education	None (Ref)																				
	Primary	1.16 - 3.93	1.99*	1.08 - 3.65	0.24	0.05 - 1.16	0.25	0.05 - 1.21	0.82	0.53 - 1.28	0.79	0.50 - 1.23	1.30	0.79 - 2.15	1.22	0.72 - 2.07	1.03	0.64 - 1.63	0.97	0.60 - 1.57	
	Secondary or higher	4.83***	2.05 - 11.34	3.38*	1.28 - 8.90	0.76	0.13 - 4.39	0.54	0.09 - 3.23	1.51	0.88 - 2.59	1.46	0.80 - 2.60	1.46	0.80 - 2.66	1.44	0.72 - 2.86	1.23	0.70 - 2.17	1.05	0.57 - 1.94
Birth order	First (Ref)																				
	Second thru fourth	0.66 - 2.09	1.36	0.75 - 2.49	0.70	0.14 - 3.58	0.94	0.23 - 3.85	1.23	0.81 - 1.88	1.31	0.85 - 2.03	0.90	0.63 - 1.28	0.93	0.66 - 1.32	0.93	0.55 - 1.55	1.04	0.62 - 1.73	
	Fifth or higher	0.47 - 1.58	1.22	0.64 - 2.33	0.65	0.13 - 3.12	0.57	0.14 - 2.42	0.86	0.58 - 1.28	0.98	0.63 - 1.51	0.72	0.50 - 1.05	0.76	0.52 - 1.13	0.97	0.61 - 1.55	1.10	0.70 - 1.74	
Sex of child	Male child (Ref)																				
	Female child	0.82 - 1.94	1.28	0.81 - 2.01	0.27**	0.11 - 0.62	0.30**	0.13 - 0.73	0.75	0.53 - 1.07	0.77	0.54 - 1.10	1.03	0.76 - 1.39	1.03	0.76 - 1.41	0.81	0.59 - 1.11	0.79	0.58 - 1.08	
Observations		1,338	1,338		109	109	109	1,151	1,151	1,151	1,151	1,019	1,019	1,019	1,019	1,019	729	729	729	729	

Note: *p<0.05; **p<0.01; ***p<0.001

Appendix Table A5 Unadjusted and adjusted odds ratios for child nutrition indicators among children under age 5

		DRC							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.99	0.80 - 1.21	0.98	0.79 - 1.21	0.95	0.66 - 1.37	0.94	0.62 - 1.41
	Middle	0.92	0.72 - 1.17	0.95	0.73 - 1.23	1.05	0.73 - 1.52	1.09	0.67 - 1.76
	Rich	0.85	0.69 - 1.06	0.94	0.73 - 1.21	1.12	0.73 - 1.70	1.16	0.71 - 1.89
	Richest	0.75*	0.59 - 0.97	0.81	0.59 - 1.10	1.00	0.66 - 1.51	1.00	0.61 - 1.64
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.88	0.73 - 1.06	0.88	0.72 - 1.08	1.14	0.85 - 1.53	1.10	0.77 - 1.57
	Wealthy relative to community	0.81*	0.68 - 0.97	0.85	0.70 - 1.04	1.12	0.81 - 1.55	1.06	0.70 - 1.59
Maternal education +	None (Ref)								
	Primary	0.93	0.81 - 1.07	0.92	0.80 - 1.06	1.37*	1.01 - 1.85	1.34	0.99 - 1.81
	Secondary or higher	0.64***	0.53 - 0.77	0.65***	0.53 - 0.79	1.24	0.82 - 1.86	1.18	0.77 - 1.82
Birth order **	First (Ref)								
	Second thru fourth	0.91	0.74 - 1.12	0.85	0.70 - 1.05	0.85	0.63 - 1.15	0.86	0.63 - 1.16
	Fifth or higher	0.98	0.78 - 1.22	0.89	0.70 - 1.12	0.93	0.64 - 1.34	0.94	0.65 - 1.36
Sex of child	Male child (Ref)								
	Female child	0.80**	0.69 - 0.93	0.80**	0.70 - 0.93	0.74*	0.55 - 0.99	0.69*	0.50 - 0.96
Observations		6,270		5,697		6,270		5,697	

Note: *p<0.05; **p<0.01; ***p<0.001; + n= 5,795; ++ n= 5,697

		Ghana							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.92	0.65 - 1.29	0.95	0.66 - 1.35	0.81	0.40 - 1.62	1.01	0.49 - 2.07
	Middle	0.96	0.65 - 1.40	1.07	0.72 - 1.59	0.79	0.41 - 1.54	0.88	0.40 - 1.95
	Rich	0.69	0.46 - 1.03	0.92	0.56 - 1.51	0.34*	0.14 - 0.83	0.39	0.15 - 1.03
	Richest	0.45**	0.28 - 0.74	0.74	0.39 - 1.40	1.52	0.45 - 5.14	1.22	0.41 - 3.60
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.87	0.60 - 1.24	0.89	0.61 - 1.30	2.23	0.87 - 5.75	2.00	0.91 - 4.40
	Wealthy relative to community	0.83	0.58 - 1.18	0.93	0.59 - 1.46	0.88	0.36 - 2.13	0.90	0.35 - 2.34
Maternal education +	None (Ref)								
	Primary	0.80	0.58 - 1.11	0.74	0.54 - 1.02	0.96	0.49 - 1.87	1.12	0.56 - 2.28
	Secondary or higher	0.47***	0.35 - 0.62	0.44***	0.31 - 0.64	1.17	0.56 - 2.48	1.31	0.67 - 2.54
Birth order **	First (Ref)								
	Second thru fourth	0.77	0.56 - 1.06	0.61**	0.43 - 0.86	1.20	0.60 - 2.39	1.43	0.83 - 2.44
	Fifth or higher	1.02	0.72 - 1.44	0.68*	0.46 - 0.99	1.10	0.41 - 2.95	1.37	0.70 - 2.67
Sex of child	Male child (Ref)								
	Female child	0.81	0.63 - 1.03	0.76*	0.59 - 0.98	1.02	0.63 - 1.65	1.00	0.65 - 1.54
Observations		1,804		1,625		1,804		1,625	

Note: *p<0.05; **p<0.01; ***p<0.001; + n= 1,672; ++ n= 1,625

Continues...

Appendix Table A5—Continued

		Haiti							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.83	0.66 - 1.04	0.81	0.62 - 1.05	1.00	0.64 - 1.56	1.01	0.59 - 1.71
	Middle	0.62***	0.51 - 0.76	0.62***	0.48 - 0.80	1.00	0.57 - 1.75	1.26	0.65 - 2.43
	Rich	0.33***	0.25 - 0.42	0.32***	0.24 - 0.44	0.77	0.42 - 1.42	0.76	0.39 - 1.46
	Richest	0.19***	0.13 - 0.28	0.20***	0.13 - 0.31	0.74	0.40 - 1.36	0.88	0.42 - 1.84
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.84	0.66 - 1.07	1.07	0.83 - 1.39	1.20	0.75 - 1.94	1.17	0.70 - 1.94
	Wealthy relative to community	0.80	0.62 - 1.04	1.18	0.88 - 1.58	1.15	0.64 - 2.04	1.21	0.63 - 2.33
Maternal education +	None (Ref)								
	Primary	0.67***	0.56 - 0.82	0.84	0.68 - 1.04	1.10	0.65 - 1.88	0.89	0.51 - 1.55
	Secondary or higher	0.31***	0.24 - 0.41	0.59**	0.42 - 0.83	0.89	0.48 - 1.65	0.68	0.35 - 1.35
Birth order **	First (Ref)								
	Second thru fourth	1.06	0.87 - 1.29	0.92	0.73 - 1.15	0.87	0.57 - 1.32	0.81	0.53 - 1.24
	Fifth or higher	1.66***	1.31 - 2.09	1.07	0.79 - 1.44	0.59	0.34 - 1.02	0.48*	0.27 - 0.89
Sex of child	Male child (Ref)								
	Female child	0.79**	0.67 - 0.94	0.76**	0.62 - 0.93	0.82	0.58 - 1.16	0.84	0.58 - 1.22
Observations		4,883		4,018		4,862		4,000	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n= 4,093; Wasting n=4,075; ++Stunting n= 4,018; Wasting n=4,000

		Kenya							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.80***	0.70 - 0.91	0.67***	0.57 - 0.79	0.34***	0.24 - 0.49	0.52**	0.34 - 0.79
	Middle	0.73***	0.63 - 0.84	0.64***	0.54 - 0.75	0.27***	0.19 - 0.39	0.39***	0.25 - 0.61
	Rich	0.52***	0.45 - 0.61	0.45***	0.37 - 0.54	0.40***	0.28 - 0.57	0.43***	0.27 - 0.69
	Richest	0.39***	0.33 - 0.46	0.35***	0.28 - 0.44	0.19***	0.13 - 0.30	0.18***	0.10 - 0.34
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.96	0.84 - 1.09	0.97	0.84 - 1.13	2.37***	1.71 - 3.29	1.65**	1.15 - 2.37
	Wealthy relative to community	0.87*	0.75 - 1.00	1.25**	1.06 - 1.48	1.32	0.95 - 1.83	2.10***	1.42 - 3.10
Maternal education +	None (Ref)								
	Primary	0.94	0.81 - 1.10	1.31**	1.09 - 1.57	0.28***	0.22 - 0.35	0.51***	0.39 - 0.66
	Secondary or higher	0.53***	0.44 - 0.64	0.96	0.76 - 1.20	0.27***	0.20 - 0.36	0.69	0.46 - 1.06
Birth order **	First (Ref)								
	Second thru fourth	1.08	0.95 - 1.24	1.02	0.89 - 1.17	1.09	0.85 - 1.40	1.00	0.77 - 1.30
	Fifth or higher	1.36***	1.17 - 1.58	1.13	0.97 - 1.32	1.40*	1.06 - 1.84	1.02	0.76 - 1.38
Sex of child	Male child (Ref)								
	Female child	0.67***	0.61 - 0.72	0.65***	0.59 - 0.71	0.82*	0.68 - 0.99	0.78*	0.63 - 0.96
Observations		14,142		12,755		14,142		12,755	

Note: *p<0.05; **p<0.01; ***p<0.001; + n= 13,011; ++ n= 12,755

Continues...

Appendix Table A5—Continued

		Liberia							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	1.01	0.76 - 1.34	0.99	0.73 - 1.35	0.95	0.54 - 1.66	0.86	0.47 - 1.60
	Middle	0.92	0.70 - 1.21	0.86	0.62 - 1.20	0.96	0.53 - 1.73	1.01	0.55 - 1.86
	Rich	1.04	0.76 - 1.43	1.02	0.71 - 1.47	0.95	0.54 - 1.67	1.05	0.56 - 1.98
	Richest	0.74*	0.55 - 0.99	0.68*	0.47 - 1.00	0.77	0.40 - 1.47	1.08	0.54 - 2.18
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	1.14	0.91 - 1.43	1.31*	1.01 - 1.70	0.72	0.48 - 1.09	0.82	0.50 - 1.34
	Wealthy relative to community	1.09	0.86 - 1.39	1.21	0.88 - 1.66	0.53*	0.32 - 0.87	0.58	0.33 - 1.04
Maternal education +	None (Ref)								
	Primary	0.87	0.69 - 1.09	0.88	0.68 - 1.13	1.04	0.65 - 1.66	1.01	0.62 - 1.64
	Secondary or higher	0.86	0.61 - 1.21	0.89	0.62 - 1.27	1.07	0.59 - 1.93	1.01	0.55 - 1.86
Birth order **	First (Ref)								
	Second thru fourth	1.02	0.76 - 1.37	0.98	0.72 - 1.33	0.69	0.38 - 1.27	0.69	0.37 - 1.26
	Fifth or higher	1.19	0.85 - 1.68	0.94	0.63 - 1.38	0.77	0.44 - 1.34	0.85	0.47 - 1.54
Sex of child	Male child (Ref)								
	Female child	0.65***	0.55 - 0.77	0.66***	0.54 - 0.79	0.74	0.50 - 1.10	0.75	0.49 - 1.15
Observations		2,600		2,243		2,600		2,243	

Note: *p<0.05; **p<0.01; ***p<0.001; + n= 2,243

		Mali							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.98	0.82 - 1.17	0.98	0.81 - 1.19	0.97	0.73 - 1.30	1.04	0.77 - 1.40
	Middle	0.85	0.71 - 1.02	0.86	0.70 - 1.05	1.03	0.77 - 1.39	1.09	0.79 - 1.49
	Rich	0.90	0.75 - 1.06	0.90	0.73 - 1.10	0.76	0.56 - 1.02	0.84	0.60 - 1.18
	Richest	0.44***	0.35 - 0.55	0.45***	0.35 - 0.59	0.72	0.49 - 1.05	0.74	0.49 - 1.12
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.98	0.85 - 1.14	1.18*	1.02 - 1.38	1.09	0.87 - 1.36	1.19	0.94 - 1.51
	Wealthy relative to community	1.05	0.89 - 1.24	1.22*	1.01 - 1.47	0.87	0.67 - 1.11	0.92	0.68 - 1.25
Maternal education +	None (Ref)								
	Primary	0.78*	0.64 - 0.95	0.83	0.68 - 1.00	0.99	0.73 - 1.32	1.02	0.76 - 1.38
	Secondary or higher	0.42***	0.33 - 0.55	0.53***	0.40 - 0.71	0.70	0.49 - 1.02	0.74	0.50 - 1.08
Birth order **	First (Ref)								
	Second thru fourth	0.95	0.78 - 1.16	0.88	0.72 - 1.07	1.10	0.84 - 1.43	1.05	0.81 - 1.36
	Fifth or higher	1.05	0.85 - 1.30	0.87	0.70 - 1.07	0.96	0.73 - 1.25	0.87	0.67 - 1.14
Sex of child	Male child (Ref)								
	Female child	0.93	0.81 - 1.05	0.91	0.79 - 1.04	0.70***	0.58 - 0.84	0.69***	0.57 - 0.84
Observations		6,822		6,270		7,067		6,397	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n= 6,374; Wasting n=6,522; ++Stunting n= 6,270; Wasting n=6,397

Continues...

Appendix Table A5—Continued

		Nigeria							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.96	0.79 - 1.16	0.99	0.80 - 1.22	0.74*	0.55 - 1.00	0.70*	0.50 - 0.97
	Middle	0.81*	0.67 - 0.98	0.83	0.67 - 1.02	0.70*	0.53 - 0.92	0.67**	0.49 - 0.91
	Rich	0.50***	0.42 - 0.61	0.60***	0.48 - 0.75	0.58**	0.41 - 0.81	0.58**	0.39 - 0.86
	Richest	0.25***	0.21 - 0.31	0.38***	0.29 - 0.49	0.46***	0.34 - 0.63	0.46***	0.30 - 0.70
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	1.00	0.85 - 1.16	1.19*	1.01 - 1.41	1.13	0.86 - 1.47	1.22	0.92 - 1.63
	Wealthy relative to community	1.28**	1.09 - 1.51	1.63***	1.35 - 1.95	1.23	0.91 - 1.66	1.50*	1.07 - 2.10
Maternal education +	None (Ref)								
	Primary	0.53***	0.45 - 0.63	0.66***	0.56 - 0.78	0.49***	0.37 - 0.66	0.61**	0.45 - 0.83
	Secondary or higher	0.27***	0.23 - 0.31	0.44***	0.37 - 0.52	0.60***	0.46 - 0.78	0.86	0.61 - 1.21
Birth order ++	First (Ref)								
	Second thru fourth	1.07	0.93 - 1.24	0.98	0.84 - 1.14	0.86	0.65 - 1.12	0.84	0.64 - 1.11
	Fifth or higher	1.47***	1.26 - 1.71	1.06	0.90 - 1.26	1.07	0.81 - 1.41	0.97	0.73 - 1.29
Sex of child	Male child (Ref)								
	Female child	0.74***	0.67 - 0.82	0.74***	0.66 - 0.83	0.74**	0.61 - 0.90	0.77**	0.62 - 0.94
Observations		7,537		6,920		7,579		6,957	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n= 7,055; Wasting n=7,092; ++Stunting n= 6,920; Wasting n=6,957

		Pakistan							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.62*	0.39 - 0.99	0.60*	0.37 - 0.97	1.35	0.67 - 2.72	1.44	0.68 - 3.05
	Middle	0.41***	0.28 - 0.61	0.44***	0.28 - 0.69	0.75	0.42 - 1.34	0.84	0.44 - 1.61
	Rich	0.29***	0.19 - 0.44	0.31***	0.20 - 0.49	0.80	0.42 - 1.55	0.74	0.31 - 1.77
	Richest	0.24***	0.15 - 0.40	0.35***	0.20 - 0.62	0.40*	0.19 - 0.86	0.34*	0.14 - 0.83
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	1.03	0.71 - 1.49	1.16	0.79 - 1.70	1.65	0.84 - 3.26	2.12*	1.17 - 3.87
	Wealthy relative to community	0.92	0.65 - 1.31	1.39	0.96 - 2.02	1.25	0.64 - 2.43	1.80	0.94 - 3.44
Maternal education +	None (Ref)								
	Primary	0.65**	0.48 - 0.87	0.85	0.61 - 1.19	0.72	0.36 - 1.41	0.84	0.42 - 1.69
	Secondary or higher	0.34***	0.25 - 0.47	0.55**	0.38 - 0.79	0.58	0.33 - 1.04	1.05	0.53 - 2.06
Birth order ++	First (Ref)								
	Second thru fourth	1.03	0.79 - 1.35	0.95	0.71 - 1.27	1.04	0.60 - 1.81	1.01	0.57 - 1.78
	Fifth or higher	1.59**	1.13 - 2.24	1.14	0.79 - 1.63	1.18	0.62 - 2.24	0.99	0.50 - 1.93
Sex of child	Male child (Ref)								
	Female child	1.03	0.81 - 1.31	1.05	0.82 - 1.34	0.90	0.60 - 1.34	0.98	0.66 - 1.45
Observations		1,862		1,827		1,891		1,846	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n= 1,843; Wasting n=1,872; ++Stunting n= 1,827; Wasting n=1,846

Continues...

Appendix Table A5—Continued

		Senegal							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	0.61***	0.51 - 0.72	0.62***	0.52 - 0.74	0.94	0.73 - 1.21	0.92	0.70 - 1.22
	Middle	0.52***	0.42 - 0.64	0.53***	0.42 - 0.67	1.05	0.79 - 1.39	1.09	0.80 - 1.49
	Rich	0.42***	0.35 - 0.50	0.41***	0.33 - 0.50	0.81	0.61 - 1.07	0.81	0.59 - 1.12
	Richest	0.28***	0.22 - 0.35	0.27***	0.21 - 0.34	0.65*	0.47 - 0.91	0.71*	0.51 - 0.99
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.99	0.83 - 1.18	1.23*	1.04 - 1.45	0.76*	0.61 - 0.96	0.80	0.64 - 1.01
	Wealthy relative to community	0.85	0.71 - 1.02	1.26*	1.02 - 1.55	0.84	0.65 - 1.08	0.88	0.67 - 1.16
Maternal education +	None (Ref)								
	Primary	0.78**	0.65 - 0.93	0.91	0.75 - 1.10	0.87	0.65 - 1.15	0.94	0.72 - 1.22
	Secondary or higher	0.71*	0.54 - 0.94	0.93	0.68 - 1.26	0.60**	0.43 - 0.82	0.65*	0.45 - 0.93
Birth order ++	First (Ref)								
	Second thru fourth	1.08	0.92 - 1.26	1.03	0.86 - 1.22	1.04	0.80 - 1.35	0.97	0.74 - 1.26
	Fifth or higher	1.25**	1.06 - 1.47	1.11	0.92 - 1.33	1.30	0.99 - 1.69	1.14	0.87 - 1.50
Sex of child	Male child (Ref)								
	Female child	0.84**	0.75 - 0.94	0.85**	0.75 - 0.96	0.75**	0.64 - 0.90	0.73**	0.60 - 0.88
Observations		7,291		7,154		8,060		7,204	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n=7,404; Wasting n=7,469; ++Stunting n=7,154; Wasting n=7,204

		Zambia							
		Stunting				Wasting			
		Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI	Unadjusted Odds Ratio	95% CI	Adjusted Odds Ratio	95% CI
Wealth quintile	Poorest (Ref)								
	Poorest	1.03	0.87 - 1.22	1.08	0.90 - 1.30	0.65*	0.42 - 1.00	0.69	0.41 - 1.18
	Middle	0.87	0.72 - 1.04	0.89	0.72 - 1.10	0.89	0.57 - 1.37	0.89	0.52 - 1.54
	Rich	0.82*	0.68 - 0.99	0.89	0.72 - 1.12	0.58*	0.37 - 0.90	0.56	0.31 - 1.02
	Richest	0.64***	0.53 - 0.78	0.73**	0.57 - 0.93	0.64	0.40 - 1.01	0.69	0.38 - 1.26
Relative community wealth	Poor relative to community (Ref)								
	Wealth similar to community	0.98	0.85 - 1.14	1.07	0.92 - 1.25	1.05	0.77 - 1.44	1.08	0.77 - 1.53
	Wealthy relative to community	0.93	0.80 - 1.08	1.04	0.87 - 1.24	0.92	0.64 - 1.34	1.06	0.66 - 1.71
Maternal education +	None (Ref)								
	Primary	0.94	0.78 - 1.13	0.96	0.79 - 1.16	0.66	0.42 - 1.05	0.71	0.44 - 1.15
	Secondary or higher	0.68***	0.54 - 0.85	0.73*	0.57 - 0.94	0.61	0.34 - 1.09	0.68	0.36 - 1.27
Birth order ++	First (Ref)								
	Second thru fourth	0.92	0.80 - 1.07	0.89	0.77 - 1.03	1.04	0.73 - 1.46	1.01	0.72 - 1.41
	Fifth or higher	0.92	0.79 - 1.08	0.84*	0.71 - 0.99	0.99	0.66 - 1.48	0.92	0.62 - 1.36
Sex of child	Male child (Ref)								
	Female child	0.73***	0.66 - 0.82	0.73***	0.65 - 0.82	0.90	0.69 - 1.17	0.92	0.69 - 1.21
Observations		6,744		6,138		6,743		6,115	

Note: *p<0.05; **p<0.01; ***p<0.001; + Stunting n=6,279; Wasting n=6,259; ++ Stunting n=6,138; Wasting n=6,115

Appendix Table A6 Average Marginal Effects (AMEs) and 95% Confidence Intervals (CI) of being a poor household relative to community compared to being a rich household relative to community on each outcome by country

	DRC													
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.08***	0.02 - 0.14	0.26***	0.17 - 0.36	0.00	-0.01 - 0.02	0.22***	0.13 - 0.31	0.00	-0.14 - 0.15	0.00	-0.07 - 0.07	0.06	-0.02 - 0.14
Poorer	0.08***	0.02 - 0.15	0.24***	0.16 - 0.33	0.00	-0.02 - 0.02	0.24***	0.14 - 0.34	0.00	-0.14 - 0.15	0.00	-0.07 - 0.07	0.06	-0.02 - 0.15
Middle	0.08***	0.01 - 0.15	0.19***	0.12 - 0.26	0.00	-0.02 - 0.03	0.24***	0.14 - 0.34	0.00	-0.16 - 0.16	0.00	-0.07 - 0.07	0.06	-0.02 - 0.15
Rich	0.08***	0.02 - 0.15	0.17***	0.11 - 0.22	0.00	-0.02 - 0.02	0.23***	0.14 - 0.32	0.00	-0.15 - 0.16	0.00	-0.07 - 0.07	0.06	-0.02 - 0.15
Richest	0.08***	0.01 - 0.15	0.09***	0.06 - 0.12	0.00	-0.04 - 0.04	0.19***	0.12 - 0.27	0.00	-0.15 - 0.16	0.00	-0.07 - 0.07	0.06	-0.02 - 0.15
Observations	6,757	6,757	6,757	6,757	8,668	8,668	2,393	2,393	778	778	3,648	3,648	1,907	1,907

Note: *p<0.05; **p<0.01; ***p<0.001

	DRC					
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	0.11***	0.00 - 0.21	0.04	-0.01 - 0.09	-0.00	-0.04 - 0.03
Poorer	0.11	-0.00 - 0.22	0.04	-0.01 - 0.09	-0.00	-0.03 - 0.03
Middle	0.11	-0.00 - 0.22	0.04	-0.01 - 0.09	-0.00	-0.04 - 0.03
Rich	0.11	-0.00 - 0.22	0.04	-0.01 - 0.09	-0.00	-0.04 - 0.03
Richest	0.11	-0.00 - 0.22	0.04	-0.01 - 0.09	-0.00	-0.04 - 0.03
Observations	1,348	1,348	5,697	5,697	5,697	5,697

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Ghana														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.05	-0.06 - 0.17	0.08	-0.05 - 0.20	-0.02	-0.07 - 0.03	0.04	-0.10 - 0.18	-0.00	-0.33 - 0.33	0.11	-0.07 - 0.29	0.09	-0.10 - 0.27
Poorest	0.05	-0.05 - 0.15	0.08	-0.05 - 0.20	-0.02	-0.09 - 0.04	0.02	-0.06 - 0.11	-0.00	-0.33 - 0.33	0.11	-0.07 - 0.28	0.09	-0.10 - 0.28
Middle	0.05	-0.04 - 0.14	0.07	-0.05 - 0.19	-0.02	-0.09 - 0.04	0.03	-0.07 - 0.14	-0.00	-0.30 - 0.30	0.11	-0.07 - 0.29	0.09	-0.10 - 0.28
Rich	0.03	-0.03 - 0.10	0.07	-0.04 - 0.17	-0.02	-0.08 - 0.04	0.03	-0.07 - 0.13	-0.00	-0.32 - 0.32	0.09	-0.06 - 0.24	0.09	-0.10 - 0.27
Richest	0.01	-0.01 - 0.03	0.04	-0.02 - 0.10	-0.02	-0.08 - 0.04	0.01	-0.02 - 0.04	-0.00	-0.36 - 0.36	0.08	-0.05 - 0.21	0.09	-0.10 - 0.28
Observations	2,145		2,145		2,997		676		130		522		410	

Note: *p<0.05; **p<0.01; ***p<0.001

Ghana						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	-0.09	-0.27 - 0.10	-0.04	-0.10 - 0.03	-0.01	-0.03 - 0.02
Poorest	-0.10	-0.29 - 0.10	-0.03	-0.09 - 0.03	-0.01	-0.03 - 0.02
Middle	-0.10	-0.29 - 0.09	-0.03	-0.08 - 0.02	-0.01	-0.03 - 0.02
Rich	-0.10	-0.29 - 0.10	-0.02	-0.05 - 0.01	-0.00	-0.02 - 0.01
Richest	-0.09	-0.27 - 0.08	-0.01	-0.03 - 0.01	-0.01	-0.02 - 0.01
Observations	519		4,018		4,000	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

		Haiti														
		4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea		
		AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	
Household wealth quintile																
Poorest		0.04	-0.06 - 0.13	0.06***	0.04 - 0.09	-0.01	-0.06 - 0.03	0.17***	0.06 - 0.28	-0.06	-0.23 - 0.10	0.13***	0.05 - 0.20	0.06	-0.01 - 0.13	
Poorest		0.04	-0.06 - 0.13	0.10***	0.05 - 0.15	-0.01	-0.06 - 0.04	0.18***	0.05 - 0.30	-0.06	-0.22 - 0.10	0.13***	0.05 - 0.21	0.05	-0.01 - 0.11	
Middle		0.04	-0.06 - 0.13	0.12***	0.06 - 0.19	-0.01	-0.06 - 0.03	0.18***	0.05 - 0.30	-0.05	-0.19 - 0.09	0.16***	0.06 - 0.26	0.07	-0.02 - 0.17	
Rich		0.03	-0.05 - 0.11	0.15***	0.08 - 0.22	-0.02	-0.07 - 0.04	0.18***	0.05 - 0.30	-0.06	-0.21 - 0.09	0.17***	0.06 - 0.27	0.08	-0.02 - 0.18	
Richest		0.02	-0.03 - 0.08	0.13***	0.07 - 0.19	-0.01	-0.06 - 0.03	0.13***	0.04 - 0.22	-0.07	-0.26 - 0.12	0.17***	0.06 - 0.28	0.07	-0.02 - 0.16	
Observations		2,965		2,965		4,944		844		419		1,296		845		

Note: *p<0.05; **p<0.01; ***p<0.001

		Haiti					
		Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
		AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile							
Poorest		-0.09	-0.27 - 0.10	-0.04	-0.10 - 0.03	-0.01	-0.03 - 0.02
Poorest		-0.10	-0.29 - 0.10	-0.03	-0.09 - 0.03	-0.01	-0.03 - 0.02
Middle		-0.10	-0.29 - 0.09	-0.03	-0.08 - 0.02	-0.01	-0.03 - 0.02
Rich		-0.10	-0.29 - 0.10	-0.02	-0.05 - 0.01	-0.00	-0.02 - 0.01
Richest		-0.09	-0.27 - 0.08	-0.01	-0.03 - 0.01	-0.01	-0.02 - 0.01
Observations		519		4,018		4,000	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

	Indonesia													
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.09***	0.03 - 0.15	0.16***	0.09 - 0.23	0.00	-0.02 - 0.03	0.13***	0.02 - 0.23	-0.08	-0.23 - 0.07	-0.01	-0.08 - 0.07	-0.06	-0.16 - 0.05
Poorest	0.06***	0.02 - 0.09	0.16***	0.09 - 0.22	0.00	-0.02 - 0.03	0.12***	0.02 - 0.21	-0.07	-0.21 - 0.06	-0.01	-0.07 - 0.06	-0.05	-0.14 - 0.04
Middle	0.05***	0.02 - 0.08	0.13***	0.07 - 0.18	0.00	-0.02 - 0.03	0.10***	0.02 - 0.18	-0.04	-0.14 - 0.05	-0.01	-0.07 - 0.06	-0.05	-0.15 - 0.05
Rich	0.04***	0.02 - 0.06	0.11***	0.07 - 0.15	0.00	-0.02 - 0.03	0.09***	0.02 - 0.15	-0.08	-0.25 - 0.08	-0.01	-0.07 - 0.06	-0.05	-0.16 - 0.05
Richest	0.02***	0.01 - 0.03	0.07***	0.04 - 0.09	0.00	-0.02 - 0.03	0.09***	0.03 - 0.15	-0.05	-0.14 - 0.05	-0.00	-0.06 - 0.05	-0.05	-0.16 - 0.05
Observations	7,527		7,527		17,147		1,790		446		2,810		1,344	

Note: *p<0.05; **p<0.01; ***p<0.001

	Indonesia					
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	-0.10	-0.20 - 0.00	NA		NA	
Poorest	-0.11	-0.22 - 0.00	NA		NA	
Middle	-0.11	-0.22 - 0.00	NA		NA	
Rich	-0.12	-0.23 - 0.00	NA		NA	
Richest	-0.12	-0.24 - 0.00	NA		NA	
Observations	899					

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Kenya														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.00	-0.04 - 0.05	0.11***	0.07 - 0.15	0.13***	0.10 - 0.16	0.04	-0.05 - 0.13	-0.00	-0.10 - 0.10	-0.02	-0.09 - 0.05	-0.01	-0.10 - 0.07
Poorest	0.00	-0.04 - 0.05	0.14***	0.09 - 0.19	0.18***	0.15 - 0.22	0.02	-0.03 - 0.08	-0.00	-0.09 - 0.09	-0.02	-0.09 - 0.04	-0.02	-0.10 - 0.07
Middle	0.00	-0.04 - 0.05	0.14***	0.09 - 0.19	0.18***	0.14 - 0.22	0.02	-0.03 - 0.07	-0.00	-0.10 - 0.10	-0.02	-0.09 - 0.04	-0.02	-0.11 - 0.07
Rich	0.00	-0.04 - 0.05	0.12***	0.08 - 0.16	0.17***	0.13 - 0.20	0.02	-0.02 - 0.06	-0.00	-0.10 - 0.10	-0.02	-0.09 - 0.04	-0.02	-0.10 - 0.07
Richest	0.00	-0.03 - 0.04	0.07***	0.04 - 0.09	0.15***	0.12 - 0.18	0.01	-0.01 - 0.03	-0.00	-0.09 - 0.09	-0.02	-0.08 - 0.04	-0.02	-0.11 - 0.07
Observations	8,152		8,152		12,230		2,791		1,195		3,274		2,012	

Note: *p<0.05; **p<0.01; ***p<0.001

Kenya						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	-0.11	-0.27 - 0.06	-0.05***	-0.09 - 0.01	-0.06***	-0.09 - 0.02
Poorest	-0.11	-0.28 - 0.06	-0.05***	-0.09 - 0.01	-0.03***	-0.04 - 0.01
Middle	-0.11	-0.28 - 0.06	-0.05***	-0.08 - 0.01	-0.02***	-0.03 - 0.01
Rich	-0.11	-0.29 - 0.06	-0.04***	-0.07 - 0.01	-0.02***	-0.03 - 0.01
Richest	-0.10	-0.26 - 0.06	-0.03***	-0.06 - 0.01	-0.01***	-0.02 - 0.00
Observations	585		12,755		12,755	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Liberia														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.15***	0.06 - 0.24	0.12***	0.05 - 0.19	0.04***	0.01 - 0.07	0.31***	0.19 - 0.44	0.06	-0.14 - 0.25	0.05	-0.07 - 0.18	0.15***	0.06 - 0.24
Poorer	0.13***	0.05 - 0.21	0.13***	0.05 - 0.21	0.05***	0.01 - 0.09	0.31***	0.18 - 0.44	0.06	-0.15 - 0.27	0.05	-0.07 - 0.18	0.13***	0.05 - 0.21
Middle	0.12***	0.05 - 0.19	0.13***	0.05 - 0.21	0.06***	0.01 - 0.10	0.27***	0.15 - 0.38	0.06	-0.16 - 0.28	0.05	-0.07 - 0.18	0.12***	0.05 - 0.19
Rich	0.10***	0.05 - 0.16	0.13***	0.05 - 0.21	0.07***	0.01 - 0.13	0.23***	0.13 - 0.33	0.06	-0.16 - 0.28	0.05	-0.07 - 0.17	0.10***	0.05 - 0.16
Richest	0.07***	0.03 - 0.12	0.12***	0.05 - 0.20	0.08***	0.02 - 0.14	0.16***	0.08 - 0.24	0.06	-0.16 - 0.28	0.05	-0.07 - 0.18	0.07***	0.03 - 0.12
Observations	2,761		2,761		3,863		961		365		1,552		2,761	

Note: *p<0.05; **p<0.01; ***p<0.001

Liberia						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	0.08	-0.04 - 0.19	0.10	-0.08 - 0.28	-0.04	-0.11 - 0.03
Poorer	0.09	-0.05 - 0.22	0.10	-0.08 - 0.28	-0.04	-0.11 - 0.03
Middle	0.09	-0.05 - 0.22	0.09	-0.07 - 0.24	-0.04	-0.10 - 0.03
Rich	0.09	-0.05 - 0.22	0.09	-0.07 - 0.26	-0.04	-0.11 - 0.02
Richest	0.09	-0.05 - 0.22	0.09	-0.07 - 0.26	-0.03	-0.09 - 0.02
Observations	1,186		497		2,243	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

		Mali														
		4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea		
		AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	
Household wealth quintile																
Poorest		0.11***	0.08 - 0.15	0.25***	0.17 - 0.33	0.05***	0.02 - 0.07	-0.09	-0.19 - 0.00	-0.08	-0.44 - 0.29	-0.01	-0.11 - 0.10	-0.00	-0.07 - 0.07	
Poorest		0.14***	0.09 - 0.18	0.26***	0.16 - 0.36	0.05***	0.02 - 0.07	-0.09	-0.18 - 0.00	-0.09	-0.52 - 0.33	-0.01	-0.10 - 0.09	-0.00	-0.08 - 0.08	
Middle		0.15***	0.09 - 0.20	0.25***	0.16 - 0.34	0.06***	0.02 - 0.09	-0.09	-0.18 - 0.00	-0.09	-0.49 - 0.31	-0.01	-0.09 - 0.08	-0.00	-0.08 - 0.07	
Rich		0.16***	0.10 - 0.22	0.21***	0.14 - 0.28	0.08***	0.03 - 0.13	-0.08	-0.17 - 0.01	-0.06	-0.34 - 0.23	-0.01	-0.12 - 0.10	-0.00	-0.09 - 0.09	
Richest		0.16***	0.11 - 0.22	0.11***	0.07 - 0.14	0.09***	0.03 - 0.14	-0.08	-0.17 - 0.01	-0.09	-0.54 - 0.35	-0.01	-0.13 - 0.11	-0.00	-0.09 - 0.09	
Observations		4,495		4,495		5,963		1,438		86		1,174		1,228		

Note: *p<0.05; **p<0.01; ***p<0.001

		Mali					
		Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
		AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile							
Poorest		-0.01	-0.13 - 0.10	-0.04***	-0.09 - 0.00	0.01	-0.02 - 0.03
Poorest		-0.01	-0.13 - 0.11	-0.04***	-0.08 - 0.00	0.01	-0.02 - 0.03
Middle		-0.01	-0.13 - 0.10	-0.04***	-0.08 - 0.00	0.01	-0.02 - 0.03
Rich		-0.01	-0.13 - 0.10	-0.04***	-0.08 - 0.00	0.01	-0.02 - 0.03
Richest		-0.01	-0.12 - 0.09	-0.03***	-0.05 - 0.00	0.01	-0.01 - 0.02
Observations		751		6,270		6,397	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Nigeria														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.08***	0.05 - 0.11	0.04***	0.03 - 0.06	0.01***	0.00 - 0.01	0.07***	0.03 - 0.11	0.00	-0.18 - 0.19	0.04	-0.03 - 0.11	0.03	-0.06 - 0.11
Poorest	0.10***	0.06 - 0.14	0.07***	0.05 - 0.10	0.01***	0.00 - 0.02	0.09***	0.03 - 0.15	0.00	-0.17 - 0.18	0.04	-0.02 - 0.10	0.03	-0.05 - 0.11
Middle	0.10***	0.06 - 0.15	0.10***	0.06 - 0.13	0.01***	0.00 - 0.03	0.10***	0.03 - 0.16	0.00	-0.18 - 0.19	0.04	-0.02 - 0.10	0.03	-0.06 - 0.11
Rich	0.10***	0.06 - 0.15	0.13***	0.08 - 0.18	0.02***	0.00 - 0.05	0.10***	0.04 - 0.17	0.00	-0.16 - 0.17	0.04	-0.02 - 0.10	0.03	-0.05 - 0.11
Richest	0.08***	0.04 - 0.11	0.13***	0.08 - 0.17	0.03	-0.00 - 0.07	0.10***	0.04 - 0.16	0.00	-0.14 - 0.15	0.03	-0.02 - 0.09	0.02	-0.05 - 0.10
Observations	13,320		13,320		18,485		3,959		565		5,390		2,858	

Note: *p<0.05; **p<0.01; ***p<0.001

Nigeria						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	0.01	-0.06 - 0.07	-0.12***	-0.16 - -0.07	-0.04***	-0.08 - -0.00
Poorest	0.01	-0.06 - 0.07	-0.12***	-0.16 - -0.07	-0.03***	-0.06 - -0.00
Middle	0.00	-0.05 - 0.06	-0.12***	-0.16 - -0.07	-0.03***	-0.06 - -0.00
Rich	0.01	-0.06 - 0.07	-0.11***	-0.15 - -0.07	-0.02***	-0.05 - -0.00
Richest	0.01	-0.08 - 0.09	-0.09***	-0.12 - -0.05	-0.02***	-0.04 - -0.00
Observations	2,098		6,920		6,957	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Pakistan														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.12***	0.07 - 0.17	0.05	-0.04 - 0.14	0.03	-0.00 - 0.07	0.34***	0.21 - 0.47	0.14	-0.04 - 0.31	0.09	-0.02 - 0.20	0.03	-0.10 - 0.17
Poorest	0.14***	0.08 - 0.19	0.05	-0.04 - 0.14	0.03	-0.00 - 0.07	0.31***	0.18 - 0.44	0.13	-0.04 - 0.30	0.09	-0.02 - 0.20	0.03	-0.10 - 0.16
Middle	0.16***	0.09 - 0.23	0.05	-0.04 - 0.14	0.04	-0.00 - 0.08	0.28***	0.16 - 0.39	0.12	-0.03 - 0.27	0.09	-0.02 - 0.19	0.03	-0.10 - 0.17
Rich	0.17***	0.09 - 0.24	0.04	-0.03 - 0.11	0.04	-0.00 - 0.09	0.18***	0.10 - 0.26	0.11	-0.02 - 0.25	0.08	-0.02 - 0.18	0.03	-0.10 - 0.17
Richest	0.12***	0.07 - 0.17	0.02	-0.02 - 0.06	0.04	-0.00 - 0.09	0.09***	0.04 - 0.13	0.09	-0.02 - 0.19	0.08	-0.02 - 0.17	0.03	-0.10 - 0.16
Observations	3,595		3,595		6,036		1,012		720		1,915		993	

Note: *p<0.05; **p<0.01; ***p<0.001

Pakistan						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	-0.21***	-0.38 - -0.04	-0.08	-0.17 - 0.01	-0.04	-0.08 - 0.01
Poorest	-0.20***	-0.37 - -0.03	-0.08	-0.17 - 0.01	-0.05	-0.10 - 0.01
Middle	-0.21***	-0.38 - -0.04	-0.08	-0.16 - 0.01	-0.03	-0.06 - 0.00
Rich	-0.21***	-0.38 - -0.04	-0.07	-0.14 - 0.01	-0.03	-0.06 - 0.00
Richest	-0.18***	-0.33 - -0.04	-0.06	-0.13 - 0.00	-0.01	-0.03 - 0.00
Observations	619		1,827		1,846	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Senegal														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	0.01	-0.04 - 0.06	0.18***	0.10 - 0.26	-0.00	-0.03 - 0.03	0.12	-0.01 - 0.24	-0.04	-0.21 - 0.12	0.03	-0.04 - 0.11	0.01	-0.07 - 0.08
Poorest	0.01	-0.04 - 0.07	0.18***	0.09 - 0.26	-0.00	-0.04 - 0.04	0.08	-0.01 - 0.17	-0.07	-0.31 - 0.17	0.04	-0.04 - 0.11	0.01	-0.08 - 0.09
Middle	0.01	-0.04 - 0.07	0.14***	0.08 - 0.21	-0.00	-0.04 - 0.04	0.04***	0.01 - 0.08	-0.06	-0.28 - 0.16	0.04	-0.05 - 0.12	0.01	-0.08 - 0.09
Rich	0.01	-0.04 - 0.07	0.10***	0.06 - 0.15	-0.00	-0.04 - 0.04	0.04***	0.00 - 0.07	-0.06	-0.27 - 0.15	0.04	-0.05 - 0.12	0.01	-0.08 - 0.09
Richest	0.01	-0.04 - 0.06	0.06***	0.03 - 0.09	-0.00	-0.04 - 0.04	0.03	-0.00 - 0.06	-0.06	-0.26 - 0.15	0.04	-0.05 - 0.13	0.01	-0.08 - 0.09
Observations	5,119		5,088		7,102		1,593		248		1,523		1,489	

Note: *p<0.05; **p<0.01; ***p<0.001

Senegal						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	0.11***	0.00 - 0.22	-0.05***	-0.09 - -0.00	0.01	-0.02 - 0.04
Poorest	0.11***	0.00 - 0.21	-0.04***	-0.07 - -0.00	0.01	-0.01 - 0.04
Middle	0.12***	0.00 - 0.23	-0.03***	-0.07 - -0.00	0.01	-0.02 - 0.04
Rich	0.11	-0.00 - 0.22	-0.03***	-0.06 - -0.00	0.01	-0.01 - 0.03
Richest	0.12***	0.00 - 0.23	-0.02***	-0.04 - -0.00	0.01	-0.01 - 0.03
Observations	774		7,154		7,204	

Note: *p<0.05; **p<0.01; ***p<0.001

Continues...

Appendix Table A6—Continued

Zambia														
	4+ ANC visits		Delivered in health facility		Modern contraceptive use		3 doses of Pentavalent vaccine		Treatment for ARI symptoms		Advice or treatment sought for fever symptoms		Advice or treatment sought for diarrhea	
	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile														
Poorest	-0.00	-0.05 - 0.05	0.08***	0.01 - 0.16	0.06***	0.02 - 0.10	0.08	-0.02 - 0.18	-0.18	-0.50 - 0.15	-0.06	-0.16 - 0.03	-0.02	-0.12 - 0.08
Poorest	-0.00	-0.05 - 0.05	0.07***	0.01 - 0.13	0.07***	0.01 - 0.12	0.06	-0.01 - 0.13	-0.08	-0.23 - 0.07	-0.05	-0.13 - 0.03	-0.02	-0.11 - 0.07
Middle	-0.00	-0.05 - 0.05	0.06***	0.01 - 0.11	0.07***	0.01 - 0.12	0.06***	0.00 - 0.11	-0.15	-0.42 - 0.13	-0.05	-0.13 - 0.03	-0.02	-0.12 - 0.08
Rich	-0.00	-0.05 - 0.05	0.06***	0.01 - 0.11	0.07***	0.01 - 0.12	0.05	-0.00 - 0.10	-0.15	-0.46 - 0.15	-0.05	-0.14 - 0.03	-0.02	-0.11 - 0.07
Richest	-0.00	-0.05 - 0.05	0.03***	0.01 - 0.06	0.07***	0.01 - 0.12	0.01	-0.00 - 0.03	-0.14	-0.46 - 0.17	-0.06	-0.15 - 0.04	-0.02	-0.14 - 0.09
Observations	3,790		3,790		5,002		1,338		109		1,151		1,019	

Note: *p<0.05; **p<0.01; ***p<0.001

Zambia						
	Exclusively breast-feeding		Stunted child under 5 years		Wasted child under 5 years	
	AME	95% CI	AME	95% CI	AME	95% CI
Household wealth quintile						
Poorest	-0.05	-0.17 - 0.08	-0.01	-0.05 - 0.03	-0.00	-0.03 - 0.02
Poorest	-0.05	-0.17 - 0.08	-0.01	-0.05 - 0.03	-0.00	-0.02 - 0.01
Middle	-0.04	-0.16 - 0.07	-0.01	-0.05 - 0.03	-0.00	-0.02 - 0.02
Rich	-0.04	-0.13 - 0.06	-0.01	-0.05 - 0.03	-0.00	-0.01 - 0.01
Richest	-0.04	-0.15 - 0.07	-0.01	-0.04 - 0.03	-0.00	-0.02 - 0.01
Observations	729		6,138		6,115	

Note: *p<0.05; **p<0.01; ***p<0.001