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LEVELS AND TRENDS OF MATERNAL AND CHILD HEALTH INDICATORS IN 11 MIDDLE EAST AND NORTH AFRICAN COUNTRIES

DHS COMPARATIVE REPORTS 46

NOVEMBER 2017

This publication was produced for review by the United States Agency for International Development (USAID). The report was prepared by Shireen Assaf, Leah Horton, Marta Bornstein, and Thomas Pullum.

DHS Comparative Report No. 46

Levels and Trends of Maternal and Child Health Indicators in 11 Middle East and North African Countries

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November 2017

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Acknowledgments:

The authors are grateful for the comments and guidance provided by USAID Middle East Bureau and USAID mission offices. We would also like to thank Steven Gilbert for producing the maps and providing direction on the regional distribution of some of the countries in the report. Thanks also to Dr. Ahmed Abdel Monem for providing us with the PAPFAM data used in the report.

Editor: Diane Stoy and Sidney Moore
Document Production: Chris Gramer

This study was carried out with support provided by the United States Agency for International Development (USAID) through The DHS Program (AID-OAA-C-13-00095). The views expressed are those of the authors and do not necessarily reflect the views of USAID or the United States Government.

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Recommended citation:

Assaf, Shireen, Leah Horton, Marta Bornstein, and Thomas Pullum. 2017. *Levels and Trends of Maternal and Child Health Indicators in 11 Middle East and North African Countries.* DHS Comparative Report No. 46. Rockville, Maryland, USA: ICF.

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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 provide policymakers and program managers in low- and middle-income countries with easily accessible data on levels and trends for a wide range of health and demographic indicators. DHS Comparative Reports provide such information, usually for a large number of countries in each report. These reports are largely descriptive, without multivariate methods, but when possible they include confidence intervals and/or statistical tests.

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 Comparative Reports 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

Abstract

This report examines 13 maternal and child health indicators in 11 Middle East and North African countries using the most recent nationally representative household surveys carried out since 2005. The data used in the analysis were obtained from 17 surveys from three sources: the Demographic and Health Surveys (DHS), the Multiple Indicator Cluster Surveys (MICS), and the Pan Arab Project for Family Health (PAPFAM). Data from two surveys were available for six countries which allowed for trend analysis. Indicators covered fertility, contraceptive use, antenatal care, delivery, child health care, child nutrition, and under-5 mortality. The report highlights the disparities in these indicators by socio-demographic variables, including age, education, wealth quintile, place of residence, and region. A summary is also provided that compares the overall levels of these indicators across the countries.

KEY WORDS: MENA, Middle East, maternal and child health, health disparities, Demographic and Health Surveys, Multiple Indicator Cluster Surveys, Pan Arab Project for Family Health.

Introduction

The Middle East and North Africa (MENA) region is in a state of constant flux from political, demographic, and epidemiologic changes. Reports on health in the region are needed on a frequent basis to monitor these changes. This report provides a general overview of maternal and child health in 11 MENA countries with the most recent nationally representative household surveys since 2005. The report highlights persistent disparities by socio-demographic variables, in order to inform the targeting of intervention programs. Results from the report may identify issues that need further study on specific countries or topics. The report omits some countries in the MENA region because of lack of available data, but the 11 countries cover a large geographic area that extends from Morocco to Yemen.

Several countries in this report are currently experiencing political turmoil, which has resulted in displacement and violence against civilians, and a deteriorating health care system. Thus, several indicators in the report may be in a worse condition than at the time of data collection. The report provides the most recent national estimates available for several maternal and child health indicators and can serve as a baseline for future reports. The literature review for each country provides an update on the health situation, especially for Syria and Yemen, which uses reports from international organizations and smaller studies conducted in the countries that are more recent than the national surveys.

The report is organized by country in alphabetical order: Algeria, Egypt, Iraq, Lebanon (Palestinian Refugees), Libya, Morocco, Syria, Tunisia, the West Bank and Gaza Strip, and Yemen. For Lebanon, data were only available for Palestinian Refugees and not the non-refugee Lebanese population. Thirteen maternal and child health indicators are included in the analysis. These indicators cover fertility, contraception, antenatal care, delivery, child care, child nutrition, and under-5 child mortality. For each country and each indicator, the analysis describes the levels and disparities by socio-economic variables, and trends when possible. The report includes a summary for the region by each indicator.

The report can be used in several ways. Readers may be interested in a specific country, or may refer to the summary for an overview of variations across countries in a specific indicator. The summary includes subsections on fertility and contraception, antenatal care and delivery, and child health and nutrition. To understand the disparities within each country, readers must consult the country-specific sections. The report is descriptive in nature, and does not provide policy recommendations. Its purpose is simply to highlight aspects of maternal and child health that require further attention because of low coverage levels, high disparities, or deteriorating conditions over time.

Data and Methods

Data

The data for this analysis were obtained from DHS, MICS and PAPFAM surveys in Algeria, Egypt, Iraq, Jordan, Lebanon (Palestinian refugees), Libya, Morocco, the West Bank and Gaza Strip (State of Palestine), Syria, Tunisia, and Yemen, as indicated in Table 1. The table also shows the number of households successfully interviewed in each survey. The two most recent surveys after 2005 were selected for these countries. Algeria, Libya, Morocco, Syria, and Tunisia only had one survey with data available after 2005.

Table 1: Sources of Data

Country	Year	Source	Sample Size (households interviewed)
Algeria	2012-13	MICS4	27,198
Egypt	2014	Standard DHS	29,175
Egypt	2008	Standard DHS	18,968
Iraq	2011	MICS4	35,701
Iraq	2006	MICS3	17,873
Jordan	2012	Standard DHS	15,190
Jordan	2007	Standard DHS	14,564
Lebanon (Palestinian refugees)	2011	MICS4	4,747
Lebanon (Palestinian refugees)	2006	MICS3	6,167
Libya	2007	PAPFAM	21540
Morocco	2011	PAPFAM	15,343
Syria	2006	MICS3	19,019
Tunisia	2011-12	MICS4	9,171
West Bank and Gaza Strip (State of Palestine)	2014	MICS5	10,182
West Bank and Gaza Strip (State of Palestine)	2010	MICS4	13,629
Yemen	2013	Standard DHS	17,351
Yemen	2006	MICS3	3,586

For each survey, 13 indicators were computed according to the definitions given below. For these indicators, the selected populations differ slightly between the data sources. For example, in the DHS, the child health indicators of vaccination, care-seeking, and exclusive breastfeeding are found for children under age 5 of interviewed mothers. In MICS, these indicators are found for all children under age 5 in the household, whether or not the mother was interviewed. The differences between these samples are small because there are few children whose mother is not in the household. There is another difference with the nutrition indicators of stunting and overweight. In the DHS, these indicators are computed for *de facto* children, or those who "slept in the household last night," while in MICS, the indicators are computed for *de jure* children, who are "usual residents." The difference is small. Also, with the nutritional indicators, MICS3 used the NCHS reference population to compute the indicators, while DHS, MICS4, and MICS5 use the WHO reference population. Finally, in the DHS and PAPFAM, the indicators of delivery by skilled birth attendant, delivery in a health facility, and caesarean section deliveries are reported for births in the 5 years before the survey. In the MICS, these indicators are reported for births in the 2 years before the survey. For these indicators, the DHS and PAPFAM samples were reduced to the MICS definition for comparability. The indicator of four or more antenatal care visits, which is reported in the DHS and PAPFAM for the 5 years before the survey, was reduced to the 2 years before the survey to assure comparability with the MICS.

Total fertility rate (TFR)

A measure of current fertility, defined as the expected number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the age-specific fertility rates observed during the 3 years before the survey.

Contraceptive prevalence rate for modern methods (mCPR)

The proportion of women age 15-49, currently in a union, who 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, and the lactational amenorrhea method (LAM). 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.

Contraceptive prevalence rate for traditional methods (tCPR)

The proportion of women age 15-49, currently in a union, who are using a traditional contraceptive method. Traditional contraceptive methods include periodic abstinence (rhythm, calendar method), withdrawal (coitus interruptus), and country-specific traditional methods of proven effectiveness.

Four or more visits for antenatal care (ANC)

Among women age 15-49 who had a birth in the past 2 years, the proportion who had at least four antenatal care visits for the most recent birth. The new WHO recommendation indicates that women should have a minimum of eight ANC visits (WHO 2016e). However, the previous recommendation of a minimum of four visits was used because this was the valid recommendation at the time of the surveys in this report.

Delivery by a skilled birth attendant (SBA)

Among women age 15-49 who had a birth in the past 2 years, the proportion whose most recent birth was delivered by a skilled birth attendant. If more than one person assisted the delivery, the most qualified person is described. The definition of a skilled birth attendant is country-specific but commonly refers to a doctor, nurse, midwife, or auxiliary midwife.

Delivery in a health facility (DHF)

Among women age 15-49 who had a birth in the past 2 years, the proportion whose most recent birth was delivered in a health facility. This indicator distinguishes between home deliveries and facility deliveries. Health facilities could be government, private, NGO, or another facility such as a maternity clinic.

Caesarean section delivery (C-section)

Among women age 15-49 who had a birth in the past 2 years, the proportion whose most recent birth was delivered by caesarean section. The WHO indicates that C-section rates higher than 10% are not associated with reductions in maternal and newborn mortality rates (WHO and HRP 2015).

Full vaccination

The proportion of children age 12-23 months who received the BCG, measles, three doses of either DPT or DPT-HepB-Hib, and three doses of the polio vaccine.

Care-seeking for symptoms of ARI

Among children under age 5 with symptoms of ARI (acute respiratory infection, possibly pneumonia) in the 2 weeks before the survey, the proportion for whom advice or treatment was sought from a health facility or provider. Excludes treatment sought from pharmacies, shops, or traditional healers.

Exclusive breastfeeding (EBF)

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

Stunting

The proportion of children under age 5 who have a height-for-age z-score below the median of the WHO 2007 reference population by more than two standard deviations.

Overweight

The proportion of children under age 5 who have a weight-for-height z-score that is above the median of the WHO 2007 reference population by more than two standard deviations.

Under-5 child mortality (U5MR)

Number of deaths before age 5 per 1000 live births, based on observed risk and survival during the 5 years before the survey.

Methods

Tests of association were performed between the above indicators and several background variables for each survey except for the TFR and the under-5 mortality indicators. For the maternal health indicators, the background variables include women's age, education, wealth quintile, place of residence, and region. For the child heath indicators, the background variables include the sex of the child, mother's education, wealth quintile, place of residence, and region. These tests identify disparities in the indicator across subpopulations. The region categories for each country are described further in the Appendix.

Tests of differences in proportions determined whether the differences between surveys (both nationally and within subgroups) were statistically significant. These results are shown in plots with a solid line that indicates a significant change and a dotted line for a non-significant change. The values of the difference overall as well as by subgroups are found in the tables.

All statistical testing was adjusted for the sample design and weights. Stata 14 was used to make all calculations. The national estimates, as well as the estimates used to produce the figures, are provided in the tables. Significance was determined at the 0.05 significance level and was indicated by an asterisk symbol in the tables. The actual p-values are not reported.

As shown in Table 2, a few surveys had unavailable data for some indicators (indicated by NA in the table). The TFR and under-5 child mortality could not be produced for the 2006 Lebanon (Palestinians) survey, the 2006 Syria survey, and the Morocco 2011 survey because these surveys did not have a complete birth history and used indirect methods to compute these indicators. The TFR could not be produced for the Libya 2007 survey because there was missing information on the all-woman factors that were needed to compute this indicator. In addition, the vaccine indicator could not be replicated to match the reported figures in the final reports from most surveys. This is indicated by NC in the table.

Table 2: Availability of Indicators

Country	Year	Source	TFR	mCPR	tCPR	ANC	SBA	DHF	C-section	Vacci-nation	ARI care	EBF	Stunt-ing	Over-weight	U5MR
Algeria	2012-13	MICS4								NC					
Egypt	2014	Standard DHS													
Egypt	2008	Standard DHS													
Iraq	2011	MICS4								NC					
Iraq	2006	MICS3				NA			NA	NC					
Jordan	2012	Standard DHS													
Jordan	2007	Standard DHS													
Lebanon (Palestinians)	2011	MICS4								NC					
Lebanon (Palestinians)	2006	MICS3	NA			NA			NA	NC					NA
Libya	2007	PAPFAM	NA			NA				NC			NA	NA	
Morocco	2011	PAPFAM	NA						NA	NC			NA	NA	NA
Syria	2006	MICS3	NA			NA			NA						NA
Tunisia	2011-12	MICS4								NC					
West Bank & Gaza Strip	2014	MICS5								NC					
West Bank & Gaza Strip	2010	MICS4								NC					
Yemen	2013	Standard DHS													
Yemen	2006	MICS3				NA			NA			NA	NA	NA	

NA = Data not available. NC = Indicator could not be computed.

Algeria

In 2016, Algeria was a nation of approximately 41 million people, 71% of whom were living in urban areas (Population Reference Bureau 2016). In recent years, Algeria largely escaped the violence and political upheaval associated with the Arab Spring uprisings in 2010 and 2011, although political protests did occur in the nation. The government remained intact, and several reforms were enacted in response to the protests. Over the past decade, Algeria has made substantial progress across a number of health indicators. Life expectancy at birth has increased from 72 years in 2005 to 75 years in 2015 (World Bank 2017a). Since the early 2000s, the total fertility rate (TFR) has fluctuated from a low of 2.4 in 2002 to a high of 2.9 children per woman in 2012 (World Bank 2017a). Although progress has been made in reproductive, maternal, and child health, the health system of Algeria faces increasing challenges from shifts in the burden of disease toward non-communicable disease.

The leading maternal health indicators from Algeria demonstrate progress toward safer motherhood and pregnancy. Approximately 97% of deliveries occur in facilities and skilled birth attendance is nearly universal (UNICEF 2016b). The maternal mortality ratio (MMR) has declined from 170 maternal deaths to 140 maternal deaths per 100,000 live births between 2000 and 2015 (UNICEF 2016b). Although the MMR has declined over time, there are large disparities within the country. Some areas in southern Algeria have experienced MMRs as high as 230 maternal deaths per 100,000 live births, while in the capital city of Algiers, the MMR is approximately 30 maternal deaths per 100,000 live births (Ouchtati, Mezhoud, and Rahmoun 2009). A 2013 study found that nearly half of pregnant women who received care at an Algerian health facility were anemic, although the high prevalence of anemia was not significantly associated with low birth weight in infants (Demmouche, Lazrag, and Moulessehoul 2011). A second study that examined risk factors associated with pre-eclampsia in Tizi Ouzou, Algeria found the overall prevalence of pre-eclampsia to be 7.8% between 2012 and 2013 among the study population (Kichou et al. 2015). The study found that nulliparity and maternal age of 40 or higher were the leading risk factors associated with pre-eclampsia (Kichou et al. 2015).

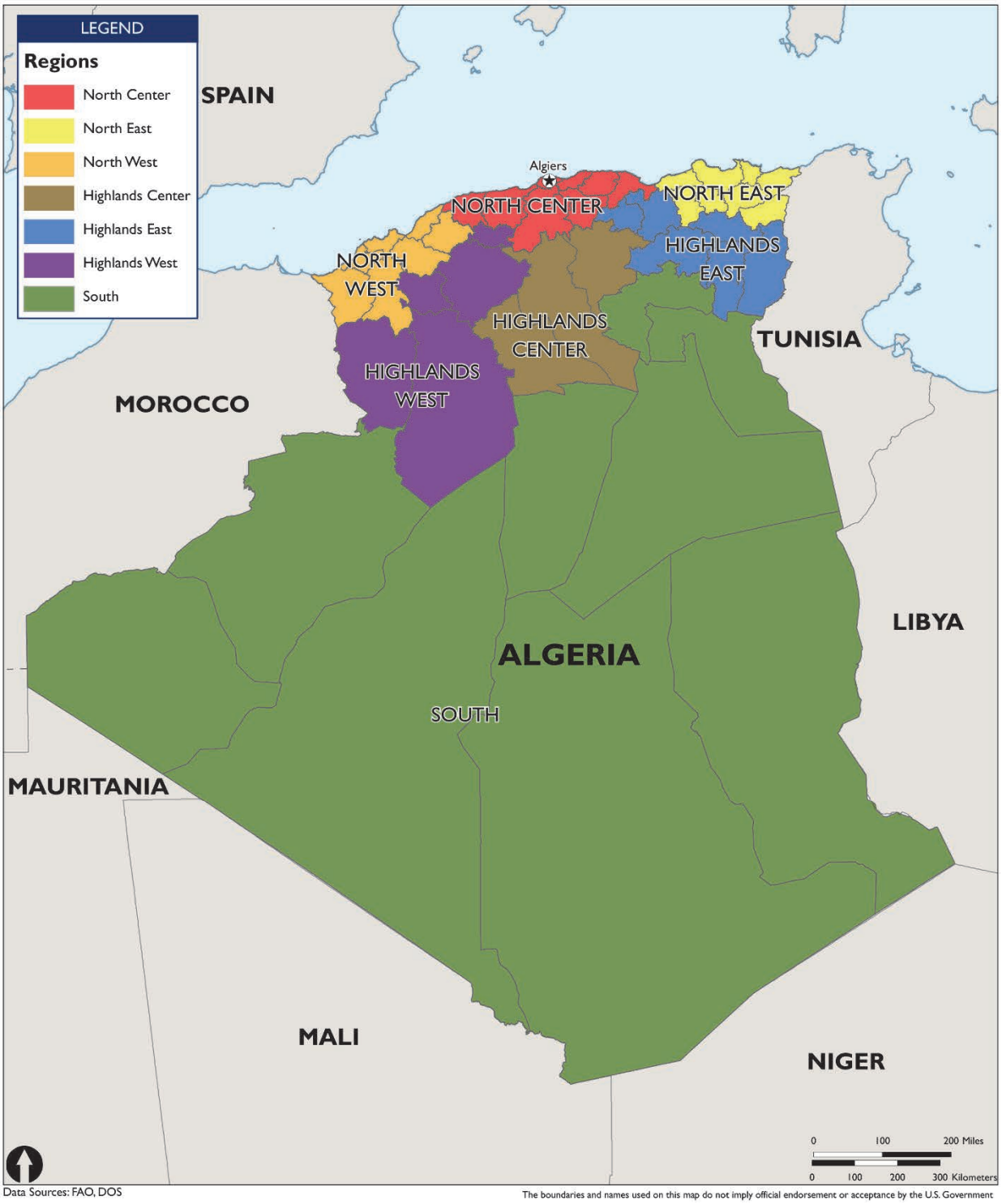
The health status of children in Algeria has been improving over the past decade, and there has been a steady decline in the under-5 mortality rate. Under-5 mortality dropped from 30 deaths per 1,000 live births in 2007 to 25 deaths per 1,000 live births in 2015 (UN Inter-agency Group for Child Mortality Estimation 2015). The infant mortality rate declined from 26 infant deaths per 1,000 live births in 2007 to approximately 21 infant deaths per 1,000 live births in 2015 (UN Inter-agency Group for Child Mortality Estimation 2015). Another important indicator of both child health and health infrastructure is the immunization rate. In Algeria, immunization coverage for children has been consistently high. For example, the immunization rate for measles among one-year-olds increased slightly after 2007, and has remained steady at 95% coverage since 2010 (UNICEF 2016b). The DTP immunization coverage among one-year-olds has also remained steady at 95% since 2009 (UNICEF 2016b). Child nutrition in Algeria has been shifting over the last decade. As of 2013, the prevalence of stunting among children under 5 was approximately 11% (UNICEF 2016b). However, obesity, especially among children, has been a growing concern in Algeria. In a large cross-sectional survey, researchers found that among children age 6-10, the prevalence of overweight and obesity had increased from 6.8% in 2001 to 9.8% in 2006 (Oulamara, Agli, and Frelut 2009). In another cross-sectional analysis, Taleb and colleagues reported a decrease in obesity and overweight among public school children age 4-13 in western Algeria from 1995-2007 (Taleb, Oulamara, and Agli 2013). A more recent study in Oran, Algeria among a smaller sample of school children age 6-11 found the overall prevalence of overweight and obesity to be 13% (Raiah, Talhi, and Mesli 2012). A study of Algerian school children, age 6-8, found that higher household income and higher parental education were significantly associated with child obesity (Saker 2011). Although some research on childhood obesity trends is inconsistent, there appears to be growing public health concern about overweight and obesity in children.

The strength and scope of the Algerian healthcare system will be increasingly tested as the type of disease and disability shift in the country. There is growing concern about the levels of obesity among Algerian adults. A 2016 cross-sectional study among adults living in Algiers found an overall prevalence of obesity of 25%, although there was a huge disparity between men and women. Two-thirds of women were obese compared with just 12% of men (Nadira 2016). Another nationally representative, cross-sectional study found that 30% of Algerian women age 35-70 were obese in 2013 (Atek et al. 2013). The authors found a borderline significant trend of increasing prevalence of obesity with increasing wealth quintile (Atek et al. 2013). Chronic, non-communicable diseases such as diabetes and cancer are becoming increasingly common. In 2015, the prevalence of diabetes among adults age 20-79 was 6.5% (International Diabetes Federation 2015). Cancer incidence has been increasing over the past decade, with the 2014 age standardized cancer incidence estimates reaching 118 cases per 100,000 men and 136 cases per 100,000 women (Hamdi et al. 2015). Country specific studies have estimated the age standardized cervical cancer rate in Algeria to be 10.4 cases per 100,000 women (Kim et al. 2013). The leading causes of cancer death across both sexes are breast, lung, and stomach cancer (Hamdi et al. 2015). Algeria has a province-based cancer registry system that aids in tracking the trends in cancer incidence, survival, and cancer type (Hamdi et al. 2015).

Despite the epidemiologic transition in Algeria, the proportion of total health expenditure for out-of-pocket spending has remained steady at 26% since 2006 (World Bank 2017a). In 2014, health expenditures were approximately 7.2% of the total Algerian GDP, an increase from 5% in 2010 (United Nations Statistics Division 2017). Although indicators such as vaccine coverage are strong, the quality and breadth of health services in Algeria varies. As of 2008, it is estimated that 85% of the population has formal health coverage (International Labour Organization 2008). Despite the breadth of coverage, some studies have documented inconsistent quality of health services. A 2014 study found that blood pressure measurements were not taken for more than a quarter of pregnant women in Algeria because the measurement was deemed "unnecessary" by their provider (Rayane 2014). This same study found that only 69% of providers reported routinely taking blood pressure measurements (Rayane 2014). To improve the documentation of cause of death, the National Institute of Public Health in Algeria began collecting and registering causes of death using the International Classification of Diseases (ICD) in 1995. As of 2007, cause of death had been applied to 36.5% of the deaths registered by the civil registrar (Belamri et al. 2010).

The results below for Algeria were produced from the 2012-2013 MICS survey. No other survey after 2005 was available for comparison to observe trends in the indicators.

Figure Map 1: Algeria Map



Note: See Appendix for a description of regions.

Total Fertility Rate

As of 2012, the total fertility rate (TFR) in Algeria was 2.7 births per woman. This is one of the lowest TFRs among the countries examined in this report; only Tunisia has a lower TFR. As shown in Table Algeria.01, the TFR decreases with increasing education level and wealth quintile. The TFR was the highest in the South at 3.4 births per woman, followed by the Center Highlands at 3.2 births per woman. There was little difference between the TFR in urban areas (TFR 2.8) and in rural areas (TFR 2.6).

Table Algeria.01: Total fertility rate for the 3 years before the survey, by background characteristics, Algeria 2012-13 MICS4

Variable	TFR [C.I.]
Total	2.7 [2.6,2.7]
Education	
None	3.3 [3.1,3.6]
Primary	2.9 [2.7,3.0]
Secondary +	2.4 [2.2,2.5]
Wealth quintile	
Poorest	3.0 [2.8,3.3]
Poorer	2.9 [2.8,3.1]
Middle	2.5 [2.4,2.7]
Richer	2.5 [2.4,2.7]
Richest	2.3 [2.1,2.4]
Place of residence	
Urban	2.6 [2.5,2.7]
Rural	2.8 [2.7,3.0]
Region	
North Center	2.6 [2.4,2.8]
North East	2.1 [1.9,2.2]
North West	2.5 [2.3,2.7]
Highlands Center	3.2 [3.0,3.4]
Highlands East	2.8 [2.7,3.0]
Highlands West	2.7 [2.6,2.9]
South	3.4 [3.2,3.6]

Contraceptive Use

Almost half of Algerian women age 15-49 in union were currently using a modern contraceptive method in 2012-2013. As shown in Table Algeria.02, modern contraceptive use differed significantly by all background characteristics except for place of residence, where current modern contraceptive use was approximately 49% for both urban and rural women. Modern contraceptive use was lower for the youngest and oldest age groups (39% and 34%, respectively), compared with women age 25-44 years. Women with primary level education had the highest modern contraceptive use (50.1%) with little difference in modern contraceptive use between women with no education and secondary or higher education (47.4% and 47.9%, respectively). The expected pattern of increasing modern contraceptive use with increasing wealth quintile was not observed in Algeria. The highest modern contraceptive use among the wealth quintiles was found for the poorest and richest wealth quintiles at 51.2% and 50.0% respectively and the lowest was the middle wealth quintile at 46.6%. The region with the lowest contraceptive use was found in the South at 34.2%; the regions with the highest modern contraceptive use were the West Highlands, East Highlands, and the North West, all at approximately 55%.

Approximately 8% of Algerian women age 15-49 in a union were using a traditional contraceptive method in 2012-2013. In Table Algeria.02, the results are similar to the results for modern contraceptive use. Traditional contraceptive use did not differ significantly by place of residence, although there were

significant differences in the other background characteristics of women. By age, women age 35-44 had the highest traditional contraceptive use (10%), followed by women age 45-49 (8.6%). Traditional contraceptive use increased with increasing education level, with 11% of women with secondary or higher education level using a traditional method, compared with 4.9% of women with no education. By wealth quintile, the greatest use of traditional methods was among women in the middle and richest quintiles (9.6% and 9.5%, respectively). The region with the highest traditional contraceptive use was the South (14.9%), followed by the North Center (11.6%). The lowest use of traditional contraceptives was in the West and Center Highlands, where less than 2% of women were using a traditional contraceptive method.

Table Algeria.02: Percentage of women currently using modern or traditional contraception among women age 15-49 in union, by background characteristics, Algeria 2012-13 MICS4

	Modern CPR		Traditional CPR	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	48.8 [47.7,50.0]		8.3 [7.4,9.2]	
Age				
15-24	39.0 [36.3,41.9]	*	4.5 [3.4,6.0]	*
25-34	51.6 [49.8,53.4]		7.6 [6.5,8.9]	
35-44	55.3 [53.5,57.1]		10.0 [8.8,11.3]	
45-49	34.0 [31.7,36.3]		8.6 [7.1,10.2]	
Education				
None	47.4 [45.2,49.6]	*	4.9 [3.9,6.1]	*
Primary	50.1 [48.6,51.6]		8.0 [6.9,9.2]	
Secondary +	47.9 [46.0,49.7]		11.0 [9.7,12.4]	
Wealth quintile				
Poorest	51.2 [48.8,53.5]	*	5.7 [4.3,7.6]	*
Poorer	47.5 [45.1,49.9]		8.4 [7.0,10.1]	
Middle	46.6 [44.3,48.9]		9.6 [8.1,11.3]	
Richer	49.1 [46.8,51.4]		8.2 [6.9,9.6]	
Richest	50.0 [47.6,52.4]		9.5 [8.2,11.0]	
Place of residence				
Urban	48.8 [47.4,50.3]		8.9 [7.8,10.0]	
Rural	48.9 [46.9,50.8]		7.3 [6.0,8.9]	
Region				
North Center	47.2 [44.7,49.8]	*	11.5 [9.6,13.8]	*
North East	46.9 [43.9,50.0]		8.7 [6.9,10.8]	
North West	55.1 [52.7,57.5]		3.5 [2.8,4.4]	
Highlands Center	49.8 [47.6,52.0]		1.8 [1.3,2.5]	
Highlands East	54.9 [52.6,57.1]		6.0 [4.9,7.4]	
Highlands West	55.2 [53.2,57.2]		1.2 [0.8,1.9]	
South	34.2 [31.5,37.1]		14.9 [12.5,17.8]	

* Significant p-value. [1] Significance of the covariate in each survey.

Antenatal Care

Approximately two-thirds of Algerian women age 15-49 had the recommended four or more antenatal (ANC) visits for their most recent birth. However, as shown in Table Algeria.03, there were significant differences found by the women's characteristics. The percentage of women who completed the recommended four or more ANC visits decreased with increased age, from 71% among women age 15-24 to 54.5% for women age 45-49. This indicator increased with increasing education level and increasing wealth quintile. The percentage with four or more ANC visits was highest for women in the richest wealth quintile (82.3%). The lowest percentages were among women in the South, West Highlands, Center Highlands, and North West regions, where slightly over half of the women had four or more ANC visits

for their most recent birth. The highest percentages were for women in the North Center and North East regions.

Table Algeria.03: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Algeria 2012-13 MICS4

Variable	% [C.I.]	Sig.[1]
Total	67.3 [65.4,69.1]	
Age		
15-24	71.0 [67.3,74.5]	*
25-34	68.2 [65.9,70.4]	
35-44	63.8 [60.5,66.9]	
45-49	54.5 [42.0,66.4]	
Education		
None	47.5 [43.1,51.9]	*
Primary	67.0 [64.4,69.4]	
Secondary +	76.7 [74.2,79.0]	
Wealth quintile		
Poorest	53.9 [49.8,58.0]	*
Poorer	65.7 [62.2,69.0]	
Middle	64.6 [61.1,68.0]	
Richer	74.4 [71.0,77.4]	
Richest	82.3 [79.1,85.0]	
Place of residence		
Urban	72.3 [70.4,74.2]	*
Rural	59.5 [56.0,63.0]	
Region		
North Center	78.6 [74.5,82.3]	*
North East	79.2 [75.0,82.9]	
North West	56.6 [52.0,61.1]	
Highlands Center	54.8 [50.9,58.7]	
Highlands East	64.8 [61.2,68.3]	
Highlands West	52.8 [49.0,56.5]	
South	53.2 [48.9,57.6]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Table Algeria.04 shows that almost all Algerian women age 15-49 had their most recent birth assisted by a skilled birth attendant (SBA) or delivered in a health facility. This was approximately 97% for both indicators. Significant differences were found between all women characteristics, for both delivery by an SBA and delivery in a health facility. The lowest prevalence for these two indicators was among women age 45-49, while women in the younger age groups had a similar prevalence. Use of an SBA and delivery in a health facility increased with increasing education; however, the proportion of women with primary education and secondary or more education was similar for both indicators, at approximately 97%. The proportion of SBA use and delivery in a health facility was 94% for women with no education. The prevalence of these two indicators was also lowest for women in the poorest wealth quintile, and women living in rural areas or in the South. The prevalence of use of an SBA and delivery in a health facility for the most recent birth was approximately 91% in the South. It was highest in the North Center and North East regions at over 98%.

Table Algeria.04 shows that 16% of Algerian women delivered their most recent birth by C-section in the 2 years before the survey. This differed significantly by the women's background characteristics except by age. A large difference is apparent by education level, with 8.5% of women with no education delivering

by C-section versus 21.3% of women with secondary or more education. Delivery by C-section increases with increasing wealth quintile, although the poorer, middle, and richer wealth quintiles all had similar proportions at 15-16%. Approximately 13% of Algerian women in the poorest quintile delivered their most recent birth by C-section compared with 21% of women in the richest wealth quintile. C-section delivery was higher for women in urban areas than for those in rural areas, and for women in the North East and North West regions. The lowest prevalence of C-section was among women in the South and Center Highlands regions.

Table Algeria.04: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant (SBA), delivered in a health facility (DHF), or delivered by caesarean section (C-section) in the 2 years before the survey, by background characteristics, Algeria 2012-13 MICS4

	SBA		DHF		C-section	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	96.6 [96.0,97.2]		96.8 [96.2,97.3]		16.0 [14.6,17.4]	
Age						
15-24	96.4 [94.8,97.5]	*	96.5 [94.9,97.5]	*	14.6 [11.8,17.9]	
25-34	96.9 [96.1,97.6]		97.3 [96.6,97.9]		15.6 [13.9,17.4]	
35-44	96.4 [95.4,97.2]		96.4 [95.3,97.2]		17.6 [15.3,20.2]	
45-49	90.8 [82.3,95.4]		88.2 [78.1,94.0]		15.7 [7.7,29.4]	
Education						
None	94.0 [92.1,95.4]	*	94.0 [92.2,95.4]	*	8.5 [6.4,11.2]	*
Primary	96.7 [95.7,97.5]		97.2 [96.3,97.8]		14.5 [12.8,16.4]	
Secondary +	97.7 [96.8,98.4]		97.7 [96.8,98.3]		21.3 [19.0,23.8]	
Wealth quintile						
Poorest	94.6 [92.9,95.9]	*	95.4 [93.8,96.5]	*	13.2 [10.7,16.1]	*
Poorer	96.6 [95.1,97.6]		96.7 [95.3,97.6]		15.9 [13.2,19.2]	
Middle	96.4 [94.6,97.7]		96.3 [94.5,97.5]		15.6 [13.0,18.7]	
Richer	97.3 [95.9,98.3]		97.6 [96.6,98.4]		15.1 [12.5,18.2]	
Richest	98.7 [97.9,99.2]		98.7 [97.8,99.2]		21.1 [17.8,24.7]	
Place of residence						
Urban	97.8 [97.2,98.3]	*	97.8 [97.2,98.2]	*	17.8 [16.1,19.6]	*
Rural	94.8 [93.4,96.0]		95.4 [94.1,96.4]		13.2 [11.2,15.5]	
Region						
North Center	98.3 [97.1,99.0]	*	98.8 [97.6,99.4]	*	17.1 [14.1,20.5]	*
North East	98.4 [97.2,99.1]		98.5 [97.3,99.2]		21.4 [17.6,25.8]	
North West	96.3 [94.6,97.5]		96.7 [95.1,97.8]		19.4 [16.1,23.0]	
Highlands Center	96.0 [93.8,97.5]		95.6 [93.4,97.1]		10.7 [8.7,13.0]	
Highlands East	96.6 [94.4,98.0]		96.8 [94.8,98.1]		14.6 [12.1,17.4]	
Highlands West	95.5 [92.9,97.2]		94.6 [92.1,96.4]		12.0 [9.9,14.4]	
South	91.2 [88.1,93.5]		91.3 [88.4,93.5]		10.1 [8.3,12.3]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Table Algeria.05 shows that treatment for acute respiratory infection (ARI) symptoms was sought for two-thirds of children under age 5. This differed significantly by the mother's education level and region. Treatment of ARI symptoms was sought for a little over half of children with mothers with no education and three-fourths of children with mothers with secondary or higher level of education. While this indicator did not differ significantly by wealth quintile, a pattern emerged with higher prevalence of the indicator with increasing wealth quintile. There was little difference in treatment sought for ARI by the child's sex or place of residence. The lowest prevalence was found in the Center Highlands and South regions, with a little over half of the children under age 5 having had treatment sought for ARI symptoms in the 2 weeks before the survey.

Table Algeria.05: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Algeria 2012-13 MICS4

Variable	% [C.I.]	Sig.[1]
Total	66.4 [61.7,70.9]	
Child's sex		
Male	67.1 [60.8,72.9]	
Female	65.6 [58.9,71.8]	
Mother's education		
None	54.2 [41.8,66.2]	*
Primary	63.8 [56.6,70.5]	
Secondary +	76.1 [68.8,82.1]	
Wealth quintile		
Poorest	60.1 [50.6,68.8]	
Poorer	64.6 [54.2,73.8]	
Middle	67.6 [58.2,75.7]	
Richer	73.1 [62.8,81.4]	
Richest	72.9 [57.9,84.0]	
Place of residence		
Urban	69.1 [63.7,74.0]	
Rural	62.6 [53.7,70.8]	
Region		
North Center	68.1 [57.3,77.3]	*
North East	75.9 [61.2,86.3]	
North West	72.7 [58.3,83.6]	
Highlands Center	51.8 [39.6,63.9]	
Highlands East	72.5 [65.4,78.6]	
Highlands West	(65.9 [54.1,76.0])	
South	55.4 [46.6,63.9]	

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Child Nutrition

Overall, only a quarter of Algerian children under age 6 months were exclusively breastfed. This figure was similar by background characteristics except for region, where significant differences were seen. Only 11.1% of children under age 6 months were exclusively breastfed in the Center Highlands, 15.3% in the West Highlands, and 18.7% in the East Highlands. The highest proportion of exclusive breastfeeding was in the North East at 38.3%.

Table Algeria.06: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Algeria 2012-13 MICS4

Variable	% [C.I.]	Sig.[1]
Total	25.7 [22.9,28.8]	
Child's sex		
Male	24.8 [21.0,29.0]	
Female	26.7 [22.7,31.1]	
Mother's education		
None	22.6 [16.4,30.3]	
Primary	27.2 [23.0,31.9]	
Secondary +	25.2 [20.5,30.4]	
Wealth quintile		
Poorest	25.7 [20.6,31.6]	
Poorer	23.1 [17.6,29.7]	
Middle	29.4 [22.5,37.4]	
Richer	21.4 [16.4,27.5]	
Richest	30.3 [22.9,39.0]	
Place of residence		
Urban	25.3 [21.8,29.2]	
Rural	26.4 [21.7,31.7]	
Region		
North Center	28.0 [21.9,35.0]	*
North East	38.3 [29.9,47.5]	
North West	30.7 [24.1,38.3]	
Highlands Center	11.1 [7.4,16.4]	
Highlands East	18.7 [13.3,25.8]	
Highlands West	15.3 [10.6,21.4]	
South	22.1 [17.5,27.4]	

* Significant p-value. [1] Significance of the covariate in each survey.

Table Algeria.07 shows that 11.7% of Algerian children under the age 5 are stunted. The percentage differs significantly by child's sex, mother's education level, and region. Male children had a higher proportion of stunting compared with female children, although the difference was small, 12.6% for males and 10.7% for females. Stunting increases with decreasing level of mother's education, with 14.2% of stunted children with mothers with no education compared with 10.4% stunted children with mothers with secondary or higher education. The largest differences in stunting were by region; stunting was highest for children in the North West (19.2%) and lowest for those in the North Center (7.2%).

Table Algeria.07 also shows the prevalence of overweight children under age 5 in Algeria (12.4%). This indicator differed significantly by wealth and region. Children in the richer and richest wealth quintiles had a higher proportion of overweight children (14.8% and 13.1%, respectively). The remaining wealth quintiles had similar prevalence of overweight children at approximately 11.5%. The North West had the highest level of overweight children (17.6%). This was also the region with the highest prevalence of stunted children. Only 7% of children in the South were overweight.

Table Algeria.07: Percentage of children under age 5 who are stunted or overweight, by background characteristics, Algeria 2012-13 MICS4

	Stunted		Overweight	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	11.7 [10.8,12.6]		12.4 [11.5,13.3]	
Child's sex				
Male	12.6 [11.5,13.8]	*	12.8 [11.6,14.0]	
Female	10.7 [9.7,11.8]		11.9 [10.8,13.1]	
Mother's education				
None	14.2 [12.5,16.0]	*	11.2 [9.6,12.9]	
Primary	11.6 [10.4,12.9]		12.5 [11.3,13.7]	
Sec+	10.4 [9.3,11.6]		12.9 [11.6,14.3]	
Wealth quintile				
Poorest	12.6 [11.0,14.4]		11.5 [9.9,13.2]	*
Poorer	12.1 [10.3,14.2]		11.4 [9.7,13.2]	
Middle	11.0 [9.6,12.7]		11.5 [9.9,13.3]	
Richer	11.7 [10.2,13.4]		14.8 [12.9,16.9]	
Richest	10.6 [8.6,13.0]		13.1 [11.2,15.3]	
Place of residence				
Urban	11.3 [10.2,12.4]		13.0 [11.9,14.1]	
Rural	12.3 [10.8,14.0]		11.4 [9.9,13.0]	
Region				
North Center	7.2 [5.8,9.0]	*	12.3 [10.5,14.4]	*
North East	12.6 [10.5,15.2]		13.5 [11.6,15.7]	
North West	19.2 [15.7,23.3]		17.6 [14.9,20.7]	
Highlands Center	15.4 [13.4,17.7]		11.1 [9.5,13.1]	
Highlands East	10.6 [9.1,12.5]		12.3 [10.6,14.3]	
Highlands West	15.6 [13.8,17.6]		10.3 [8.9,12.0]	
South	11.8 [10.0,13.8]		6.9 [5.6,8.6]	

* Significant p-value. [1] Significance of the covariate in each survey.

Under-5 Mortality

An estimated 23 Algerian children of 1000 live births did not survive to their fifth birthday in the 5 years before the 2012-13 survey. There was little difference in under-5 mortality by the child's sex; however, there were differences by other background characteristics. Under-5 mortality increased with decreasing mother's education level and decreasing wealth quintile. The highest under-5 mortality rate was found among children in the poorest households at 31 deaths per 1000 live births. The remaining wealth quintiles had very similar mortality rates at approximately 20-21 deaths per 1000 live births. The South and the Center Highlands had the highest under-5 mortality rates, both 31 deaths per 1000 live births, followed by the North West at 29 deaths per 1000 live births. The lowest number of deaths was found in the North Center.

Table Algeria.08: Under-5 mortality (U5M) rates for the 5 years before the survey, by background characteristics, Algeria 2012-13 MICS4

Variable	U5M [C.I.]
Total	23 [20,26]
Child's sex	
Male	23 [20,28]
Female	22 [18,26]
Mother's education	
None	27 [21,34]
Primary	22 [18,26]
Secondary +	21 [16,28]
Wealth quintile	
Poorest	31 [24,38]
Poorer	21 [16,28]
Middle	20 [15,27]
Richer	20 [14,27]
Richest	20 [14,29]
Place of residence	
Urban	21 [17,25]
Rural	25 [21,31]
Region	
North Center	15 [10,22]
North East	18 [13,26]
North West	29 [22,38]
Highlands Center	31 [23,41]
Highlands East	27 [20,36]
Highlands West	22 [16,31]
South	31 [23,41]

Algeria Summary

In 2012-13, Algeria had a TFR close to replacement level—an average of 2.7 births per woman—although there were large differences by region and wealth quintile. Approximately half of currently married women age 15-49 were using a modern contraceptive method and less than 10% used a traditional method. The lowest proportion of modern contraceptive use was found in the South, which was also the region with the highest use of traditional contraceptive methods. Close to two-thirds of women had the recommended four or more ANC visits for their most recent pregnancy. Delivery by an SBA or in a health facility was almost universal with proportions close to 97% for both indicators and over 90% for almost all subgroups of women. The exception was 88% of women age 45-49 who delivered in a health facility. The proportion of C-section deliveries for the most recent birth was 16%, with proportions over 20% for women with secondary or more education, women in the richest households, and women in the North East. Child health indicators appear to be at reasonable levels with care-seeking for ARI sought for two-thirds of children under age 5; approximately 12% of children under age 5 are stunted or overweight. However, only a quarter of children under age 6 months were exclusively breastfed, with only 11% exclusively breastfed children in the Center Highlands. Finally, the under-5 mortality rate was 23 deaths per 1000 live births, with large differences by wealth quintile and region. The under-5 mortality rate was 31 in the poorest households and in the South.

Egypt

Egypt is among the most populous countries in the Arab world with an estimated total population of 93.5 million in 2016 (Population Reference Bureau 2016). Approximately 43% of the population lives in urban areas and the current life expectancy at birth is 70 years for men and 73 years for women (Population Reference Bureau 2016). Between 2011 and 2014, Egypt underwent a period of political and social turmoil that began with widespread protests against the political regime. This period was part of a larger movement called the Arab Spring that included similar movements in other countries across the region. The results of this movement extend beyond the political and include effects on the public health and health infrastructure of Egypt. Several national-level surveys were conducted before, during, and after the Arab Spring movement, which helped to capture the health effects of the Egyptian revolution at the population level (Ministry of Health and Population [Egypt] 2009; Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b, 2015a).

In contrast to similarly developed nations, the Egyptian total fertility rate (TFR) has increased over the past 10 years (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). Maternal health in Egypt has improved significantly over the past decade. The maternal mortality ratio (MMR) has declined from 63 maternal deaths to 33 maternal deaths per 100,000 live births between 2000 and 2015 (WHO 2016a). The incidence of "near-miss" events, defined as a woman who nearly died but survived a complication associated with pregnancy or child birth, has also been under study in Egypt (WHO 2011). The WHO found a near-miss ratio of 12.1 near-miss incidents per 1,000 live births at a major hospital in Egypt, which is relatively high when compared to other countries included in the study (Bashour et al. 2015). There have been substantial increases in the proportion of women who receive antenatal care (ANC) and the proportion of births attended by a skilled health professional (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). Studies have found that women with higher education levels and older age at first marriage are more likely to deliver in a facility with a skilled birth attendant and receive regular ANC (Chiang et al. 2012). Maternal nutritional status is of some concern. A 2013 study evaluated anemia and pregnancy outcomes at a large hospital in Cairo (Abdel-Raoufabdel-Aziz Afifi, Ali, and Talkhan 2013). The authors found that 46% of the mothers in the study were anemic and that the increasing severity of anemia predicted higher rates of preterm labor and lower birth weight (Abdel-Raoufabdel-Aziz Afifi, Ali, and Talkhan 2013). The caesarean delivery rate has increased significantly since 2008, with significant differences across geographic location and wealth quintile (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a).

Reproductive health status in Egypt includes several unique considerations, one of which is the widespread practice of female genital mutilation (FGM). In 2015, 87% of women age 15-49 had undergone some form of FGM (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). There is a substantial disparity in FGM by socioeconomic status: 94% of women in the lowest wealth quintile have undergone some form of FGM compared to 70% in the highest wealth quintile (UNICEF 2016a). In 2011, a law was passed that banned the practice at a national level and initial data indicate that the practice may be declining (UNICEF 2016a). Compared with the 2008 DHS, the prevalence of FGM in the 15-19 age group in the 2015 DHS has declined by 11 percentage points (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). A study that explored the reasons for the decrease in FGM found that increases in female education and exposure to social media are important predictors of FGM across communities (Modrek and Liu 2013). The use of contraception is another important reproductive health consideration. The contraceptive prevalence rate (CPR) among married women is 58% with a modern contraceptive prevalence rate of 57% (Population Reference Bureau 2016). The intrauterine device (IUD) is especially popular in Egypt and is the leading form of contraception in nearly every age group (Ministry of Health and Population [Egypt], El Zanaty and

Associates [Egypt], and ICF International 2015a). The overall CPR has remained steady since 2005, with little fluctuation (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). A mixed methods study that explored access and use of contraception among young married women in Egypt found that while women reported adequate access to contraception, many noted a lack of privacy and autonomy in making family planning decisions (Abdel-Tawab et al. 2015). A community-based study in Cairo found that women with an unmet need for contraception were significantly more likely to believe that contraception was religiously prohibited, have a husband who opposed contraception, and a history of unwanted pregnancy (Kotb et al. 2011). Interpersonal violence (IPV) is prevalent in Egypt, with a 2015 study finding a prevalence of 44% among pregnant women (Ibrahim et al. 2015). Women who reported IPV during pregnancy were more likely to have low education levels, higher parity, and a younger age (Ibrahim et al. 2015). The 2014 DHS found lower estimates with 30% of ever-married women reporting IPV and 7% reporting IPV during pregnancy (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a).

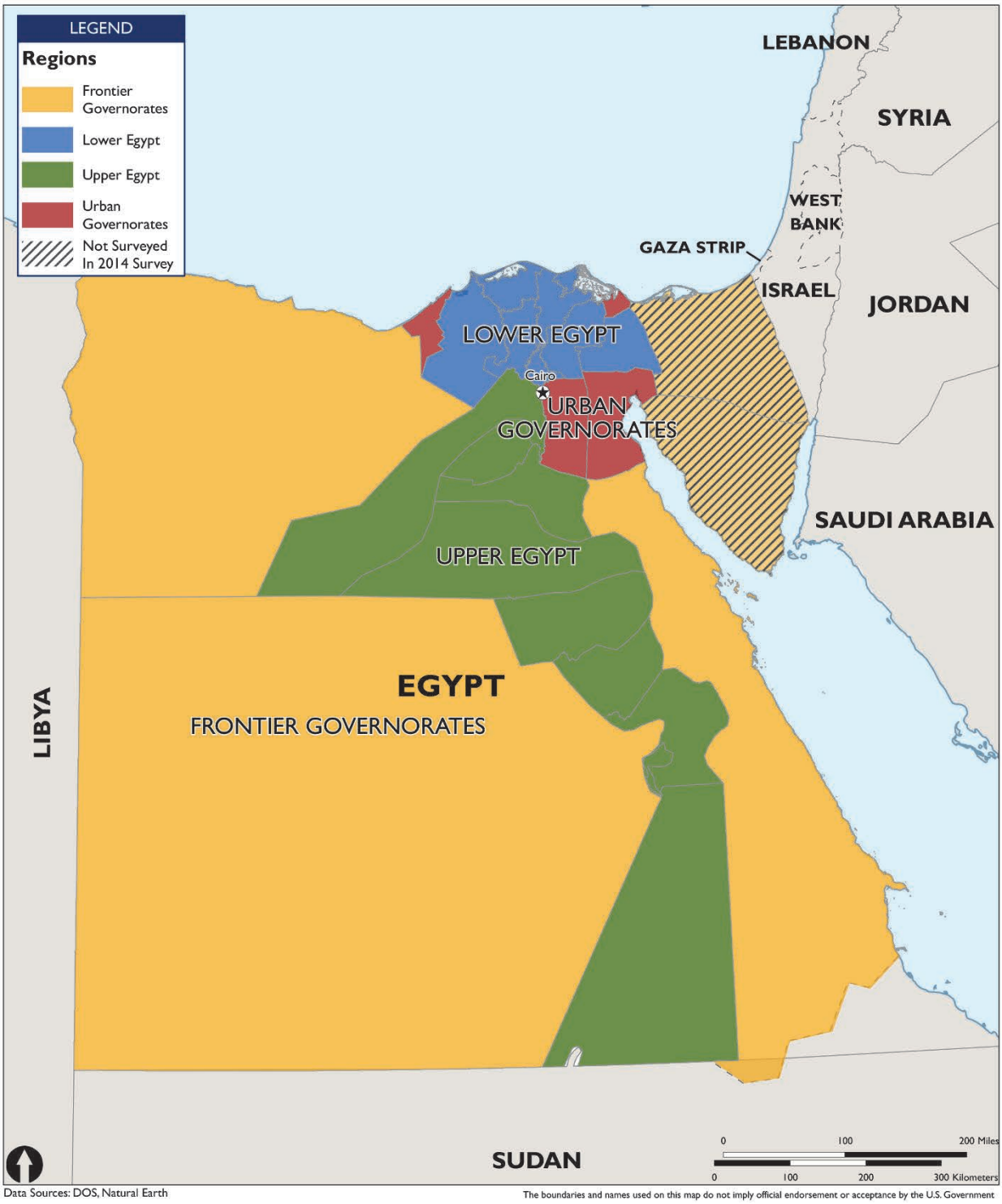
Indicators for infant and child health have been improving since 2008. Overall, both the infant mortality rate (IMR) and under-5 mortality have been declining (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). However, there are substantial disparities in the IMR and under-5 mortality based on geography and wealth quintile. Diarrheal diseases remain common with 14% of children in the 2014 DHS reported as having been ill with diarrhea in the past 2 weeks (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). In terms of nutrition, breastfeeding is nearly universal with 96% of children ever breastfed. However, the proportion of infants exclusively breastfed until 6 months of age is significantly lower (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). One study found that among mothers in rural Egypt, only 9.7% of infants were exclusively breastfed for the first 6 months of life (Al Ghwass and Ahmed 2011). In children under age 5, the prevalence of stunting has decreased substantially since 2008 (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). However, overweight and obesity are growing problems among children under age 5 and across Egypt (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). A 2015 cross-sectional study of school-aged children found that obese children were seven times more likely to be iron deficient compared with children of normal weight (Abd-El Wahed et al. 2014). The impact of the Egyptian revolution on child health has yet to be fully understood. A 2015 study examined the potential mental health consequences of witnessing political violence and conflict among children who attended school near Tahrir Square, which served as the hub for many of the most forceful, violent political protests (Moussa et al. 2015). The authors found high rates of post-traumatic stress disorder, depression, and anxiety in the children who were surveyed (Moussa et al. 2015).

The health infrastructure in Egypt has experienced substantial changes over the past decade, from both a demographic and socio-political perspective. Since 2001, the per-capita government expenditure on health has more than tripled from $14 (USD) to $47 (USD) in 2011 (Saleh et al. 2014). However, in 2011, it was estimated that 57% of the total health expenditure in Egypt was out-of-pocket (Saleh et al. 2014). In 2014, only 8% of ever-married women age 15-49 had any form of health insurance (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). Those who had insurance were primarily covered through publicly funded insurance providers (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015a). In Egypt, the Health Insurance Organization (HIO) is the primary publicly funded healthcare provider. A 2013 study compared the responsiveness of the HIO compared to the private healthcare system found that HIO patients were twice as likely to report poor responsiveness compared to private healthcare patients (Mosallam, Aly, and Moharram 2013). The components of responsiveness included communication, patient dignity, and timely attention (Mosallam, Aly, and Moharram 2013). An assessment of primary care practices in Egypt found that over half of patient visits were for individuals under age 20 (Aboulghate et al. 2013). Among patients older than 20, 73% were female (Aboulghate et al. 2013). Overall, the authors found high levels of care

seeking, particularly for immunizations, family planning, and ANC (Aboulghate et al. 2013). The Egyptian health system is facing increasing pressures from a shifting health profile of the population. Obesity and associated conditions such as diabetes, stroke, and cardiovascular events are increasing (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). According to the Institute for Health Metrics and Evaluation, high body-mass index is now the leading risk factor driving morbidity and mortality in Egypt (Institute for Health Metrics and Evaluation 2016). Overall, 76% of women and 64% of men age 15-59 are considered overweight or obese in Egypt (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). The prevalence of obesity increases by wealth quintile, ranging from 44% in the lowest quintile to 55% in the highest wealth quintile (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). In 2015, 5% of Egyptian men and women reported a diagnosis of diabetes, although this is likely to be an underestimate of the true prevalence. A 2012 survey found that 17% of Egyptians age 15-65 had an elevated blood glucose level (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b). A unique health challenge in Egypt is the extremely high prevalence of hepatitis C (HVC). Egypt has the highest prevalence of HVC in the world, with national prevalence estimates ranging from 15% to 20% (Mohamoud et al. 2013). In 2015, approximately 4% of the Egyptian population ages 1-59 was found to have an active hepatitis C infection, equating to roughly 3.5 million affected persons (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015). Liver Cirrhosis associated with hepatitis C infection has been the third leading cause of death in Egypt since 2005 (Institute for Health Metrics and Evaluation 2016). Exposure to medical procedures such as transfusions and dental procedures are closely associated with HVC infection (Ministry of Health and Population [Egypt], El Zanaty and Associates [Egypt], and ICF International 2015b).

The results discussed below for Egypt utilized data from the 2008 and 2014 Demographic and Health Surveys.

Figure Map 2: Egypt Map



Note: See Appendix for a description of regions.

Total Fertility Rate

The total fertility rate (TFR) in Egypt increased significantly from 3.0 in 2008 to 3.5 in 2014. As shown in Figure 1 of the overall summary section, Egypt was the only country with a significant increase in the TFR among all the countries in this report with available data from two surveys. The TFR of Egypt 2014 is comparable to the TFR of Jordan; significantly higher than the TFR of Algeria, the Palestinian refugees in Lebanon, and Tunisia; and significantly lower than the TFR of Iraq, the West Bank and Gaza Strip, and Yemen.

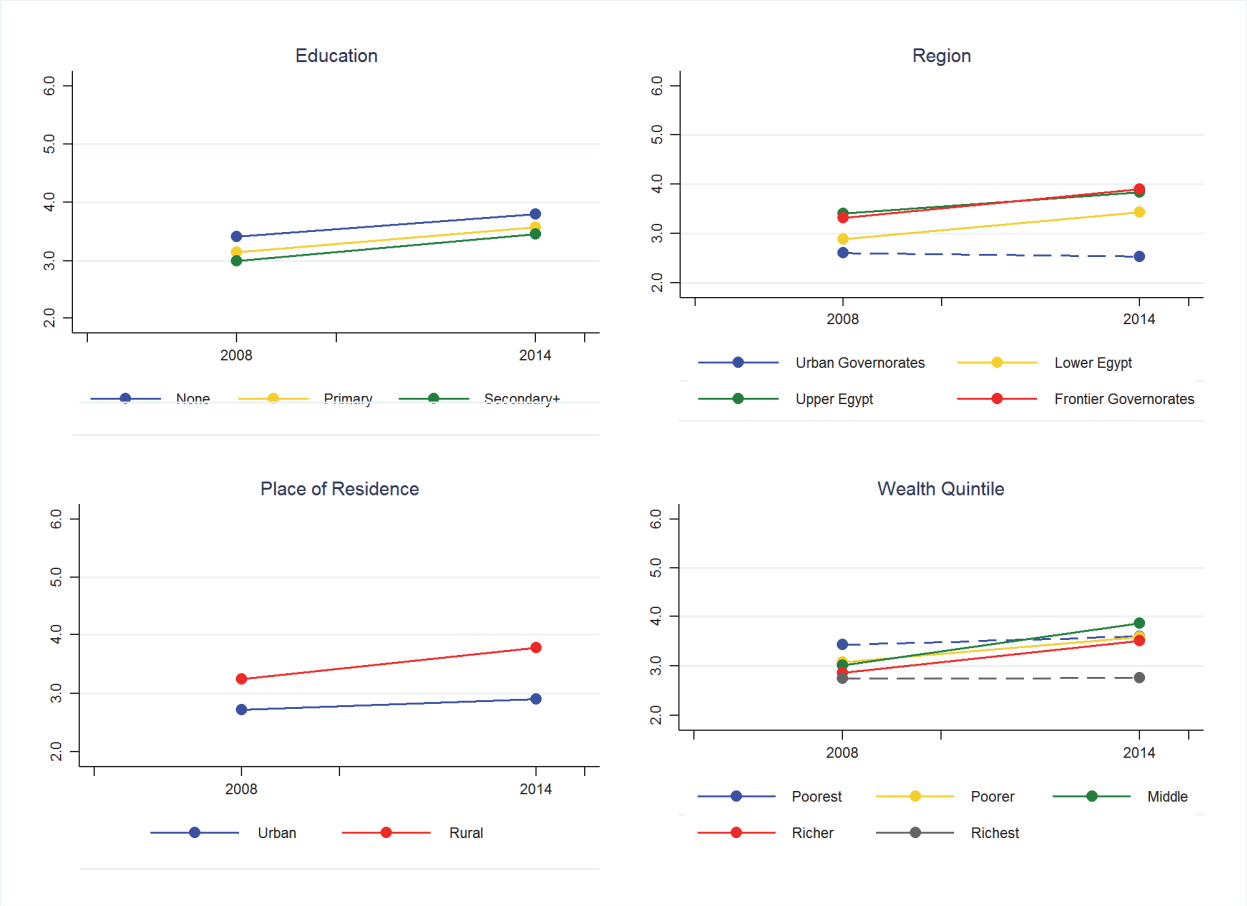
Table Egypt.01 shows that in both surveys, the highest TFR was found in women with no education, rural women, and women who reside in the Upper Egypt and Frontier Governorates regions. As shown in Figure Egypt.01, the increase in the TFR between the two surveys was significant across most subgroups. However, there was no significant increase in the TFR in the Urban Governorates, and the poorest and richest wealth quintiles. In 2008, the TFR increased with decreasing wealth quintile, although in 2014 this pattern was not observed. The highest TFR in 2014 was found for women in the middle wealth quintile, which also had the largest significant increase between the surveys. Women in the poorest, poorer, and richer wealth quintiles had very similar TFRs in 2014. Women in the richest wealth quintile had the lowest TFR, which remained unchanged from the 2008 survey. The TFR was higher in the Upper Egypt and Frontier Governorates in both surveys compared with the two other regions, and it increased significantly between the surveys for all regions except the Urban Governorates.

Table Egypt.01: Total fertility rate for the 3 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008	2014	
	TFR [C.I.]	TFR [C.I.]	Diff[1]
Total	3.0 [2.9,3.1]	3.5 [3.4,3.5]	0.4*
Education			
None	3.4 [3.3,3.6]	3.8 [3.6,4.0]	0.4*
Primary	3.2 [2.9,3.4]	3.6 [3.3,3.8]	0.4*
Secondary +	3.0 [2.9,3.1]	3.5 [3.4,3.5]	0.5*
Wealth quintile			
Poorest	3.4 [3.3,3.6]	3.6 [3.4,3.8]	0.2
Poorer	3.1 [2.9,3.3]	3.6 [3.4,3.7]	0.5*
Middle	3.0 [2.9,3.2]	3.9 [3.7,4.0]	0.8*
Richer	2.9 [2.7,3.0]	3.5 [3.4,3.7]	0.6*
Richest	2.7 [2.6,2.9]	2.8 [2.6,2.9]	0.0
Place of residence			
Urban	2.7 [2.6,2.8]	2.9 [2.8,3.0]	0.2*
Rural	3.2 [3.1,3.3]	3.8 [3.7,3.9]	0.5*
Region			
Urban Governorates	2.6 [2.4,2.8]	2.5 [2.4,2.7]	-0.1
Lower Egypt	2.9 [2.0.8,3]	3.4 [3.3,3.5]	0.5*
Upper Egypt	3.4 [3.3,3.5]	3.8 [3.7,4.0]	0.4*
Frontier Governorates	3.3 [3.0,3.7]	3.9 [3.6,4.3]	0.6*

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Egypt.01: Total fertility rate for the 3 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS



Contraceptive Use

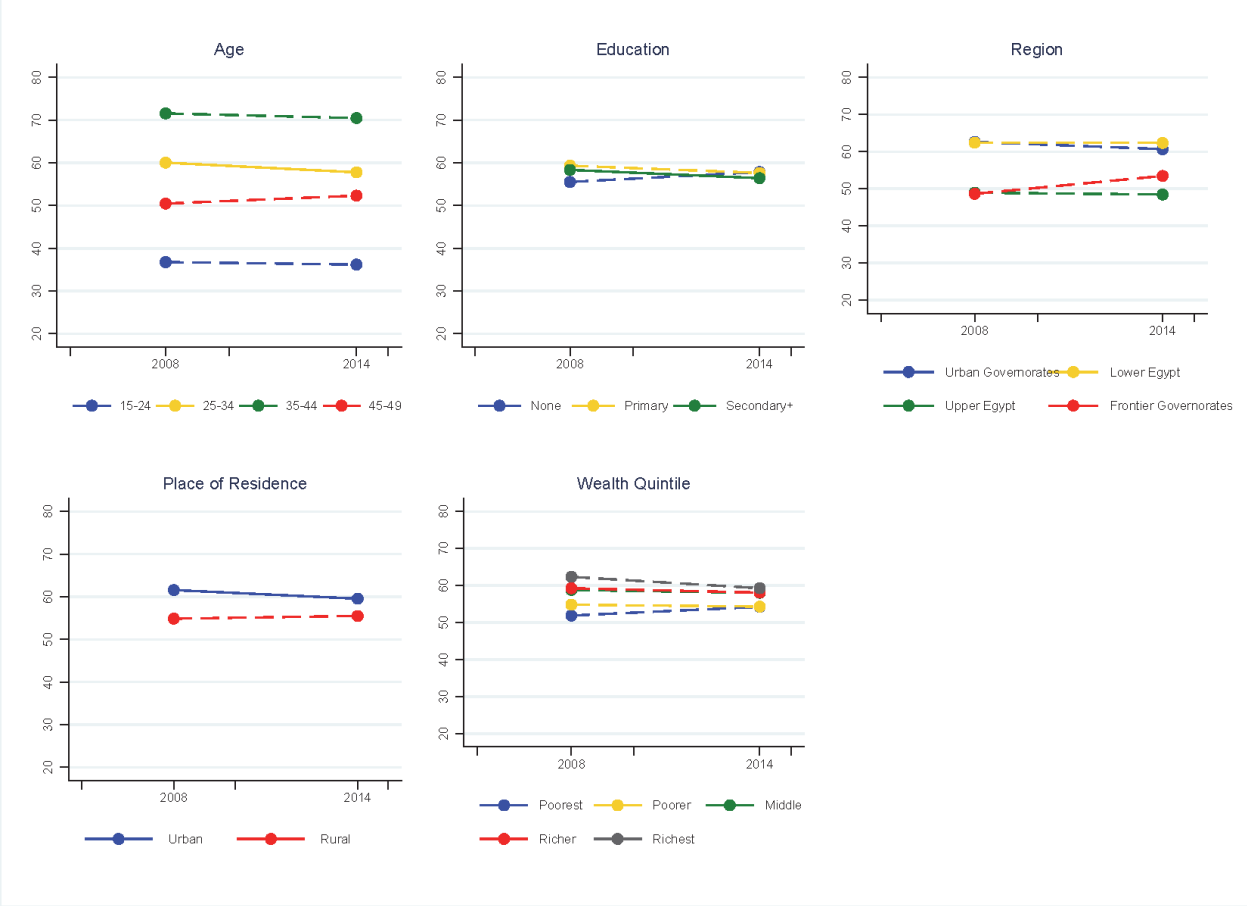
More than half of Egyptian women in both the 2008 and the 2014 surveys were using a modern contraceptive method at the time of the survey. This did not change significantly between the two surveys, with approximately 57% in both surveys. Table Egypt.02 shows that the use of modern contraception differed significantly by all women characteristics in 2008, while in 2014 it differed significantly for all characteristics except for education. Women in 2008 with no education had the lowest prevalence of modern contraceptive use at 55.5%, with very little difference between women in primary and secondary or higher education level both near 59%. Table Egypt.02 and Figure Egypt.02 show that modern contraceptive use decreased significantly between the surveys for women with secondary or higher education. Women in the youngest and oldest age groups had the lowest modern contraceptive use in both surveys. Women age 35-44 had the highest proportion of modern contraceptive use at approximately 71-72% in both surveys. Only women in the age 25-34 group exhibited a significant decrease in modern contraceptive use. Modern contraceptive use increased with increasing wealth quintile in both surveys. However, in 2014 the gaps between the wealth quintiles were smaller. Only women in the richest households had a significant decrease in modern contraceptive use between the surveys. The prevalence of modern contraceptive use was lower in rural women and compared to urban women in each survey, and there was with a significant decrease in use between the two surveys for urban women. The Upper Egypt and Frontier Governorates regions had the lowest modern contraceptive use in both surveys. There was an increase in modern contraceptive use between the surveys for women residing in the Frontier Governorates, although this increase was not significant.

Table Egypt.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	57.6 [56.6,58.6]		56.9 [55.8,57.9]		-0.7
Age					
15-24	36.8 [34.8,38.8]	*	36.2 [34.1,38.3]	*	-0.6
25-34	60.1 [58.6,61.5]		57.8 [56.3,59.2]		-2.3*
35-44	71.6 [70.1,73.0]		70.5 [69.0,71.9]		-1.1
45-49	50.5 [48.0,53.0]		52.3 [49.7,54.9]		1.9
Education					
None	55.5 [53.9,57.2]	*	57.9 [55.6,60.1]		2.3
Primary	59.3 [56.8,61.8]		57.7 [54.8,60.4]		-1.7
Secondary +	58.4 [57.2,59.5]		56.4 [55.3,57.5]		-1.9*
Wealth quintile					
Poorest	51.9 [49.9,53.9]	*	54.2 [51.1,57.4]	*	2.4
Poorer	54.8 [52.6,57.0]		54.3 [52.3,56.3]		-0.5
Middle	58.8 [56.9,60.7]		58.0 [56.0,60.1]		-0.8
Richer	59.3 [57.3,61.2]		58.1 [56.0,60.1]		-1.2
Richest	62.3 [60.2,64.4]		59.3 [57.4,61.1]		-3.1*
Place of residence					
Urban	61.6 [60.1,63.0]	*	59.5 [58.2,60.9]	*	-2.0*
Rural	54.8 [53.6,56.1]		55.5 [54.0,56.9]		0.6
Region					
Urban Governorates	62.6 [60.2,64.9]	*	60.7 [58.2,63.1]	*	-1.9
Lower Egypt	62.4 [61.0,63.8]		62.4 [61.0,63.7]		-0.1
Upper Egypt	48.9 [47.4,50.5]		48.5 [46.6,50.3]		-0.5
Frontier Governorates	48.6 [45.0,52.3]		53.5 [48.1,58.8]		4.8

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Egypt 2008 and 2014 DHS



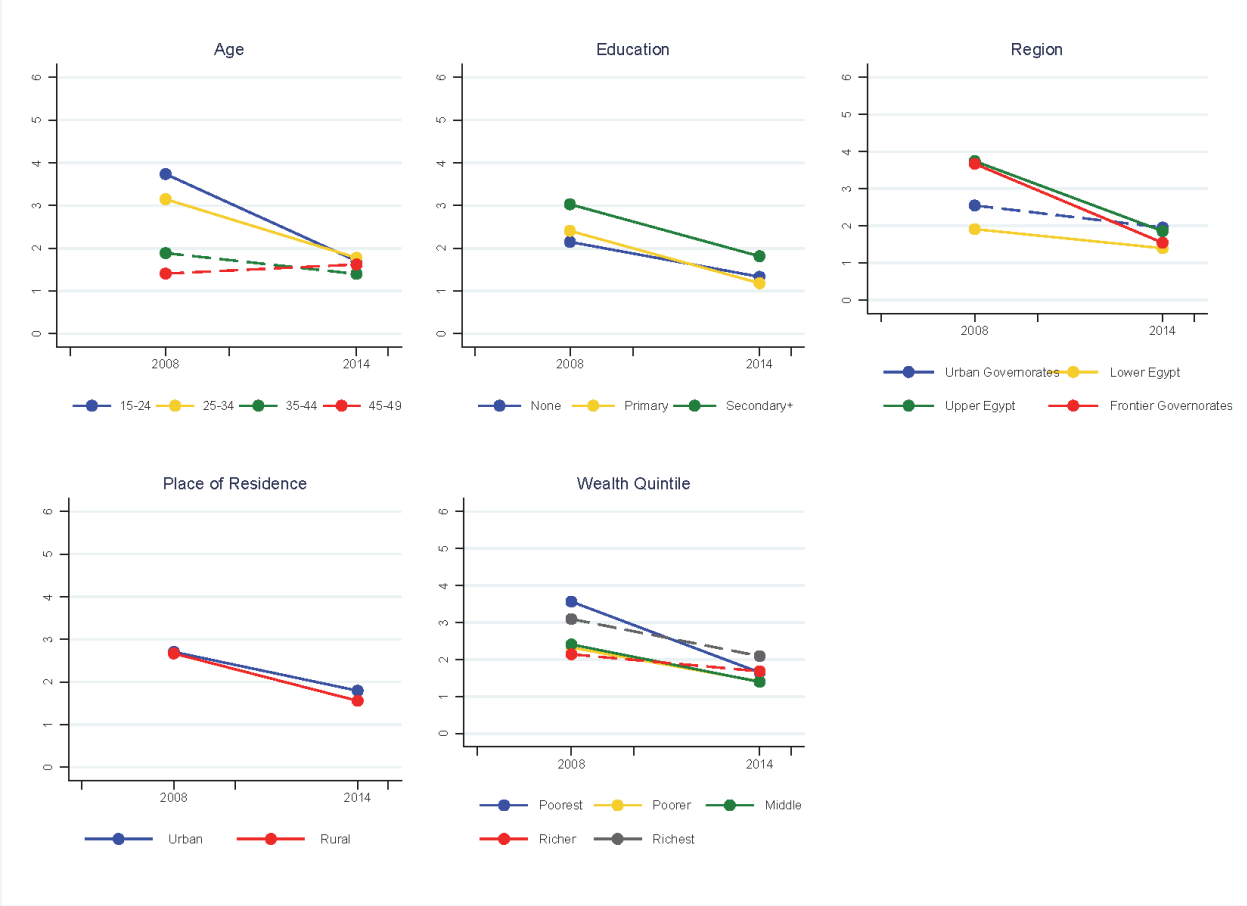
Less than 3% of Egyptian women age 15-49 in a union were using a traditional contraceptive method in 2008. This significantly decreased to 1.6% in 2014. This decrease was found for all women characteristics except for women age 45-49. However, not all reductions were significant. The use of traditional contraceptive methods differed significantly by all of the women characteristics except by place of residence in 2008, although none differed significantly in 2014. In 2008, traditional contraceptive use decreased with increased women's age but in 2014, the gaps between the age groups decreased. This was attributed to a significant decrease in traditional contraceptive use for the age 15-24 and age 25-34 groups between surveys (see Figure Egypt.03). The prevalence of traditional contraceptive use was the highest for women with secondary or higher level of education in both surveys, and decreased significantly between the surveys for all the education groups. In 2008, women in the poorest and richest households had the highest proportion of traditional contraceptive use. However, in 2014, it was only women in the richest households who had the highest proportion of traditional contraceptive use. This was due to a relatively large decrease in use for the women in the poorest households. Women residing in the Upper Egypt and Frontier Governorates had the highest traditional contraceptive use in 2008. However, due to the relatively large reductions in traditional contraceptive use between the surveys for these two regions, the gaps between the regions deceased in 2014.

Table Egypt.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	2.7 [2.4,3.0]		1.6 [1.4,1.9]		-1.0*
Age					
15-24	3.7 [3.1,4.5]	*	1.7 [1.3,2.3]		-2.0*
25-34	3.2 [2.7,3.7]		1.8 [1.5,2.1]		-1.4*
35-44	1.9 [1.5,2.3]		1.4 [1.1,1.8]		-0.5
45-49	1.4 [0.9,2.2]		1.6 [1.1,2.4]		0.2
Education					
None	2.2 [1.7,2.6]	*	1.3 [1.0,1.8]		-0.8*
Primary	2.4 [1.7,3.3]		1.2 [0.7,1.9]		-1.2*
Secondary +	3.0 [2.7,3.5]		1.8 [1.6,2.1]		-1.2*
Wealth quintile					
Poorest	3.6 [2.9,4.4]	*	1.7 [1.2,2.2]		-1.9*
Poorer	2.3 [1.8,3.0]		1.4 [1.0,1.9]		-0.9*
Middle	2.4 [1.9,3.0]		1.4 [1.0,1.9]		-1.0*
Richer	2.1 [1.6,2.8]		1.7 [1.3,2.2]		-0.5
Richest	3.1 [2.4,3.9]		2.1 [1.6,2.7]		-1.0*
Place of residence					
Urban	2.7 [2.3,3.2]		1.8 [1.5,2.2]		-0.9*
Rural	2.7 [2.3,3.0]		1.6 [1.3,1.8]		-1.1*
Region					
Urban Governorates	2.6 [1.9,3.4]	*	2.0 [1.4,2.7]		-0.6
Lower Egypt	1.9 [1.6,2.3]		1.4 [1.1,1.7]		-0.5*
Upper Egypt	3.7 [3.2,4.3]		1.9 [1.5,2.2]		-1.9*
Frontier Governorates	3.7 [2.5,5.4]		1.5 [0.9,2.6]		-2.1*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Egypt 2008 and 2014 DHS



Antenatal Care

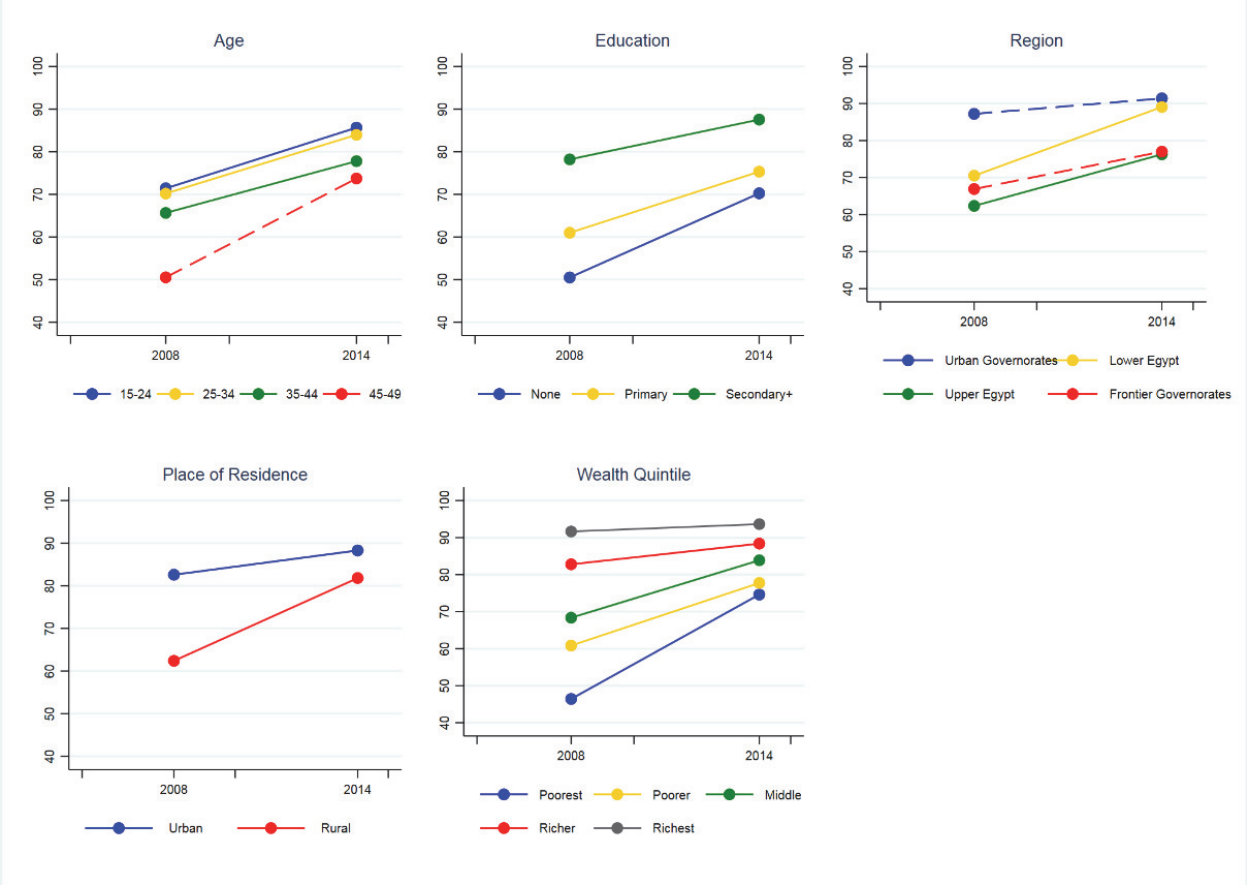
Approximately 70% of women age 15-49 had the recommended four or more antenatal care (ANC) visits for their most recent pregnancy in 2008. This increased significantly to 84% in 2014. This increase was found across almost all the women characteristics. Table Egypt.04 shows that women differed significantly in terms of their ANC visit in both surveys except for age in 2008. In both surveys, the proportion of women who had four or more ANC visits increased with decreasing age, increasing education level, and increasing wealth quintile. As shown in Figure Egypt.04, there were also large increases in ANC visits between the surveys, which caused in a large reduction in the gaps between the groups. One of the largest increases was for women in households in the poorest wealth quintile, where the proportion of women who had four or more ANC visits increased by 28.2 percentage points. This raised the proportion of women who had four or more ANC visits for this group from 46.4% in 2008 to 74.6% in 2014. Relatively large increases were also observed for women with no education and women who resided in rural areas.

Table Egypt.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	70.1 [68.5,71.7]		83.8 [82.3,85.2]		13.7*
Age					
15-24	71.4 [69.0,73.7]		85.6 [83.1,87.8]	*	14.2*
25-34	70.2 [68.1,72.3]		84.0 [82.3,85.5]		13.8*
35-44	65.7 [61.0,70.0]		77.8 [74.2,81.1]		12.1*
45-49	50.5 [27.9,72.9]		73.7 [37.0,93.1]		23.2
Education					
None	50.5 [47.4,53.7]	*	70.2 [66.0,74.1]	*	19.7*
Primary	61.0 [56.2,65.6]		75.3 [70.2,79.8]		14.3*
Secondary +	78.2 [76.5,79.9]		87.6 [86.3,88.7]		9.3*
Wealth quintile					
Poorest	46.4 [43.1,49.8]	*	74.6 [69.7,79.0]	*	28.2*
Poorer	60.8 [57.4,64.2]		77.7 [74.6,80.6]		16.9*
Middle	68.4 [65.1,71.5]		83.9 [81.4,86.1]		15.5*
Richer	82.8 [79.8,85.4]		88.4 [86.0,90.4]		5.6*
Richest	91.7 [89.2,93.6]		93.6 [91.8,95.1]		2.0
Place of residence					
Urban	82.6 [80.2,84.8]	*	88.3 [86.4,90.0]	*	5.7*
Rural	62.4 [60.4,64.4]		81.8 [79.8,83.7]		19.4*
Region					
Urban Governorates	87.2 [83.2,90.4]	*	91.4 [88.0,93.9]	*	4.2
Lower Egypt	70.5 [68.1,72.8]		89.1 [87.2,90.7]		18.6*
Upper Egypt	62.3 [59.6,65.0]		76.3 [73.6,78.8]		13.9*
Frontier Governorates	66.9 [60.5,72.7]		77.0 [63.6,86.5]		10.1

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS



Delivery

In Table Egypt.05, more than eight in 10 women age 15-49 had their most recent birth assisted by a skilled birth attendant (SBA) in 2008. This proportion increased significantly to over nine in 10 women in 2014. The use of an SBA differed significantly by all women characteristics in both surveys except by women's age. The proportion of women who delivered with an SBA increased with increasing education level and wealth quintiles for both surveys. As shown in Figure Egypt.05, there were also large increases in the indicator, which caused a decrease in the gaps between the groups. The largest significant increase was observed for women in the poorest households, which increased from 59.7% in 2008 to 85.2% in 2014. The reduction in the gaps between the regions was attributed to the significant increases in assistance by an SBA in all regions except the Frontier governorates but most notably in Upper Egypt, which increased from 70.9% in 2008 to 89.1% in 2014.

Table Egypt.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	81.8 [80.3,83.3]		93.0 [91.9,93.9]		11.1*
Age					
15-24	81.4 [79.2,83.4]		92.7 [91.2,94.0]		11.4*
25-34	82.5 [80.5,84.3]		93.3 [91.9,94.4]		10.7*
35-44	80.6 [76.8,83.9]		92.2 [89.8,94.1]		11.6*
45-49	71.6 [44.0,89.0]		100.0		28.4
Education					
None	63.7 [60.0,67.2]	*	81.8 [78.1,85.0]	*	18.1*
Primary	77.9 [73.9,81.5]		92.5 [89.6,94.7]		14.6*
Secondary +	88.7 [87.2,90.0]		95.4 [94.5,96.1]		6.7*
Wealth quintile					
Poorest	59.7 [55.9,63.4]	*	85.2 [81.8,88.0]	*	25.5*
Poorer	74.6 [71.0,77.9]		87.2 [84.7,89.3]		12.6*
Middle	85.4 [82.7,87.8]		94.9 [93.4,96.0]		9.4*
Richer	91.3 [89.1,93.1]		97.1 [95.8,98.0]		5.8*
Richest	97.4 [95.9,98.4]		99.0 [98.0,99.5]		1.6*
Place of residence					
Urban	91.2 [89.2,92.9]	*	97.0 [95.9,97.8]	*	5.8*
Rural	76.1 [73.9,78.1]		91.2 [89.8,92.5]		15.1*
Region					
Urban Governorates	94.5 [91.6,96.4]	*	98.1 [96.0,99.1]	*	3.6*
Lower Egypt	86.7 [84.4,88.6]		96.2 [94.9,97.1]		9.5*
Upper Egypt	70.9 [67.8,73.8]		88.3 [86.2,90.1]		17.4*
Frontier Governorates	81.7 [74.6,87.2]		89.1 [81.1,94.0]		7.4

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

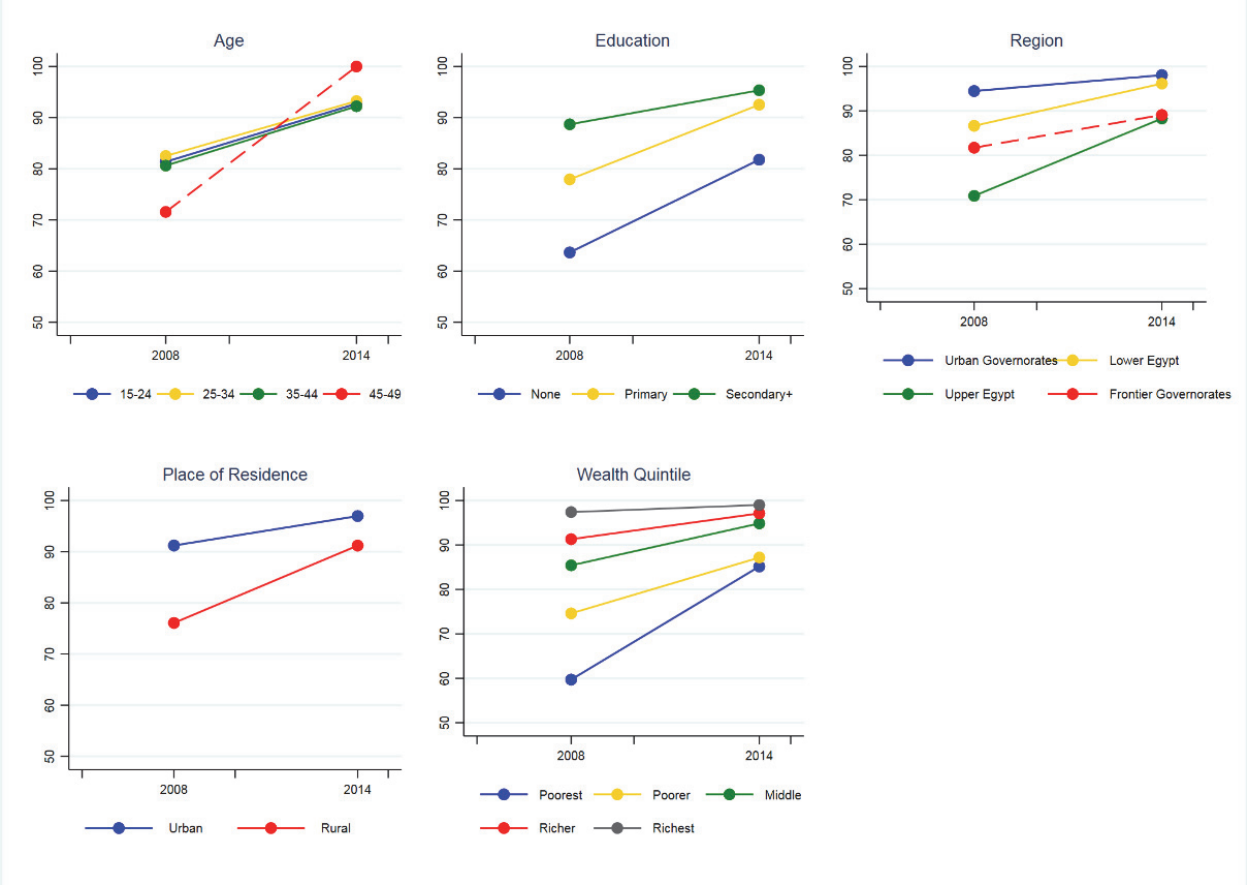


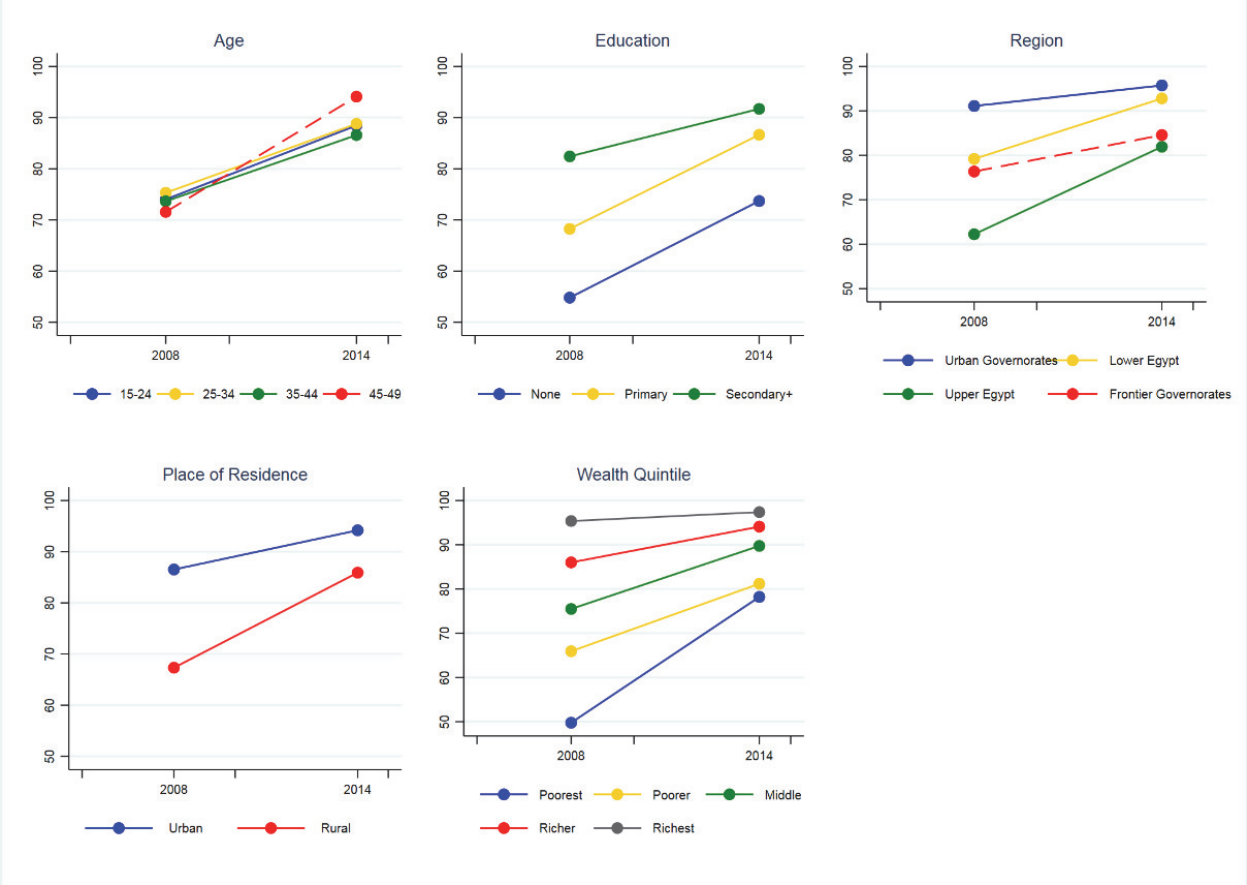
Table Egypt.06 shows that the proportion of women who delivered in a health facility increased significantly from 74.6% in 2008 to 88.5% in 2014. Similar patterns were found in this indicator as assistance by an SBA. Delivery in a health facility did not differ significantly by age in both surveys and there were large significant increases between the surveys observed by almost all the women characteristics. This resulted in a reduction in the gaps between the subgroups of women. As with the SBA indicator, the largest increase was observed among women in the poorest households, where delivery in a health facility for the most recent birth increased from 49.8% in 2008 to 78.2% in 2014. There were also large significant increases for women with no education and a primary education level, women residing in rural areas, and women residing in the Upper Egypt Region.

Table Egypt.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	74.6 [72.9,76.3]		88.5 [87.1,89.7]		13.8*
Age					
15-24	74.0 [71.6,76.3]		88.5 [86.5,90.2]		14.5*
25-34	75.3 [73.1,77.4]		88.8 [87.2,90.2]		13.5*
35-44	73.7 [69.2,77.7]		86.6 [83.6,89.1]		12.9*
45-49	71.6 [44.0,89.0]		94.1 [53.2,99.6]		22.5
Education					
None	54.8 [51.2,58.4]	*	73.7 [69.6,77.4]	*	18.9*
Primary	68.3 [63.7,72.5]		86.6 [82.7,89.8]		18.4*
Secondary +	82.4 [80.7,84.1]		91.7 [90.5,92.8]		9.3*
Wealth quintile					
Poorest	49.8 [46.0,53.6]	*	78.2 [74.4,81.6]	*	28.4*
Poorer	65.9 [62.3,69.4]		81.2 [78.4,83.7]		15.3*
Middle	75.5 [72.4,78.4]		89.8 [87.8,91.4]		14.3*
Richer	86.0 [83.3,88.4]		94.1 [92.0,95.7]		8.1*
Richest	95.4 [93.5,96.7]		97.4 [95.9,98.3]		2.0*
Place of residence					
Urban	86.5 [84.1,88.7]	*	94.2 [92.8,95.3]	*	7.7*
Rural	67.3 [65.0,69.6]		85.9 [84.1,87.6]		18.6*
Region					
Urban Governorates	91.1 [87.5,93.8]	*	95.8 [93.5,97.2]	*	4.6*
Lower Egypt	79.2 [76.6,81.6]		92.8 [91.1,94.2]		13.6*
Upper Egypt	62.2 [59.0,65.3]		81.9 [79.5,84.2]		19.7*
Frontier Governorates	76.4 [69.2,82.3]		84.6 [77.1,89.9]		8.2

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS



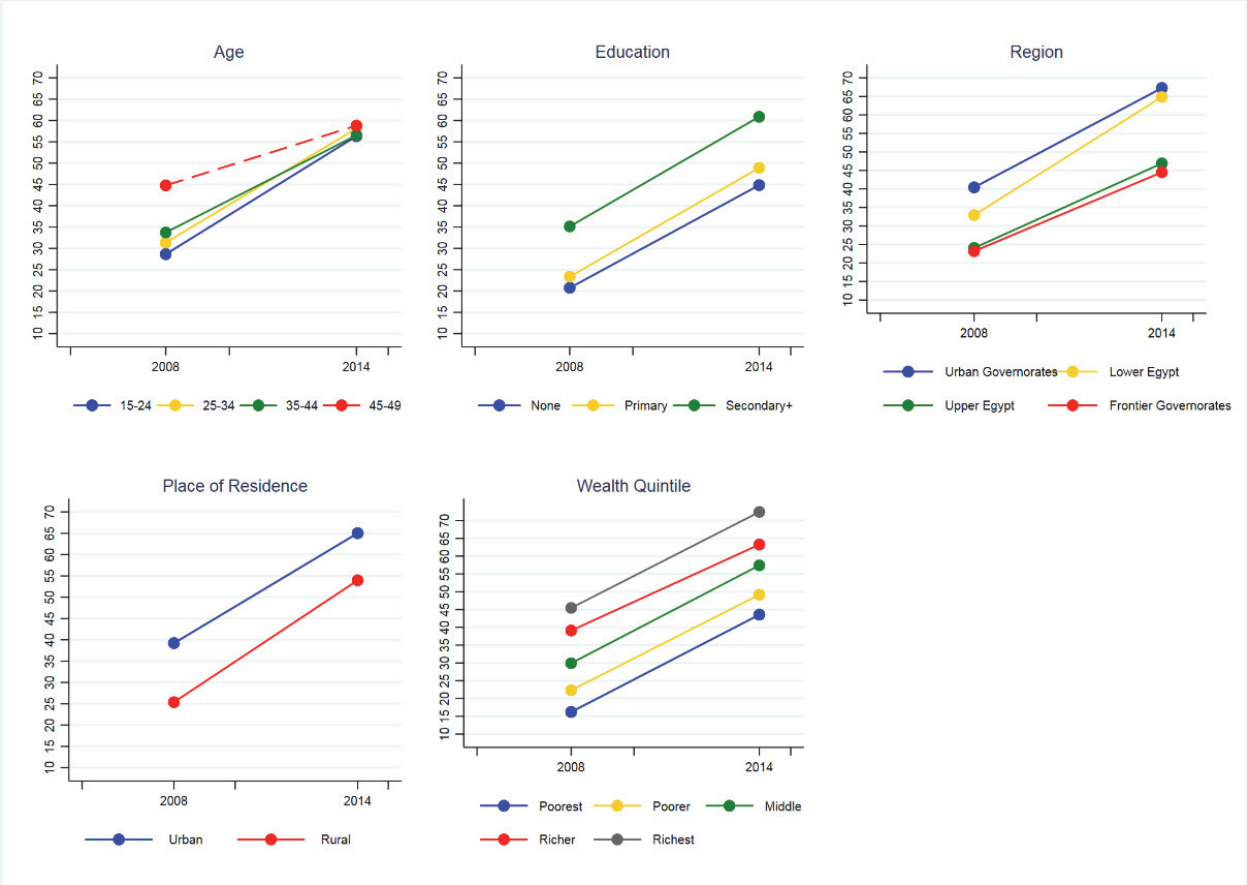
As shown in Table Egypt.07, almost one-third of women delivered their most recent birth by caesarean section (C-section) in 2008. This proportion increased significantly to an alarming figure of more than half of women in 2014 who had their most recent birth delivered by C-section. C-section delivery differed significantly by all women characteristics in both surveys except by women's age. The prevalence of C-section delivery increased with increasing education and wealth quintile in both years. There were large gaps between women that persisted in 2014 due to uniform increases across the subgroups of women. In 2008, 16.2% of women in the poorest households delivered by C-section compared with 45.4% in the richest households. In 2014, this increased to 43.6% of women from the poorest households compared with 72.4% from the richest households. Thus, the large gaps remained. The Upper Egypt and Frontier Governorates had similar, lower C-section rates in 2014, both approximately 45% compared with the two remaining regions with the proportion of C-sections above 60%.

Table Egypt.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	30.6 [29.0,32.4]		57.4 [55.6,59.1]		26.7*
Age					
15-24	28.6 [26.2,31.2]		56.3 [53.4,59.2]		27.7*
25-34	31.4 [29.1,33.7]		58.1 [56.0,60.3]		26.8*
35-44	33.7 [29.2,38.6]		56.5 [52.4,60.6]		22.8*
45-49	44.8 [23.7,68.0]		58.8 [31.8,81.3]		14.0
Education					
None	20.7 [18.0,23.7]	*	44.8 [40.9,48.8]	*	24.1*
Primary	23.4 [19.2,28.1]		48.9 [43.8,54.0]		25.5*
Secondary +	35.1 [33.1,37.2]		60.9 [59.1,62.7]		25.7*
Wealth quintile					
Poorest	16.2 [13.8,19.0]	*	43.6 [39.9,47.2]	*	27.3*
Poorer	22.3 [19.2,25.7]		49.2 [45.7,52.7]		26.9*
Middle	29.9 [26.6,33.4]		57.4 [54.2,60.6]		27.5*
Richer	39.1 [35.5,42.8]		63.3 [60.1,66.4]		24.2*
Richest	45.4 [41.6,49.4]		72.4 [69.3,75.4]		27.0*
Place of residence					
Urban	39.2 [36.3,42.2]	*	65.0 [62.3,67.7]	*	25.8*
Rural	25.4 [23.4,27.5]		54.0 [51.7,56.2]		28.6*
Region					
Urban Governorates	40.4 [35.8,45.2]	*	67.3 [62.1,72.1]	*	26.8*
Lower Egypt	32.9 [30.2,35.7]		64.9 [62.1,67.5]		31.9*
Upper Egypt	24.1 [21.7,26.6]		46.9 [44.4,49.5]		22.8*
Frontier Governorates	23.2 [18.7,28.4]		44.5 [34.4,55.1]		21.3*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS



Child Health Care

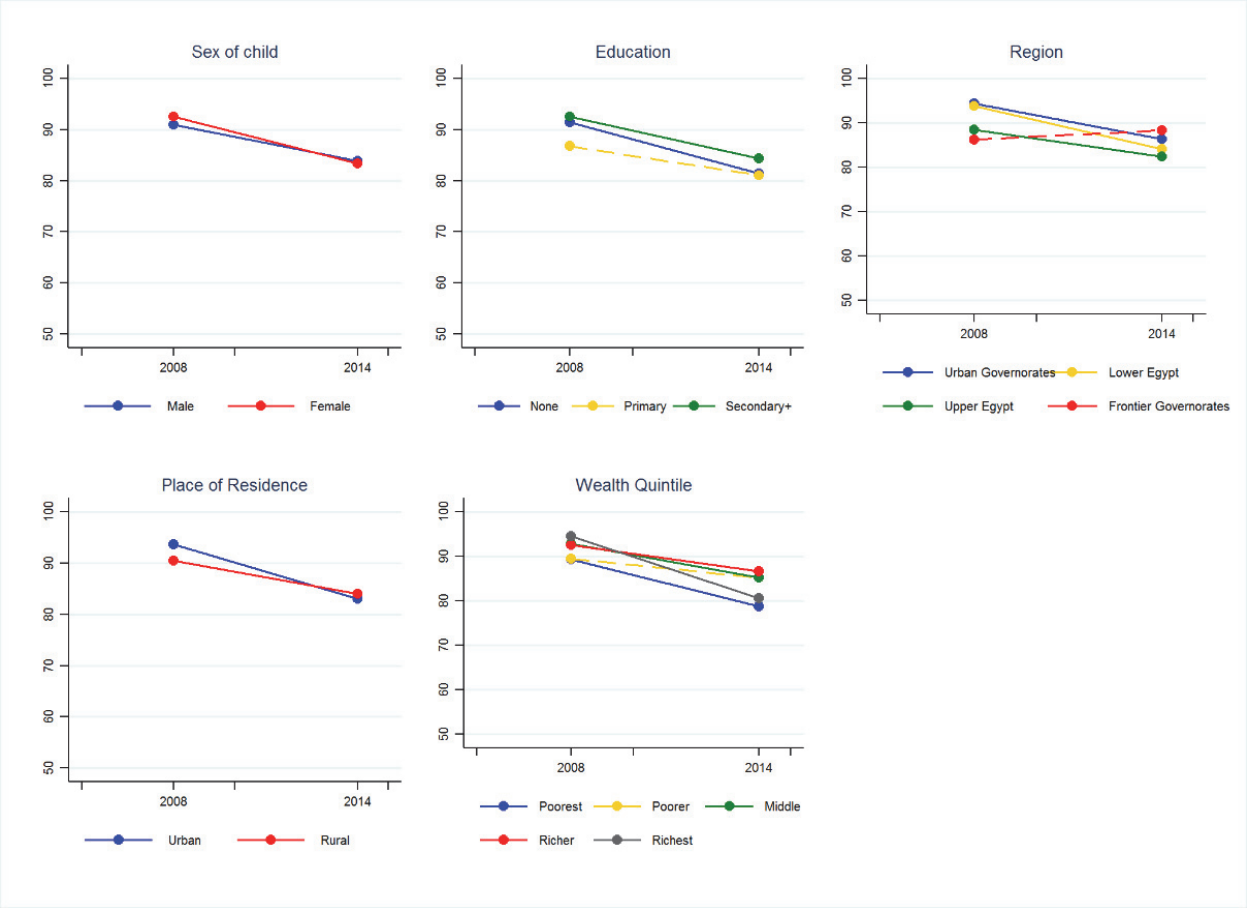
As seen in Table Egypt.08, over nine in ten children age 12-23 months received all basic vaccinations in 2008, although this decreased to slightly over eight in ten children in 2014. This significant decrease was observed by all children's characteristics except for no change in the Frontier Governorates. In 2008, children who received all basic vaccinations differed significantly by their mother's education level and their place of residence and region. However, in 2014, the only difference was by wealth quintile. The largest decreases in vaccination by wealth quintile were observed for the poorest and richest households, by 10.6 and 13.8 percentage points, respectively. The poorest and richest households had very similar proportions of children vaccinated, almost 80%, while the remaining wealth quintiles were near 85%. The largest decrease in vaccination by region was found in Lower Egypt followed by the Urban Governorates and Upper Egypt. In 2014, the proportion of children vaccinated was the highest in the Frontier Governorates at 88.3%, with no significant change from 2008.

Table Egypt.08: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	91.7 [90.3,92.9]		83.6 [81.8,85.3]		-8.1*
Child's sex					
Male	90.9 [89.0,92.6]		83.8 [81.5,85.9]		-7.1*
Female	92.5 [90.6,94.1]		83.4 [80.9,85.6]		-9.1*
Mother's education					
None	91.4 [88.6,93.5]	*	81.4 [76.5,85.4]		-10.0*
Primary	86.7 [81.2,90.8]		81.1 [73.9,86.6]		-5.7
Secondary +	92.6 [90.9,94.0]		84.4 [82.4,86.1]		-8.2*
Wealth quintile					
Poorest	89.4 [86.1,91.9]		78.8 [73.2,83.4]	*	-10.6*
Poorer	89.5 [85.5,92.4]		85.2 [81.8,88.1]		-4.3
Middle	92.8 [89.7,95.0]		85.2 [81.7,88.2]		-7.6*
Richer	92.5 [89.3,94.8]		86.6 [83.1,89.5]		-5.9*
Richest	94.4 [91.0,96.6]		80.6 [76.3,84.3]		-13.8*
Place of residence					
Urban	93.7 [91.6,95.2]	*	83.0 [79.6,85.8]		-10.7*
Rural	90.5 [88.5,92.2]		83.9 [81.8,85.9]		-6.6*
Region					
Urban Governorates	94.3 [90.9,96.5]	*	86.3 [80.7,90.5]		-7.9*
Lower Egypt	93.7 [91.5,95.4]		84.0 [81.3,86.4]		-9.7*
Upper Egypt	88.4 [85.8,90.6]		82.4 [79.6,84.8]		-6.1*
Frontier Governorates	86.2 [78.2,91.6]		88.3 [82.1,92.6]		2.1

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.08: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Egypt 2008 and 2014 DHS



In 2008, 73.3% of children under age 5 with ARI symptoms were taken to a health facility or provider. This decreased significantly to 68.1% in 2014. As shown in Table Egypt.09, care-seeking for ARI symptoms differed significantly by all children's characteristics in 2008, except for mother's education. In 2014, it only differed significantly by wealth quintile. There was no observed pattern for care-seeking with increasing wealth quintile in both surveys. However, the richest households had the highest proportion of care-seeking for ARI symptoms at 81.5%, although this decreased significantly in 2014 to 67.1% and was no longer the highest proportion among the wealth quintiles. In 2008, the proportion of care-seeking for ARI symptoms was significantly higher for male children compared with female children. Care-seeking for male children decreased significantly in 2014 and this decrease resulted in no significant difference between male and female children in 2014. The proportion of care-seeking for ARI symptoms decreased significantly for children who reside in urban areas but remained unchanged for children from rural areas. The largest decrease appeared to occur in the Frontier Governorates, although this estimate should be interpreted with caution because of the small size in this group. The Urban Governorates also exhibited a large decrease in care-seeking for ARI symptoms between 2008 and 2014; this decrease was not significant.

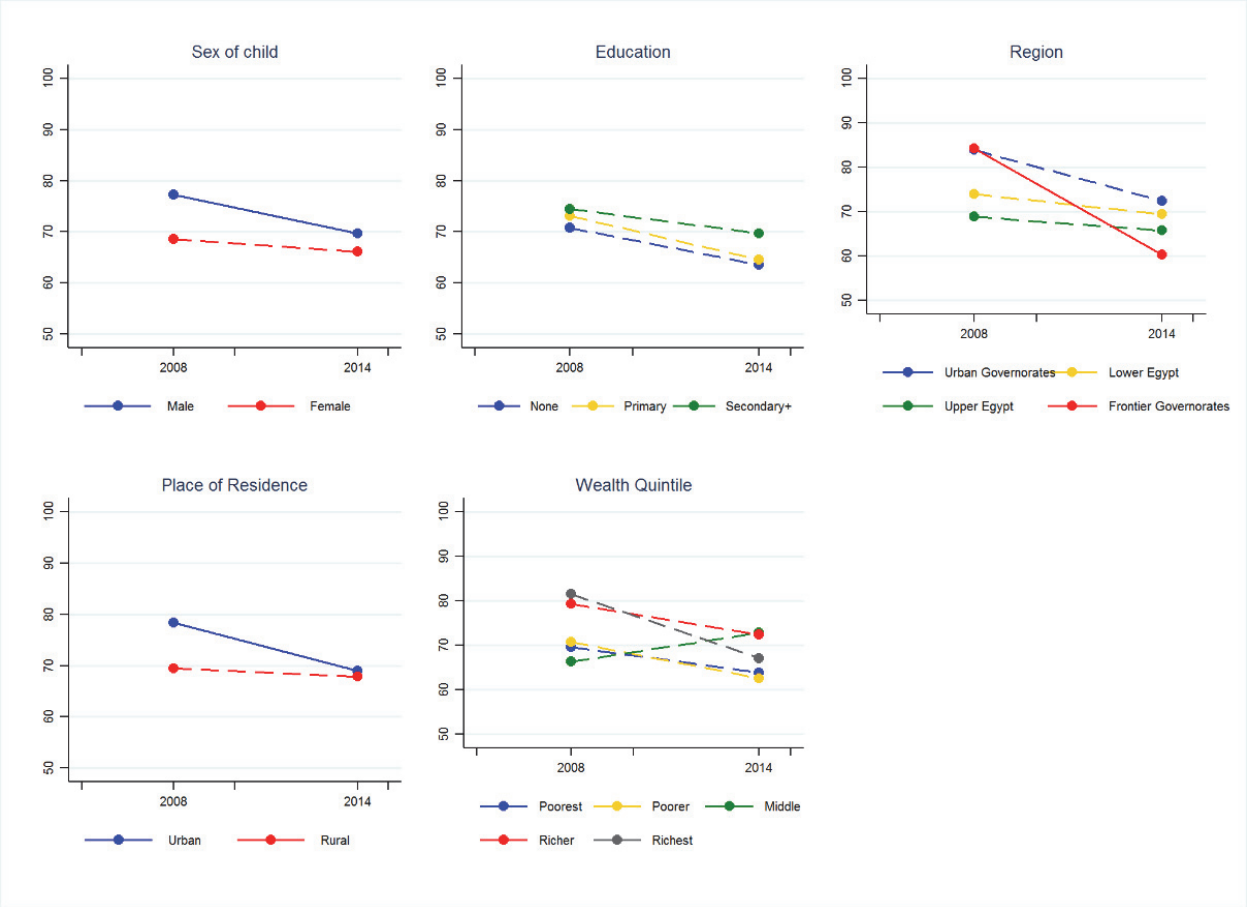
Table Egypt.09: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	73.3 [69.4,76.8]		68.1 [65.1,71.0]		-5.2*
Child's sex					
Male	77.3 [72.6,81.4]	*	69.6 [65.9,73.1]		-7.7*
Female	68.6 [62.8,73.9]		66.1 [62.1,69.8]		-2.5
Mother's education					
None	70.8 [63.4,77.2]		63.6 [56.9,69.8]		-7.2
Primary	73.1 [60.7,82.7]		64.6 [55.6,72.6]		-8.5
Secondary +	74.5 [69.9,78.6]		69.7 [66.3,73.0]		-4.7
Wealth quintile					
Poorest	69.6 [61.7,76.5]	*	63.9 [57.5,69.9]	*	-5.7
Poorer	70.8 [62.5,77.8]		62.6 [56.2,68.6]		-8.2
Middle	66.4 [56.3,75.1]		72.8 [66.9,78.0]		6.4
Richer	79.2 [70.5,85.9]		72.4 [66.9,77.3]		-6.8
Richest	81.5 [73.2,87.7]		67.1 [58.7,74.6]		-14.4*
Place of residence					
Urban	78.4 [72.4,83.3]	*	68.9 [63.1,74.2]		-9.4*
Rural	69.5 [64.3,74.2]		67.8 [64.3,71.2]		-1.6
Region					
Urban Governorates	83.9 [73.6,90.7]	*	72.5 [61.1,81.5]		-11.5
Lower Egypt	74.0 [66.1,80.6]		69.4 [64.7,73.8]		-4.5
Upper Egypt	68.9 [63.7,73.6]		65.8 [61.8,69.5]		-3.1
Frontier Governorates	(84.2 [67.0,93.4])		(60.4 [43.3,75.2])		-23.9*

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.09: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Egypt 2008 and 2014 DHS



Child Nutrition

Over half of children under age 6 months were exclusively breastfed in 2008. This decreased significantly to approximately 40% in 2014. As seen in Table Egypt.10, this differed significantly only by place of residence and region in 2008, and in 2014 this differed significantly only by place of residence. The largest decreases were for children whose mothers had a primary level of education, with a decrease from 54.1% in 2008 to 34.0% in 2014. A large decrease was also observed in Lower Egypt from 60.1% in 2008 to 40.1% in 2014. The estimate for exclusive breastfeeding could not be shown for the Frontier Governorates due to small sample size.

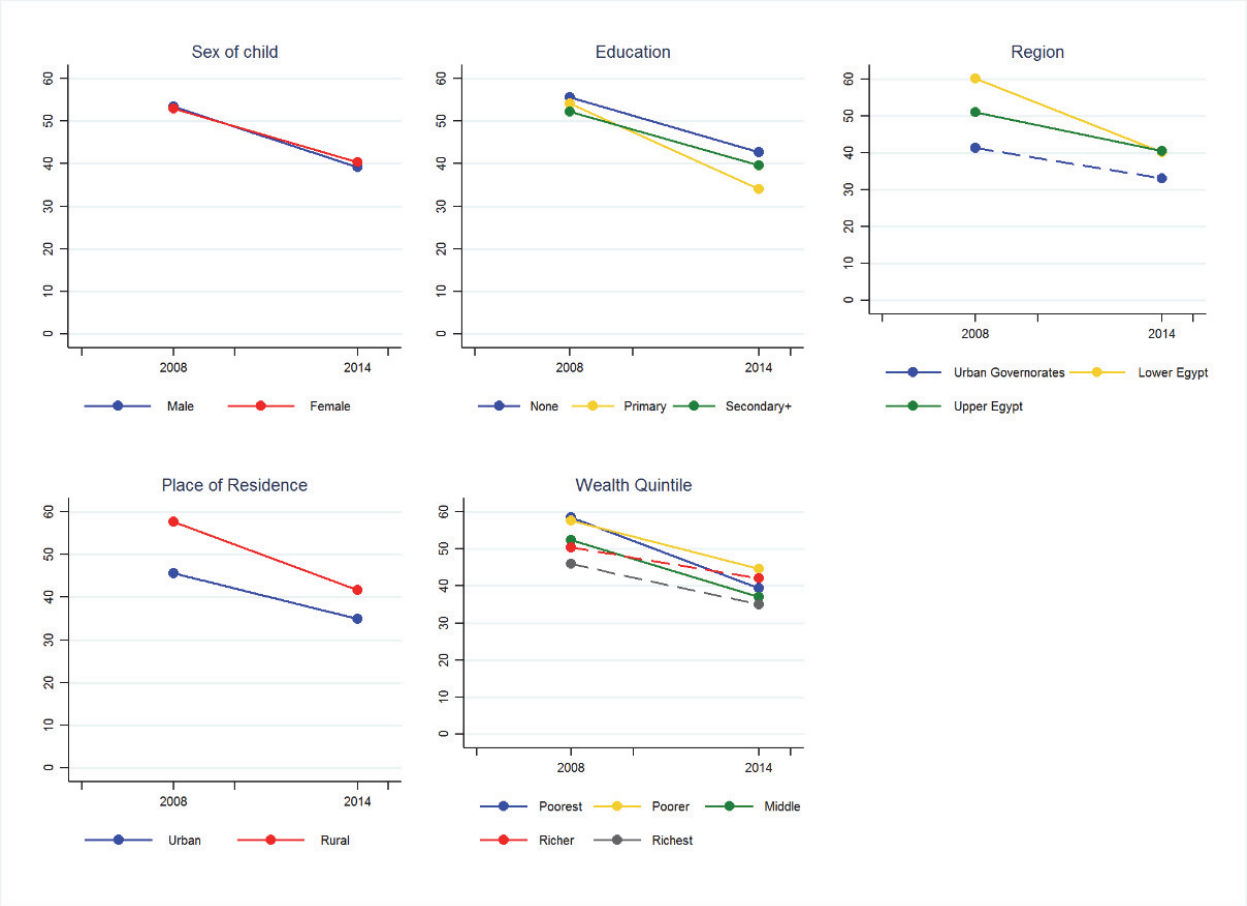
Table Egypt.10: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	53.2 [49.9,56.4]		39.7 [36.7,42.7]		-13.5*
Child's sex					
Male	53.4 [48.8,58.0]		39.1 [35.0,43.5]		-14.3*
Female	52.9 [48.4,57.5]		40.3 [35.9,44.9]		-12.6*
Mother's education					
None	55.6 [49.7,61.2]		42.7 [35.0,50.7]		-12.9*
Primary	54.1 [42.9,65.0]		34.0 [24.9,44.4]		-20.1*
Secondary +	52.2 [48.2,56.1]		39.6 [36.3,43.1]		-12.6*
Wealth quintile					
Poorest	58.4 [52.2,64.4]		39.4 [33.2,45.9]		-19.1*
Poorer	57.7 [50.4,64.6]		44.6 [38.2,51.3]		-13.0*
Middle	52.4 [45.7,59.0]		37.1 [31.5,43.0]		-15.3*
Richer	50.4 [42.9,57.9]		42.0 [35.3,49.0]		-8.4
Richest	45.9 [37.4,54.6]		35.1 [28.0,42.8]		-10.8
Place of residence					
Urban	45.7 [40.0,51.5]	*	34.9 [30.1,40.0]	*	-10.8*
Rural	57.6 [53.6,61.4]		41.6 [38.0,45.3]		-16.0*
Region					
Urban Governorates	41.2 [32.2,50.9]	*	33.1 [24.3,43.3]		-8.2
Lower Egypt	60.1 [54.9,65.1]		40.1 [35.3,45.1]		-20.0*
Upper Egypt	51.0 [46.3,55.7]		40.5 [36.6,44.5]		-10.5*
Frontier Governorates	ND		ND		

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.10: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Egypt 2008 and 2014 DHS



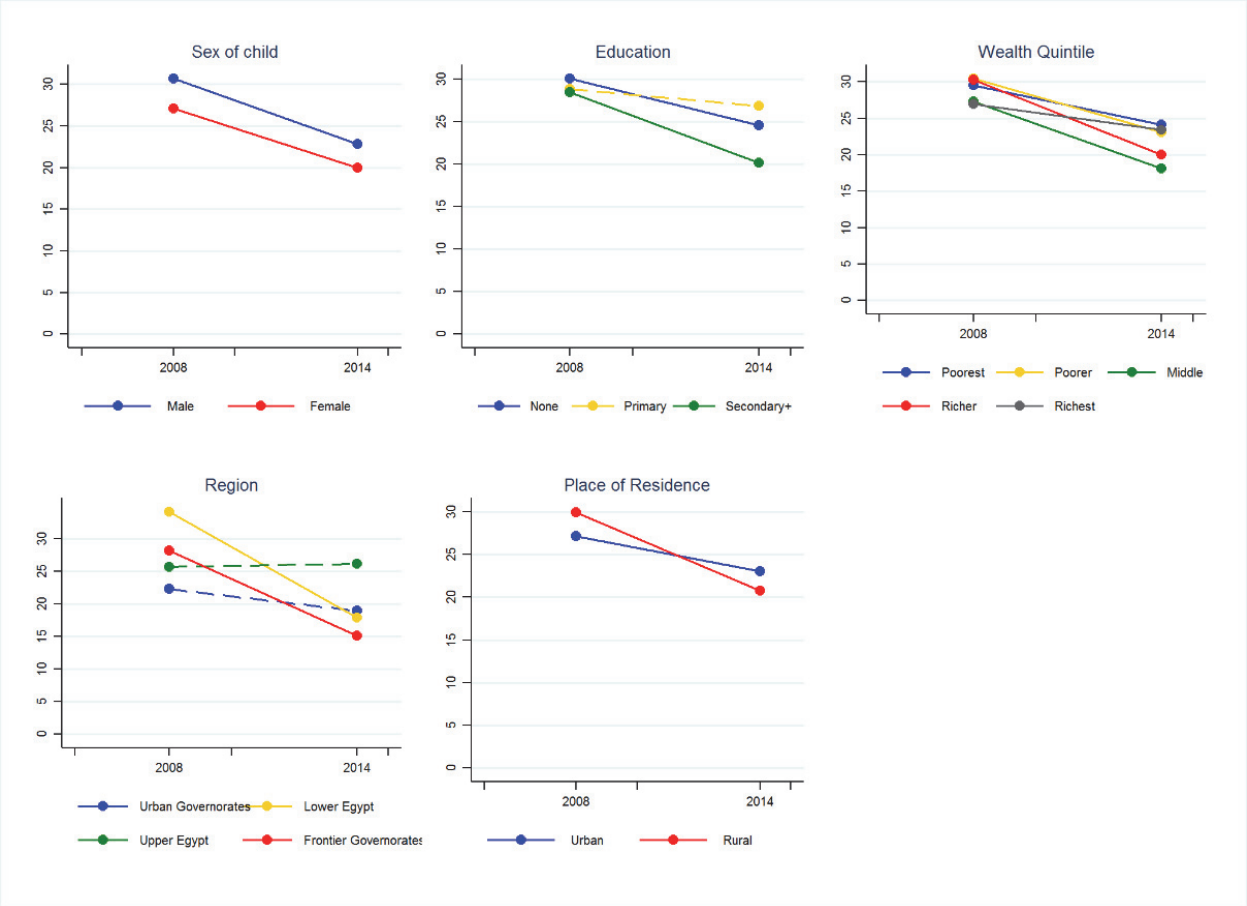
In 2008, less than one in three children under age 5 were stunted in Egypt. This decreased significantly to approximately one in five children in 2014. In 2008, stunting differed only by the child's sex, place of residence and region, while in 2014 stunting differed by all the children's characteristics except for place of residence. There were higher proportions of stunted males then females in both surveys. As shown in Figure Egypt.11, the gaps in stunting by mother's education and wealth quintile increased in 2014. In 2014, 20.1% of children with mothers with secondary or more education were stunted, compared with 26.8% of children with mothers with primary level education. The lowest portion of stunting by wealth quintile in 2014 was for women in households in the middle wealth quintile (18.1%), while the highest proportion was for those in households in the poorest wealth quintile (23.4%), followed closely by the richest wealth quintile (24.5%). Significant decreases in stunting were observed across all children's characteristics. The largest reductions were by region and in the Lower Egypt and Frontier Governorates (16.3 and 13.1 percentage point decrease, respectively). However, the gaps between the regions remained in 2014 with the lowest proportion of stunting found in the Frontier Governorates, 15.1% compared with 26.2% in Upper Egypt.

Table Egypt.11: Percentage of children under age 5 who are stunted, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	28.9 [27.7,30.2]		21.4 [20.1,22.9]		-7.5*
Child's sex					
Male	30.7 [29.1,32.4]	*	22.8 [21.1,24.7]	*	-7.9*
Female	27.1 [25.6,28.7]		19.9 [18.5,21.4]		-7.2*
Mother's education					
None	30.1 [28.0,32.1]		24.5 [22.0,27.2]	*	-5.5*
Primary	28.8 [25.3,32.5]		26.8 [23.2,30.8]		-2.0
Secondary +	28.4 [26.9,29.9]		20.1 [18.7,21.6]		-8.3*
Wealth quintile					
Poorest	29.5 [27.4,31.7]		24.1 [21.7,26.7]	*	-5.4*
Poorer	30.5 [28.0,33.1]		23.1 [20.6,25.7]		-7.4*
Middle	27.3 [24.9,29.7]		18.1 [16.1,20.2]		-9.2*
Richer	30.3 [27.7,33.0]		20.0 [17.8,22.5]		-10.3*
Richest	26.9 [24.3,29.8]		23.4 [20.3,26.9]		-3.5
Place of residence					
Urban	27.1 [25.1,29.3]	*	23.0 [20.5,25.8]		-4.1*
Rural	29.9 [28.4,31.5]		20.7 [19.1,22.4]		-9.2*
Region					
Urban Governorates	22.3 [19.2,25.7]	*	19.0 [15.1,23.5]	*	-3.3
Lower Egypt	34.2 [32.1,36.3]		17.9 [16.2,19.7]		-16.3*
Upper Egypt	25.7 [24.1,27.4]		26.2 [23.7,28.8]		0.5
Frontier Governorates	28.2 [23.7,33.3]		15.1 [12.6,18.0]		-13.1*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.11: Percentage of children under age 5 who are stunted, by background characteristics, Egypt 2008 and 2014 DHS



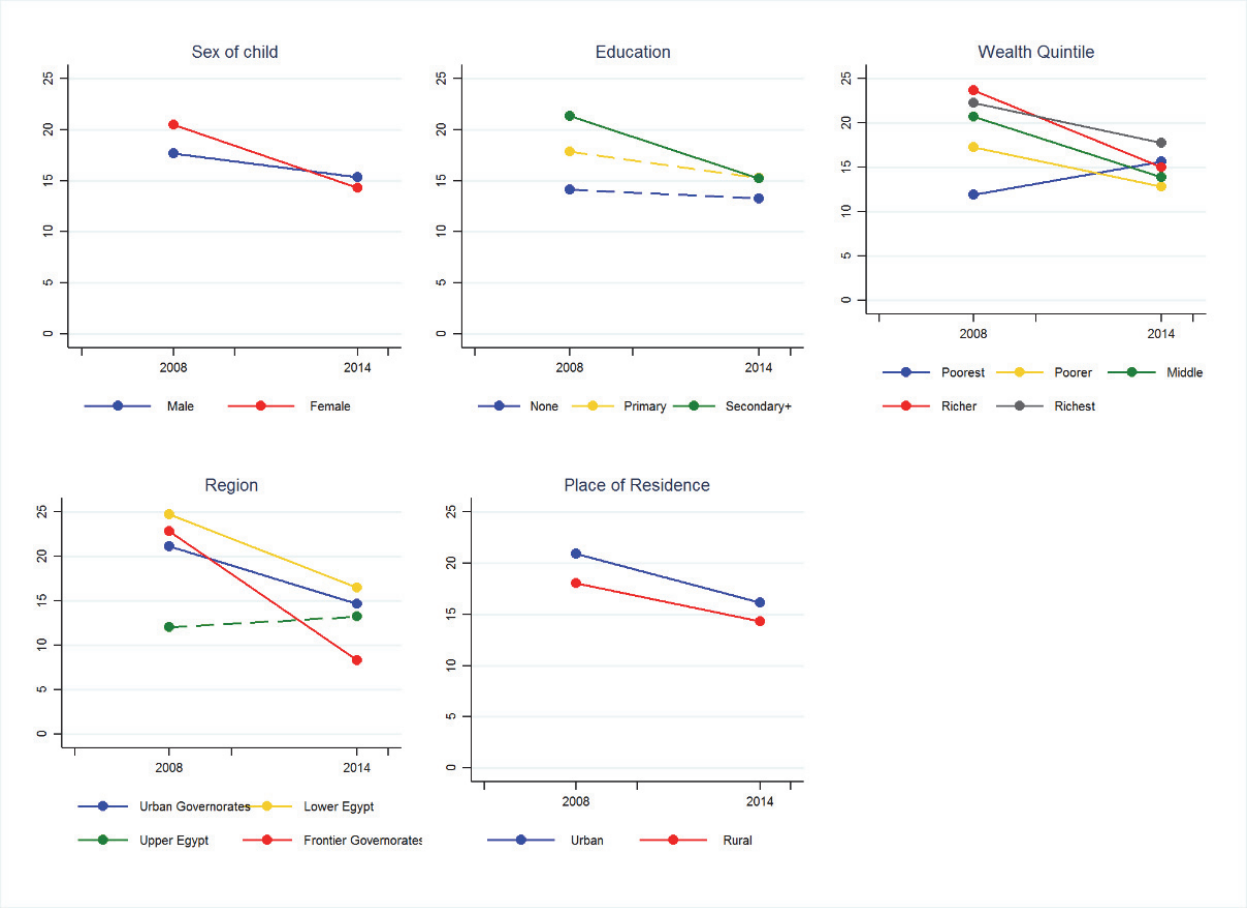
In 2008, approximately one in five Egyptian children under the age 5 was overweight. This decreased significantly to approximately 15% in 2014. Table Egypt.12 shows that the proportion of overweight children in 2008 differed significantly by the children's characteristics. However, in 2014, it only differed significantly by wealth quintile and region. In 2008, female children had a higher proportion of being overweight compared with male children; this decreased significantly for both genders to proportions that are similar for male and female children (15.3% and 14.3%, respectively). In 2008, the proportion of overweight children generally increased with increasing wealth quintile. This was not the case in 2014, which showed more similar proportions between the wealth quintiles. The largest decrease in the proportion of overweight children was in the Frontier Governorates, which decreased from 22.8% in 2008 to 8.3% in 2014.

Table Egypt.12: Percentage of children under age 5 who are overweight, by background characteristics, Egypt 2008 and 2014 DHS

	2008		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	19.1 [18.0,20.2]		14.9 [13.9,15.9]		-4.2*
Child's sex					
Male	17.6 [16.3,19.0]	*	15.3 [14.2,16.6]		-2.3*
Female	20.5 [19.0,22.0]		14.3 [13.2,15.6]		-6.1*
Mother's education					
None	14.2 [12.6,15.9]	*	13.3 [11.5,15.2]		-0.9
Primary	17.9 [15.3,20.8]		15.3 [12.7,18.2]		-2.6
Secondary +	21.3 [20.0,22.8]		15.2 [14.2,16.3]		-6.1*
Wealth quintile					
Poorest	11.9 [10.4,13.6]	*	15.6 [13.7,17.8]	*	3.7*
Poorer	17.3 [15.1,19.7]		12.8 [11.3,14.6]		-4.4*
Middle	20.7 [18.6,23.1]		13.9 [12.2,15.7]		-6.9*
Richer	23.6 [21.4,26.0]		15.0 [13.2,17.0]		-8.6*
Richest	22.2 [19.8,24.9]		17.7 [15.6,20.1]		-4.5*
Place of residence					
Urban	20.9 [19.1,22.8]	*	16.1 [14.4,18.0]		-4.8*
Rural	18.0 [16.7,19.4]		14.3 [13.2,15.5]		-3.7*
Region					
Urban Governorates	21.1 [18.2,24.4]	*	14.7 [11.5,18.6]	*	-6.4*
Lower Egypt	24.7 [22.9,26.7]		16.5 [15.1,18.0]		-8.3*
Upper Egypt	12.0 [10.8,13.4]		13.2 [11.9,14.7]		1.2
Frontier Governorates	22.8 [19.1,26.9]		8.3 [6.0,11.4]		-14.5*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Egypt.12: Percentage of children under age 5 who are overweight, by background characteristics, Egypt 2008 and 2014 DHS



Under-5 Mortality

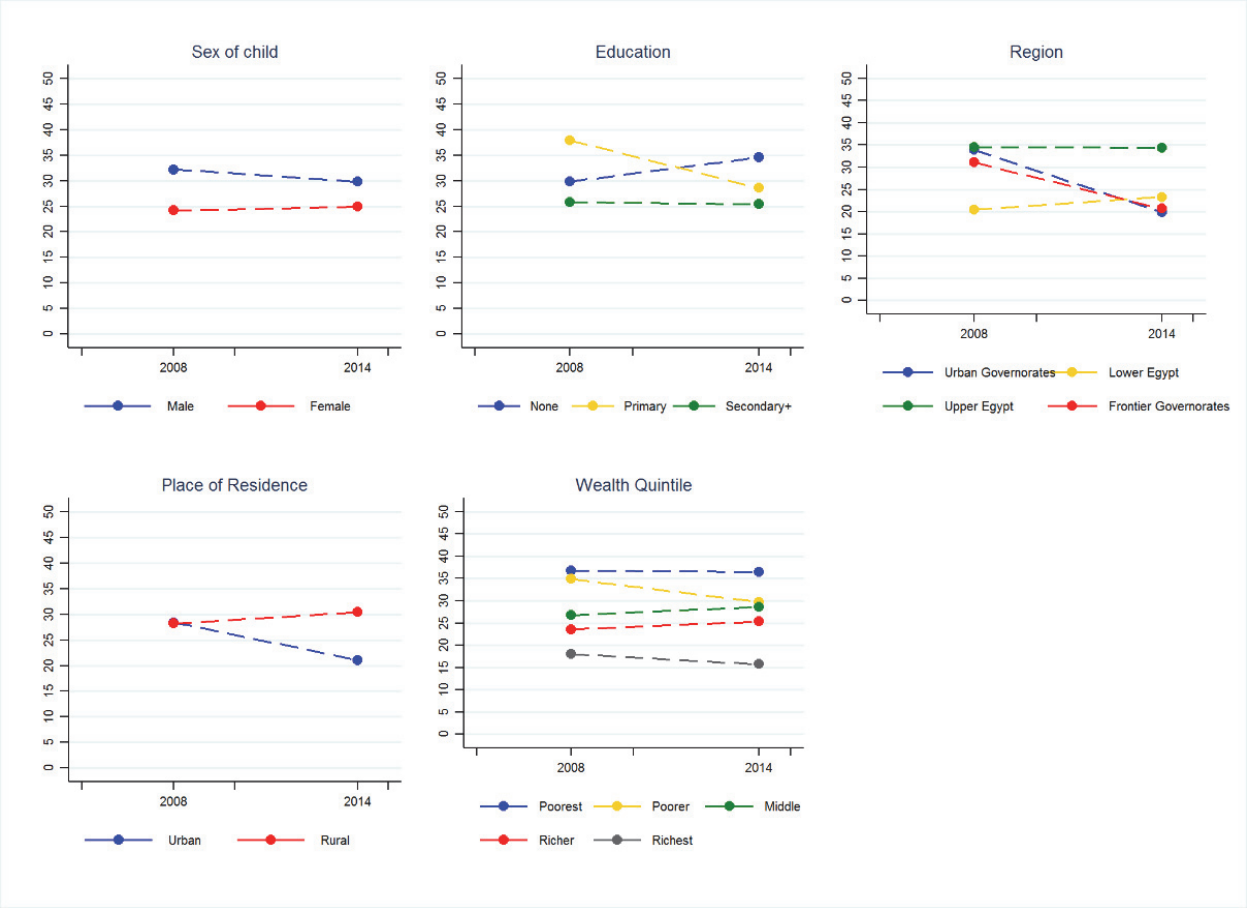
An estimated 28 Egyptian children of 1000 live births did not survive to their fifth birthday in the 5 years before the 2008 survey. This decreased to 27 deaths per 1000 live births in 2014. The decrease was not significant. The under-5 mortality rate was higher for males than females in both surveys. This indicator increased with decreasing wealth quintile in both surveys and by decreasing mother's education in 2014. A large reduction in deaths was found for children of mothers with primary level education, although the decrease was not significant. The largest under-5 mortality rate was found for children in the poorest households. This remained unchanged between the two surveys. The largest decrease in under-5 mortality was observed for the Frontier Governorates and Urban Governorates—21 and 20 deaths per 1000 live births, respectively, in 2014—although this decrease was not statistically significant.

Table Egypt.13: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS

	2008	2014	
Variable	U5M [C.I.]	U5M [C.I.]	Diff[1]
Total	28 [25,32]	27 [24,31]	-1
Child's sex			
Male	32 [27,38]	30 [25,35]	-2
Female	24 [20,29]	25 [21,30]	1
Mother's education			
None	30 [24,37]	35 [27,44]	5
Primary	38 [27,53]	29 [20,41]	-9
Secondary +	26 [21,31]	25 [22,30]	0
Wealth quintile			
Poorest	37 [29,46]	36 [29,46]	0
Poorer	35 [27,45]	30 [23,38]	-5
Middle	27 [19,38]	29 [22,37]	2
Richer	24 [17,33]	25 [19,34]	2
Richest	18 [12,28]	16 [11,22]	-2
Place of residence			
Urban	28 [22,36]	21 [17,27]	-7
Rural	28 [24,33]	30 [26,35]	2
Region			
Urban Governorates	34 [24,47]	20 [13,30]	-14
Lower Egypt	20 [16,26]	23 [19,29]	3
Upper Egypt	35 [29,41]	34 [29,40]	0
Frontier Governorates	31 [19,51]	21 [11,39]	-10

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Egypt.13: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Egypt 2008 and 2014 DHS



Egypt Summary

Several changes in the MCH indicators occurred between the 2008 and 2014 Egypt surveys. The TFR increased significantly from 3.0 in 2008 to 3.5 in 2014. This increase was not due to a decrease in modern contraceptive use, which remained unchanged between 2008 and 2014 at approximately 57%, (which was also the percentage of modern contraceptive use in the 2005 DHS, which was not included in the analysis). Traditional contraceptive use was low but decreased further to less than 2% in 2014. Improvements were observed in the indicators of women who had four or more ANC visits, assistance by an SBA, and delivery in a health facility for their most recent birth. For these indicators, there were significant increases observed in the total and across most background characteristics. These increases reduced the gaps between subgroups of women. However, the proportion of women who delivered by C-section increased from 30% in 2008 to an alarming level of more than half of women in 2014. Over 70% of women in the richest households delivered their most recent birth by C-section in 2014. The child health indicators for vaccination, care-seeking for ARI symptoms, and exclusive breastfeeding deteriorated significantly between 2008 and 2014. However, stunting and overweight decreased significantly. This decrease occurred across most subgroups of children except for a slight increase in overweight children in the poorest households. The under-5 mortality rates remained unchanged between the surveys, although the gap between urban and rural rates increased.

Iraq

In mid-2015, the population of Iraq was approximately 37 million, with 70% living in urban areas (WHO 2016b). Since 2003, Iraq has endured a constant state of conflict that began with U.S. intervention and most recently, the conflict with the so-called "Islamic State" (ISIS). The instability and violence wrought by these conflicts have had a profound impact on the health of the Iraqi people and the health infrastructure of Iraq. Al-Anbar province in western Iraq has been acutely affected by the conflicts because it was the home of an Iraqi-led insurgency during the U.S. war. As of 2014, 70% of Al-Anbar province had been captured by ISIS fighters. Across Iraq, civilian casualties and injuries have been difficult to measure, although as of 2013, the toll had surpassed 100,000 casualties (Hagopian et al. 2013; Roberts et al. 2004; WHO, Ministry of Health, and Ministry of Planning and Development Cooperation 2008). At the end of 2015, there were an estimated 4.4 million internally displaced persons in Iraq and an additional 277,700 Iraqi refugees (UNHCR 2016a). The United Nations estimates that in 2017, there are an estimated 11 million Iraqis in need of humanitarian assistance (United Nations 2017b). The on-going civil war in neighboring Syria has caused hundreds of thousands of Syrians to seek refuge in Iraq. In December 2016, the UN Refugee Agency registered 230,000 Syrian refugees in Iraq (UNHCR 2016c). The average life expectancy at birth has remained virtually unchanged from 68 years in 2007 to 69 years in 2015 (WHO 2016b; World Bank 2016a). The instability precipitated by the on-going military conflicts and pressures from a growing refugee population have resulted in variable progress on maternal, child, and infant health indicators over the past decade.

Maternal and reproductive health indicators have been largely stagnant over the past decade in Iraq. The maternal mortality ratio (MMR) has remained unchanged at approximately 50 deaths per 100,000 live births between 2006 and 2015 (WHO 2016b; World Bank 2016a). Beyond maternal mortality, some studies have examined the occurrence of maternal near-miss events in Iraq. The WHO defines a near-miss as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of a pregnancy (WHO 2011). A 2013 study in Baghdad found a maternal near-miss rate of 5 events per 1,000 live births (Jabir et al. 2013). Among women who experienced a near-miss event, anemia and previous cesarean section were the most commonly associated conditions (Jabir et al. 2013). Nearly 20% of Iraqi women of reproductive age (age 15-49) are considered anemic (WHO 2016b). Other maternal health indicators such as the percentage of births attended by a skilled medical professional have remained steady over the past decade (WHO 2016b; World Bank 2016a). A relatively low percentage of Iraqi women receive one or more antenatal visits and even fewer receive four or more antenatal care visits (WHO 2016b).

Infant and child health in Iraq has been greatly affected by the on-going conflicts, particularly in terms of vaccination coverage and mental health. Although there have only been two confirmed cases of polio in Iraq since 2014, a recent study found that children exposed to the Iraq war were 21.5% less likely to receive a polio vaccine compared with non-exposed children (Cetorelli 2015; WHO 2017b). Since 1990, immunization rates among children for polio, measles, and DPT have decreased, all of which are now between 60-70% coverage, which is well below the necessary threshold for herd immunity (WHO 2017a). The mental health of children in Iraq is of great concern because of the potential for persistent exposure to violence and trauma. A 2006 report estimated that nearly half of the children in Baghdad had been exposed to a major traumatic event in the past 2 years (Razokhi et al. 2006). The same report estimated that 10-30% of children suffered from post-traumatic stress disorder (Razokhi et al. 2006). A more recent study from 2013 examined the most common reasons for seeking mental health care among children in Iraq (Lokuge et al. 2013). This study found that witnessing violence or death and intentionally-inflicted physical violence were the two most common reasons for seeking care (Lokuge et al. 2013). Nearly 40% of children reported to care with anxiety-related symptoms, with a further 22% reporting mood or behavior related symptoms (Lokuge et al. 2013). The infant mortality rate has decreased since 2007 from 32 to 27 deaths per 1,000 live births in 2015 (WHO 2016b; World Bank 2016a). The under-5 mortality rate has also decreased over the

same time period (WHO 2016b; World Bank 2016a). Among children under age 5, the prevalence of stunting has decreased slightly since 2006, although wasting has marginally increased over the same time period (WHO 2016b; World Bank 2016a). Over-nutrition is also a growing concern in Iraq. In 2015, 6% of children under age 5 were considered obese and 12% were overweight (WHO 2016b). The problem of obesity also is found in adults, with 24% considered obese and nearly 60% overweight (WHO 2016b).

The health system of Iraq has deteriorated over the past decade from a lack of medical professionals and resources. As of 2011, it is estimated that nearly 70% of the medical professionals who practiced in Iraq before the U.S. intervention in 2003 have left the country (Al-Khalisi 2013). In 2015, there were just 8.4 physicians per 10,000 population (WHO 2016b). The health expenditure per capita has increased however, from $164 USD in 2011 to $292 USD in 2015 (WHO 2016b). The proportion of total health expenditures from out-of-pocket expenses is 40% (WHO 2016b). Prior to the first Gulf War, in the 1990s, Iraq was considered a middle-income country with a strong healthcare system (Al Hilfi 2014). Since then, the healthcare infrastructure has devolved into a system based largely on the provision of care at fragmented tertiary care facilities, with little integration of primary care services (Al Hilfi 2014). The need for improved primary care access and provision was reinforced by a 2012 qualitative study, which found that supply shortages, an inadequate and under-trained workforce, and system management problems contributed to the lack of primary care services in Iraq (Shabila et al. 2012). Several assessments of tertiary care facilities in Iraq, which have been conducted since 2007, found an overburdened medical workforce. In 2011, 19 hospitals across Iraq were evaluated for their ability to provide emergency obstetric care (Ameh et al. 2011). The authors found that slightly over 25% of the hospitals were able to provide all eight of the signal emergency obstetric care functions in the past 3 months (Ameh et al. 2011). These include administering antibiotics, uterotonics, and anticonvulsants, and performing assisted vaginal delivery, basic neonatal resuscitation, blood transfusions, and surgery (Ameh et al. 2011). In 2014, a similar assessment of a single, large referral hospital in Southern Iraq found a perinatal mortality rate of 27.4 deaths per 1,000 live births and a neonatal mortality rate of 30.8 deaths per 1,000 live births (Ahamadani et al. 2015). The authors noted that the hospital was well-equipped, although the staff was overworked and sometimes lacked appropriate training (Ahamadani et al. 2015).

The results below used data from the 2006 and 2011 MICS surveys. A more recent 2017 MICS survey was completed, although the data were not available for inclusion in this analysis. Since the Iraq 2006 MICS did not include a wealth index, this variable is not included in the tables for this survey. In addition, figures that compare trends could not be produced for the wealth quintile.

Figure Map 3: Iraq Map

Note: See Appendix for a description of regions.

Total Fertility Rate

As of 2011, the total fertility rate (TFR) in Iraq was 4.5, which was a slight but significant increase from 4.3 in 2006. In 2011, Iraq had one of the highest TFRs of the countries in this report. However, the Iraqi TFR did not differ significantly from the TFR in the West Bank and Gaza Strip in 2010 or Yemen in 2013, as shown in Figure 1 of the overall summary.

The TFR between most sub-groups included in Table Iraq.01 increased between 2006 and 2011, although the increase was only significant for a few sub-groups. In both 2006 and 2011, the TFR decreased as education increased. As shown in Figure Iraq.01, the TFR increased significantly only for the primary and secondary or higher education levels, but not for women without any education. Wealth data, which were only available for 2011, showed that the highest TFR was among women in the poorest wealth quintile. The TFR decreased incrementally as wealth increased. The TFR for both urban and rural residences increased slightly between 2006 and 2011, although the increase was only significant in urban areas.

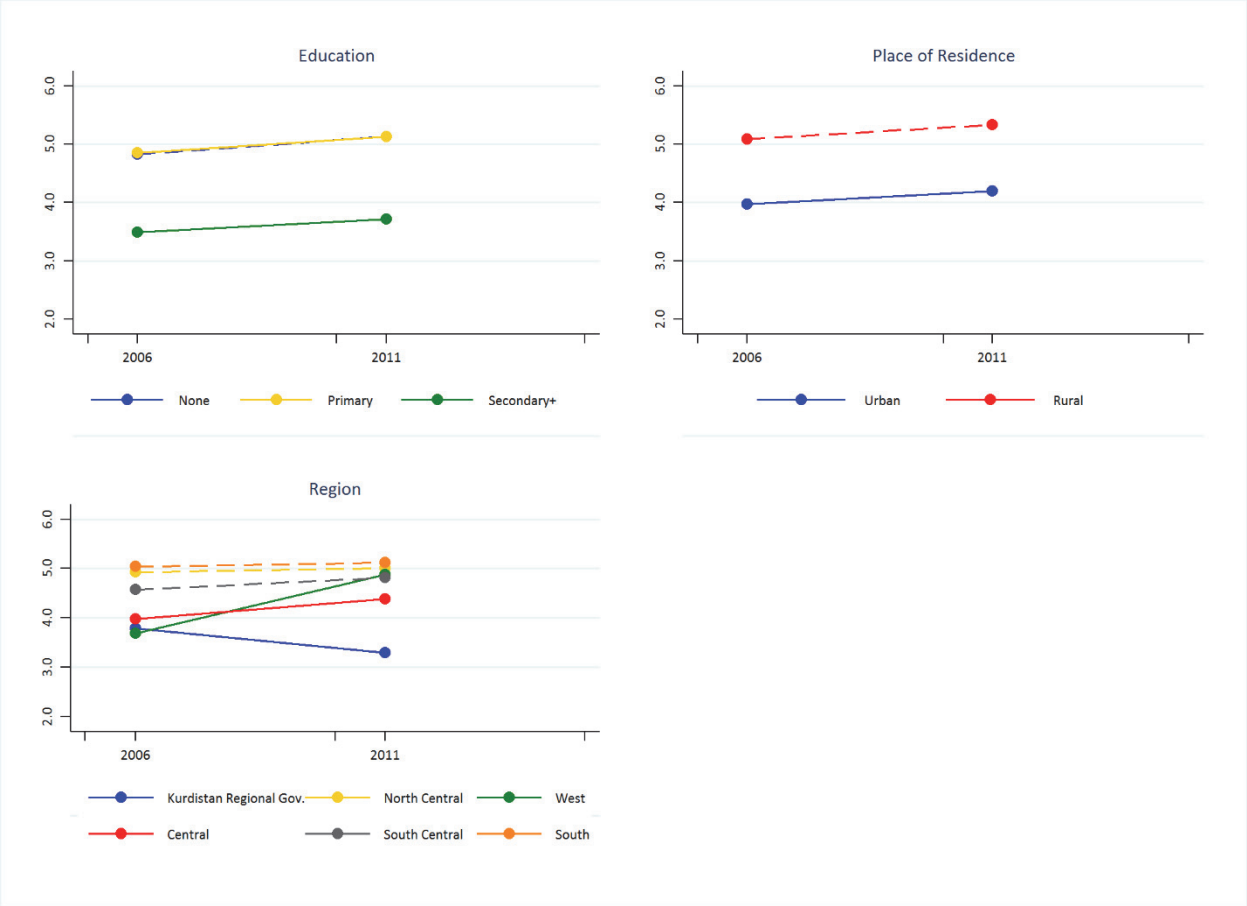
As illustrated in Figure Iraq.01, the TFR varied by region of residence as well. The lowest TFR was found in the West and Kurdistan Regional Government regions in 2006 and Kurdistan in 2011. There was a significant decrease in Kurdistan's TFR between 2006 and 2011. In contrast, the TFR for both the West and Central regions significantly increased between 2006 and 2011. The largest magnitude of change was found in the West Region. While the TFR ranking among regions remained relatively consistent between 2006 and 2011, the West Region shifted substantially from the lowest TFR in 2006 to among the highest in 2011. The Central Region had a similar, but less dramatic, shift from the second lowest TFR to the third highest between the two surveys. The regions with the highest TFRs in 2011—the West, North Central, and South—differed by only a tenth.

Table Iraq.01: Total fertility rate for the 3 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006	2011	
Variable	TFR [C.I.]	TFR [C.I.]	Diff[1]
Total	4.3 [4.2,4.5]	4.5 [4.4,4.6]	0.2*
Education			
None	4.8 [4.6,5.1]	5.1 [4.9,5.3]	0.3
Primary	4.8 [4.7,5.0]	5.1 [5.0,5.3]	0.3*
Secondary +	3.5 [3.3,3.7]	3.7 [3.6,3.9]	0.2*
Wealth quintile			
Poorest		5.8 [5.6,6.0]	
Poorer		5.0 [4.8,5.2]	
Middle		4.6 [4.4,4.8]	
Richer		4.0 [3.8,4.2]	
Richest		3.3 [3.1,3.5]	
Place of residence			
Urban	4.0 [3.8,4.1]	4.2 [4.1,4.3]	0.2*
Rural	5.1 [4.9,5.3]	5.3 [5.2,5.5]	0.2
Region			
Kurdistan Regional Gov.	3.8 [3.5,4.0]	3.3 [3.1,3.5]	-0.5*
North Central	4.9 [4.5,5.4]	5.0 [4.7,5.4]	0.1
West	3.7 [3.3,4.1]	4.9 [4.5,5.3]	1.2*
Central	4.0 [3.8,4.2]	4.4 [4.2,4.6]	0.4*
South Central	4.6 [4.4,4.8]	4.8 [4.6,5.0]	0.2
South	5.0 [4.8,5.3]	5.1 [4.9,5.3]	0.1

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Iraq.01: Total fertility rate for the 3 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Contraceptive Use

There was a significant decline in overall use of current modern contraceptives between the two surveys, from 39% in 2006 to 36% in 2011. This decline was apparent across most sub-groups, as shown in Table Iraq. 02.

In both 2006 and 2011, women in the youngest age group had the lowest current use of modern contraceptive compared to older women. Use increased with age, except for the oldest age group, which has a smaller percentage using modern contraception but was still higher than the youngest age group. Women between age 35-44 had the largest percent using modern contraception at the time of both surveys. Patterns of modern contraceptive use by age group remained consistent, although as shown in Figure Iraq.02, there was a significant decrease in use by all ages except for the age 45-49 group between the two surveys.

Modern contraceptive use increased significantly with education in both 2006 and 2011. Women with a secondary education or more had the highest percent of modern contraceptive use compared to women with less education, although this group experienced the largest decline among the education groups between the two surveys.

The prevalence of current modern contraceptive use was lower for women in rural areas compared to women in urban areas in 2006. By 2011, use for women in urban areas declined to a percent that was not

statistically different from women in rural areas. In 2011, use differed significantly by wealth, with the two highest wealth quintiles having the highest percentage of women using a modern method. A relatively large gap in the percentage of modern contraceptive use was observed between the poorest and poor wealth quintiles, although the gaps between the consecutive wealth quintiles were not large.

Figure Iraq.02 shows that, other than a significant increase in modern contraceptive use in the West Region, there was a significant decline between the two surveys in every region except the South Central Region. The growth observed in the West Region was of the greatest magnitude with an increase of eight percentage points, from 36% in 2006 to 44% in 2011. By 2011, the West Region had a higher rate of modern contraceptive use than any other region and one of the highest TFR rates, as shown in Table Iraq.01. The largest decline in modern contraceptive use was in the North Central Region, which had the lowest percent of current modern contraceptive use in both surveys. By 2011, only a quarter of women were using a modern contraceptive method in the North Central Region.

Table Iraq.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	38.7 [37.7,39.8]		35.5 [34.7,36.4]		-3.2*
Age					
15-24	24.9 [23.2,26.8]	*	22.6 [21.2,24.1]	*	-2.3*
25-34	41.7 [40.1,43.3]		37.7 [36.3,39.1]		-4.0*
35-44	48.0 [46.1,49.8]		43.6 [42.1,45.1]		-4.4*
45-49	32.2 [29.0,35.6]		32.1 [29.6,34.7]		-0.1
Education					
None	35.2 [33.2,37.2]	*	32.7 [31.2,34.3]	*	-2.5
Primary	37.7 [36.2,39.3]		35.5 [34.3,36.7]		-2.2*
Secondary +	42.0 [40.2,43.8]		36.8 [35.4,38.3]		-5.2*
Wealth quintile					
Poorest			32.2 [30.8,33.7]	*	
Poorer			35.8 [34.1,37.4]		
Middle			35.4 [33.6,37.2]		
Richer			37.6 [35.7,39.5]		
Richest			36.4 [34.3,38.5]		
Place of residence					
Urban	40.5 [39.1,41.8]	*	35.9 [34.8,37.0]		-4.6*
Rural	35.4 [33.7,37.1]		34.5 [33.2,35.9]		0.9
Region					
Kurdistan Regional Gov.	36.4 [34.1,38.7]	*	30.9 [29.3,32.6]	*	-5.5*
North Central	32.2 [28.9,35.7]		25.6 [22.7,28.8]		-6.6*
West	35.9 [31.9,40.1]		44.1 [41.2,47.1]		8.3*
Central	40.7 [38.4,42.9]		36.7 [34.9,38.4]		-4.0*
South Central	37.6 [35.8,39.4]		38.5 [36.9,40.2]		0.9
South	43.7 [41.6,45.9]		39.0 [37.3,40.7]		-4.7*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

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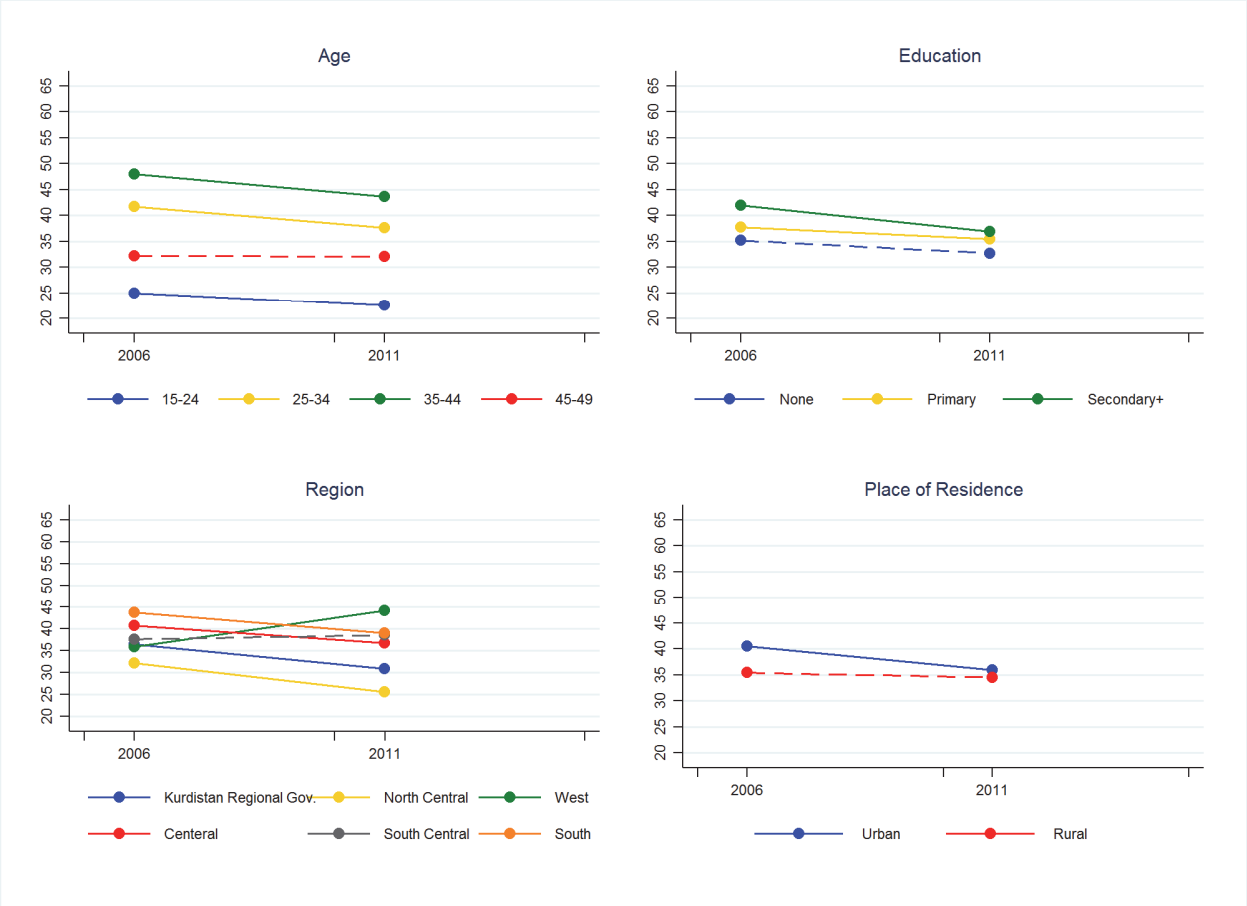
Figure Iraq.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



While current use of modern contraception decreased significantly between 2006 and 2011, current use of traditional contraceptive methods increased significantly from 11% to 17%. As shown in Table Iraq.03 and Figure Iraq.03, use of traditional contraceptive methods increased across all characteristics except for the West Region. Table Iraq.03 also shows that traditional use differed significantly by all characteristics in both the 2006 and 2011 surveys.

Traditional contraceptive method use increased with age, education, and wealth. Compared to older women, women age 15-24 had the smallest percentage who used traditional contraceptive methods. Women in the oldest two age groups, age 35-44 and 44-49, had very similar percentages of current traditional contraceptive use. Traditional method use increased for all age groups and education levels, although the largest increase was among women with secondary or higher level of education who had a seven percentage point increase, from 13% in 2006 to 20% in 2011.

Current use of a traditional contraceptive method increased with wealth quintile in 2011. Approximately 12% of women in the poorest wealth quintile used a traditional method compared to 22% of women in the richest quintile.

Table Iraq.03 shows that, in both 2006 and 2011, a higher percentage of women in urban areas used traditional methods of contraception than in rural areas. In both places of residence, traditional use increased significantly between the two surveys.

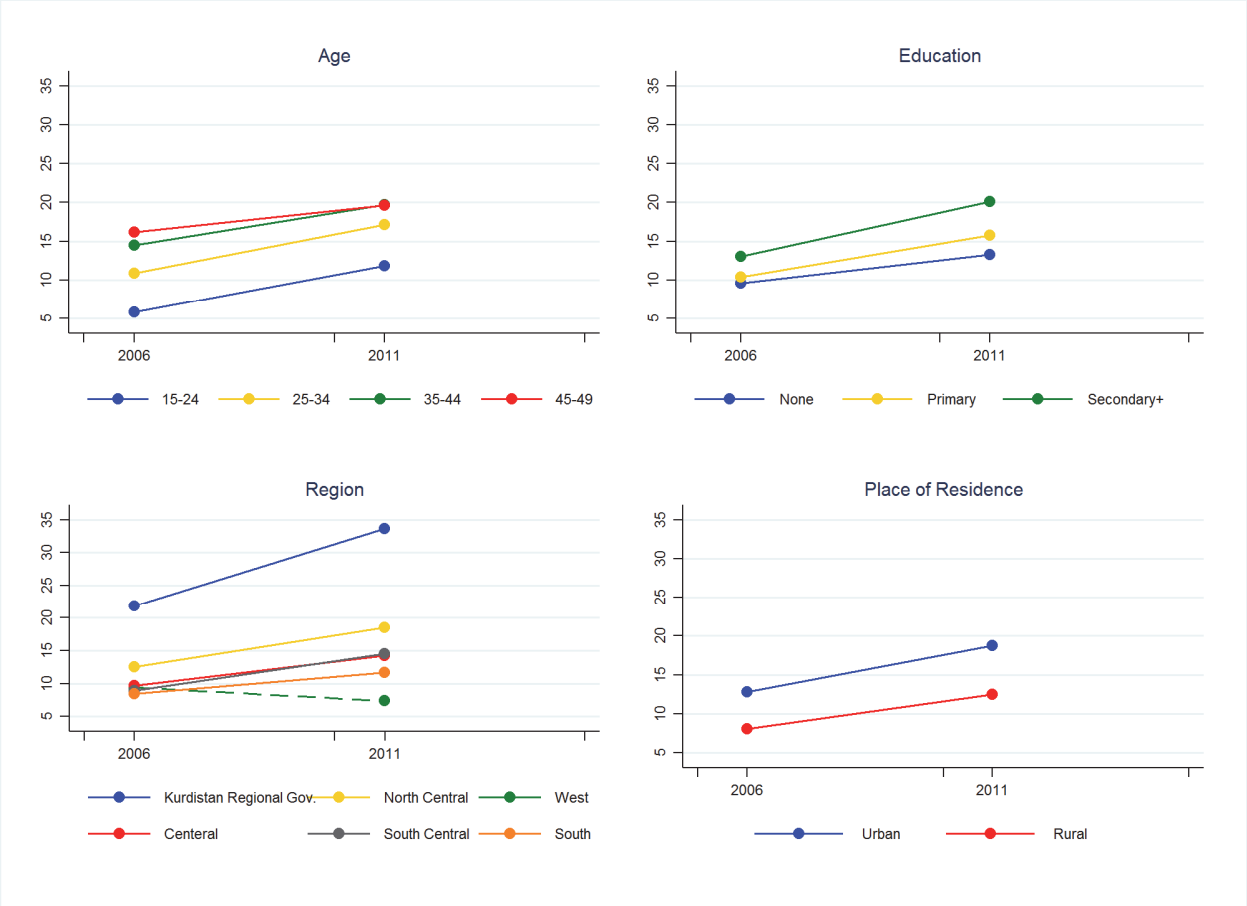
Figure Iraq.03 shows an increase in current use of traditional contraceptive methods for all regions except for the West during this time. The West Region had a slight, but statistically insignificant, decrease in traditional method use. Kurdistan had the largest increase in traditional contraceptive method use between 2006 and 2011, and in both years had a higher percentage of women using traditional contraceptive methods than any other region. By 2011, one in three women was using a traditional contraceptive method in Kurdistan.

Table Iraq.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	11.1 [10.5,11.8]		17.0 [16.2,17.8]		5.8*
Age					
15-24	5.8 [5.0,6.8]	*	11.8 [10.7,13.0]	*	6.0*
25-34	10.9 [9.9,12.0]		17.2 [16.1,18.3]		6.3*
35-44	14.5 [13.3,15.8]		19.7 [18.4,21.2]		5.3*
45-49	16.2 [13.8,18.8]		19.6 [17.5,21.9]		3.4*
Education					
None	9.6 [8.4,11.0]	*	13.3 [12.1,14.6]	*	3.7*
Primary	10.4 [9.5,11.3]		15.8 [14.8,16.8]		5.4*
Secondary +	13.0 [11.9,14.2]		20.1 [18.8,21.5]		7.1*
Wealth quintile					
Poorest			12.1 [11.0,13.3]	*	
Poorer			16.3 [15.0,17.8]		
Middle			17.1 [15.7,18.5]		
Richer			17.6 [16.2,19.1]		
Richest			21.5 [19.5,23.6]		
Place of residence					
Urban	12.8 [11.9,13.7]	*	18.8 [17.8,19.8]	*	6.0*
Rural	8.1 [7.2,9.1]		12.5 [11.6,13.5]		4.4*
Region					
Kurdistan Regional Gov.	21.8 [19.7,24.1]	*	33.6 [31.5,35.8]	*	11.8*
North Central	12.5 [10.5,14.8]		18.5 [16.1,21.2]		6.0*
West	9.4 [7.3,12.1]		7.4 [6.0,9.0]		-2.1
Central	9.7 [8.4,11.2]		14.3 [12.8,15.9]		4.6*
South Central	8.9 [8.0,9.9]		14.5 [13.3,15.8]		5.6*
South	8.4 [7.2,9.8]		11.7 [10.4,13.2]		3.3*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Antenatal Care

Almost half of women surveyed in 2011 had four or more antenatal care (ANC) visits with their most recent pregnancy. Information on this indicator was not available in the 2006 survey. As shown in Table Iraq.04, ANC differed significantly by all characteristics. The percent of women with at least four ANC visits decreased incrementally with age. Over half or 53% of women age 15-24 had four ANC visits, compared to 43% of women age 45-49. The percent of women with four or more ANC visits increased with education and wealth. Nearly two-thirds (65%) of women in the richest quintile had four or more ANC visits, which was ten percentage points higher than women in the wealth quintile directly below them. Women in the poorest wealth quintile had the lowest percent of women with four or more ANC visits. Slightly more than one-third of women in the poorest wealth quintile had at least four ANC visits.

A significantly higher percent of women in urban areas had four ANC visits compared to rural areas. Over half of urban women had four or more ANC visits, compared to 41% of women in rural areas. Kurdistan had the highest percentage of women who attend four or more antenatal care visits (57%), compared to all other regions. Women in the West Region had the lowest percentage at 42%.

Table Iraq.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Iraq 2011 MICS4

Variable	% [C.I.]	Sig.[1]
Total	49.6 [48.0,51.2]	
Age		
15-24	53.1 [50.7,55.5]	*
25-34	48.1 [46.0,50.2]	
35-44	47.3 [44.3,50.3]	
45-49	43.2 [29.7,57.7]	
Education		
None	35.5 [33.0,38.0]	*
Primary	48.0 [46.0,50.1]	
Secondary +	59.2 [56.4,61.9]	
Wealth quintile		
Poorest	35.4 [33.0,37.9]	*
Poorer	45.1 [42.4,47.9]	
Middle	53.4 [50.2,56.5]	
Richer	55.0 [51.8,58.2]	
Richest	64.9 [60.8,68.7]	
Place of residence		
Urban	54.0 [51.8,56.1]	*
Rural	40.5 [38.2,42.9]	
Region		
Kurdistan Regional Gov.	57.1 [53.4,60.7]	*
North Central	45.7 [40.4,51.1]	
West	41.7 [35.1,48.7]	
Central	44.6 [41.2,48.1]	
South Central	54.6 [51.5,57.7]	
South	51.1 [47.9,54.3]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Table Iraq.05 shows the percentage of women who delivered their most recent child with the assistance of a skilled birth attendant (SBA). Between 2006 and 2011, this increased significantly from 55% to 91% overall. Significant increases occurred over time by age, education, place of residence, and region. Delivery by an SBA also differed by all background characteristics in both surveys except by age in 2006.

Figure Iraq.05 shows the steep increase in SBA use among all age groups between the two surveys of over 30 percentage points. In both surveys, women age 45-49 had the lowest percentage of births attended by an SBA in the 2 years before the survey, although the differences between the age groups was not statistically different in 2006. In both 2006 and 2011, SBA delivery increased with higher levels of education. Between 2006 and 2011, women with no education and a primary education saw the largest gains in this area. However, women with secondary or more education had the highest percentage of SBA delivery in 2011 (96%) and the gaps between the education levels remained. In 2011, SBA delivery increased with increasing wealth quintile and reached 96% for the richest group.

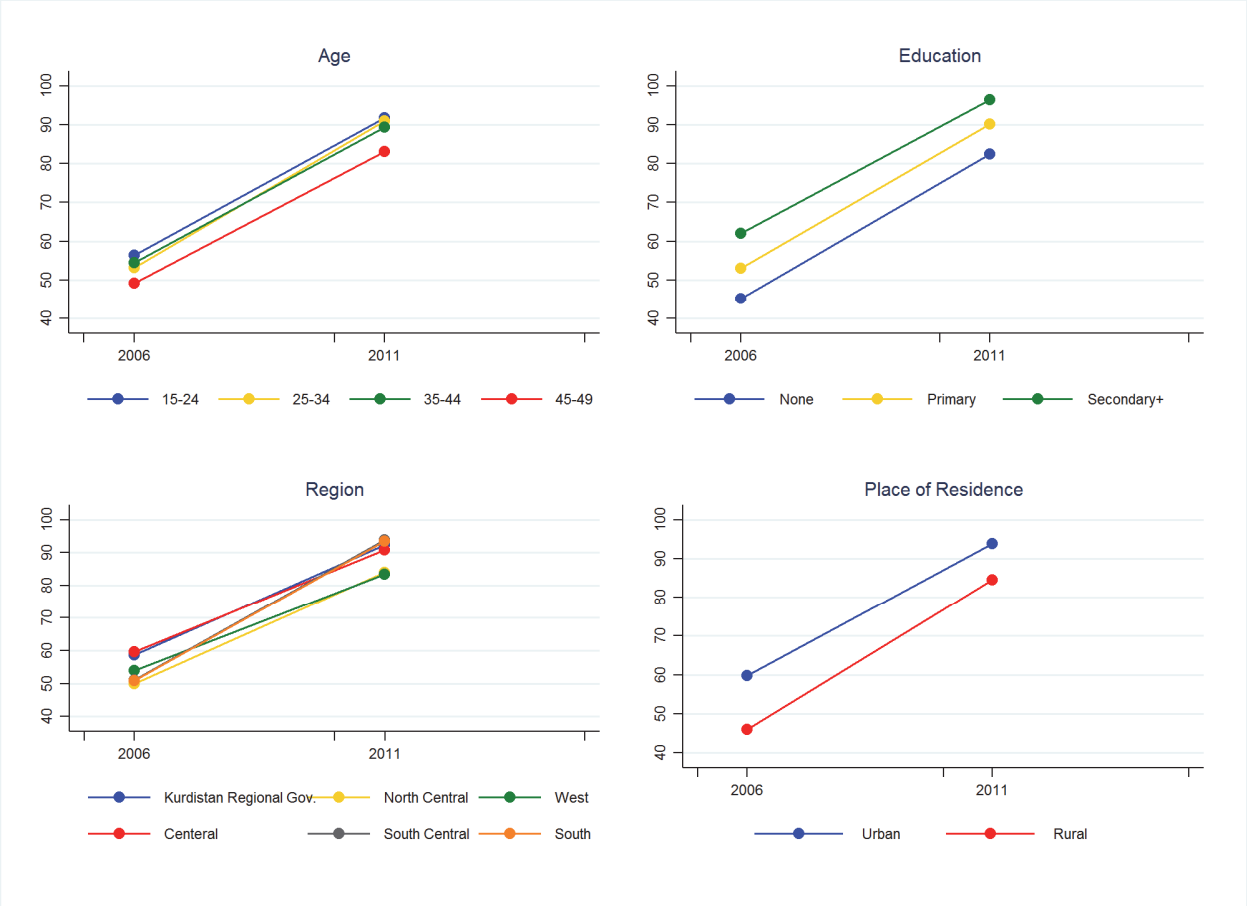
Significant increases in SBA use were found in both urban and rural areas. In 2011, 94% of women in urban areas and 85% of women in rural areas gave birth with assistance from an SBA. In addition, all regions saw a significant increase in SBA use between the two surveys. The South Central and South regions saw the largest increase—more than a 40% increase between the two surveys.

Table Iraq.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	54.5 [52.8,56.2]		90.9 [89.9,91.7]		36.4*
Age					
15-24	56.4 [53.6,59.1]		91.7 [90.2,92.9]	*	35.3*
25-34	53.3 [50.9,55.6]		91.0 [89.8,92.1]		37.7*
35-44	54.5 [50.9,58.0]		89.2 [87.4,90.8]		34.8*
45-49	49.2 [29.8,68.8]		83.0 [64.9,92.8]		33.8*
Education					
None	45.2 [41.7,48.7]	*	82.4 [80.2,84.3]	*	37.2*
Primary	53.0 [50.7,55.3]		90.1 [88.8,91.3]		37.1*
Secondary +	62.0 [59.1,64.8]		96.3 [95.4,97.1]		34.3*
Wealth quintile					
Poorest			82.2 [80.2,84.0]	*	
Poorer			89.6 [87.8,91.3]		
Middle			93.7 [92.0,95.0]		
Richer			95.5 [93.8,96.7]		
Richest			96.0 [93.2,97.6]		
Place of residence					
Urban	59.8 [57.6,61.9]	*	93.9 [92.8,94.8]	*	34.1*
Rural	46.0 [43.2,48.9]		84.5 [82.7,86.2]		38.5*
Region					
Kurdistan Regional Gov.	58.7 [54.7,62.7]	*	92.4 [90.6,93.9]	*	33.7*
North Central	49.9 [44.8,55.1]		83.9 [80.8,86.6]		34.0*
West	53.9 [47.3,60.5]		83.3 [77.5,87.9]		29.4*
Central	59.7 [55.8,63.5]		90.7 [88.4,92.6]		31.0*
South Central	51.1 [48.0,54.3]		93.9 [92.7,94.9]		42.7*
South	50.8 [47.4,54.2]		93.4 [91.2,95.0]		42.6*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.04: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Utilization of health facilities for deliveries increased significantly from 63% in 2006 to 77% in 2011. In both surveys, women age 15-24 had a higher percent of delivery in a health facility than any other age group. There were significant differences between the age groups in both surveys, as well as significant increases in health facility delivery for women age 15-24, 25-34, and 35-44, but not for women age 45-49.

Women with more education had higher rates of giving birth in health facilities compared to women with lower levels of education in 2006 and 2011, and health facility birth significantly increased across all education levels between 2006 and 2011. The percentage of women giving birth in a health facility also increased with wealth. In 2011, 67% of the poorest women gave birth in facilities compared to 84% of women in the richest wealth quintile. Facility births increased significantly for both urban and rural women between the two surveys, although urban women had a higher percentage of facility births in both years.

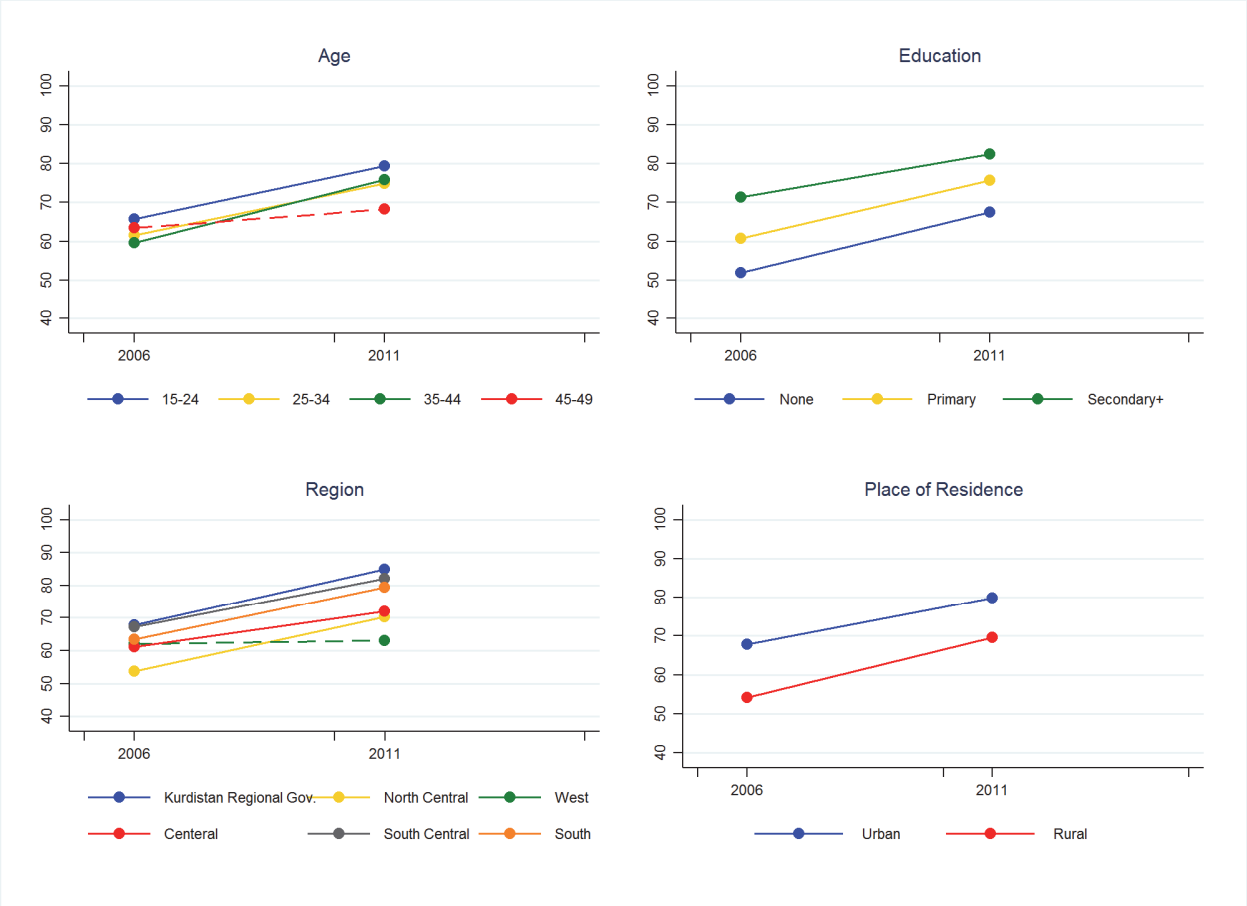
Figure Iraq.06 illustrates the increase in facility births for all regions, with the notable exception of the West Region. Although the pattern of health facility births by region was consistent between 2006 and 2011, the West Region changed from among the regions with the highest percentage of facility births in 2006 to the lowest in 2011. While other regions increased facility birth by 11-17%, the West Region increased by 1%, which was not significant.

Table Iraq.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	62.6 [60.9,64.3]		76.6 [75.3,77.8]		13.9*
Age					
15-24	65.8 [63.1,68.3]	*	79.4 [77.4,81.2]	*	13.6*
25-34	61.5 [59.2,63.8]		74.9 [73.1,76.6]		13.3*
35-44	59.6 [56.1,63.1]		75.9 [73.3,78.2]		16.2*
45-49	63.4 [41.1,81.2]		68.3 [50.8,81.8]		4.8
Education					
None	52.0 [48.3,55.6]	*	67.6 [64.9,70.1]	*	15.6*
Primary	60.8 [58.6,63.0]		75.7 [73.9,77.4]		14.8*
Secondary +	71.3 [68.6,73.9]		82.4 [80.6,84.1]		11.1*
Wealth quintile					
Poorest			67.4 [65.1,69.6]	*	
Poorer			73.8 [71.2,76.3]		
Middle			79.5 [77.0,81.9]		
Richer			81.7 [79.0,84.1]		
Richest			83.5 [80.2,86.3]		
Place of residence					
Urban	67.9 [65.8,70.0]	*	79.9 [78.3,81.3]	*	12.0*
Rural	54.1 [51.3,57.0]		69.6 [67.6,71.6]		15.5*
Region					
Kurdistan Regional Gov.	67.8 [63.8,71.5]	*	84.9 [82.6,86.9]	*	17.0*
North Central	53.7 [48.5,58.7]		70.2 [65.9,74.2]		16.5*
West	62.0 [54.4,69.1]		63.1 [57.5,68.4]		1.1
Central	61.2 [57.3,64.9]		72.0 [69.1,74.7]		10.8*
South Central	67.3 [64.5,70.0]		82.0 [79.9,83.9]		14.7*
South	63.4 [60.1,66.5]		79.4 [76.6,81.9]		16.0*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.05: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



In 2011, almost a quarter of women delivered their most recent birth by caesarean section (C-section) in the 2 years before the survey. There were significant differences in C-section rates by all characteristics, as shown in Table Iraq.07. Information on this indicator was not available in the 2006 survey. The C-section rates increased with age, education, and wealth. Urban women had significantly a higher percentage of C-section than rural women, with 25% for urban women compared to 16% for rural women. By region, Kurdistan had the highest rate of C-section births at 28%, followed by the Central and South Central regions. The North Central and West regions had the lowest rates of C-section births.

Table Iraq.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Iraq 2011 MICS4

Variable	% [C.I.]	Sig.[1]
Total	22.2 [21.0,23.3]	
Age		
15-24	18.5 [16.9,20.3]	*
25-34	22.3 [20.7,23.9]	
35-44	28.3 [25.7,31.1]	
45-49	35.7 [21.5,52.9]	
Education		
None	15.4 [13.5,17.5]	*
Primary	20.0 [18.6,21.5]	
Secondary +	28.8 [26.6,31.1]	
Wealth quintile		
Poorest	14.5 [13.0,16.2]	*
Poorer	20.5 [18.4,22.8]	
Middle	21.7 [19.4,24.2]	
Richer	27.3 [24.5,30.4]	
Richest	30.0 [26.8,33.4]	
Place of residence		
Urban	25.1 [23.6,26.7]	*
Rural	16.0 [14.7,17.4]	
Region		
Kurdistan Regional Gov.	28.4 [25.2,31.9]	*
North Central	13.9 [11.3,16.9]	
West	14.0 [10.7,18.0]	
Central	25.0 [22.3,27.9]	
South Central	26.9 [24.9,29.0]	
South	17.4 [15.5,19.4]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Between the 2006 and 2011 surveys, there was a significant reduction in the percent of children under age 5 who were taken to a health facility or provider for ARI symptoms within the 2 weeks before the survey, from 82% in 2006 to 74% in 2011. The decline is evident in several sub-groups as shown in Table Iraq.08. There was a significant decline in care-seeking for female children with ARI symptoms between the two surveys, but not for males. In 2011, advice or treatment was sought for male children at a significantly higher rate than for female children, although in 2006, there had not been a significant difference between the sexes.

Care-seeking for children with ARI symptoms increased with education in both survey years, but the differences by education were not significant in 2011. From 2006 to 2011, women with a primary education had a significant reduction in care-seeking (83% in 2006 and 73% in 2011). The decreases for no education and a secondary or higher level of education were not significant.

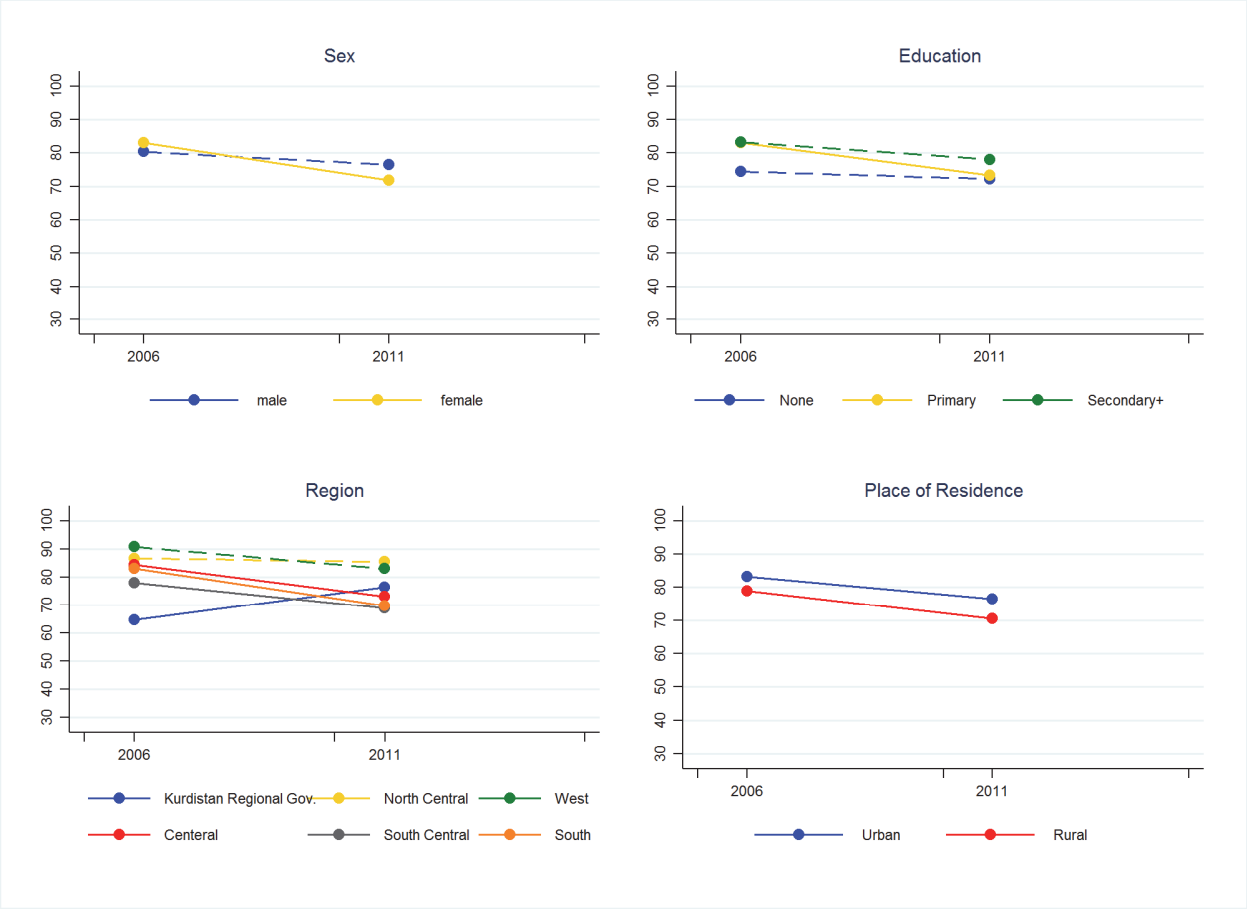
Both urban and rural residences had significant decline in care-seeking for ARI symptoms between the two surveys. In both surveys, there was a higher percentage of care-seeking found in urban compared to rural areas. All regions saw a decline in this indicator except for Kurdistan, which had a significant increase (65% to 77%) in care-seeking for children with ARI symptoms. The declines observed in the North Central and West regions were not significant, as shown in Figure Iraq.06. Kurdistan is the only region that had an increase in care-seeking between 2006 and 2011.

Table Iraq.08: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	81.6 [79.5,83.5]		74.4 [71.8,76.9]		-7.1*
Child's sex					
Male	80.3 [77.6,82.9]		76.5 [73.5,79.2]	*	-3.9
Female	83.0 [80.2,85.5]		71.8 [67.7,75.5]		-11.2*
Education					
None	74.4 [68.6,79.5]	*	72.3 [67.5,76.5]		-2.2
Primary	83.0 [80.1,85.5]		73.3 [69.8,76.5]		-9.7*
Secondary +	83.2 [79.4,86.4]		78.1 [73.1,82.4]		-5.2
Wealth quintile					
Poorest			70.0 [65.8,73.8]		
Poorer			74.4 [69.5,78.8]		
Middle			74.9 [68.7,80.2]		
Richer			79.0 [72.9,83.9]		
Richest			77.7 [68.6,84.7]		
Place of residence					
Urban	83.3 [80.8,85.6]	*	76.5 [73.1,79.6]	*	-6.8*
Rural	78.9 [75.2,82.2]		70.5 [66.2,74.4]		-8.4*
Region					
Kurdistan Regional Gov.	64.6 [56.4,72.1]	*	76.5 [72.8,79.8]	*	11.8*
North Central	86.7 [79.9,91.5]		85.4 [76.7,91.3]		-1.3
West	90.8 [82.3,95.4]		82.9 [72.0,90.2]		-7.8
Central	84.4 [80.0,87.9]		73.2 [65.6,79.6]		-11.2*
South Central	78.0 [74.4,81.2]		68.9 [62.9,74.4]		-9.1*
South	83.0 [77.9,87.1]		69.8 [63.5,75.4]		-13.2*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.06: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Child Nutrition

Exclusive breastfeeding of children under age 6 months declined significantly from 25% in 2006 to 20% in 2011. Table Iraq.09 shows that this decline was consistent for all characteristics, except for women in the Kurdistan Region. While all regions saw a decline in exclusive breastfeeding, the percentage of children under age 6 months exclusively breastfed in Kurdistan increased from 12% in 2006 to 20% in 2011. As illustrated in Figure Iraq.09, the West Region had the most dramatic decline during this time, from 38% to 9%.

While not significant in 2006, the difference in exclusive breastfeeding rates between urban and rural children was significant in 2011. Exclusive breastfeeding decreased significantly between the surveys in urban areas, but the decline in rural areas was not significant.

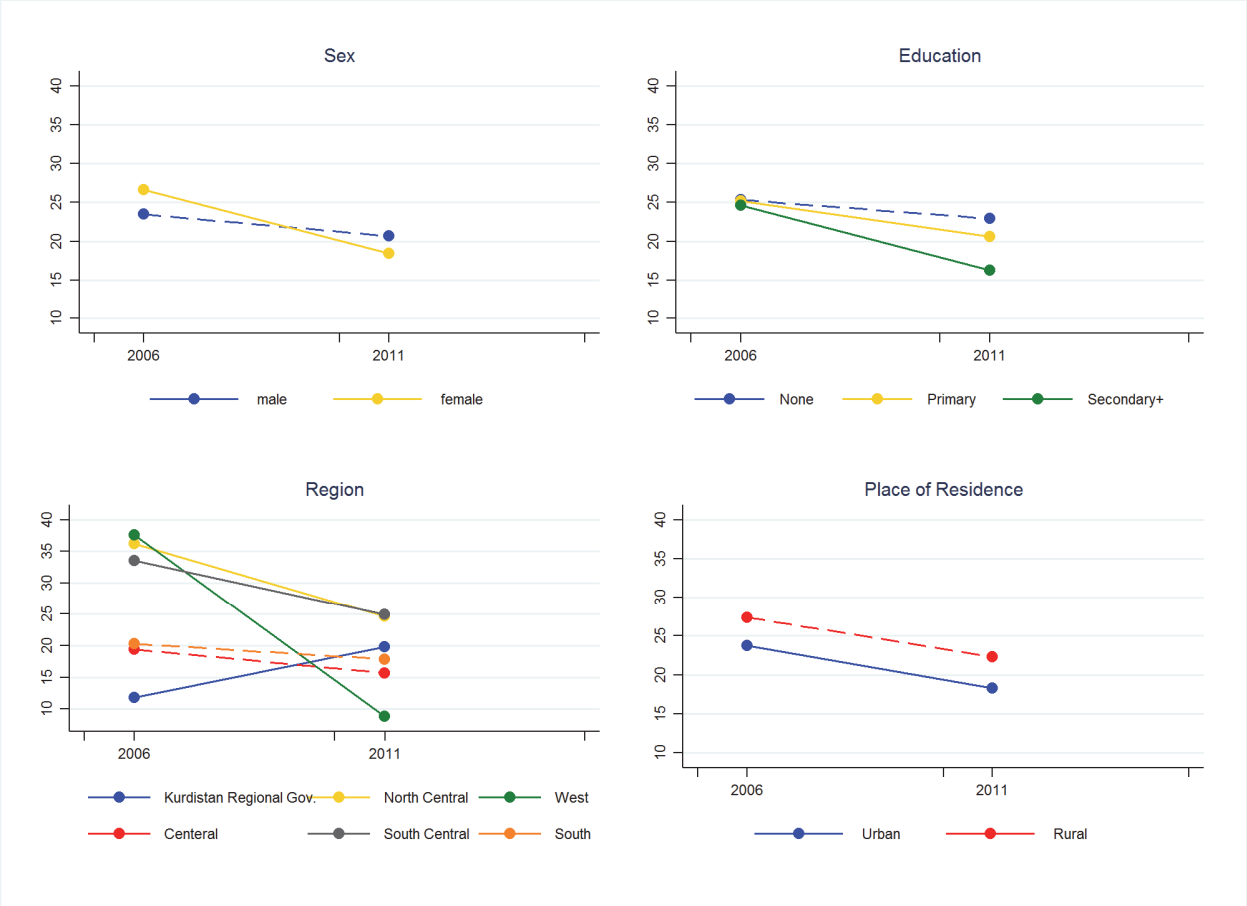
In 2006 and 2011, exclusive breastfeeding rates did not differ by mother's education. Between the two surveys, exclusive breastfeeding rates decreased significantly for children of women with primary and secondary or higher levels of education, but did not decline significantly for children of women with no education. There were no significant differences in the percent of children breastfed by wealth quintile. However, 23% of children under age 6 months from the poorest wealth quintile were exclusively breastfed compared to 17% of children in the richest wealth quintile.

Table Iraq.09: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	25.1 [22.5,27.8]		19.6 [17.6,21.7]		-5.5*
Child's sex					
Male	23.5 [20.1,27.2]		20.7 [18.1,23.5]		-2.8
Female	26.7 [23.1,30.6]		18.4 [15.8,21.4]		-8.2*
Mother's education					
None	25.4 [20.3,31.2]		22.9 [18.9,27.5]		-2.4
Primary	25.2 [21.6,29.2]		20.6 [17.9,23.5]		-4.6*
Secondary +	24.7 [20.4,29.5]		16.3 [13.0,20.3]		-8.3*
Wealth quintile					
Poorest			22.6 [19.3,26.2]		
Poorer			23.7 [19.4,28.7]		
Middle			16.6 [12.6,21.6]		
Richer			16.8 [12.5,22.1]		
Richest			16.6 [11.8,22.9]		
Place of residence					
Urban	23.7 [20.6,27.2]		18.3 [15.8,21.0]	*	-5.5*
Rural	27.4 [23.1,32.1]		22.3 [19.4,25.5]		-5.1
Region					
Kurdistan Regional Gov.	11.8 [7.4,18.2]	*	19.8 [15.8,24.6]	*	8.1*
North Central	36.3 [27.8,45.7]		24.7 [18.7,31.8]		-11.6*
West	37.6 [25.6,51.2]		8.8 [5.9,13.1]		-28.7*
Central	19.4 [14.4,25.7]		15.7 [12.0,20.3]		-3.7
South Central	33.5 [28.7,38.7]		25.0 [20.8,29.7]		-8.6*
South	20.3 [16.0,25.4]		17.9 [14.5,21.9]		-2.4

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.07: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Percentages and patterns of stunting remained consistent between the 2006 and 2011 surveys (21-22%) and by all characteristics in Table Iraq.10 except for region. In both surveys, stunting was more prevalent among children with less educated or uneducated mothers compared to mothers with a secondary or higher level of education. Stunting had an inconsistent relationship with wealth in 2011. While children in the poorest and poorer quintiles had the highest percent of stunting by wealth quintile, the lowest percent of stunted children were in the middle wealth quintile. Stunting was also more common among children who reside in rural areas than urban areas in both 2006 and 2011.

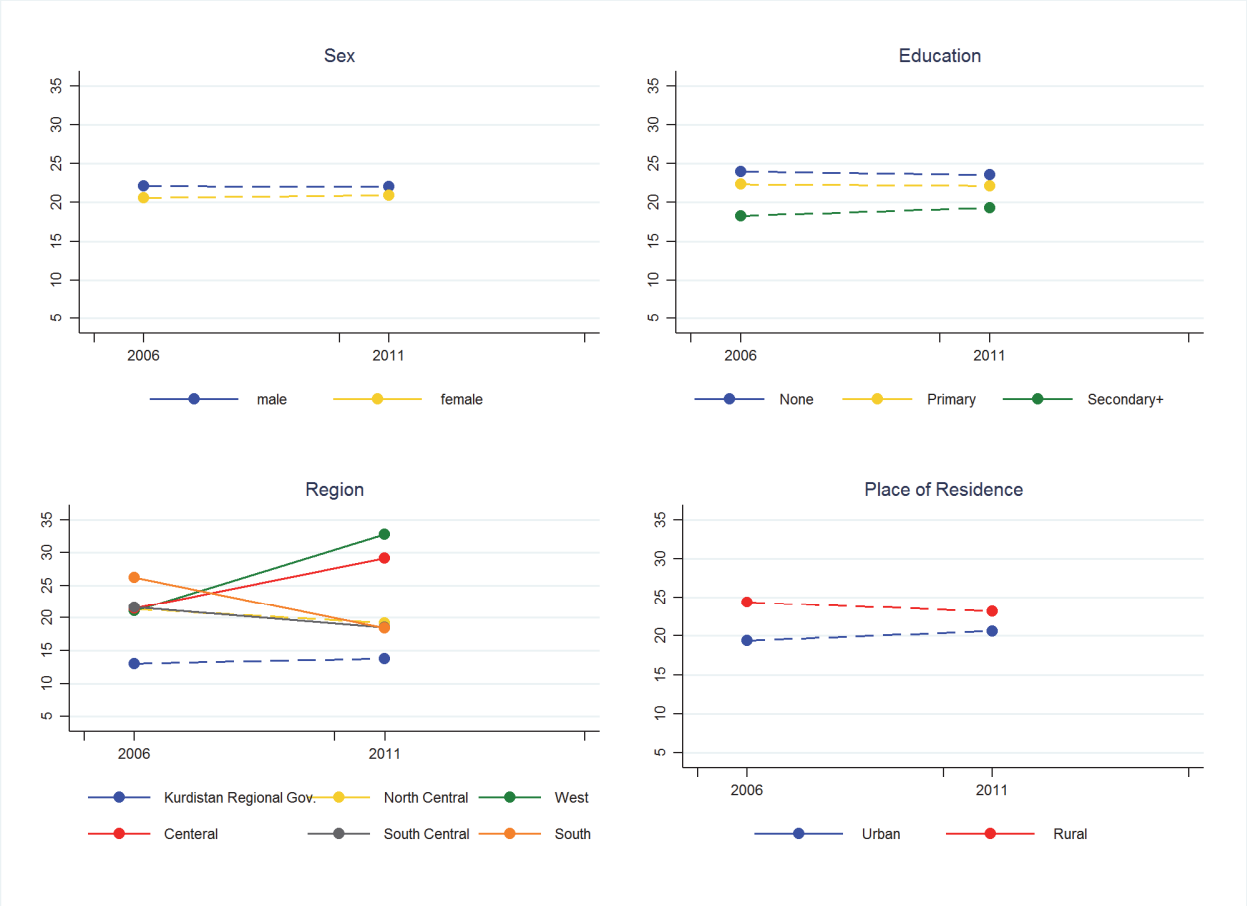
Figure Iraq.08 shows the patterns of stunting between the two surveys, and the significant changes that took place in some regions. While the South and South Central regions had significant declines in stunting, the West and Central regions had significant increases in stunting rates. The increase in stunting for the West Region was relatively large with an approximately 12 percentage point increase. In 2011, almost a third of children under age 5 in the West Region were found to be stunted.

Table Iraq.10: Percentage of children under age 5 who are stunted, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	21.4 [20.4,22.3]		21.5 [20.7,22.3]		0.1
Child's sex					
Male	22.1 [20.9,23.4]		22.0 [21.0,23.1]		-0.1
Female	20.6 [19.4,21.8]		20.9 [19.9,22.0]		0.3
Mother's education					
None	24.0 [22.1,26.0]	*	23.6 [22.2,25.0]	*	-0.4
Primary	22.3 [21.0,23.7]		22.1 [21.0,23.3]		-0.2
Secondary +	18.3 [16.8,19.8]		19.3 [17.9,20.8]		1.0
Wealth quintile					
Poorest			23.8 [22.5,25.1]	*	
Poorer			22.3 [20.7,24.0]		
Middle			19.4 [17.9,20.9]		
Richer			20.7 [18.8,22.8]		
Richest			20.4 [18.0,23.0]		
Place of residence					
Urban	19.4 [18.2,20.7]	*	20.6 [19.6,21.8]	*	1.2
Rural	24.4 [22.9,25.9]		23.2 [22.0,24.4]		-1.2
Region					
Kurdistan Regional Gov.	13.1 [11.4,15.0]	*	13.8 [12.5,15.2]	*	0.7
North Central	21.4 [18.8,24.2]		19.2 [17.0,21.7]		-2.1
West	21.1 [17.1,25.7]		32.8 [29.3,36.5]		11.7*
Central	21.4 [19.3,23.7]		29.2 [27.3,31.2]		7.7*
South Central	21.6 [20.1,23.3]		18.5 [17.1,20.0]		-3.1*
South	26.2 [24.3,28.1]		18.4 [17.0,19.9]		-7.8*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.08: Percentage of children under age 5 who are stunted, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Approximately 9% of children under age 5 who were overweight in 2006. This increased slightly but significantly to 11% in 2011. As shown in Table Iraq.11, the proportion of overweight children increased between the two surveys by some characteristics. In 2006, significantly more girls than boys were overweight, although by 2011, there was no difference in the proportion of overweight children by sex. This was due to a significant increase between the surveys in boys and no significant increase for girls, which reduced the gap between the sexes. While there were no differences in the proportion of overweight children by mother's education in 2006, in 2011 the proportion of overweight children increased with mother's education. The proportion of children under age 5 who were overweight increased with wealth as well.

In 2006, a larger percentage of rural children were overweight than urban children, although in 2011, there was approximately the same percentage of overweight children in urban and rural residences. This is a result of a significant increase in overweight children in urban areas between 2006 and 2011. The percentage of overweight children in rural areas did not change significantly between the two surveys.

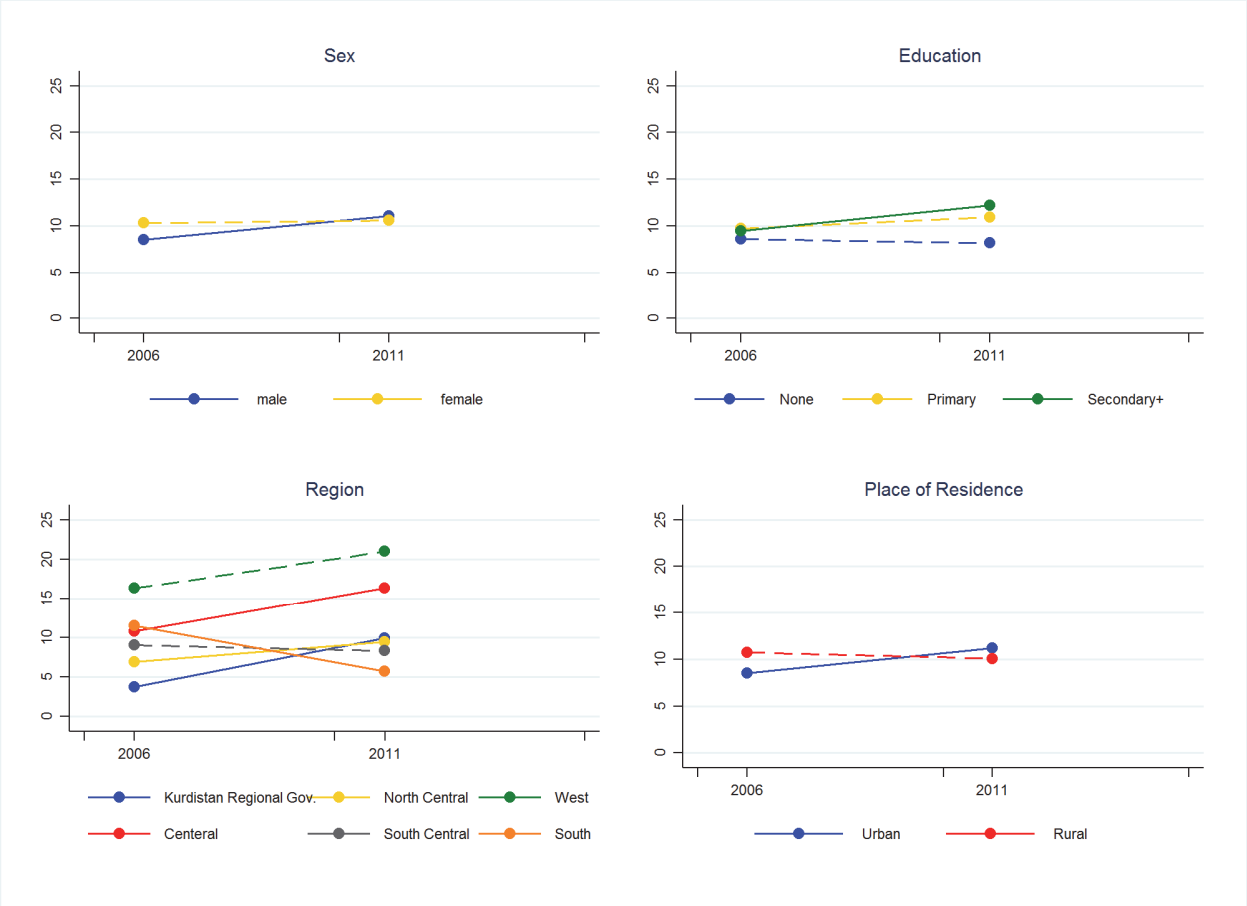
The percentage of overweight children remained the same or increased between 2006 and 2011 for all regions, except for the South Region, which had a significant decline in the number of overweight children under age 5 between the two surveys. In 2006, the South Region had the second highest percentage of overweight children at 12%. By 2011, the South Region had the lowest percentage among the regions of 6%, as shown in Figure Iraq.09.

Table Iraq.11: Percentage of children under age 5 who are overweight, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	9.4 [8.7,10.2]		10.8 [10.2,11.5]		1.4*
Child's sex					
Male	8.5 [7.7,9.5]	*	11.1 [10.3,11.9]		2.5*
Female	10.3 [9.4,11.3]		10.6 [9.7,11.5]		0.3
Mother's education					
None	8.6 [7.3,10.0]		8.2 [7.3,9.1]	*	-0.4
Primary	9.7 [8.8,10.8]		10.9 [10.0,11.9]		1.2
Secondary +	9.4 [8.3,10.6]		12.2 [11.1,13.4]		2.8*
Wealth quintile					
Poorest			8.2 [7.5,9.0]	*	
Poorer			10.6 [9.5,11.9]		
Middle			10.6 [9.4,12.1]		
Richer			12.3 [10.8,13.9]		
Richest			14.1 [12.1,16.2]		
Place of residence					
Urban	8.5 [7.7,9.5]	*	11.2 [10.4,12.1]		2.7*
Rural	10.7 [9.6,12.0]		10.1 [9.2,11.1]		-0.7
Region					
Kurdistan Regional Gov.	3.7 [2.9,4.8]	*	10.0 [8.7,11.4]	*	6.2*
North Central	6.9 [5.6,8.6]		9.4 [8.2,10.9]		2.5*
West	16.3 [12.5,21.0]		21.0 [16.9,25.7]		4.7
Central	10.8 [9.1,12.7]		16.4 [14.8,18.1]		5.6*
South Central	9.0 [8.0,10.3]		8.3 [7.4,9.3]		-0.7
South	11.5 [10.0,13.1]		5.8 [4.7,7.0]		-5.7*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Iraq.09: Percentage of children under age 4 who are overweight, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Under-5 Mortality

Approximately 40 children under age 5 died for every 1000 live births in both surveys. Under-5 mortality rates declined between the 2006 and 2011 surveys and by most characteristics in Table Iraq.12, other than two regions with higher under-5 mortality in 2011 than 2006. All changes between the surveys were not significant.

Patterns of under-5 mortality by mother's education remained consistent between the two surveys. In both 2006 and 2011, women with a secondary education or more experienced lower rates of under-5 mortality than women with a primary or no education. Under-5 mortality declined with increasing wealth. However, the middle three wealth quintiles experienced the same under-5 mortality rates.

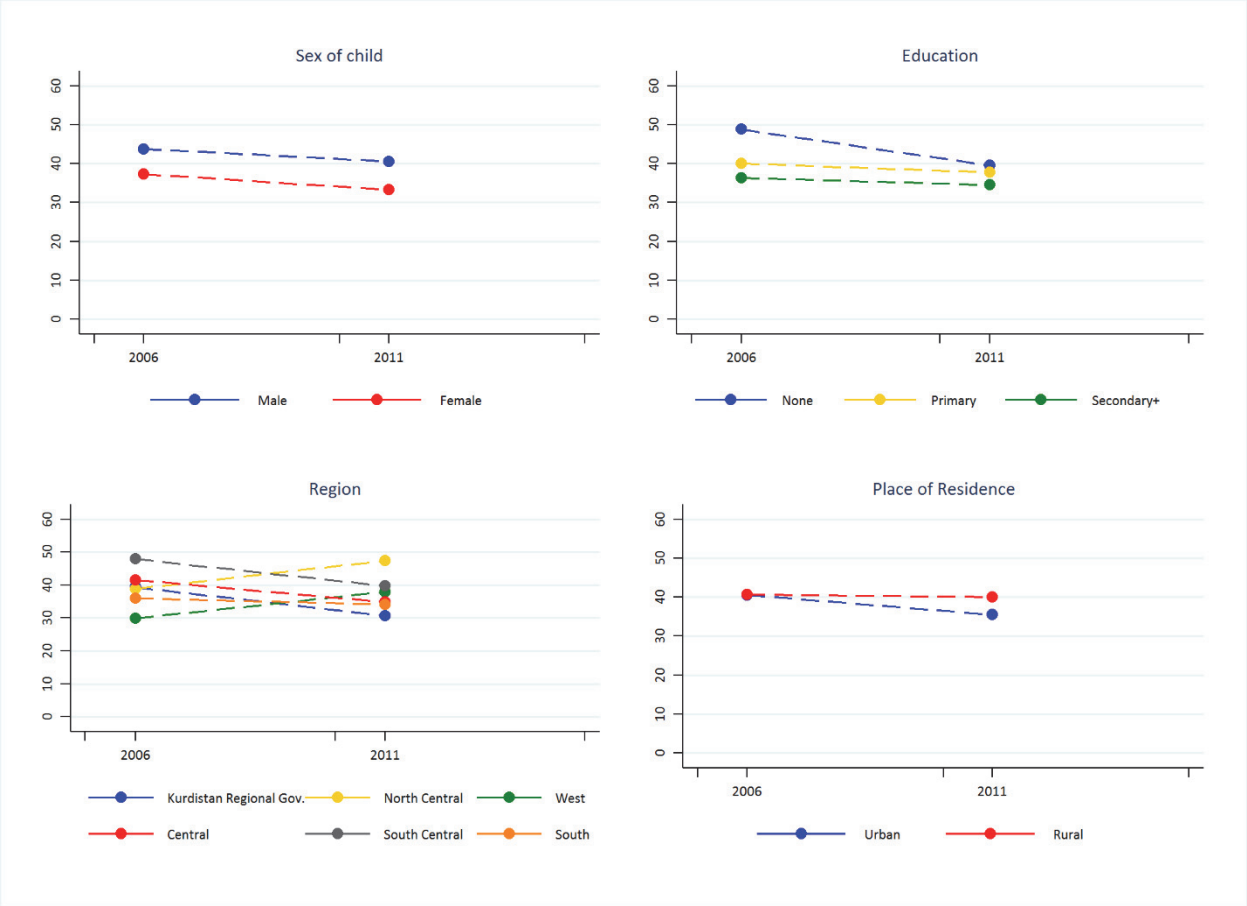
In 2006, women in urban and rural residences experienced the same rate of under-5 mortality, although by 2011, rural women had a higher rate of under-5 mortality due to a decline in urban rate. While the Kurdistan, South Central, and Central regions had substantial declines in under-5 mortality, the under-5 mortality rate of the North Central and West regions increased between 2006 and 2011. As shown in Figure Iraq.10, the West Region had the lowest under-5 mortality rate of all regions in 2006. By 2011, the West's under-5 mortality rate exceeded the Kurdistan, Central, and South regions. The North Central Region had a comparable under-5 mortality rate to Kurdistan in 2006. By 2011, the North Central Region had the highest under-5 mortality rate (47 deaths for every 1000 live births) and Kurdistan had the lowest (31 deaths/1000 live births).

Table Iraq.12: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4

	2006	2011	
Variable	U5M [C.I.]	U5M [C.I.]	Diff[1]
Total	41 [37,45]	37 [34,40]	-4
Child's sex			
Male	44 [39,49]	41 [36,45]	-3
Female	37 [32,43]	33 [30,37]	-4
Mother's education			
None	49 [41,58]	40 [34,46]	-9
Primary	40 [35,46]	38 [34,42]	-2
Secondary +	36 [30,44]	35 [29,41]	-2
Wealth quintile			
Poorest		39 [35,45]	
Poorer		37 [31,43]	
Middle		37 [30,44]	
Richer		37 [30,45]	
Richest		34 [26,46]	
Place of residence			
Urban	41 [36,46]	35 [32,40]	-5
Rural	41 [35,47]	40 [36,44]	-1
Region			
Kurdistan Regional Gov.	39 [31,49]	31 [26,37]	-9
North Central	39 [29,53]	47 [39,58]	9
West	30 [19,46]	38 [28,52]	8
Central	42 [33,52]	35 [28,43]	-7
South Central	48 [41,56]	40 [34,46]	-8
South	36 [30,44]	34 [29,40]	-2

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Iraq.10: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Iraq 2006 MICS3 and 2011 MICS4



Iraq Summary

Maternal health indicators in Iraq changed inconsistently between 2006 and 2011. The TFR increased from 4.3 to 4.5 births per woman, and there was an overall decrease in modern contraceptive use. However, West Region experienced a significant increase in TFR and a significant increase in modern contraceptive use. Traditional contraceptive use increased from 11% to 17%, with significant increases by all subgroups except for West Region.

In 2011, half of women had the recommended four or more ANC visits during their most recent pregnancy, although there were disparities by all background characteristics. The poorest wealth quintile and the richest wealth quintile differed by 30-percentage points (35% vs. 65%), which indicated a large disparity in Iraq's ANC coverage.

All delivery indicators improved between 2006 and 2011. Delivery with an SBA increased from 55% to 91% for all regions. Increases were also significant across subgroups, declined with age and increased with education and wealth (2011 data only). Health facility delivery also increased, but by a smaller margin than SBA delivery. In 2011, 77% of women delivered in a health facility, which showed the same subgroup patterns as SBA delivery. In West Region, SBA delivery increased, while health facility delivery did not. This suggested that deliveries by an SBA may be occurring outside of a health facility in that region. In 2011, 22% of women delivered by C-section.

Child health and nutrition indicators in Iraq remained consistent or worsened between 2006 and 2011. Care-seeking for children under age 5 with ARI symptoms declined from 82% to 74%, while exclusive breastfeeding of children under age 6 months declined from 25% to 20%. Stunting remained consistent at 21% and 22%. However, stunting increased significantly in West Region. The Central Region also had a significant increase of eight-percentage points, while the South Central and South regions experienced a significant decline in the percentage of children who were stunted. The percent of children who were overweight increased from 9% to 11% between 2006 and 2011. By region, only the South Region saw a significant decline in the percentage of overweight children. Finally, under-5 mortality declined slightly, but insignificantly, from 41/1000 to 37/1000 live births overall. The decline, although not significant overall or by any subgroup, was largest among mothers with no education, and those residing in Kurdistan.

Jordan

In 2015, Jordan had an estimated total population of 8.2 million people, with 84% living in urban areas (Population Reference Bureau 2016). Over the past decade, the public health infrastructure in Jordan has experienced a number of unique challenges from a surge in refugees and displaced persons in the region. The war in Syria and the expansion of the so-called "Islamic State" (ISIS) in Iraq have fueled the growth of the refugee population in Jordan. Although the increase in refugees has strained the Jordanian health system, the majority of reproductive, maternal, and child health indicators have improved or remained constant over the past decade. Life expectancy at birth is 73 years for males and 76 years for females, which is an increase from 2007 (Population Reference Bureau 2016). Classified by the World Bank as an upper middle income country, Jordan has made significant strides over the past decade toward improving its economy, healthcare sector, and infrastructure (World Bank 2016b).

Over the past decade, some maternal and reproductive health indicators in Jordan have shown improvement while others remained unchanged. The maternal mortality ratio (MMR) has decreased slightly from 62 to 58 maternal deaths per 100,000 live births between 2005 and 2015 (WHO et al. 2016b). A 2012 study of maternal mortality in Jordan found that 52.6% of maternal deaths were associated with substandard care and the remainder with delays in seeking and obtaining care (Okour et al. 2012). The percentage of births attended by a skilled birth attendant (SBA) remained steady at 100% since 2005 (World Bank 2017b). Antenatal coverage is nearly universal with 99% of women receiving at least one antenatal care (ANC) visit and 95% of women four or more visits (World Bank 2017b). The percentage of births considered "closely spaced," defined as births that occur within 24 months of a preceding birth, has remained steady since 2002 at approximately 32% (Assaf and Bradley 2014). A 2014 study that used population based survey data found that the prevalence of cesarean delivery increased from 18% in 2002 to 30% in 2012 (Al Rifai 2014). The authors found that much of the increase in cesarean deliveries was attributed to normal weight, singleton births in university teaching hospitals (Al Rifai 2014). This surge in cesarean delivery among low-risk pregnancies has been a growing concern.

Infant and child health have made gains over the past 10 years. The infant mortality rate has declined from 19.3 in 2007 to 15.4 infant deaths per 1,000 live births in 2015 (World Bank 2016b). A 2016 national study of neonatal mortality, defined as death within the first 28 days of life, found an overall neonatal mortality rate of 14.9 deaths per 1,000 live births (Batieha et al. 2016). The leading causes of neonatal mortality in Jordan were congenital anomalies, multiple births, and unexplained immaturity (Batieha et al. 2016). Under-5 mortality among Jordanian children has declined in recent years but despite these gains, there is substantial inequality across wealth quintiles (World Bank 2017b). Infant and child nutrition indicators have also improved in recent years, with decreases in the proportion of stunted or wasted children (Department of Statistics [Jordan] and ICF International 2013). A 2014 study that used a convenience sample of 570 mother-infant dyads found that the average duration of exclusive breastfeeding among Jordanian mothers was only 1 month (Abuidhail et al. 2014). A 2014 survey also found low levels of exclusive breastfeeding among Syrian refugees in Jordan (UNHCR et al. 2016). While the percent of children who suffer from undernutrition has decreased, the problem of over-nutrition among children is a growing concern. A 2009 survey found that nearly 20% of Jordanian children age 6-12 were overweight and 5.6% were obese (Khader et al. 2009). A similar survey conducted in 2016 among 2,700 Jordanian children age 6-17 found that 17.3% were overweight and 15.7% were obese (Zayed et al. 2016).

Over the past decade, the refugee population in Jordan has grown substantially in response to sustained instability and conflict in the region. Although refugee population estimates vary, in 2016 Jordan was home to 665,000 registered refugees according to the UN Refugee Agency (UNHCR 2017a). The vast majority of these refugees are Syrian with a smaller proportion from Iraq. Jordan is among the leading refugee hosts in the world, both in terms of the total number of refugees hosted and the per capita ratio (UNHCR 2017a).

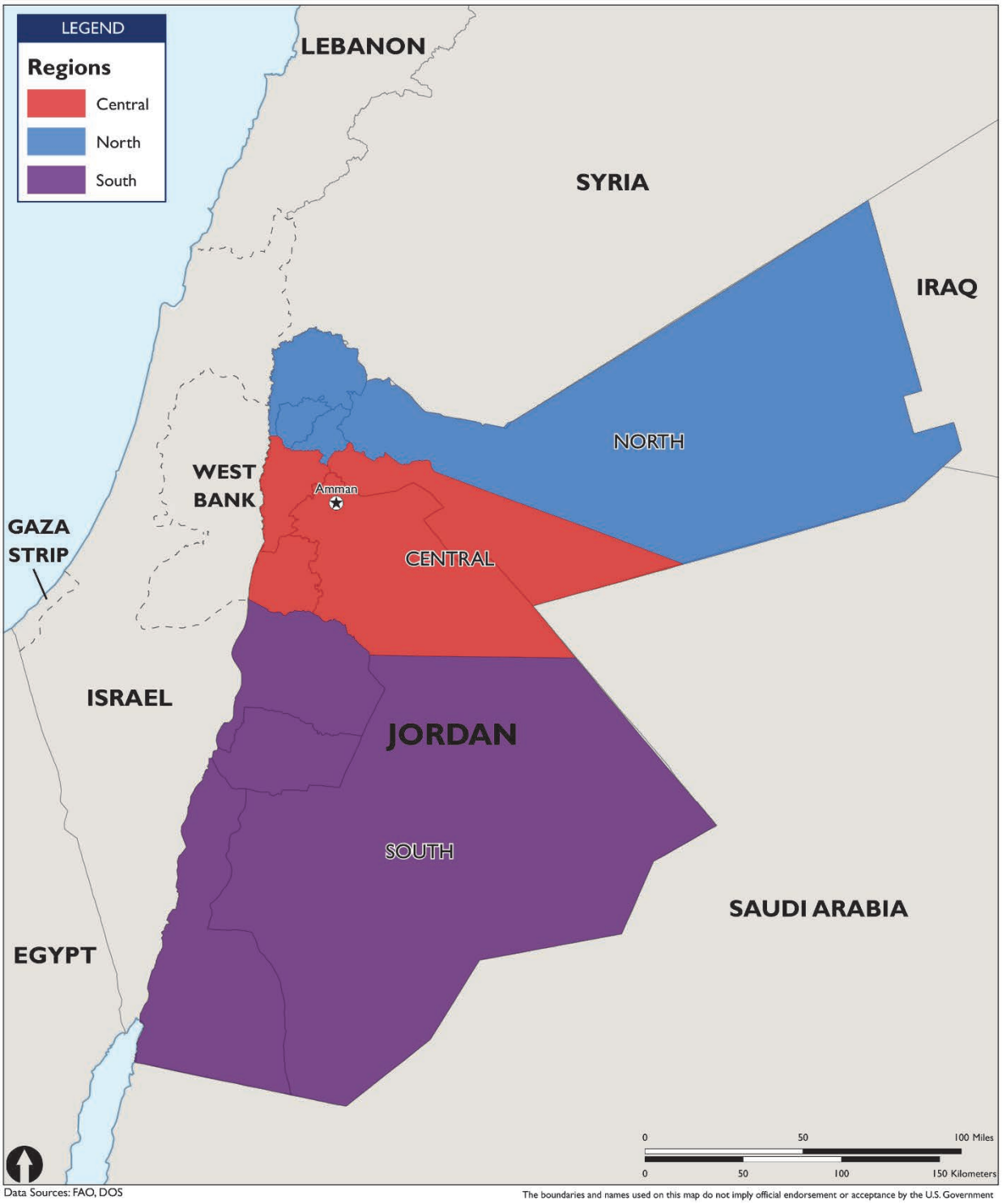
Jordan is home to the Zaatari refugee camp, the fifth largest in the world that is home to over 80,000 primarily Syrian refugees (UNICEF 2016c). In 2016, 90% of Syrian refugees in Jordan were living below the poverty line (UNHCR 2017b).

The majority of registered refugees in Jordan are women and children, which makes access to primary, reproductive, obstetric, and gynecological care paramount in Jordanian refugee camps. Syrian refugees who enter Jordan have high fertility rates, with an average of five children per family (Gavlak 2013). A report from the Zaatari refugee camp found that 95% of deliveries were vaginal and 5% were emergency cesarean sections (Bouchghoul et al. 2015). Over a six-month period, the Zaatari camp maternity unit provided 3,255 antenatal consultations and 299 deliveries (Bouchghoul et al. 2015). Immunization rates among children living in refugee camps is approximately 80%, with significant coverage gains in recent years (Ravishankar and Gausman 2016). Although the number of refugees that need care continues to grow, a 2016 survey found that Syrian refugees who live outside of camps in Jordan had high access to healthcare with 91% of those who sought care receiving it (Doocy et al. 2016). Just under half of those who sought medical care reported out-of-pocket expenditures (Doocy et al. 2016). However, as the authors note, access to care for refugees has probably deteriorated since this survey was conducted in response reduced healthcare subsidies and food vouchers from the Jordanian government (Doocy et al. 2016). Among Syrian refugees, 43% of households reported having at least one household member over age 18 with a chronic disease (Ravishankar and Gausman 2016). In 2014, the Centers for Disease Control and Prevention, in partnership with several other international organizations, conducted a nutritional survey at the Zaatari camp among Syrian refugees (Bilukha et al. 2014). The survey found little evidence of malnutrition but did find a high prevalence of anemia among children and non-pregnant women of reproductive age, with both exceeding 40% (Bilukha et al. 2014).

The state of healthcare and the health infrastructure in Jordan has evolved over the past decade in response to the influx of refugees from the Syria and Iraq. The two largest public health insurance programs cover approximately 60% of the Jordanian population (Ravishankar and Gausman 2016). Since the influx of refugees began in the mid-2000s, health care spending in Jordan has increased across multiple sectors; this includes a 45% increase in primary care and a 15% increase in hospital-based care (Ravishankar and Gausman 2016). However, health care expenditure, as a percent of gross domestic product (GDP), has decreased from 9.5% in 2009 to 7.4% in 2014 (World Bank 2016b). The number of hospital beds per 1,000 people has remained steady at 1.8 since 2009 (World Bank 2016b). Among households of Syrian refugees, there has been a dramatic increase in out-of-pocket spending on healthcare. The 2014 and 2015 Health Access and Utilization Surveys show that the percentage of refugee women who reported incurring no costs for delivering a baby since entering Jordan dropped from 75% in 2014 to 49% in 2015 (Ravishankar and Gausman 2016; UNICEF 2016c). This may be due to a 2014 policy change that reduced the healthcare subsidies provided by the Jordanian government to refugees (Ravishankar and Gausman 2016). Progress is being made toward improving the national public health infrastructure. In 2015, scale-up of a national public health surveillance system began and now includes 269 healthcare facilities across the country (Sheikhali et al. 2016). The surveillance system is completely electronic and is designed to allow for easy collection, reporting, and analysis of data (Sheikhali et al. 2016).

The results discussed below for Jordan used data from the 2007 and 2012 Demographic and Health Surveys. A more recent 2017 DHS survey will be completed by December 2017.

Figure Map 4: Jordan Map



Note: See Appendix for a description of regions.

Total Fertility Rate

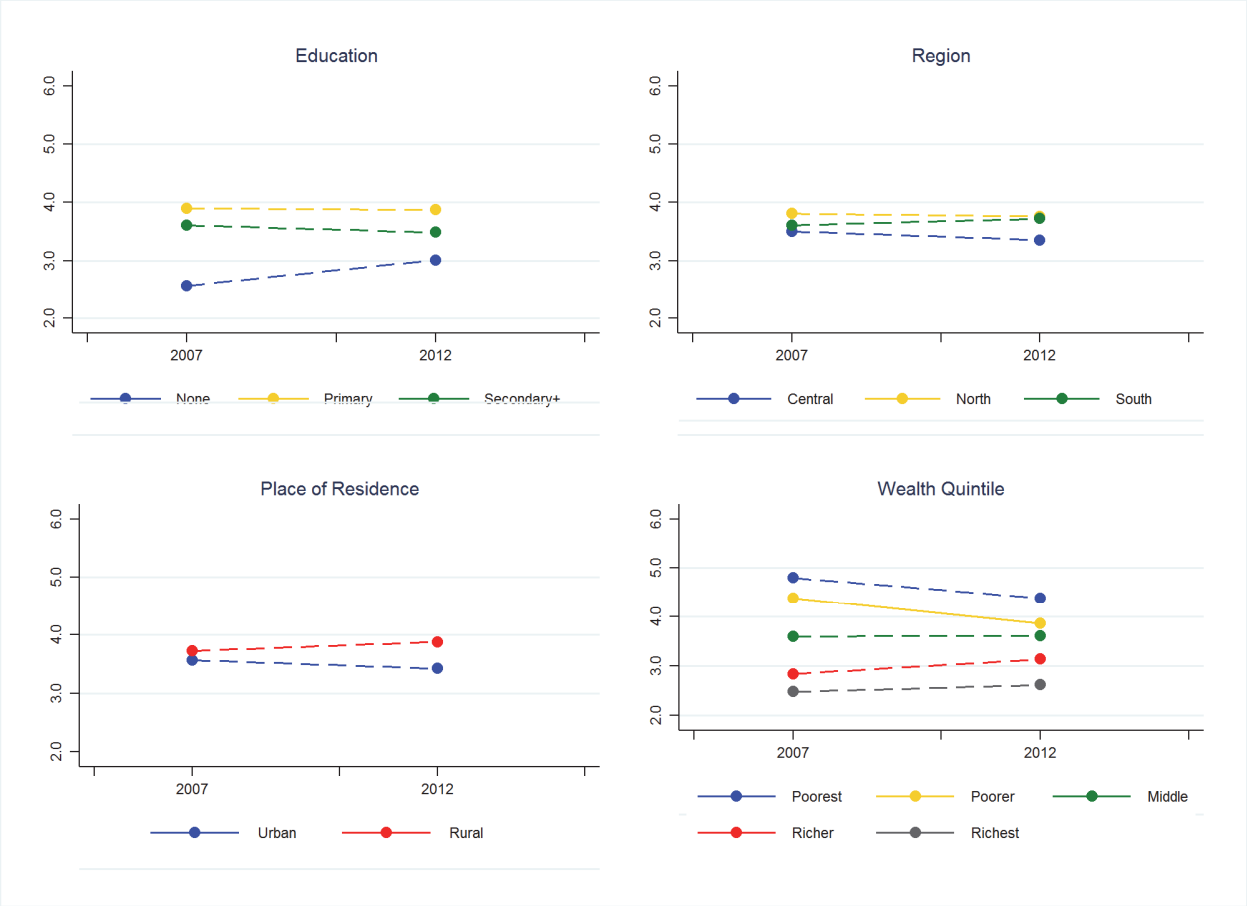
Shown in Table Jordan.01, the total fertility rate (TFR) was consistent between the 2007 and 2012 surveys, with 3.6 in 2007 and 3.5 in 2012. In both surveys, the TFR declined as wealth increased. Women in the poorer wealth quintile had a significant reduction in TFR between 2007 and 2012 (4.4 to 3.9), although there were no significant differences or changes by any other background characteristics between the two surveys. In both surveys, the North Region had the highest TFR (3.8) and the Central Region has the lowest (3.5 in 2007 and 3.4 in 2012). For both surveys, the highest TFR was found for women with primary education and the lowest for women with no education.

Table Jordan.01: Total fertility rate for the 3 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007	2012	
	TFR [C.I.]	TFR [C.I.]	Diff[1]
Total	3.6 [3.5,3.8]	3.5 [3.4,3.7]	-0.1
Education			
None	2.6 [2.1,3.1]	3.0 [2.5,3.7]	0.4
Primary	3.9 [3.4,4.5]	3.9 [3.4,4.5]	0.0
Secondary +	3.6 [3.5,3.8]	3.5 [3.3,3.6]	-0.1
Wealth quintile			
Poorest	4.8 [4.5,5.1]	4.4 [4.1,4.7]	-0.4
Poorer	4.4 [4.1,4.7]	3.9 [3.6,4.1]	-0.5*
Middle	3.6 [3.4,3.9]	3.6 [3.4,3.9]	0.0
Richer	2.8 [2.6,3.1]	3.1 [2.9,3.4]	0.3
Richest	2.5 [2.2,2.8]	2.6 [2.4,2.9]	0.1
Place of residence			
Urban	3.6 [3.4,3.7]	3.4 [3.3,3.6]	-0.1
Rural	3.7 [3.6,3.9]	3.9 [3.7,4.1]	0.2
Region			
Central	3.5 [3.3,3.7]	3.4 [3.2,3.5]	-0.1
North	3.8 [3.6,4.0]	3.8 [3.6,4.0]	0.0
South	3.6 [3.4,3.8]	3.7 [3.5,3.9]	0.1

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Jordan.01: Total fertility rate for the 3 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS



Contraceptive Use

The percentage of women who use modern contraception in Jordan remained relatively unchanged between the 2007 and 2012 surveys (both 42%). However, there were several exceptions by characteristics, as shown in Table Jordan.02. Women age 45-49 had a significant and relatively large reduction in current modern contraceptive use from 40% to 33%. Modern contraceptive use also differed significantly by age group in both 2007 and 2012. The pattern remained the same between the two surveys—increasing use with increasing age category, except for the oldest women.

In both surveys, current modern contraceptive use increased with level of education. Use did not vary significantly by age in 2007, although it did in 2012. There was a decline in use between the surveys for women with no or primary education, but these declines were not significant. In contrast, there was significant variation by wealth category in 2007, but not in 2012. There was a significant increase in use among the poorest women between the two surveys. Figure Jordan.02 shows the convergence of contraceptive use by wealth quintile between 2007 and 2012.

Urban and rural women had statistically different percentages of contraceptive use in 2007. There was a significant increase in use by rural women, and the differences between the urban and rural women were no longer statistically significant in 2012. Regional data showed a similar leveling between 2007 and 2012, which was due to a significant increase in modern contraceptive use by women in the North Region.

Table Jordan.01: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	41.9 [40.4,43.5]		42.3 [40.9,43.8]		0.4
Age					
15-24	30.0 [26.4,34.0]	*	28.5 [24.6,32.7]	*	-1.6
25-34	41.6 [39.5,43.7]		42.0 [39.3,44.7]		0.4
35-44	47.6 [45.1,50.1]		51.0 [48.1,53.9]		3.4
45-49	40.0 [36.0,44.1]		33.1 [29.0,37.5]		-6.9*
Education					
None	36.1 [30.5,42.1]		31.8 [24.5,40.0]	*	-4.3
Primary	39.5 [35.0,44.2]		36.6 [31.6,41.9]		-2.9
Secondary +	42.4 [40.7,44.0]		43.0 [41.4,44.7]		0.7
Wealth quintile					
Poorest	34.7 [32.3,37.3]	*	40.6 [37.3,43.9]		5.8*
Poorer	38.3 [35.1,41.6]		41.8 [39.0,44.7]		3.5
Middle	41.0 [38.0,44.2]		41.1 [37.7,44.5]		0.0
Richer	49.4 [45.8,53.1]		45.0 [41.6,48.4]		-4.5
Richest	46.8 [43.0,50.8]		43.1 [39.0,47.3]		-3.8
Place of residence					
Urban	43.0 [41.2,44.8]	*	42.7 [41.1,44.4]		-0.2
Rural	36.0 [33.6,38.4]		40.2 [38.0,42.4]		4.2*
Region					
Central	44.0 [41.9,46.2]	*	42.7 [40.7,44.8]		-1.3
North	37.9 [35.6,40.3]		42.3 [40.3,44.2]		4.3*
South	38.9 [36.8,41.1]		39.5 [37.1,42.0]		0.6

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Jordan 2007 and 2012 DHS

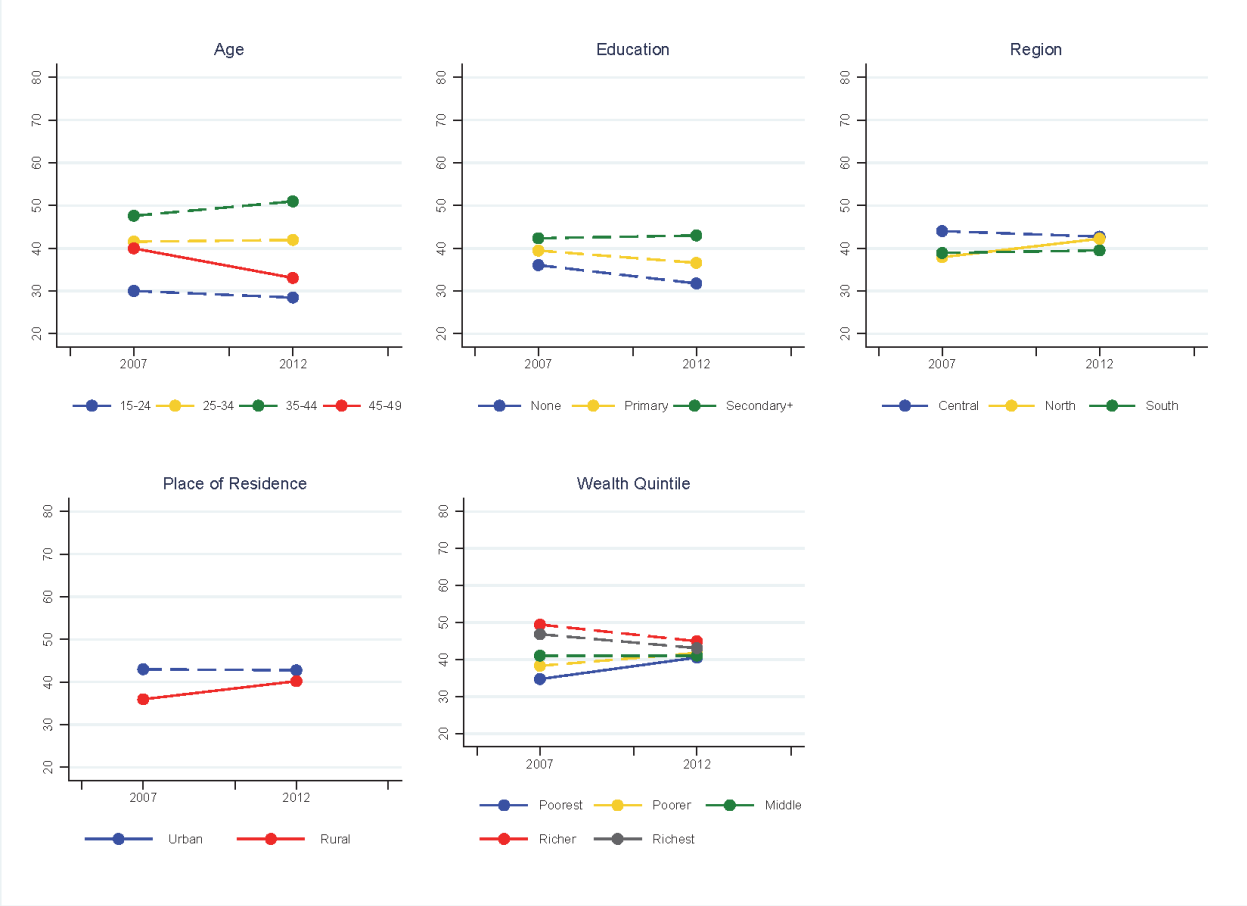


Table Jordan.03 shows that the current use of traditional contraceptive methods increased significantly between 2007 and 2012 from 15% to 19%. Traditional contraceptive use increased significantly between the two surveys for several subgroups of women. There was also convergence in use within several characteristics shown in Figure Jordan.03. Women age 25-34 had significant increases in traditional contraceptive use from 15% to 20%. Changes by age were otherwise insignificant. Women age 15-24 had the lowest traditional contraceptive use in both years, although there were no statistical differences in use by age in 2012.

Traditional contraceptive use varied by education in 2007, although in 2012 the difference by education was not significant. All education levels had increases in use between the two surveys, and this difference was statistically significant among women with a secondary or higher level of education.

As shown in Figure Jordan.03, use by wealth quintile varied significantly in 2007, but converged by 2012. This was due primarily to significant increases in use by all wealth categories except for the middle quintile.

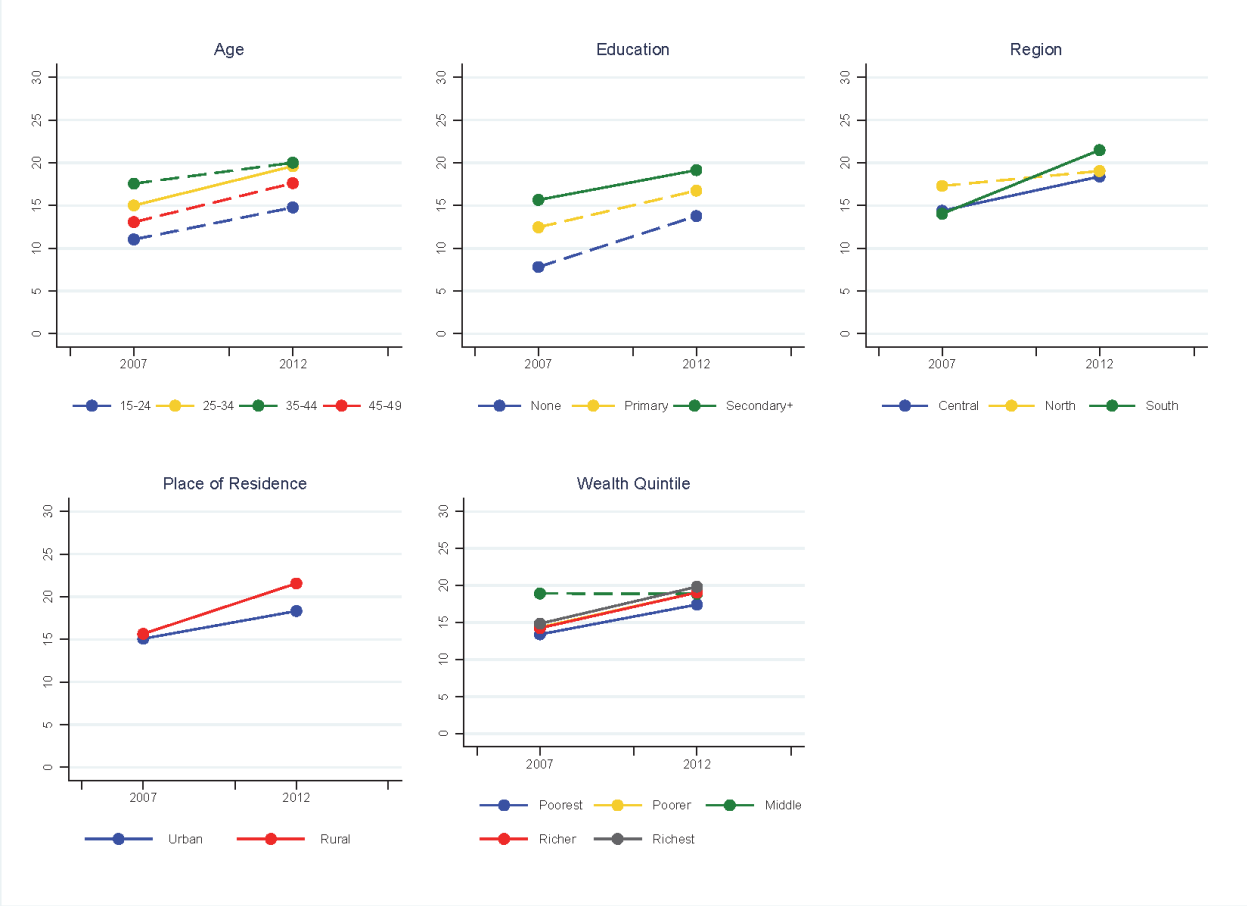
Use in both urban and rural areas increased between the two points in time, but increased more for women in rural areas. By 2012, there was a significant difference in traditional contraceptive use in urban and rural areas. The Central and South regions had significant increases in traditional contraceptive use, while the North Region trended upward, but was relatively consistent between 2007 and 2012.

Table Jordan.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	15.2 [14.2,16.2]		18.9 [17.8,19.9]		3.7*
Age					
15-24	11.0 [8.6,14.1]	*	14.8 [12.0,18.0]		3.7
25-34	15.0 [13.4,16.8]		19.6 [17.8,21.6]		4.6*
35-44	17.6 [15.7,19.6]		20.0 [18.1,22.1]		2.4
45-49	13.1 [10.3,16.4]		17.6 [14.4,21.4]		4.6
Education					
None	7.8 [5.2,11.7]	*	13.8 [9.0,20.6]		6.0
Primary	12.5 [9.2,16.6]		16.8 [12.8,21.6]		4.3
Secondary +	15.7 [14.6,16.8]		19.1 [18.1,20.3]		3.5*
Wealth quintile					
Poorest	13.4 [11.5,15.5]	*	17.4 [15.2,19.8]		4.0*
Poorer	14.3 [12.5,16.4]		19.1 [16.7,21.7]		4.7*
Middle	18.9 [16.4,21.7]		18.9 [16.4,21.6]		0.0
Richer	14.3 [11.9,17.0]		19.1 [16.4,22.0]		4.8*
Richest	14.9 [12.5,17.6]		19.8 [16.8,23.3]		5.0*
Place of residence					
Urban	15.1 [14.0,16.2]		18.3 [17.2,19.5]	*	3.2*
Rural	15.6 [13.8,17.7]		21.6 [19.7,23.6]		5.9*
Region					
Central	14.4 [13.1,15.8]	*	18.4 [17.0,19.9]		4.0*
North	17.3 [15.8,19.0]		19.0 [17.5,20.7]		1.7
South	14.0 [12.7,15.6]		21.5 [19.8,23.3]		7.5*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Jordan 2007 and 2012 DHS



Antenatal Care

Table Jordan.04 shows that the percentage of women with four or more ANC visits for their most recent pregnancy within the 2 years before the survey remained relatively unchanged between the two surveys (94%). There were differences within each survey by education in both 2007 and 2012. In both years, the percent of ANC visits increased with level of education. There was a similar trend by wealth quintile in 2007 and 2012.

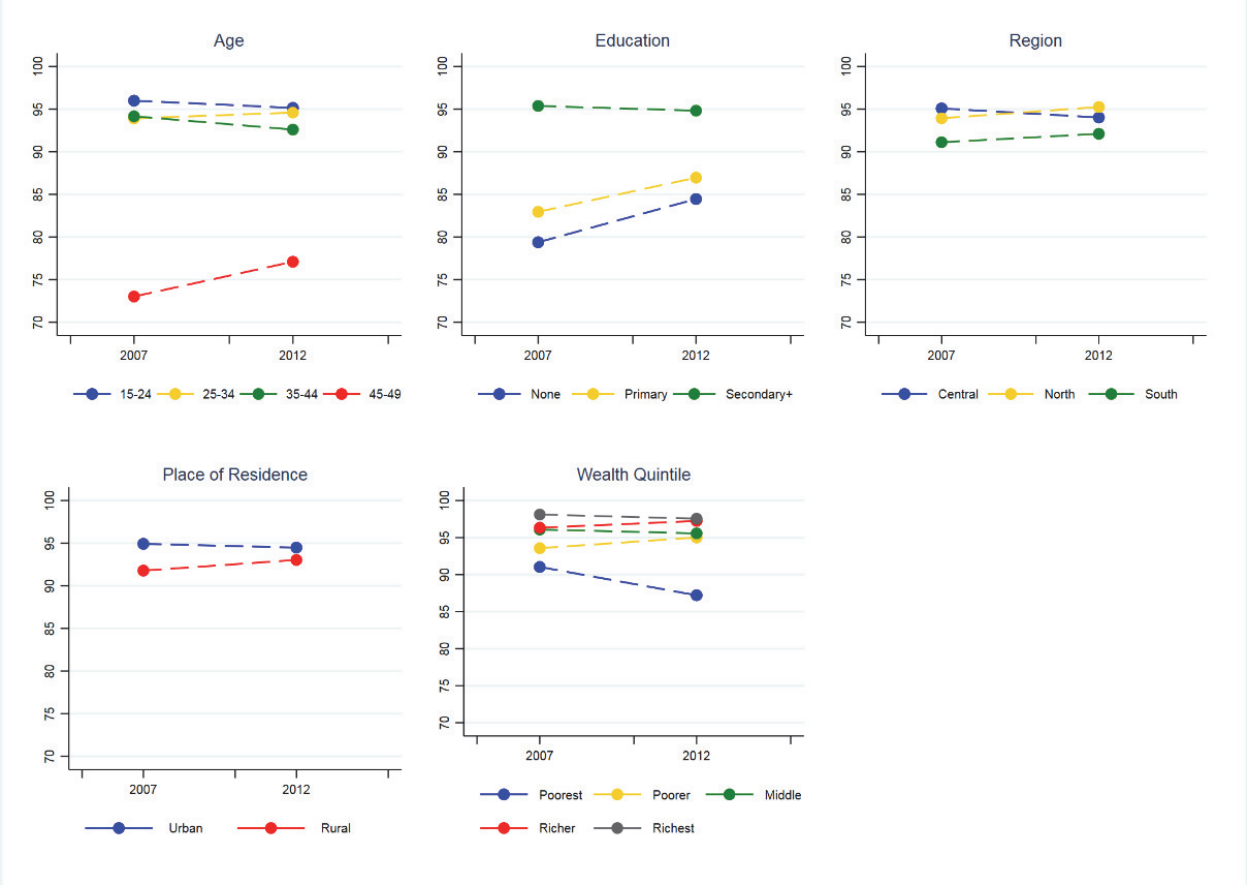
In 2007, a significantly higher percent of women in urban areas had four or more ANC visits than women in rural areas. However, by 2012 the differences between urban and rural women was not significant. There were also significant differences by region in 2007, but not in 2012.

Table Jordan.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	94.4 [93.2,95.3]		94.2 [92.7,95.4]		-0.2
Age					
15-24	96.0 [93.4,97.6]	*	95.1 [92.0,97.1]		-0.8
25-34	93.9 [92.3,95.2]		94.6 [92.6,96.1]		0.7
35-44	94.2 [91.7,95.9]		92.6 [88.4,95.4]		-1.6
45-49	73.0 [10.3,98.5]		77.1 [27.0,96.8]		4.1
Education					
None	79.4 [64.2,89.2]	*	84.5 [74.1,91.2]	*	5.1
Primary	83.0 [73.8,89.4]		87.0 [78.8,92.3]		4.0
Secondary +	95.4 [94.3,96.3]		94.8 [93.2,96.1]		-0.6
Wealth quintile					
Poorest	91.0 [88.0,93.4]	*	87.2 [82.7,90.7]	*	-3.8
Poorer	93.6 [90.7,95.6]		95.0 [92.3,96.8]		1.4
Middle	96.1 [94.1,97.4]		95.6 [92.6,97.4]		-0.5
Richer	96.3 [93.0,98.1]		97.2 [93.3,98.9]		0.9
Richest	98.1 [94.4,99.4]		97.6 [90.1,99.4]		-0.6
Place of residence					
Urban	94.9 [93.6,96.0]	*	94.5 [92.6,95.9]		-0.4
Rural	91.8 [89.8,93.4]		93.0 [90.7,94.8]		1.2
Region					
Central	95.1 [93.4,96.3]	*	94.0 [91.6,95.8]		-1.1
North	93.9 [91.9,95.5]		95.3 [93.4,96.6]		1.3
South	91.1 [88.6,93.1]		92.1 [89.6,94.1]		1.0

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS



Delivery

Nearly all women gave birth with assistance from an SBA in the 2 years before the surveys in 2007 and 2012, as shown in Table Jordan.05. In both surveys, there were slight, but significant differences in SBA use by level of education. A lower percent of women with no education gave birth with an SBA than women with a primary or secondary or higher level of education. Women with a primary education increased SBA use significantly between 2007 and 2012 by 4.3 percentage points. There were also significant but slight increases in SBA delivery for women ages 35-44, women residing in rural areas, and in the north region. The narrow ranges are shown in Figure Jordan.05.

Table Jordan.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	99.2 [98.7,99.6]		99.4 [98.5,99.8]		0.2
Age					
15-24	99.6 [98.9,99.9]		99.4 [96.4,99.9]		-0.2
25-34	99.2 [98.3,99.7]		99.3 [97.6,99.8]		0.0
35-44	98.8 [97.4,99.5]		99.8 [99.2,99.9]		0.9*
45-49	100.0		100.0		0.0
Education					
None	96.9 [93.2,98.6]	*	96.6 [86.8,99.2]	*	0.3
Primary	95.5 [87.3,98.5]		99.9 [99.0,100.0]		4.3*
Secondary +	99.5 [99.0,99.8]		99.4 [98.4,99.8]		0.1
Wealth quintile					
Poorest	98.4 [96.4,99.3]		98.3 [95.7,99.3]		0.0
Poorer	99.3 [97.8,99.8]		100.0		0.7
Middle	99.4 [98.6,99.8]		100.0		0.6
Richer	100.0		98.9 [92.6,99.8]		-1.1
Richest	100.0		100.0		0.0
Place of residence					
Urban	99.3 [98.6,99.7]		99.3 [98.2,99.7]	*	0.0
Rural	99.0 [98.3,99.4]		99.9 [99.5,100.0]		0.9*
Region					
Central	99.4 [98.6,99.8]		99.2 [97.6,99.7]		0.2
North	99.0 [97.5,99.6]		99.9 [99.6,100.0]		0.9*
South	98.8 [97.8,99.4]		99.2 [97.6,99.8]		0.4

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

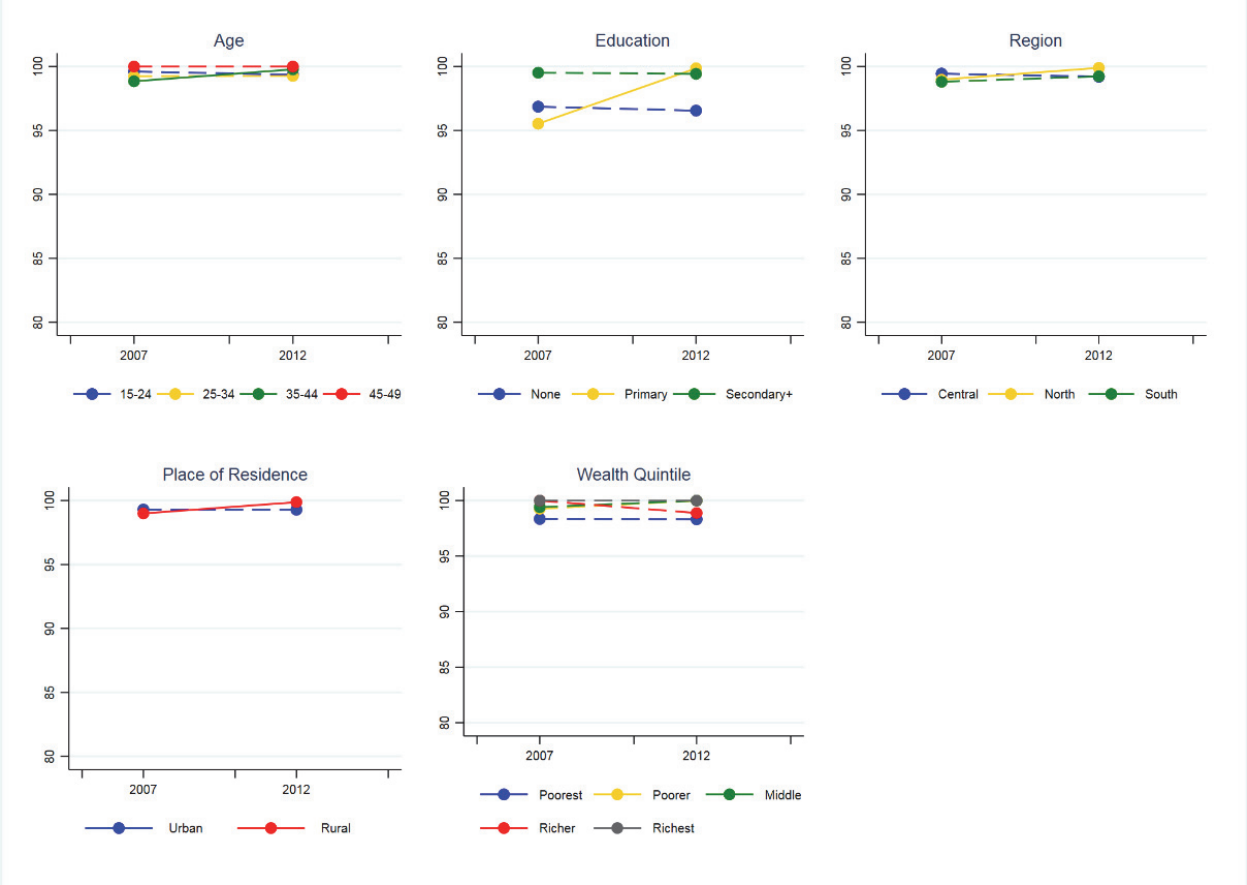


Table Jordan.06 shows that nearly all (99%) of women delivered their most recent birth in a health facility in 2007 and 2012. There was a slight, but statistically significant increase in health facility delivery for women in the poorer wealth quintile.

The percentage of women who gave birth in a health facility differed by education level in 2007, but no longer differed in 2012. This was due to slight, non-significant increases for women with a primary education. There were differences in the percent of women who gave birth at a health facility by wealth category in both years. The women in the poorest wealth quintile had the lowest percent of women who give birth in a health facility in both surveys (98% and 96%). Although high, this was less than women in the richest quintile (100% in 2007 and 2012). The only significant increase for health facility delivery was found for women in the poorer wealth quintile, although the increase was very small.

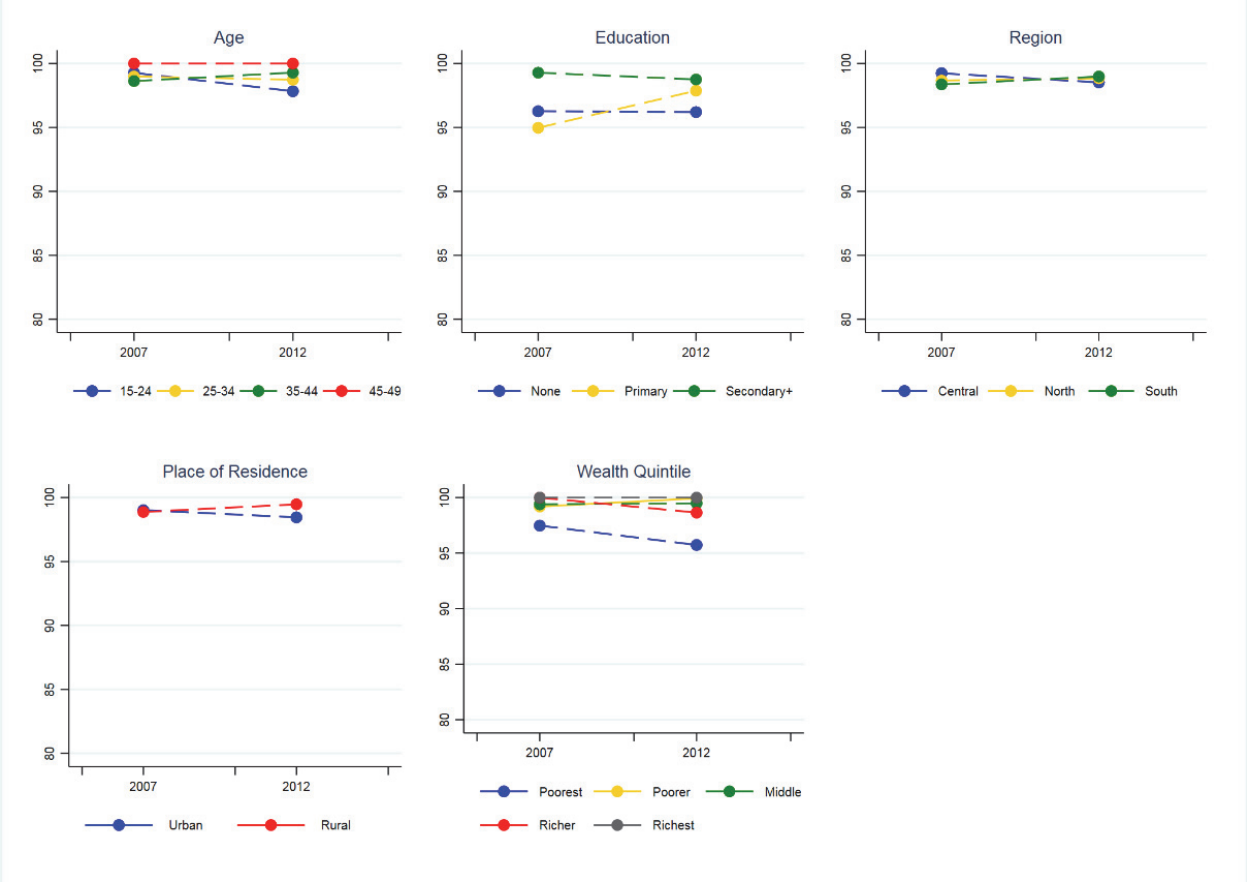
Percentages of health facility delivery did not differ by place of residence or region in either 2007 or 2012.

Table Jordan.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	99.0 [98.4,99.4]		98.7 [97.7,99.2]		-0.3
Age					
15-24	99.3 [98.3,99.7]		97.8 [95.0,99.1]		-1.4
25-34	99.0 [98.1,99.5]		98.7 [97.2,99.4]		-0.3
35-44	98.6 [97.2,99.3]		99.3 [96.5,99.9]		0.7
45-49	100.0		100.0		0.0
Education					
None	96.3 [92.7,98.1]	*	96.2 [87.1,99.0]		-0.1
Primary	95.0 [87.1,98.1]		97.9 [93.7,99.3]		2.9
Secondary +	99.3 [98.8,99.6]		98.8 [97.7,99.3]		-0.5
Wealth quintile					
Poorest	97.5 [95.5,98.6]	*	95.7 [92.6,97.6]	*	-1.7
Poorer	99.2 [97.8,99.7]		99.9 [99.7,100.0]		0.7*
Middle	99.4 [98.6,99.7]		99.5 [98.0,99.9]		0.1
Richer	100.0		98.6 [93.3,99.7]		-1.4
Richest	100.0		100.0		0.0
Place of residence					
Urban	99.0 [98.3,99.4]		98.5 [97.3,99.1]		-0.6
Rural	98.9 [98.1,99.3]		99.5 [98.3,99.8]		0.6
Region					
Central	99.2 [98.4,99.6]		98.5 [96.9,99.3]		-0.7
North	98.7 [97.1,99.4]		98.8 [97.8,99.4]		0.2
South	98.4 [97.2,99.0]		99.0 [97.4,99.6]		0.6

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS



The percent of women who gave birth by C-section increased from 20% in 2007 to 30% in 2012. There were significant changes between surveys by several characteristics shown in Table Jordan.07. The percent of C-section births increased significantly between 2007 and 2012 for all age categories except for women age 45-49, who also had the highest percent of birth by C-section in both years. In both years, the percent of women giving birth by C-section increased with age.

Women with no education experienced an 11 percentage point decline in C-sections rates between 2007 and 2012, from 23% to 12%, but this decrease was not statistically significant. In contrast, women with a primary and secondary or more education experienced significant increases in the percent of women giving birth by C-section between the two surveys. As shown in Figure Jordan.07, the increase was relatively large for women with primary education, with an increase of 22 percentage points. By education, C-section was highest among women with a primary education and lowest among women with no education in both surveys.

There were significant increases in the percent of women giving birth by C-section between surveys by all wealth quintiles except for the richest category. Despite a lack of significant change, women in the richest category maintained the highest percent of C-section births compared to the remaining wealth quintiles. While C-section delivery differed by wealth quintile in 2007, the increases observed in most of the wealth quintiles between the two surveys resulted in no differences between the wealth quintiles in the 2012 survey.

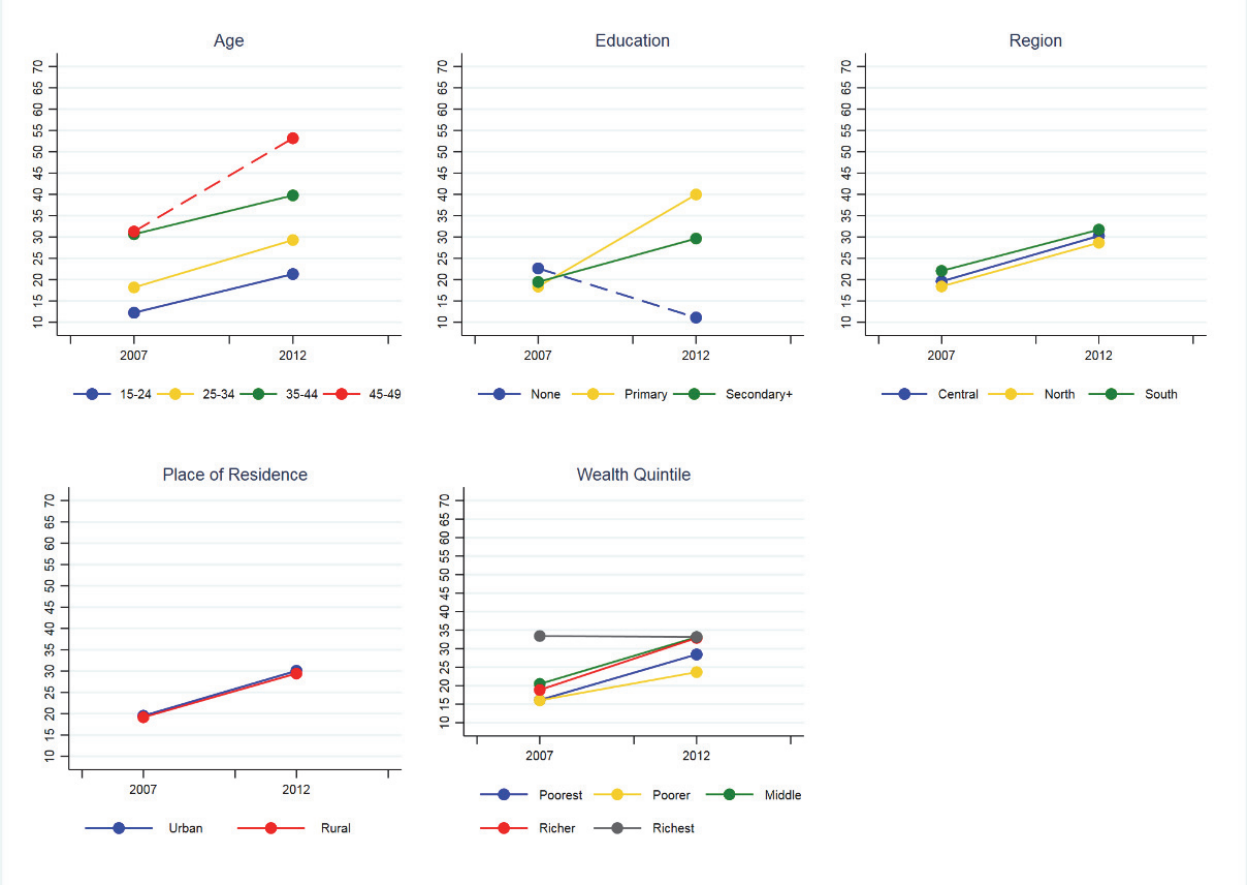
The percentage of women who gave birth by C-section did not vary by urban/rural residence or region in either 2007 or 2012. However, both urban and rural women, as well as women in all regions, saw a significant increase in the percent giving birth by C-section between the 2 years. Figure Jordan.07 shows the relatively small differences in C-section rates by urban/rural residence and by region.

Table Jordan.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	19.5 [17.5,21.5]		29.9 [27.2,32.8]		10.5*
Age					
15-24	12.2 [9.2,16.2]	*	21.3 [16.2,27.5]	*	9.1*
25-34	18.2 [15.8,20.8]		29.3 [25.9,32.9]		11.1*
35-44	30.7 [25.6,36.2]		39.8 [34.5,45.3]		9.1*
45-49	31.3 [11.9,60.6]		53.2 [33.7,71.7]		21.9
Education					
None	22.6 [11.9,38.9]		11.1 [6.2,19.0]	*	11.5
Primary	18.4 [11.8,27.5]		40.0 [29.6,51.4]		21.6*
Secondary +	19.5 [17.4,21.6]		29.6 [26.8,32.6]		10.2*
Wealth quintile					
Poorest	16.1 [13.1,19.7]	*	28.4 [23.8,33.6]		12.3*
Poorer	16.0 [12.7,20.0]		23.7 [19.8,28.0]		7.6*
Middle	20.5 [16.8,24.6]		33.1 [27.7,39.0]		12.6*
Richer	18.9 [14.0,25.0]		32.9 [26.2,40.4]		14.0*
Richest	33.4 [25.1,42.9]		33.2 [24.7,43.0]		-0.3
Place of residence					
Urban	19.5 [17.3,21.9]		30.1 [26.8,33.6]		10.5*
Rural	19.2 [16.1,22.7]		29.4 [26.4,32.7]		10.3*
Region					
Central	19.6 [17.0,22.4]		30.3 [26.2,34.7]		10.7*
North	18.4 [15.0,22.4]		28.7 [25.5,32.1]		10.3*
South	22.1 [19.3,25.1]		31.7 [27.0,36.9]		9.7*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS



Child Health Care

The percentage of children age12-23 months who received all basic vaccinations increased significantly from 87% in 2007 to 93% in 2012, and by most characteristics, as shown in Table Jordan.08. Vaccination coverage was not significantly different for boys and girls in 2007 or 2012, and both experienced a significant increase in the percent vaccinated. In both surveys, the percent of children vaccinated increased with mother's education, while the differences in the percent of children vaccinated differed by education. Between 2007 and 2012, the percent of children vaccination increased by all levels of mother's education, although the increase was only significant for children of women with a secondary or higher level of education.

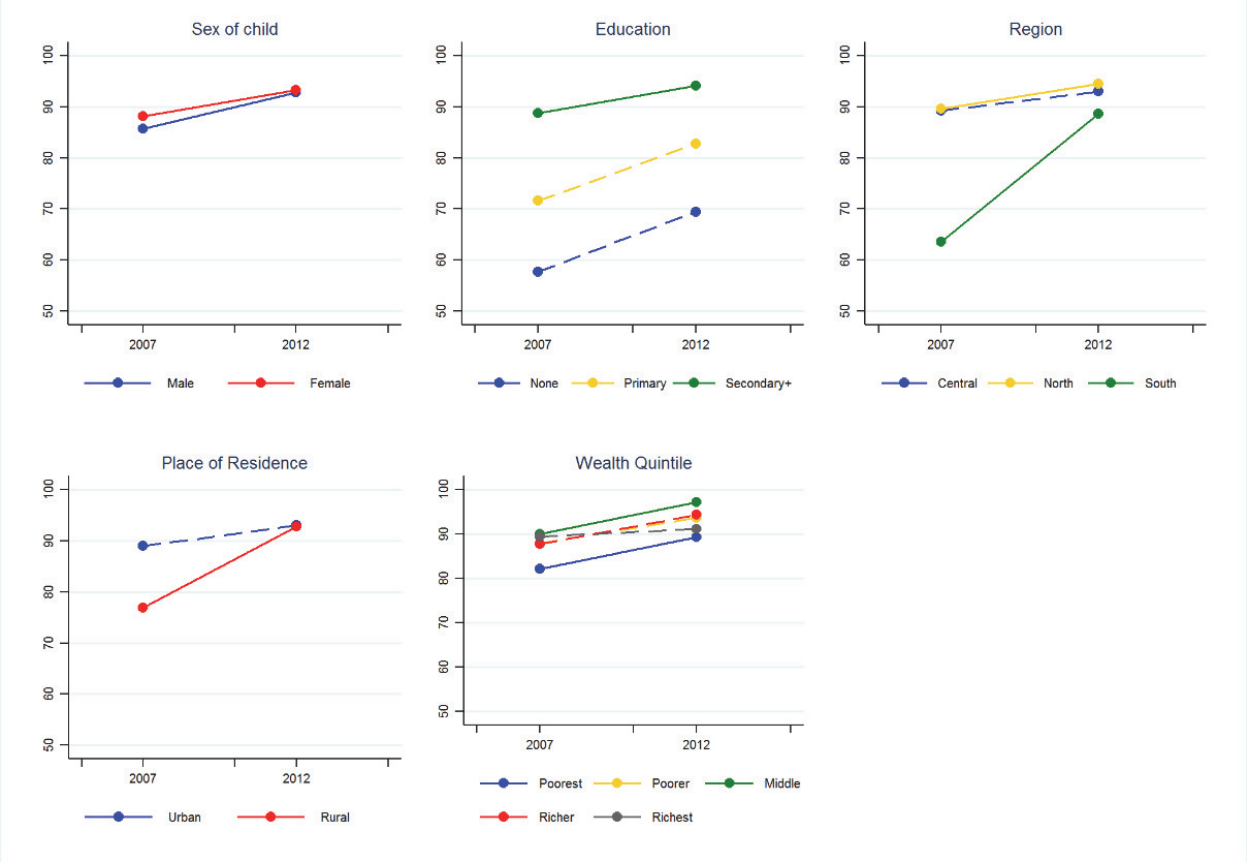
In 2007 and 2012, the percent of children vaccinated did not vary significantly by wealth quintile. However, children in the poorest and middle quintiles experienced a significant increase in the percent vaccinated. In 2007, the percent of children vaccinated varied by urban/rural residence. There was a significant increase of sixteen percentage points among children in rural residences and there was no significant difference in 2012. There were significant differences by region in the percent of children vaccinated in 2007, but not in 2012. In 2007, the South Region had the lowest percent of children vaccinated at 64%, although this increased to 89% in 2012. The steep increases in rural residence and in the South Region are illustrated in Figure Jordan.08.

Table Jordan.08: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	87.0 [84.8,88.9]		93.0 [90.1,95.1]		6.0*
Child's sex					
Male	85.7 [82.3,88.5]		92.7 [87.8,95.7]		7.0*
Female	88.2 [85.0,90.7]		93.3 [89.9,95.6]		5.1*
Mother's education					
None	57.7 [33.7,78.6]	*	69.5 [49.4,84.2]	*	11.8
Primary	71.6 [58.8,81.6]		82.8 [61.1,93.6]		11.2
Secondary +	88.7 [86.6,90.6]		94.1 [91.3,96.1]		5.4*
Wealth quintile					
Poorest	82.1 [77.8,85.8]		89.3 [83.8,93.0]		7.1*
Poorer	87.9 [83.0,91.5]		93.7 [86.6,97.1]		5.8
Middle	90.0 [85.6,93.2]		97.1 [94.3,98.6]		7.1*
Richer	87.8 [80.1,92.7]		94.3 [87.0,97.6]		6.5
Richest	89.4 [79.8,94.8]		91.1 [73.3,97.5]		1.7
Place of residence					
Urban	89.0 [86.4,91.1]	*	93.0 [89.4,95.5]		4.1
Rural	76.9 [72.9,80.6]		92.8 [89.4,95.2]		15.9*
Region					
Central	89.2 [86.0,91.8]	*	93.0 [88.1,95.9]		3.7
North	89.5 [86.0,92.3]		94.5 [91.9,96.2]		4.9*
South	63.5 [58.6,68.3]		88.6 [83.2,92.4]		25.1*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.08: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Jordan 2007 and 2012 DHS



Three-quarters of Jordanian children under age 5 had treatment for their ARI symptoms in the 2 weeks before to the survey in both 2007 and 2012. In Table Jordan.09, care-seeking for ARI symptoms did not change significantly by any characteristics between the two surveys. Some magnitudes of change appear quite large, but were not significant due to the large standard errors caused by the small number of observations in some categories. This resulted in some figures not to be displaced in Table Jordan.09 and the education trends were also excluded from Figure Jordan.09. In 2007, care-seeking did not differ by any characteristic listed in Table Jordan.09. In 2012, it varied only by urban/rural residence with 84% of children in rural areas had care sought for their symptoms compared to 76% of children in urban areas.

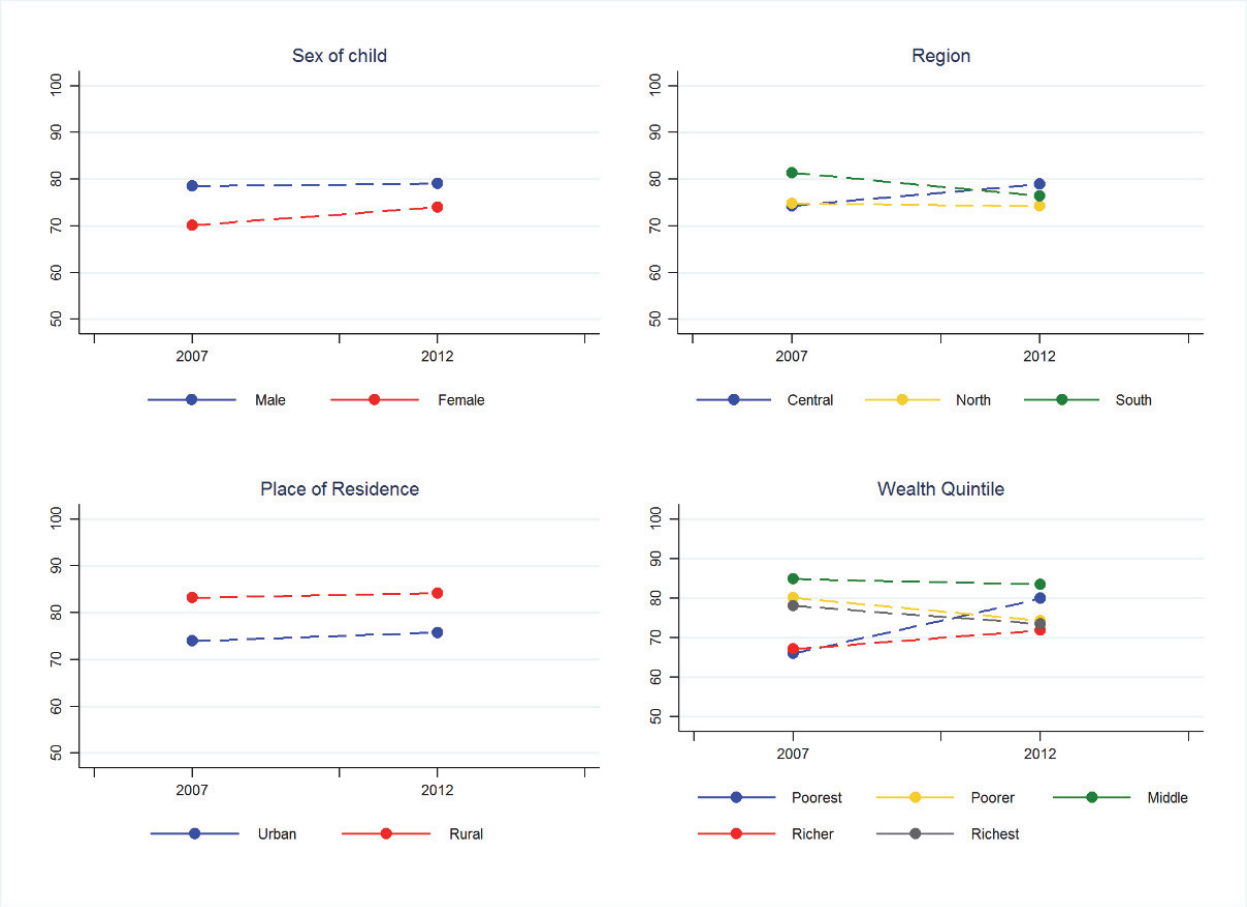
Table Jordan.09: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	75.0 [66.3,82.0]		77.2 [71.7,82.0]		2.3
Child's sex					
Male	78.5 [69.4,85.5]		79.1 [71.9,84.8]		0.5
Female	70.1 [55.1,81.8]		74.0 [65.1,81.3]		3.9
Mother's education					
None	ND		ND		
Primary	(55.6 [25.2,82.3])		(85.1 [62.7,95.1])		29.5
Secondary +	76.5 [67.1,83.8]		76.9 [71.2,81.8]		0.5
Wealth quintile					
Poorest	66.0 [49.2,79.5]		79.9 [70.7,86.8]		13.9
Poorer	80.1 [67.6,88.7]		74.3 [61.4,84.0]		5.9
Middle	84.9 [69.8,93.2]		83.5 [73.5,90.2]		1.4
Richer	67.1 [35.0,88.6]		71.9 [51.8,85.9]		4.8
Richest	ND		73.5 [50.3,88.3]		
Place of residence					
Urban	74.0 [64.3,81.7]		75.8 [69.1,81.4]	*	1.8
Rural	83.2 [71.1,90.9]		84.2 [78.1,88.8]		1.0
Region					
Central	74.3 [61.7,83.9]		78.9 [70.2,85.7]		4.6
North	74.8 [61.2,84.8]		74.2 [66.2,80.9]		0.6
South	81.4 [69.5,89.3]		76.4 [66.0,84.4]		5.0

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.09: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Jordan 2007 and 2012 DHS



Child Nutrition

As shown in Table Jordan10, the percent of children under age 6 months who were exclusively breastfed did not change significantly between 2007 (22%) and 2012 (23%). There was one significant change between the two surveys. In 2007, 16% of children in rural areas were exclusively breastfed, and in 2012 26% of children were exclusively breastfed. This was a significant increase of approximately 10 percentage points. Although breastfeeding rates differed significantly between urban and rural residences in 2007, the difference was no longer significant in 2012 because of the increase in rural areas.

There were changes by other characteristics shown in Table Jordan.10, although they were not statistically significant. There was an increasing trend in the percent of children breastfed as mother's education increased in both 2007 and 2012. However, in 2012 the small number of observations in the no education and primary education categories suggest that the results should be interpreted with caution. By region, the South Region increased exclusive breastfeeding, which tightened the distribution of the percent of children exclusively breastfed by region in 2012. This is shown in Figure Jordan.10.

The percent of children breastfed differed significantly by wealth in 2007 but not in 2012. This convergence is due to slight reductions in breastfeeding among the poorest and poorer quintiles, and increases in the middle, richer, and richest quintiles. This leveling is shown in Figure Jordan.10.

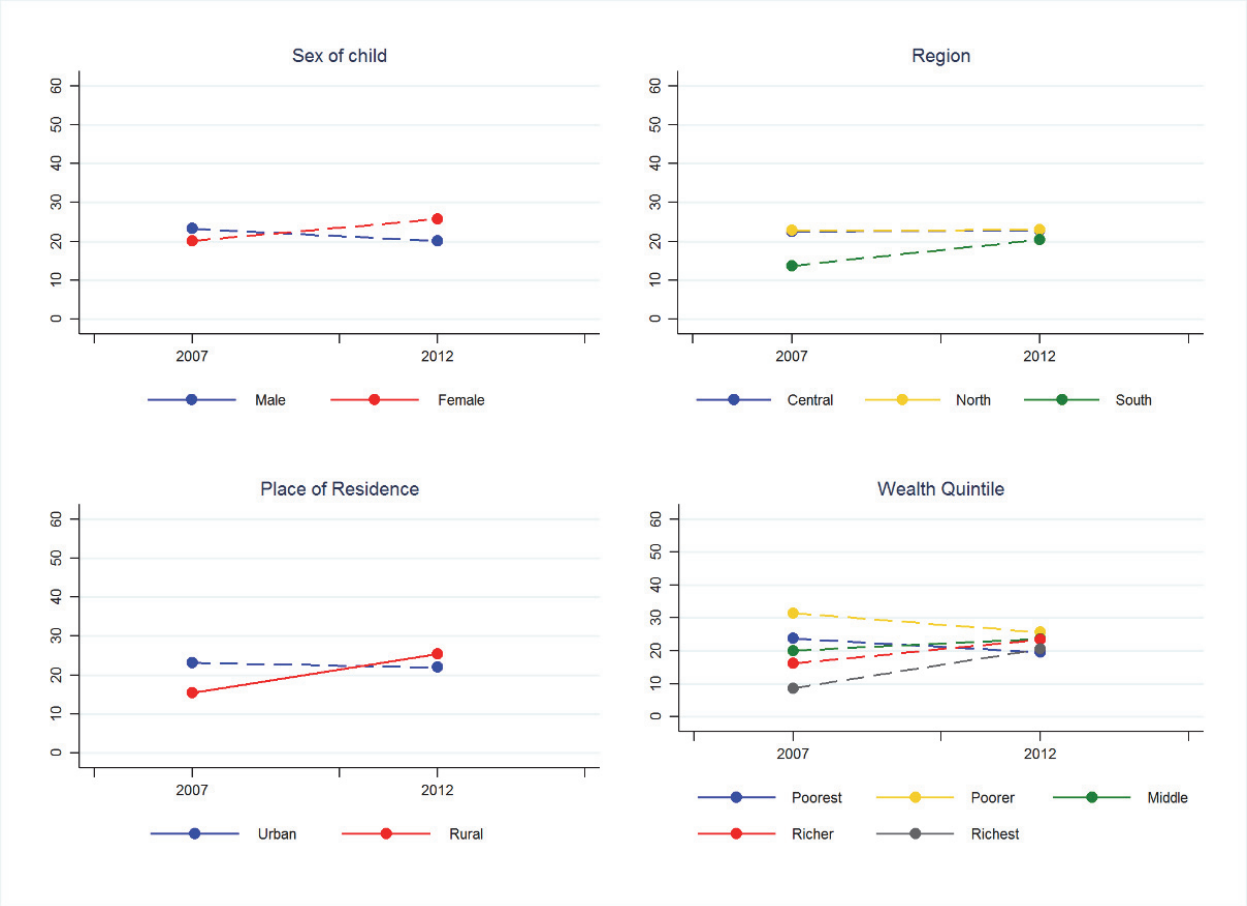
Table Jordan.10: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	21.8 [18.2,25.9]		22.7 [18.2,27.9]		0.9
Child's sex					
Male	23.3 [18.1,29.3]		20.1 [15.0,26.5]		-3.1
Female	20.2 [14.7,27.0]		25.8 [19.1,33.8]		5.6
Mother's education					
None	8.8 [2.4,27.1]		ND		
Primary	17.4 [5.8,41.8]		(15.0 [7.4,27.9])		-2.4
Secondary +	22.4 [18.5,26.7]		22.8 [18.0,28.5]		0.5
Wealth quintile					
Poorest	23.8 [17.5,31.4]	*	19.6 [13.9,26.8]		-4.2
Poorer	31.5 [23.7,40.3]		25.7 [16.4,37.7]		-5.8
Middle	20.1 [13.6,28.7]		23.7 [14.6,36.0]		3.6
Richer	16.2 [8.8,27.8]		23.4 [14.5,35.6]		7.3
Richest	8.7 [2.6,25.5]		20.5 [8.7,41.3]		11.8
Place of residence					
Urban	23.2 [18.9,28.1]	*	22.0 [16.7,28.4]		-1.2
Rural	15.5 [12.1,19.7]		25.5 [18.6,33.8]		9.9*
Region					
Central	22.5 [17.4,28.7]		22.9 [16.6,30.8]		0.4
North	22.8 [17.7,29.0]		22.9 [16.7,30.7]		0.1
South	13.8 [10.1,18.4]		20.4 [14.6,27.8]		6.7

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.10: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Jordan 2007 and 2012 DHS [EDUCATION plot excluded due to low counts]



There was a significant reduction in the percent of children under age 5 who were stunted, from 14% in 2007 to 8% in 2012. There were significant decreases in the percent of children stunted between surveys by many characteristics, as shown in Table Jordan.11.

Both boys and girls saw significant reductions in the percent stunted between the 2 years. For girls, the percent stunted was reduced by half from 13% in 2007 to 6% in 2012. However, in 2012, there was a significant difference between the sexes in stunting with a higher percentage of boys stunted than girls.

There were also significant reductions in stunting by the mother's education and wealth. Children of mothers with no education had the largest magnitude of change from 27% to 12%. In both 2007 and 2012, the percent of children who were stunted decreased as mother's education increased, although there was a small difference between children of mothers with no education and a primary education by 2012. This is shown in Figure Jordan.11.

In both 2007 and 2012, there were significant differences in stunting by wealth, although all wealth quintiles saw significant reductions in the percent of children who were stunted between the two surveys, except for the poorest category. The pattern remained consistent by wealth, as shown in Figure Jordan.11, although the middle three quintiles (poorer, middle, and richest) had only slight gaps between them in 2012.

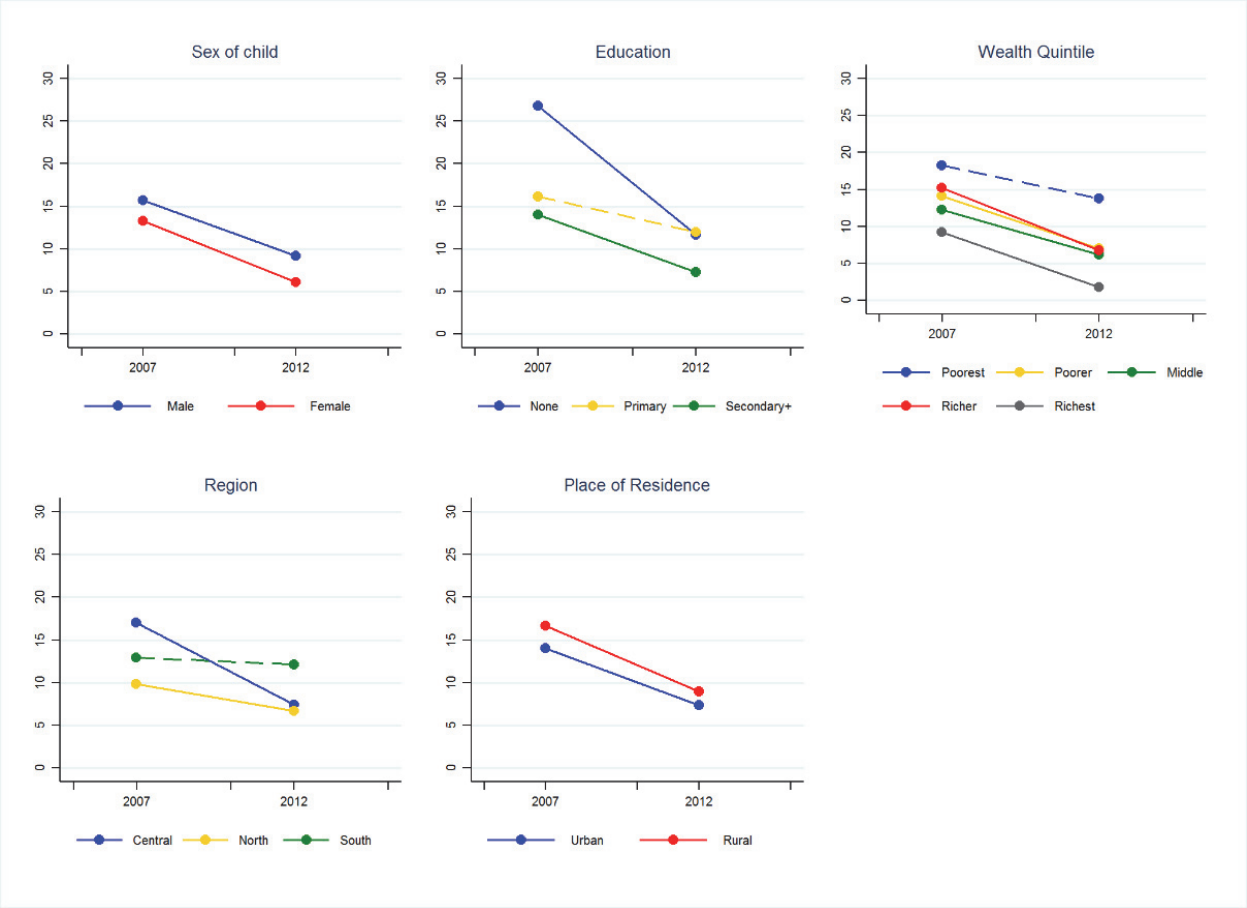
There were no differences in stunting by urban/rural residence, although both decreased significantly and similarly between the two surveys. All regions reduced the percent of children stunted, but the South Region declined only slightly, and this decline was not statistically significant. The Central and North regions had similar percentages of children stunted in 2012, primarily due to a steep reduction in stunting in the Central Region. The South Region's reduction was not large, and the region had substantially higher percentages of stunted children in 2012.

Table Jordan.11: Percentage of children under age 5 who are stunted, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	14.5 [12.9,16.2]		7.7 [6.6,8.9]		-6.8*
Child's sex					
Male	15.7 [13.4,18.4]		9.2 [7.6,11.0]	*	-6.6*
Female	13.3 [11.2,15.6]		6.1 [4.7,7.8]		-7.2*
Mother's education					
None	26.8 [18.2,37.6]	*	11.7 [7.5,17.8]	*	-15.1*
Primary	16.2 [11.4,22.4]		12.0 [8.3,17.0]		-4.2
Secondary +	14.0 [12.4,15.8]		7.3 [6.1,8.7]		-6.7*
Wealth quintile					
Poorest	18.2 [15.2,21.7]	*	13.8 [10.6,17.8]	*	-4.4
Poorer	14.1 [11.0,18.0]		7.0 [5.5,9.0]		-7.1*
Middle	12.3 [9.5,15.7]		6.2 [3.8,9.8]		-6.1*
Richer	15.2 [11.3,20.2]		6.8 [4.8,9.6]		-8.5*
Richest	9.2 [6.0,13.9]		1.8 [0.8,3.9]		-7.4*
Place of residence					
Urban	14.0 [12.2,16.1]		7.4 [6.1,8.9]		-6.7*
Rural	16.7 [14.4,19.3]		8.9 [7.6,10.5]		-7.7*
Region					
Central	17.0 [14.6,19.7]	*	7.5 [5.8,9.5]	*	-9.6*
North	9.8 [7.9,12.2]		6.7 [5.4,8.2]		-3.2*
South	12.9 [10.9,15.3]		12.1 [9.9,14.8]		-0.8

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.11: Percentage of children under age 5 who are stunted, by background characteristics, Jordan 2007 and 2012 DHS



There were significant reductions in the percent of children under age 5 who were overweight and by most characteristics as shown in Table Jordan.12. The overall percent of overweight children decreased from 11% in 2007 to 4% in 2012. Figure Jordan.12 illustrates the decline in the percentage of overweight children by all background characteristics. The percent of overweight boys and girls both declined significantly between the two surveys, by half for boys and by three-quarters for girls.

There were also significant declines for children of mothers with a primary and secondary or higher level of education. In 2007 and 2012, the percentage of overweight children did not differ significantly by mother's education.

The percentage of overweight children declined significantly for all wealth quintiles, while the significant difference in overweight children by wealth quintile was no longer present in 2012. This was primarily due to a twelve-percentage point reduction in overweight children in the richest wealth quintile.

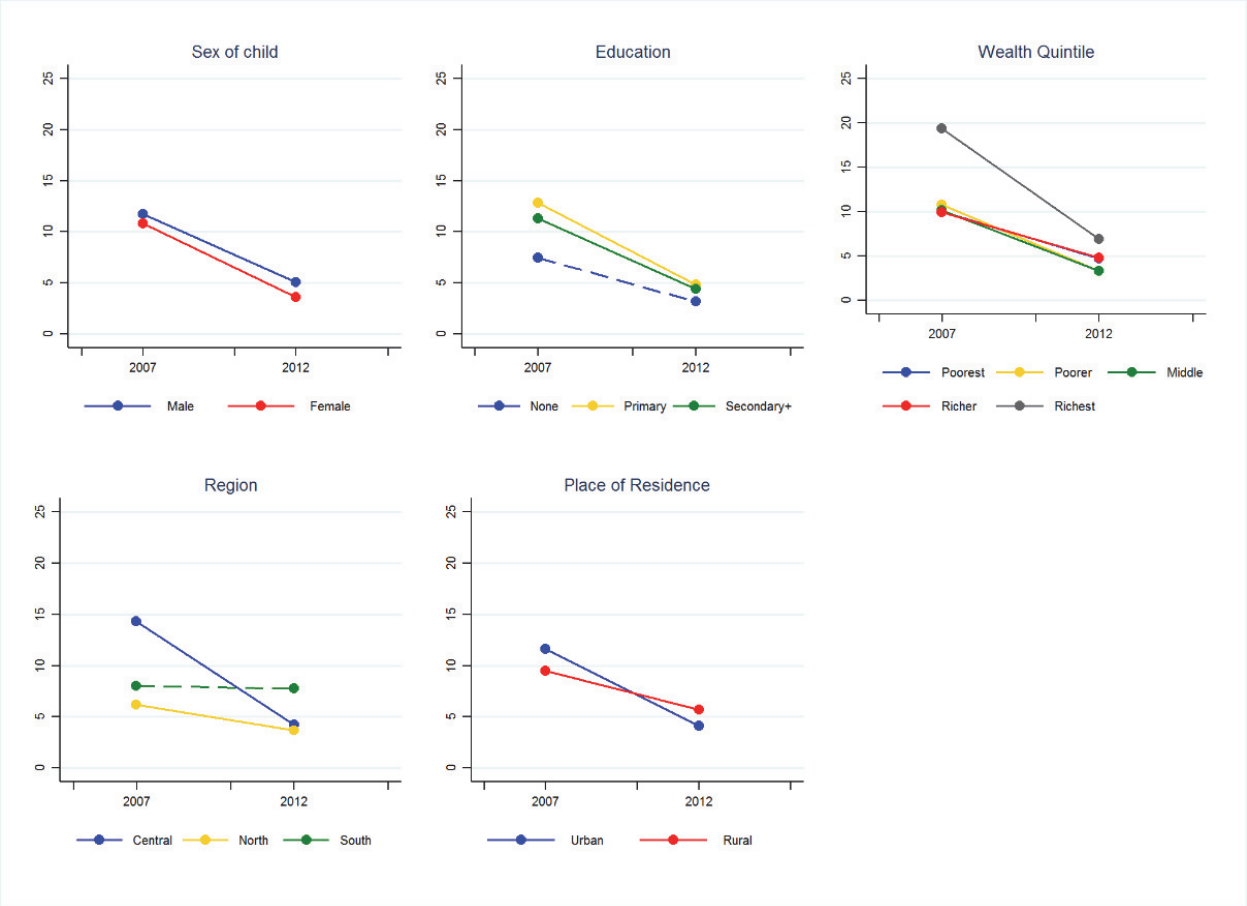
The percent of overweight children in both urban and rural residences declined significantly between the two surveys. In 2007, 12% of urban children and 10% of rural children were overweight. In 2012, this declined to 4% of urban children and 6% of rural children. The percentage of overweight children varied by region in 2007 and 2012. In 2007, the Central Region had the highest percentage of overweight children (14%) compared to the other regions. In 2012, the Central and the North regions had approximately the same percent of overweight children at 4%, compared to 8% in the South Region. Both the Central and North regions had significant decreases in the percentage of overweight children between the two surveys with a large decline observed for the Central Region.

Table Jordan.12: Percentage of children under age 5 who are overweight, by background characteristics, Jordan 2007 and 2012 DHS

	2007		2012		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	11.3 [9.7,13.1]		4.4 [3.6,5.3]		-6.9*
Child's sex					
Male	11.7 [9.6,14.3]		5.1 [3.9,6.7]		-6.6*
Female	10.8 [8.9,13.1]		3.6 [2.7,4.8]		-7.2*
Mother's education					
None	7.5 [4.5,12.2]		3.2 [1.2,7.9]		-4.3
Primary	12.9 [7.2,21.8]		4.8 [2.8,8.2]		-8.0*
Secondary +	11.3 [9.7,13.2]		4.4 [3.6,5.4]		-6.9*
Wealth quintile					
Poorest	10.0 [7.5,13.2]	*	4.7 [3.0,7.3]		-5.3*
Poorer	10.8 [8.4,13.8]		3.3 [2.3,4.8]		-7.5*
Middle	10.1 [7.7,13.3]		3.3 [2.3,4.7]		-6.8*
Richer	9.9 [6.4,15.0]		4.8 [3.2,7.1]		-5.2*
Richest	19.4 [13.1,27.7]		6.9 [4.2,11.2]		-12.4*
Place of residence					
Urban	11.6 [9.8,13.8]		4.1 [3.2,5.2]		-7.5*
Rural	9.5 [7.9,11.5]		5.7 [4.5,7.2]		-3.8*
Region					
Central	14.3 [11.8,17.2]	*	4.2 [3.1,5.7]	*	-10.1*
North	6.2 [4.9,7.7]		3.7 [2.8,4.8]		-2.5*
South	8.0 [6.3,10.3]		7.7 [5.8,10.2]		-0.3

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Jordan.12: Percentage of children under age 5 who are overweight, by background characteristics, Jordan 2007 and 2012 DHS



Under-5 Mortality

Under-5 mortality in Jordan was 21 per 1,000 live births in 2007 and 2012. While there were some changes in under-5 mortality by several characteristics in Table Jordan.13, none were statistically significant.

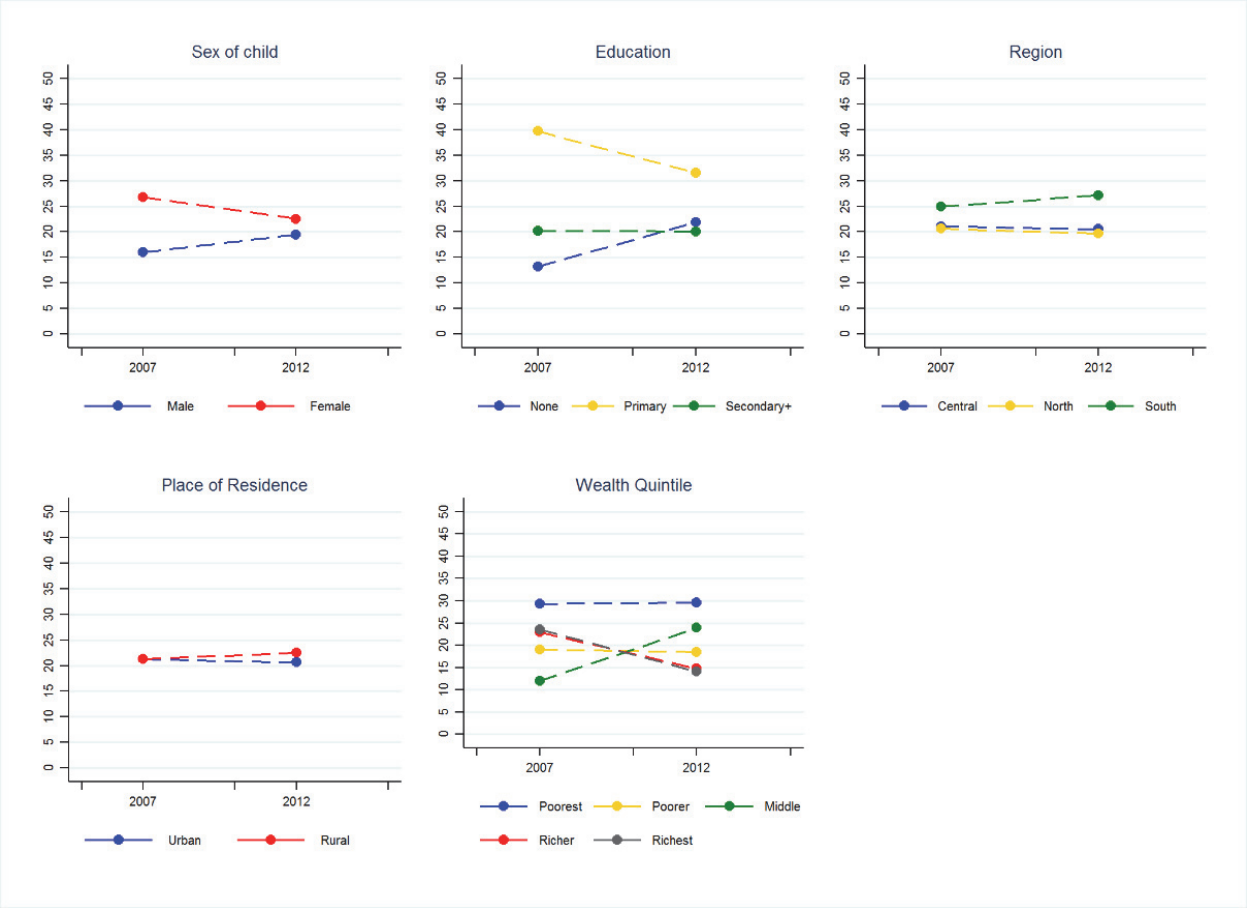
There were several interesting trends in under-5 mortality between the two surveys. Under-5 mortality increased for children of mothers with no education (13 to 22/1,000 live births), but decreased for children of mothers with a primary education (40 to 32/1,000) live births. While children in the poorest wealth quintile had the highest under-5 mortality in both surveys, the pattern did not remain consistent. In 2007, children in the middle quintile had the lowest under-5 mortality (12/1,000 live births), but in 2012, children in the richest quintile had the lowest under-5 mortality (14/1,000 live births). Figure Jordan.13 illustrates the inconsistent changes in under-5 mortality.

Table Jordan.13: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS

	2007	2012	
Variable	U5M [C.I.]	U5M [C.I.]	Diff[1]
Total	21 [17,27]	21 [16,27]	0
Child's sex			
Male	16 [12,22]	19 [15,25]	3
Female	27 [20,35]	23 [16,31]	-4
Mother's education			
None	13 [7,27]	22 [8,55]	9
Primary	40 [18,87]	32 [17,58]	-8
Secondary +	20 [16,26]	20 [15,26]	0
Wealth quintile			
Poorest	29 [21,42]	30 [19,46]	0
Poorer	19 [11,33]	18 [13,27]	-1
Middle	12 [7,21]	24 [14,41]	12
Richer	23 [11,45]	15 [9,24]	-8
Richest	24 [11,50]	14 [5,40]	-10
Place of residence			
Urban	21 [16,28]	21 [15,28]	-1
Rural	21 [16,28]	22 [16,32]	1
Region			
Central	21 [15,30]	21 [14,30]	-1
North	21 [15,28]	20 [14,28]	-1
South	25 [19,32]	27 [20,36]	2

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Jordan.13: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Jordan 2007 and 2012 DHS



Jordan Summary

Maternal health indicators in Jordan were consistent between the 2007 and 2012 surveys. The TFR in Jordan remained steady between the two surveys at 3.5 births per woman in 2012. There was a significant decline in the TFR among women in the poorer wealth quintile, from 4.4 to 3.9, but the TFR still decreased incrementally as wealth increased. By education level, the lowest TFR was among women with no education in both years. Like the TFR, the percentage of women who use modern contraception in Jordan remained unchanged overall (2007 and 2012 at 42%). The differences by wealth, urban/rural residence, and education in 2007 were not observed in 2012. Current use of traditional contraception increased significantly between 2007 and 2012, from 15% to 19%. Traditional use varied by age, education, wealth, and region in 2007 but, like modern contraceptive use, the numbers converged by 2012.

Nearly all (94%) women had the recommended four or more ANC visits during their most recent pregnancy in both 2007 and 2012. The number of ANC visits was high across characteristics, except for women age 45-49 and women with no education.

Delivery indicators were high in 2007 and remained high in 2012. Nearly all women delivered their most recent birth with an SBA and at a health facility in both 2007 and 2012. The number of C-section deliveries increased significantly from 20 to 30% between 2007 and 2012, with the highest percentage among women ages 45-49 (53% in 2012) and the lowest in women with no education (11% in 2012). The C-section deliveries did not vary by region, urban/rural residence, or wealth in 2012.

Child health indicators improved overall or remained consistent. Basic vaccinations among children age 12-23 months increased from 87% to 93%. The South Region's vaccination rate increased from 64% to 89%. Care-seeking for ARI symptoms in children under age 5 was consistent between 2007 and 2012. Exclusive breastfeeding also remained consistent at just over a fifth of children under age 6 months. In 2012, there was no variation in breastfeeding by background characteristics. Stunting among children under age 5 decreased by almost half between 2007 and 2012, from 15% to 8%. The largest change occurred in women with no education. There were disparities in stunting by sex, mother's education, wealth, and region in 2012. The percentage of overweight children declined significantly from 11% to 4%. Reductions were significant across characteristics. Finally, under-5 mortality did not change between 2007 and 2012, and remained at 21/1000 live births in both years. Under-5 mortality was lower among mothers with no education than mothers with a primary education (22/1000 and 32/1000 in 2012).

Lebanon (Palestinian Refugees)

As of January 2016, the United National Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) estimates that there are approximately 500,000 registered Palestinian refugees living in Lebanon (UNRWA 2016c). However, the actual number of Palestinian refugees currently residing in Lebanon may be closer to 280,000 (Chaaban et al. 2016). An increasing proportion of these refugees are entering Lebanon as they flee from the ongoing conflict from Syria. This has resulted in a surge of Syrian and Palestinian refugees. Lebanon is now hosting an estimated 1.1 million Syrian refugees and an additional 42,000 Palestinian refugees from Syria (Chaaban et al. 2016). Palestinian refugees comprise nearly 10% of the Lebanese population with 63% of these refugees living in the twelve refugee camps in Lebanon (Chaaban et al. 2016). The majority of Palestinian refugees are registered, although it is estimated that there are close to 5,000 undocumented Palestinian refugees in Lebanon (UNHCR 2016b). Research and reports on the well-being of Palestinian refugees living in Lebanon have found that the Palestinian refugee population is marginalized in terms of economic opportunity and legal rights (Chaaban et al. 2016; Chaaban et al. 2010; UNHCR 2016b).

In Lebanon, Palestinian refugees are subject to a number of legal and economic restrictions. Registered Palestinian refugees are limited in the type of jobs they can hold and they have only partial access to many of the social safety programs open to Lebanese nationals (UNHCR 2016b). As a result, many Palestinians are forced to work in low-paying, menial jobs and two-thirds are considered poor or extremely poor (Chaaban et al. 2010). The unemployment rate among Palestinian refugees is 23%, which is substantially higher than the overall unemployment rate in Lebanon, which was 6.8% in 2016 (Chaaban et al. 2016; World Bank 2017f). A 2015 survey found that more than 65% of Palestinian refugees were living below the poverty line and up to 65% are food insecure (Chaaban et al. 2016; Ghattas et al. 2015). A second survey, which also examined food security among Palestinian refugee households, found that food insecurity was associated with low education status and unemployment (Ghattas et al. 2015). Those who reported food insecurity were also more likely to self-report bad or very bad health (Ghattas et al. 2015). Overall, 27% of children under the age 15 live in household that is considered severely food insecure (Chaaban et al. 2016). Research has shown that the abject poverty and marginalized social position of Palestinian refugees are associated with poor health outcomes. A 2015 survey, which sought to explore the association between socioeconomic status and health outcomes in a Palestinian refugee population, found that 14% of respondents reported never attending school and 29% had completed only elementary school (Habib et al. 2014). Over half of respondents reported at least one chronic illness and nearly 60% reported poor mental health (Habib et al. 2014). The authors found that those who reported low education were twice as likely to report two or more health problems and those who reported food insecurity were more than three times as likely to report three or more health problems (Habib et al. 2014).

The legal and social restrictions also influence healthcare access. Palestinian refugees are not granted access to Lebanese public health services and must therefore rely on health care provided by the UNRWA and other non-profit and NGO providers (Chaaban et al. 2016; UNHCR 2016b). Within the refugee camps, UNRWA operates 27 primary healthcare facilities and nine women's health programs (UNRWA 2016c). The UNRWA partners with secondary and tertiary care facilities to subsidize the cost of care for refugees who need of higher levels of care (UNHCR 2016b). No one in the refugee population has private health insurance, which means that they are reliant on UNRWA for health care services. In 2015, UNRWA provided 94% of healthcare services for Palestinian refugees in Lebanon (Chaaban et al. 2016).

There is limited trend data on maternal and reproductive health outcomes for the Palestinian refugee population in Lebanon. A 2011 survey of the Palestinian refugee population in Lebanon, both within and outside of refugee camps, examined a wide range of reproductive, maternal and child outcomes (UNICEF 2014). The survey found very high levels of antenatal care, skilled birth attendance, and delivery within a

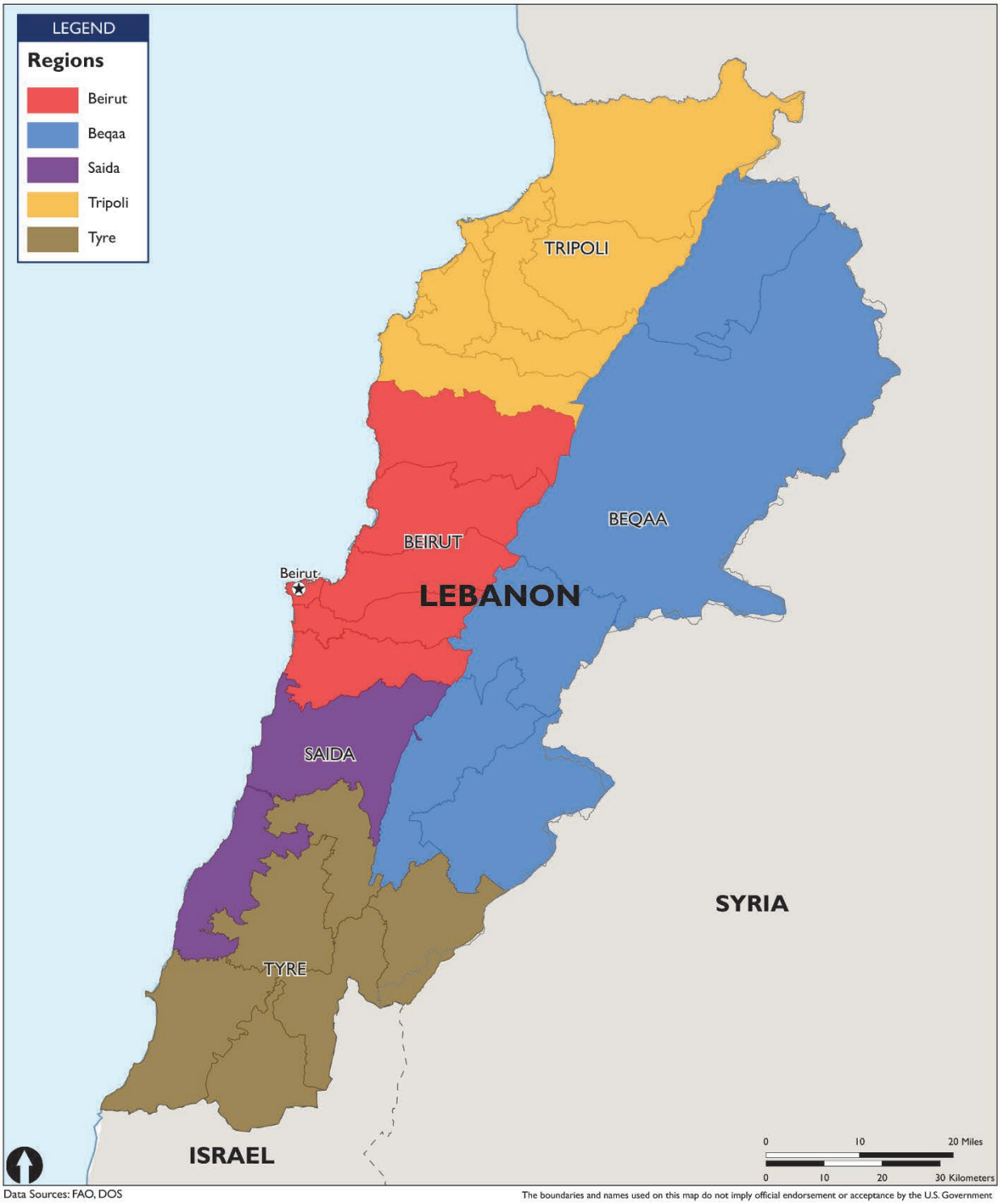
healthcare facility among women who had a live birth in the 2 years prior to the survey (UNICEF 2014). A 2008 survey estimated the infant mortality rate (IMR) among Palestinian refugees living in UNRWA camps to be 19 infant deaths per 1,000 live births. This suggested a dramatic decline in IMR since 1995 (Riccardo, Khader, and Sabatinelli 2011). From a nutrition standpoint, a small percentage of children under age 5 were underweight and a slightly higher proportion were stunted (UNICEF 2014). Vaccination coverage was relatively high. By age 23 months, over 90% of children have been fully vaccinated against BCG and DPT (UNICEF 2014), and nearly 90% have been fully immunized against measles and polio (UNICEF 2014). In the 14 days before the survey, 14% of children under age 5 had experienced diarrhea (UNICEF 2014).

Chronic illness poses a substantial health burden in the Palestinian refugee population, with an estimated 37% of the population reporting one or more chronic conditions (Chaaban et al. 2016). This represents a slight increase from 31% in 2010, although this may reflect an increase in detection and not a true increase in the prevalence of chronic illness (Chaaban et al. 2016; Chaaban et al. 2010). The prevalence of chronic illnesses is highest among older populations, with 83% of those age 55 and above reporting at least one chronic illness (Chaaban et al. 2016). Refugee households classified as "extremely poor" suffer more chronic illnesses per household than other refugee households (Chaaban et al. 2016). Hypertension, chronic pulmonary disease, and diabetes are the leading causes of chronic illness among the refugee population (Chaaban et al. 2016). Although not specific to refugee camps in Lebanon, the UNRWA has reported a steady increase in the number of patients who receive care at their clinics for diabetes and hypertension (Shahin, Kapur, and Seita 2015). In 2013, 11% and 16% of patients over age 40 who attended UNRWA clinics had diabetes or hypertension, respectively (Shahin, Kapur, and Seita 2015). Currently, UNRWA has system-wide screening guidelines for diabetes and hypertension, as well as clinical guidelines for determining a diagnosis (Shahin, Kapur, and Seita 2015). The implementation of an E-health system with electronic medical records helps disseminate these system-wide clinical guidelines and policies among the UNRWA health facilities (Shahin, Kapur, and Seita 2015). A 2012 audit of clinical care for patients with diabetes at UNRWA health facilities found that many of these patients present with serious co-morbidities (Shahin et al. 2015).

Palestinian refugees from Syria (PRS) represent a growing proportion of the Palestinian refugees in Lebanon. Within this group, just over half are women and the average age of the population is 24.7 (Abdulrahim and Harb 2015). A vulnerability assessment of PRS in Lebanon found that 58% of families did not have any family member who worked in the month before the assessment (Abdulrahim and Harb 2015) . Among those that did report working, 90% had temporary jobs (Abdulrahim and Harb 2015). The lack of consistent employment opportunities translates into high levels of dependence on the UNRWA for basic needs such as food, clothing, and healthcare. Over 90% of those surveyed reported a lack of food or lack or money to buy food in the 30 days prior to the assessment (Abdulrahim and Harb 2015). There is also a substantial portion of PRS households with at least one vulnerable member, which includes pregnant and postpartum women, persons with a chronic illness, and those with physical or cognitive disabilities. Among PRS families, 6.5% have a woman who is pregnant or breastfeeding and 47% have someone with a chronic illness (Abdulrahim and Harb 2015).

Two MICS surveys after 2005 were performed for the Palestinian Refugees of Lebanon (PRL); one in 2006 and the other in 2011. These surveys target the Palestinian refugees who reside in Lebanon and not the Lebanese population. The data from these two surveys were used to produce the estimates and results discussed below.

Figure Map 5: Lebanon Map



Note: See Appendix for a description of regions.

Total Fertility Rate

In 2011, the total fertility rate (TFR) among the Palestinian Refugees of Lebanon (PRL) was 2.8. This ranged from 2.4 for women in the Beqaa Region, to 3.3 for women with a primary education. This indicator was not available for the 2006 survey to observe trends.

As shown in Table PRL.01, the TFR declined incrementally as wealth increased. The TFR in the richest wealth quintile was 2.6, compared to 3.1 in the poorest quintile. The TFR was similar by place of residence, but varied by region with Tripoli and Beirut with the highest TFRs, at 3.0 and 2.9, respectively.

Table PRL.01: Total fertility rate for the 3 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2011 MICS4

	2011
	TFR [C.I.]
Total	2.8 [2.6,2.9]
Education	
None	2.9 [1.9,4.2]
Primary	3.3 [3.0,3.8]
Secondary +	2.7 [2.5,2.9]
Wealth quintile	
Poorest	3.1 [2.7,3.5]
Poorer	2.8 [2.4,3.1]
Middle	2.8 [2.5,3.1]
Richer	2.7 [2.4,3.1]
Richest	2.6 [2.2,2.9]
Place of residence	
Urban	2.7 [2.6,3.0]
Rural	2.8 [2.5,3.1]
Region	
Tripoli	3.0 [2.7,3.3]
Beirut	2.9 [2.6,3.3]
Beqaa	2.4 [1.9,3.1]
Saida	2.6 [2.0.3,3]
Tyre	2.6 [2.2,3.0]

Contraceptive Use

Modern contraceptive use among the PRL did not change significantly between the 2006 and 2011 MICS surveys. Just over half of the PRL were currently using modern contraception at the time of both surveys. The significant changes by several characteristics are shown in Table PRL.02.

Modern contraceptive use varied significantly by age in both 2006 and 2011. By age, the highest percentage of women who were using modern contraception were age 35-44 (62% in 2006 and 64% in 2011), while the lowest use was among women age 15-24 (35% in 2006 and 2011). In both years, there was a trend of increasing use of modern contraceptives by age, except for the oldest women. Women age 25-34 experienced a significant decline in modern contraceptive use between 2006 and 2011. In 2006, 61% of women age 25-34 were using modern contraception, compared to 55% in 2011.

In 2006, there were no differences in modern contraceptive use by education level, although significant differences emerged in 2011. A higher percentage of women with a primary or secondary or higher level of education used modern contraception than women with no education. In addition, women with a primary education experienced a significant decline from 56% to 52% in modern contraceptive use between the two

surveys. In both years, use of modern contraceptives increased as women attained higher levels of education.

There were no differences in modern contraceptive use by wealth quintile in 2006, although differences emerged in the 2011 survey. In 2006, there was no clear pattern of modern contraceptive use by wealth quintile, while in 2011, modern contraceptive use increased incrementally with wealth quintile. This was due to a significant decline in modern contraceptive use by women in the middle wealth quintile, from 59% in 2006 to 52% in 2011.

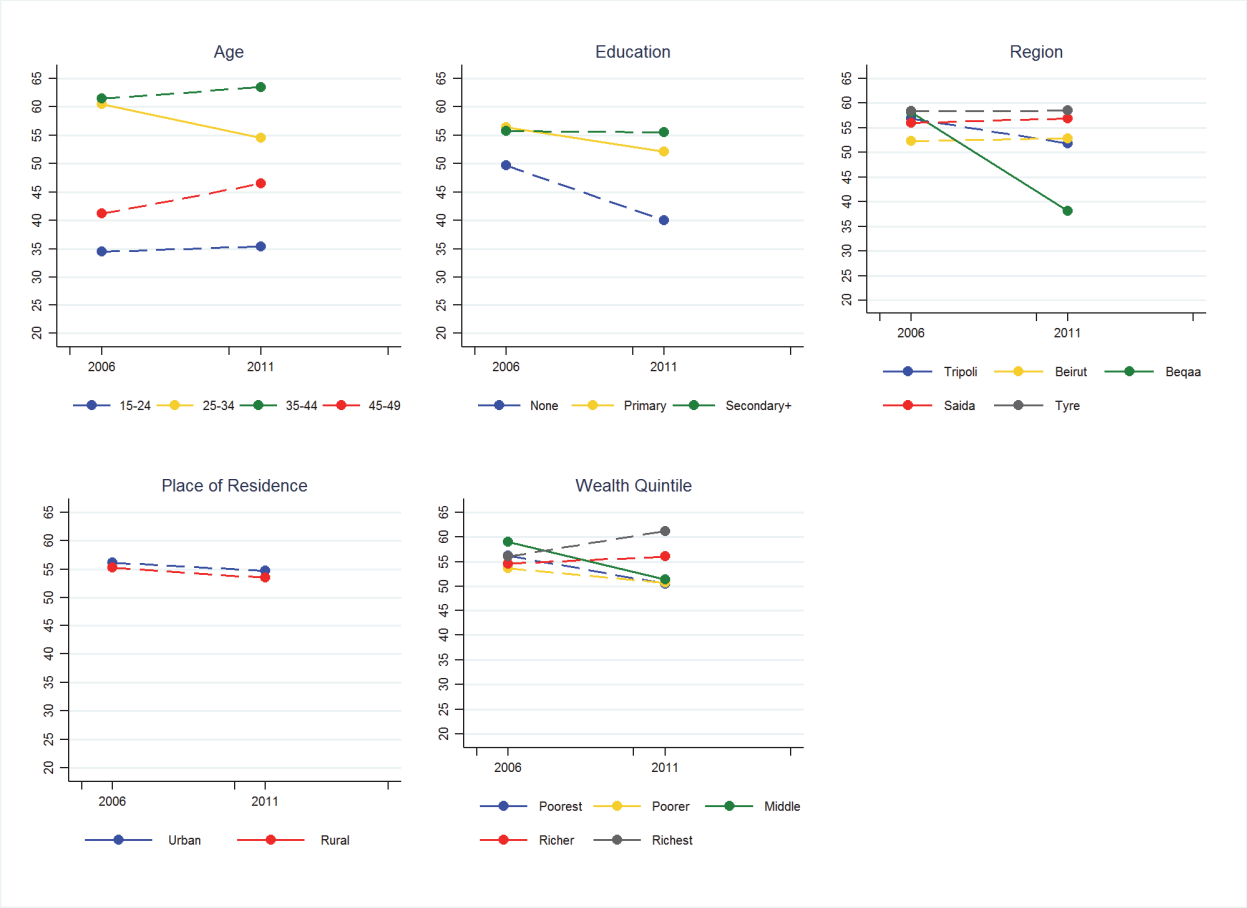
There were no differences in modern contraceptive use by place of residence, and there were no significant changes in modern contraceptive use by place of residence between the two surveys. Modern contraceptive use did not vary significantly by region in 2006, but did in 2011. The differences that developed by region were due to a significant, 20-percentage point decline in modern contraceptive use in the Beqaa Region, from 58% in 2006 to 38% in 2011. In 2006, the Beqaa Region had among the highest percentage of modern contraceptive use, while in 2011, Beqaa had the lowest by a margin of 14-percentage points. Beqaa's deviation from the other regions is shown in Figure PRL.01.

Table PRL.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	56.0 [54.3,57.7]		54.3 [52.3,56.3]		-1.7
Age					
15-24	34.5 [29.7,39.7]	*	35.4 [30.4,40.8]	*	0.9
25-34	60.5 [58.0,63.0]		54.5 [50.9,58.1]		-6.0*
35-44	61.5 [58.9,64.0]		63.5 [60.4,66.5]		2.0
45-49	41.2 [36.3,46.3]		46.5 [41.6,51.5]		5.3
Education					
None	49.7 [41.3,58.0]		40.0 [30.2,50.7]	*	-9.7
Primary	56.4 [54.6,58.2]		52.1 [48.3,55.8]		-4.3*
Secondary +	55.7 [51.4,60.0]		55.5 [53.2,57.8]		-0.2
Wealth quintile					
Poorest	56.3 [52.3,60.1]		50.6 [46.3,54.8]	*	-5.7
Poorer	53.7 [49.7,57.6]		50.8 [46.7,54.9]		-2.9
Middle	59.1 [55.6,62.4]		51.5 [47.5,55.4]		-7.6*
Richer	54.7 [50.7,58.5]		56.1 [51.9,60.2]		1.4
Richest	56.1 [52.8,59.3]		61.2 [56.8,65.5]		5.1
Place of residence					
Urban	56.2 [54.2,58.2]		54.7 [52.2,57.2]		-1.5
Rural	55.3 [51.8,58.7]		53.5 [50.3,56.7]		-1.8
Region					
Tripoli	56.9 [52.7,60.9]		51.8 [48.5,55.1]	*	-5.0
Beirut	52.3 [48.6,56.0]		52.9 [48.1,57.6]		0.6
Beqaa	58.1 [52.6,63.5]		38.1 [28.8,48.4]		-20.0*
Saida	56.0 [52.7,59.3]		56.9 [52.8,60.8]		0.8
Tyre	58.4 [54.7,62.0]		58.5 [53.9,62.9]		0.1

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.01: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



Like modern contraceptive use, traditional contraceptive use did not change significantly between 2006 and 2011. Although traditional contraceptive use was 12% overall in both years, significant and substantial changes were evident by several characteristics shown in Table PRL.03. The magnitude of changes observed within these characteristics is displayed in Figure PRL.02.

In both 2006 and 2011, traditional contraceptive use varied significantly by age. Women age 15-24 had the smallest percentage using traditional contraception (9% in 2006 and 10% in 2011), with use increasing with age in both years. Traditional contraceptive use remained consistent in all age categories between the two surveys.

There was no significant variation in traditional contraceptive use by education, and use by level of education was consistent between 2006 and 2011. There were differences in the percentage of women who were using traditional contraception by wealth in 2006 but by 2011, those differences were no longer significant. This was due to a significant increase in traditional use among women in the middle wealth quintile, from 10% to 14%, and a significant reduction among women in the richest quintile (16% to 11%). This pattern is shown in Figure PRL.02.

Traditional contraceptive use did not differ by place of residence, but did differ by region in both 2006 and 2011. In addition, several regions experienced significant changes in the percentage of women using traditional contraception between the two surveys. In 2006, the lowest percentage of women were using traditional contraception was in Tripoli at 6%. This increased significantly to 12% in 2011. Traditional

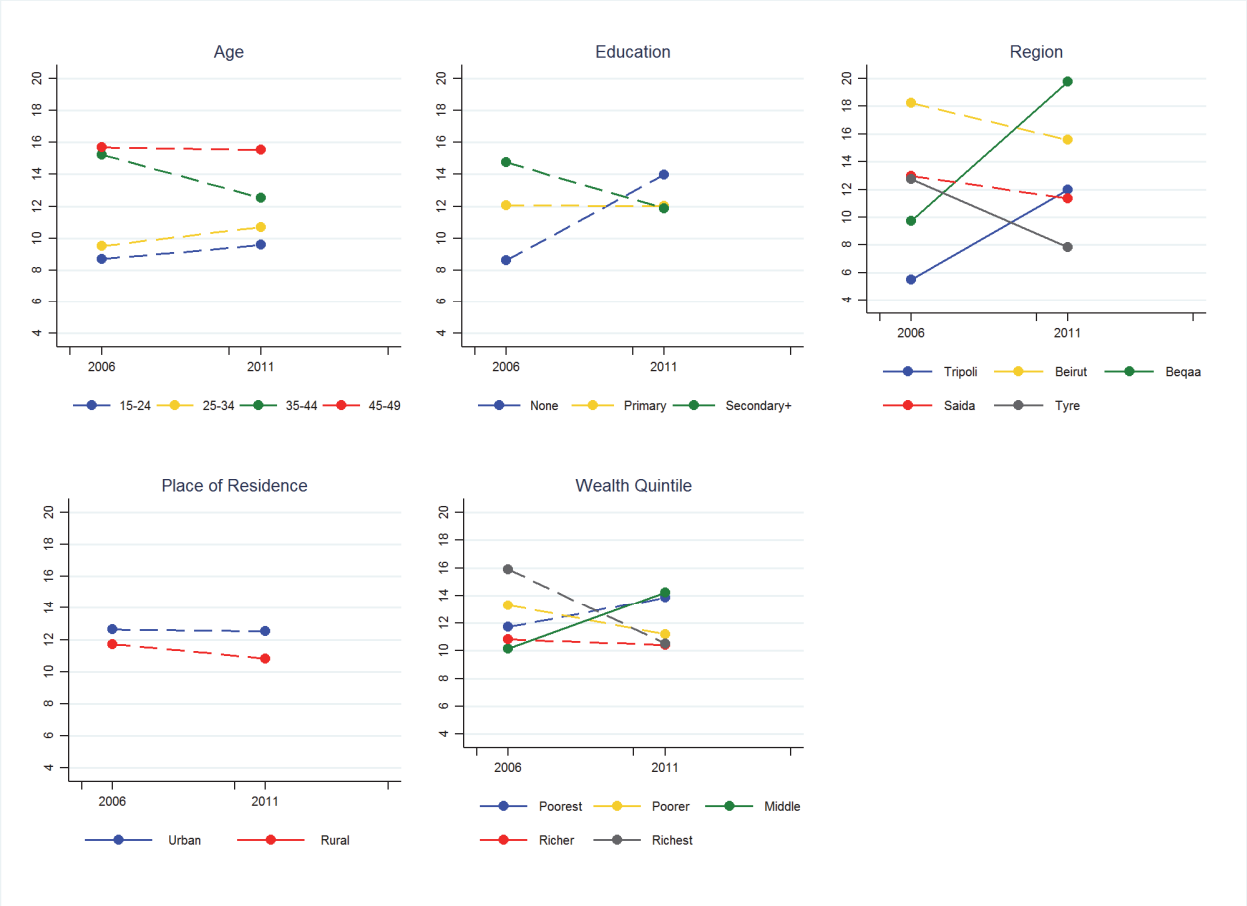
contraceptive use increased significantly among women in the Beqaa Region as well, from 10% in 2006 to 20% in 2011, while the Tyre Region experienced a significant decline in traditional contraceptive use between 2006 and 2011, from 13% to 8%.

Table PRL.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	12.4 [11.2,13.9]		12.0 [10.6,13.5]		-0.5
Age					
15-24	8.7 [6.3,11.9]	*	9.6 [6.9,13.2]	*	0.9
25-34	9.5 [8.0,11.2]		10.7 [8.7,13.1]		1.2
35-44	15.2 [13.4,17.2]		12.5 [10.5,14.8]		-2.7
45-49	15.7 [11.3,21.3]		15.5 [12.0,19.8]		-0.2
Education					
None	8.6 [4.8,15.0]		14.0 [7.8,23.8]		5.4
Primary	12.1 [10.9,13.4]		12.0 [9.5,15.1]		-0.1
Secondary +	14.8 [11.6,18.5]		11.9 [10.4,13.6]		-2.9
Wealth quintile					
Poorest	11.7 [9.1,14.8]	*	13.9 [11.0,17.3]		2.2
Poorer	13.3 [10.5,16.8]		11.2 [8.9,14.0]		2.1
Middle	10.1 [8.1,12.7]		14.2 [11.6,17.3]		4.1*
Richer	10.8 [8.4,13.7]		10.4 [7.9,13.7]		-0.4
Richest	15.9 [13.5,18.6]		10.5 [8.0,13.7]		-5.4*
Place of residence					
Urban	12.6 [11.1,14.3]		12.5 [10.8,14.5]		-0.1
Rural	11.7 [9.6,14.3]		10.8 [8.7,13.4]		-0.9
Region					
Tripoli	5.5 [3.9,7.7]	*	12.0 [9.7,14.7]	*	6.5*
Beirut	18.2 [15.6,21.2]		15.6 [12.1,19.8]		-2.7
Beqaa	9.8 [5.6,16.5]		19.8 [12.9,29.1]		10.0*
Saida	13.0 [10.4,16.1]		11.4 [8.7,14.7]		-1.6
Tyre	12.7 [10.4,15.5]		7.8 [5.7,10.7]		-4.9*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.02: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



Antenatal Care

In 2011, 90% of women age 15-49 had the recommended four or more ANC visits during their most recent pregnancy. This indicator was not available for the 2006 survey to observe trends. This indicator did not differ significantly by any characteristic as shown in Table PRL.04, except for region, while women age 45-49 had a much lower percentage of ANC visits (45%) compared to the remaining age categories, which were near 90%.

The Tyre Region had the smallest percentage of four or more ANC visits at 79%, compared to 94% of women in Tripoli, which had the highest percentage of women with four or more ANC visits during their most recent pregnancy. The other regions ranged from 86% to 92%.

Table PRL.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2011 MICS4

	2011	
Variable	% [C.I.]	Sig.[1]
Total	89.7 [87.0,91.9]	
Age		
15-24	88.8 [83.2,92.7]	
25-34	90.1 [86.7,92.7]	
35-44	90.5 [84.6,94.3]	
45-49	44.8 [4.8,94.3]	
Education		
None	80.2 [38.9,96.3]	
Primary	89.9 [82.2,94.4]	
Secondary +	89.8 [87.0,92.1]	
Wealth quintile		
Poorest	87.5 [80.7,92.2]	
Poorer	89.7 [83.3,93.9]	
Middle	89.2 [82.9,93.4]	
Richer	90.9 [85.5,94.4]	
Richest	90.7 [84.3,94.7]	
Place of residence		
Urban	90.6 [87.2,93.1]	
Rural	88.1 [83.3,91.7]	
Region		
Tripoli	94.1 [89.8,96.7]	*
Beirut	89.1 [78.7,94.7]	
Beqaa	85.6 [65.7,94.9]	
Saida	92.1 [87.8,95.0]	
Tyre	79.1 [70.5,85.7]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Nearly all women age 15-49 delivered their most recent birth with the assistance of an SBA in both 2006 (99%) and 2011 (97%). However, the small decline in SBA deliveries between 2006 and 2011 was significant overall, as well as by several characteristics as shown in Table PRL.05.

A slightly smaller percentage of women age 35-44 delivered with an SBA in 2011 compared to 2006—this was a significant decline from 99% to 96%. There was a downward trend in deliveries with SBAs for the remaining age categories, although this was not significant. There was a similar trend downward among women with a primary and a secondary or higher level of education, although the decline by education was not statistically significant between the two surveys. The sample size was too small to report data for women with no education.

In 2006 and 2011, the percentage of women who delivered with an SBA varied by wealth quintile, although there was no clear pattern of SBA deliveries by wealth. Women in the middle wealth quintile experienced a significant decline in the percentage who delivered with an SBA between the two surveys, from 99% in 2006 to 96% in 2011. In 2006, 100% of women in the poorest, poorer, and richest wealth quintiles delivered with an SBA. Women in the poorest wealth quintile had a six-percentage point decline in deliveries attended by SBAs, although this decline was not statistically significant.

In 2006, there were no differences in the percentage of deliveries with an SBA by place of residence, but, due to a significant decline in deliveries with an SBA among women in rural areas, there was a significant difference in by place of residence in the 2011 survey. In 2006, 99% of women in urban and rural areas delivered with an SBA, while in 2011 98% of women in urban areas and 95% of women in rural areas did. This decline is shown in Figure PRL.03.

Also in 2006, the percentage of women delivering with an SBA did not vary by region, although it did in 2011. This is due to a large, but not statistically significant, reduction in SBA use in the Tyre Region.

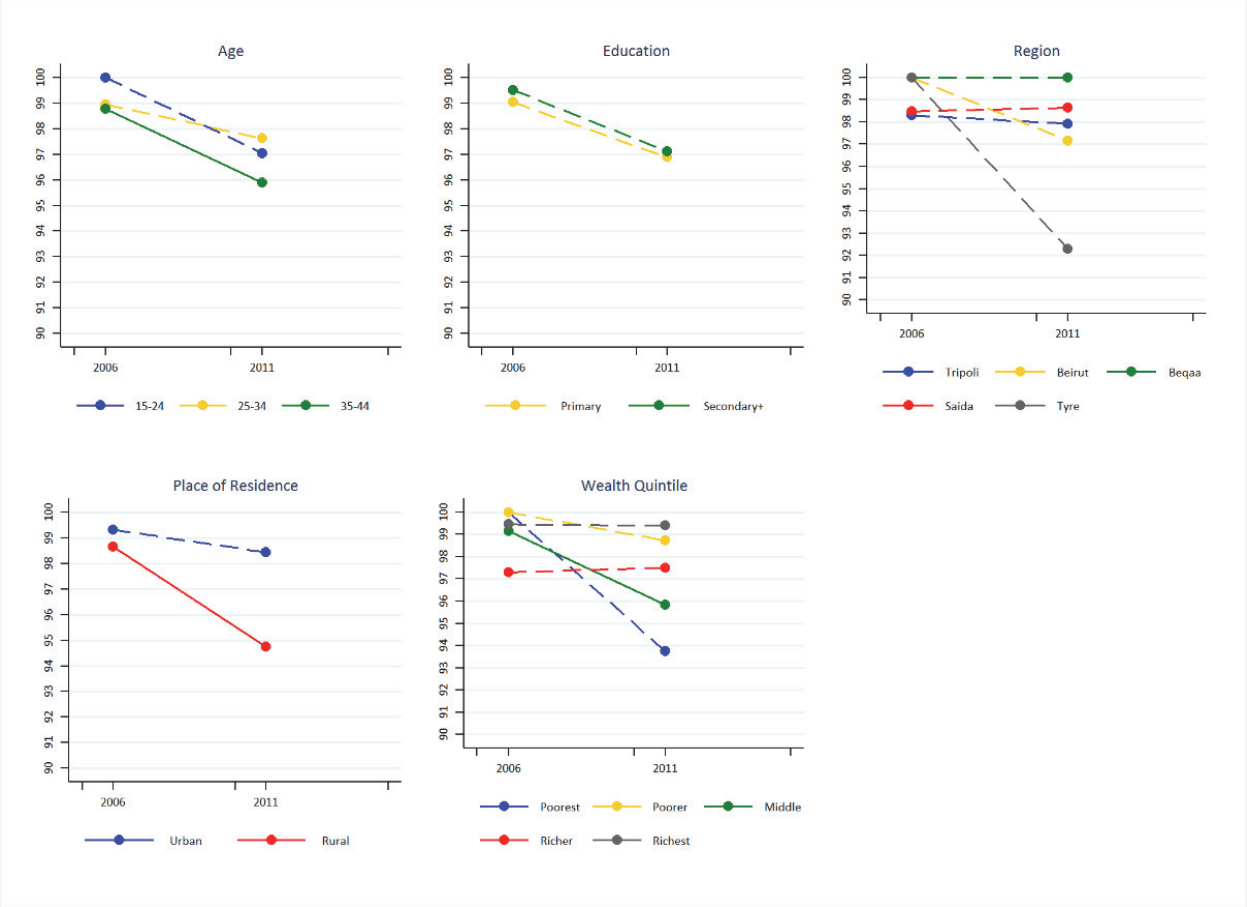
Table PRL.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	99.2 [98.4,99.6]		97.1 [95.5,98.1]		-2.0*
Age					
15-24	100.0		97.0 [92.7,98.8]		-3.0
25-34	99.0 [97.5,99.6]		97.6 [95.6,98.7]		-1.3
35-44	98.8 [97.6,99.4]		95.9 [91.1,98.1]		-2.9*
45-49	ND		ND		
Education					
None	ND		ND		
Primary	99.0 [98.1,99.5]		96.9 [91.8,98.9]		-2.1
Secondary +	99.5 [96.5,99.9]		97.1 [95.5,98.1]		-2.4
Wealth quintile					
Poorest	100.0	*	93.7 [87.7,96.9]	*	-6.3
Poorer	100.0		98.7 [94.9,99.7]		-1.3
Middle	99.1 [96.7,99.8]		95.8 [91.2,98.1]		-3.3*
Richer	97.3 [94.2,98.8]		97.5 [93.6,99.1]		0.2
Richest	99.5 [96.2,99.9]		99.4 [95.6,99.9]		-0.1
Place of residence					
Urban	99.3 [98.4,99.7]		98.4 [96.4,99.3]	*	-0.9
Rural	98.6 [96.4,99.5]		94.7 [91.4,96.8]		-3.9*
Region					
Tripoli	98.3 [95.0,99.4]		97.9 [95.3,99.1]	*	-0.4
Beirut	100.0		97.2 [87.9,99.4]		-2.8
Beqaa	100.0		(100.0)		
Saida	98.5 [96.7,99.3]		98.6 [95.9,99.6]		0.2
Tyre	100.0		92.3 [86.2,95.8]		-7.7

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.03: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



The percentage of women age 15-49 who delivered their most recent birth in a health facility did not change overall between 2006 and 2011 (98% in 2006, 99% in 2011). The only significant change by characteristics shown in Table PRL.06 was an increase in health facility delivery among women with a secondary or higher level of education. Health facility deliveries increased from 97% to 99% among these women. Although women with no education experienced a 10-percentage point decline in health facility deliveries, this change was not statistically significant. There was significant variation in delivery by education in both years. Significant variation by wealth quintile was seen in 2011, but not 2006.

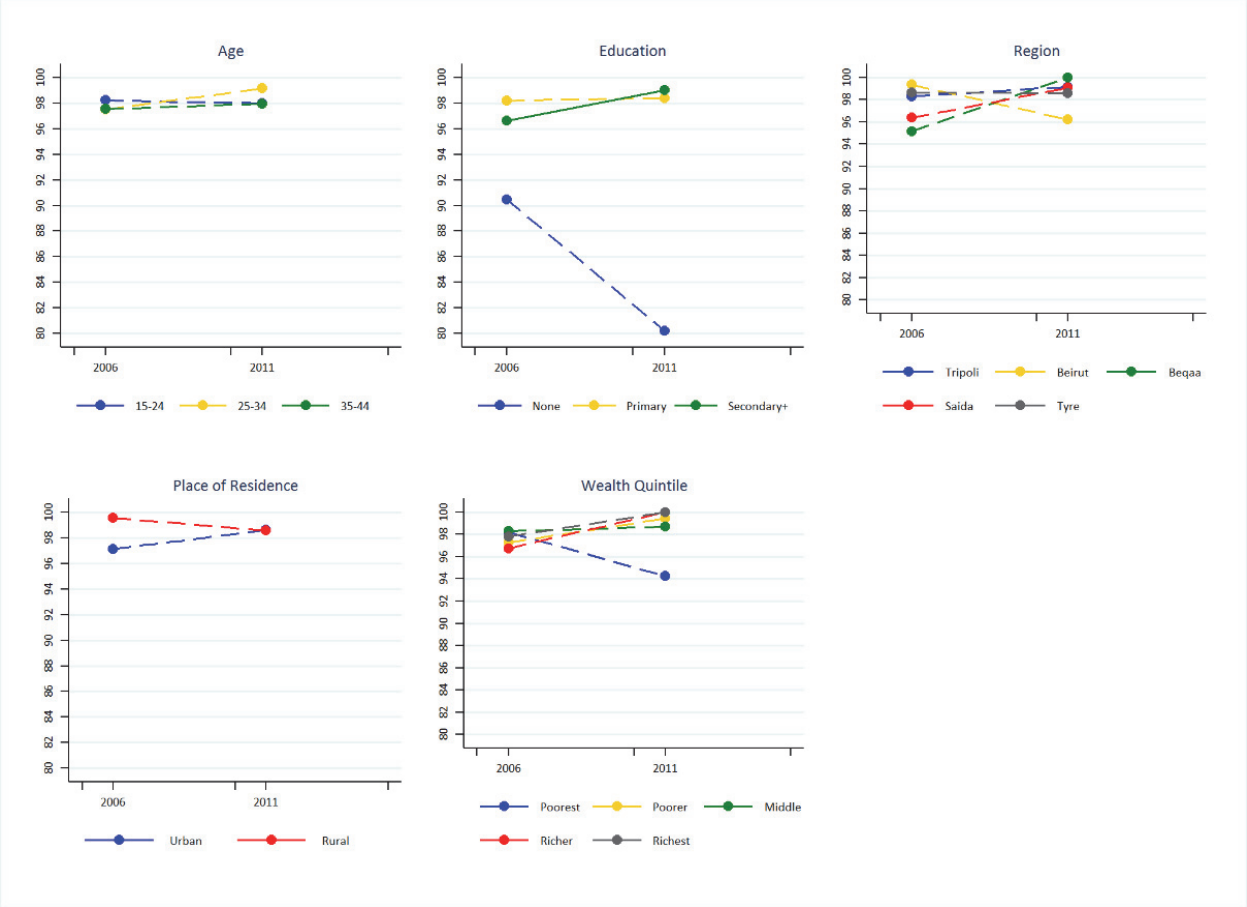
Table PRL.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	97.7 [96.3,98.5]		98.6 [97.4,99.2]		0.9
Age					
15-24	98.2 [94.3,99.5]		98.0 [95.0,99.2]		-0.2
25-34	97.5 [95.6,98.6]		99.2 [97.4,99.7]		1.7
35-44	97.6 [94.6,98.9]		98.0 [93.8,99.3]		0.4
45-49	ND		ND		
Education					
None	90.5 [66.7,97.8]	*	80.2 [38.9,96.3]	*	-10.3
Primary	98.2 [96.8,99.0]		98.4 [93.5,99.6]		0.2
Secondary +	96.6 [92.9,98.4]		99.0 [97.8,99.6]		2.4*
Wealth quintile					
Poorest	98.2 [94.3,99.4]		94.3 [89.2,97.0]	*	-3.9
Poorer	97.3 [93.6,98.9]		99.4 [96.0,99.9]		2.2
Middle	98.3 [94.4,99.5]		98.7 [94.8,99.7]		0.4
Richer	96.8 [93.0,98.5]		100.0		3.2
Richest	97.8 [94.1,99.2]		100.0		2.2
Place of residence					
Urban	97.1 [95.4,98.2]	*	98.6 [97.0,99.4]		1.5
Rural	99.5 [96.5,99.9]		98.6 [96.2,99.5]		-1.0
Region					
Tripoli	98.3 [95.0,99.4]		99.2 [96.7,99.8]		0.9
Beirut	99.4 [94.7,99.9]		96.2 [90.5,98.5]		-3.1
Beqaa	95.2 [85.6,98.5]		(100.0)		4.8
Saida	96.4 [92.8,98.2]		99.1 [96.3,99.8]		2.7
Tyre	98.7 [95.8,99.6]		98.6 [94.2,99.7]		-0.1

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.04: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



In 2011, 30% of women age 15-49 delivered their most recent birth by C-section. This indicator was not available for the 2006 survey to observe trends. Delivery by C-section varied significantly by region. As reported in Table PRL.07, 26% of women in the Tripoli and Saida regions delivered by C-section, compared to 40% of women in Beirut and 47% in Beqaa. The same percentage of women in urban and rural areas delivered by C-section as the total population surveyed (30%). This was true for women with a secondary or higher level of education as well. Conversely, 40% of women with no education delivered by C-section.

More than half of women age 45-49 delivered by C-section, compared to 25% of women age 15-24. C-sections increased incrementally with age, although due to the wide confidence intervals, this was not significant.

Table PRL.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2011 MICS4

Variable	% [C.I.]	Sig.[1]
Total	30.2 [27.0,33.6]	
Age		
15-24	24.9 [19.6,31.1]	
25-34	31.6 [27.0,36.6]	
35-44	33.8 [26.4,42.1]	
45-49	55.2 [7.0,95.2]	
Education		
None	39.8 [12.7,75.2]	
Primary	28.7 [21.7,36.9]	
Secondary +	30.3 [26.7,34.2]	
Wealth quintile		
Poorest	27.2 [20.0,35.9]	
Poorer	29.5 [22.5,37.7]	
Middle	27.0 [20.1,35.3]	
Richer	31.5 [24.7,39.1]	
Richest	35.2 [27.8,43.4]	
Place of residence		
Urban	30.0 [26.3,34.1]	
Rural	30.4 [24.6,37.0]	
Region		
Tripoli	25.6 [19.9,32.4]	*
Beirut	39.7 [32.3,47.5]	
Beqaa	46.6 [25.1,69.4]	
Saida	25.8 [21.1,31.3]	
Tyre	33.0 [24.7,42.5]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Care-seeking for ARI symptoms for children under age 5 increased significantly from 44% in 2006 to 82% in 2011. Care-seeking also increased significantly by most background characteristics, as shown in Table PRL.08. Data were not reported for several characteristics in Table PRL.08 because of too few cases. Among characteristics with data, all increased care-seeking between 2006 and 2011. However, increases for the middle wealth quintile and in the Beirut Region were not statistically significant.

Care-seeking increased significantly for both boys and girls. In 2011, care was sought for 78% of boys and 85% of girls with ARI symptoms, compared to 48% and 41% in 2006. By mother's education, sample sizes were only sufficient in both surveys for those with a secondary or higher level of education. Among these children, care-seeking increased from 48% to 79%. Care-seeking significantly increased for children with ARI symptoms in both the poorer and poorest wealth quintiles. However, since data by wealth quintile was limited by sample size, results for the poorer and poorest wealth quintiles must be interpreted with caution since they are based on 25-49 unweighted cases in 2011.

There was a significant difference in care-seeking by place of residence in 2006, but this disparity was not observed in 2011. Care-seeking increased for children in both urban and rural areas during this period, as shown in Figure PRL.05. Care-seeking increased significantly for children with ARI symptoms in Tripoli, from 43% in 2006 to 87% in 2011. In 2011, sample sizes were based on 25-49 unweighted cases for Tripoli and Beirut. Thus, these results must also be interpreted with caution due to the small number of cases. For the remaining regions, there were an insufficient number of cases to produce a reliable estimate.

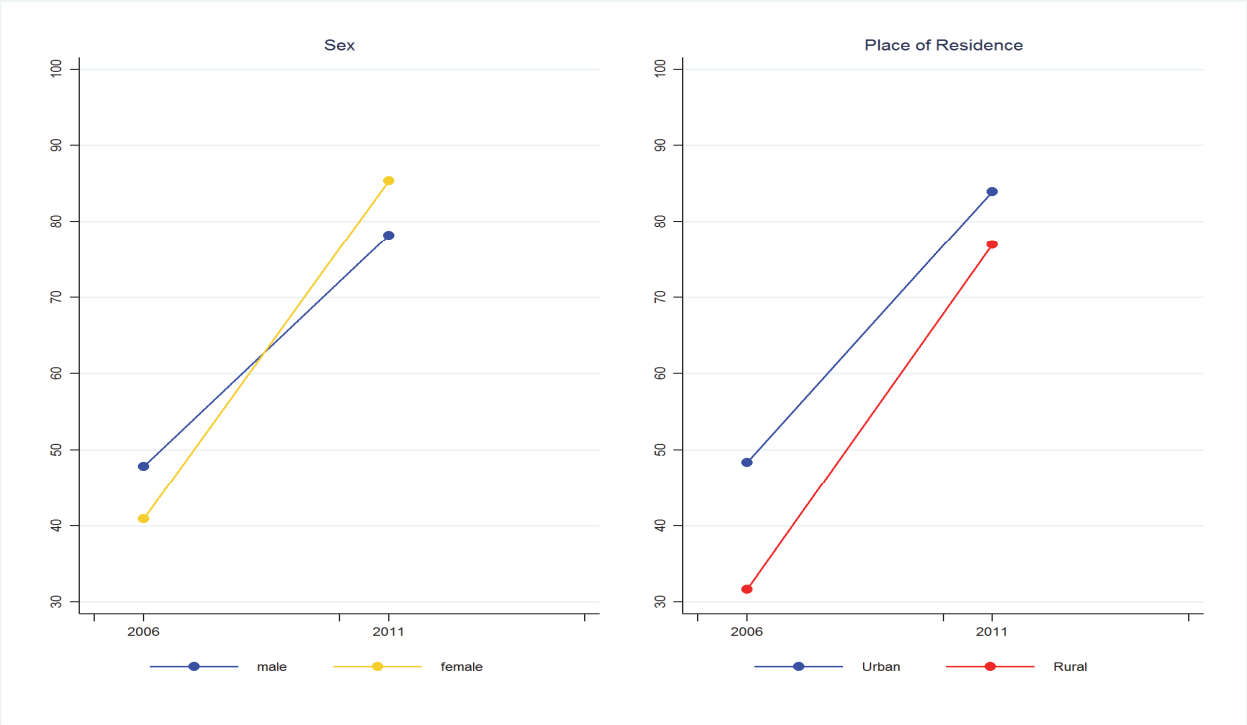
Table PRL.08: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	44.4 [38.8,50.1]		81.5 [72.0,88.3]		37.1*
Child's sex					
Male	47.8 [40.3,55.4]		78.2 [64.5,87.6]		30.4*
Female	40.9 [33.8,48.4]		85.4 [71.6,93.1]		44.5*
Mother's education					
None	(33.3 [16.9,55.1])		ND		
Primary	44.5 [38.7,50.5]		ND		
Secondary +	48.4 [36.1,60.8]		79.3 [67.5,87.6]		30.9*
Wealth quintile					
Poorest	33.8 [20.2,50.8]		(78.8 [53.2,92.4])		44.9*
Poorer	44.2 [34.6,54.3]		(79.4 [60.2,90.7])		35.1*
Middle	44.0 [34.8,53.5]		100.0		56.0
Richer	47.5 [33.8,61.7]		ND		
Richest	54.2 [40.1,67.7]		ND		
Place of residence					
Urban	48.4 [41.7,55.1]	*	83.9 [72.3,91.2]		35.5*
Rural	31.6 [21.3,44.2]		(76.9 [57.7,89.1])		45.3*
Region					
Tripoli	43.0 [32.7,54.0]	*	(87.3 [74.3,94.3])		44.3*
Beirut	64.4 [51.4,75.6]		(73.4 [52.1,87.6])		9.1
Beqaa	ND		ND		
Saida	37.7 [29.1,47.1]		ND		
Tyre	35.6 [23.8,49.3]		ND		

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.05: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



Child Nutrition

The percentage of children under age 6 months who were exclusively breastfed did not change between 2006 and 2011 overall, or by any characteristic, as shown in Table PRL.09. Despite this, there were notable trends by gender and place of residence, shown in Figure PRL.06. In 2006, a significantly higher percentage of boys under age 6 months were exclusively breastfed compared to girls (24% vs. 12%). In 2011, this trend, which was not significant, was reversed with a higher percentage of girls breastfed in 2011 than boys. A similar shift occurred by place of residence.

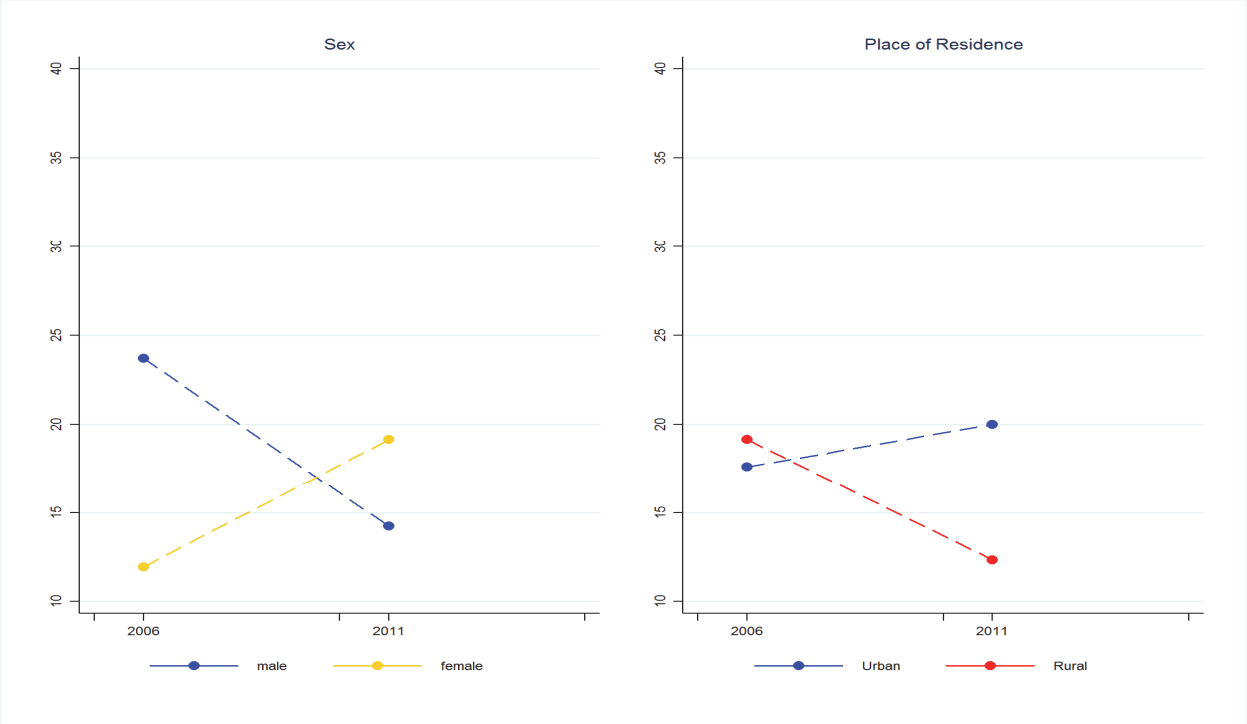
Table PRL.09: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	18.0 [12.9,24.5]		16.9 [11.8,23.7]		-1.1
Child's sex					
Male	23.7 [15.9,33.8]	*	14.2 [7.5,25.5]		-9.5
Female	12.0 [7.1,19.5]		19.2 [11.7,29.7]		7.2
Mother's education					
None	ND		ND		
Primary	15.9 [10.8,22.7]		(12.8 [3.8,35.3])		-3.1
Secondary +	(23.7 [11.9,41.6])		18.3 [12.4,26.3]		-5.4
Wealth quintile					
Poorest	(20.0 [10.2,35.4])		ND		
Poorer	(27.3 [15.5,43.4])		(17.3 [7.2,36.1])		-10.0
Middle	(12.8 [6.1,24.8])		(18.7 [8.3,37.1])		6.0
Richer	(22.9 [12.0,39.2])		(13.9 [5.6,30.6])		-9.0
Richest	(6.1 [1.4,22.9])		(17.9 [5.9,43.4])		11.9
Place of residence					
Urban	17.6 [11.8,25.5]		20.0 [13.1,29.3]		2.4
Rural	(19.1 [10.2,33.0])		12.4 [5.8,24.4]		-6.8
Region					
Tripoli	(25.0 [10.7,48.1])		13.6 [7.3,23.9]		-11.4
Beirut	(11.8 [5.1,24.9])		(20.1 [6.2,48.9])		8.4
Beqaa	ND		ND		
Saida	20.6 [11.4,34.4]		(18.4 [8.2,36.1])		-2.3
Tyre	16.0 [8.1,29.2]		(13.0 [4.4,32.7])		-3.0

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.06: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



Stunting among children under age 5 significantly decreased overall, from 20% in 2006 to 12% in 2011, as shown in Table PRL.10. In 2011, approximately 12% of both boys and girls were stunted, compared to 21% of boys and 19% of girls in 2006.

Significant reductions in the percentage of children who were stunted were evident for children with mothers with a primary or a secondary or higher level of education between the two surveys. In 2011, stunting declined with increasing education. In addition, the percentage of children who were stunted declined significantly in the middle, richer, and richest wealth quintiles. Stunting in the richer and richest quintiles reduced by half.

A smaller percentage of children in both urban and rural areas were stunted in 2011 compared to 2006. In 2006, 20% of urban and 19% of rural children were stunted, compared to 12% of urban and 13% of rural children in 2011.

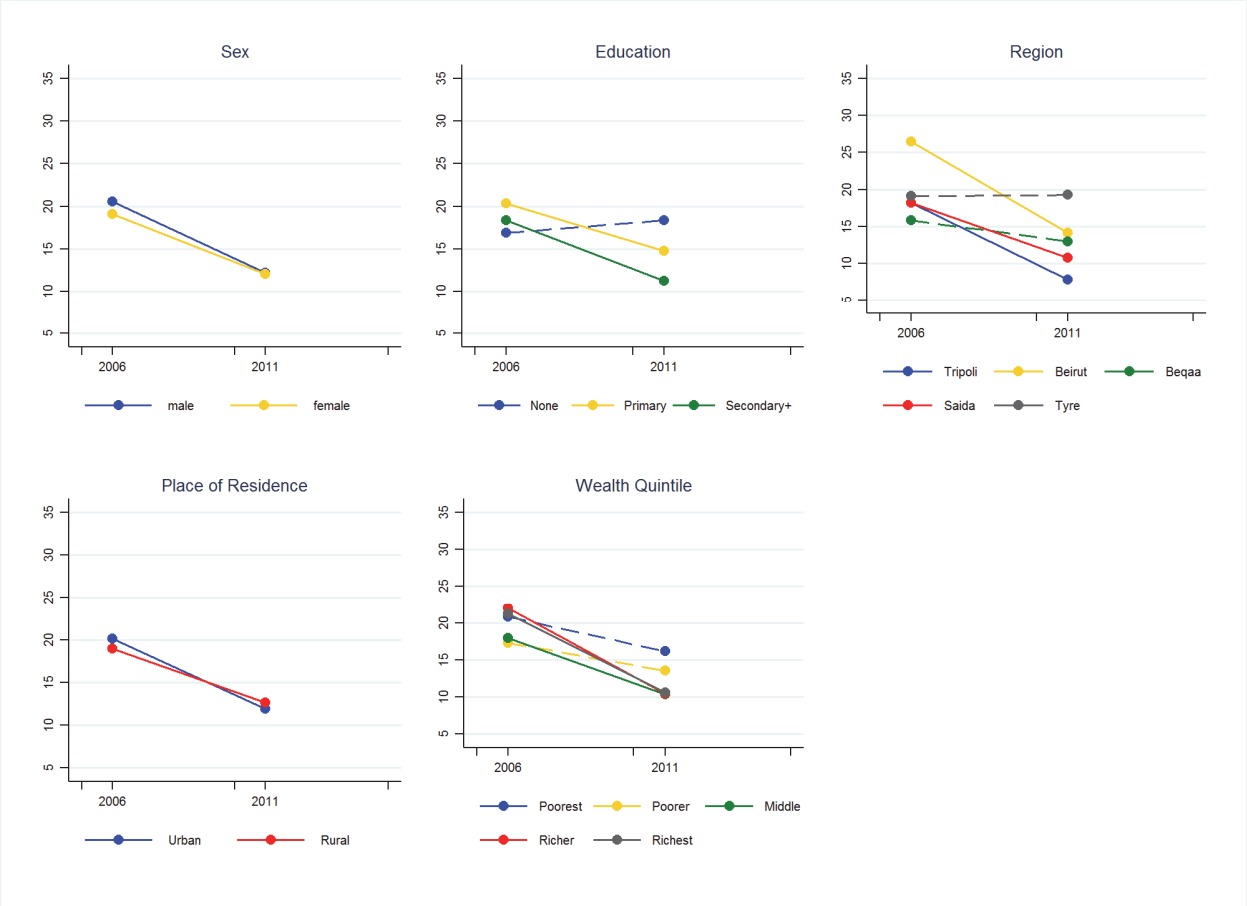
Of all characteristics in Table PRL.10, the percentage of children who were stunted only varied significantly by region. In 2006, stunting was lowest in the Beqaa region, at 16%, and highest in Beirut, at 27%. In 2011, stunting was lowest in Tripoli at 9%, and highest in Tyre at 19%. The Tripoli, Beirut, and Saida regions all experienced significant declines in the percentage of children who were stunted between 2006 and 2011, as shown in Figure PRL.07.

Table PRL.10: Percentage of children under age 5 who are stunted, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	19.8 [17.8,22.0]		12.1 [10.5,14.0]		-7.7*
Child's sex					
Male	20.6 [17.6,23.9]		12.2 [10.0,14.8]		-8.4*
Female	19.1 [16.6,21.8]		12.1 [9.8,14.8]		-7.0*
Mother's education					
None	16.9 [10.1,26.7]		(18.4 [8.4,35.7])		1.5
Primary	20.3 [18.2,22.7]		14.7 [11.3,19.1]		-5.6*
Secondary +	18.4 [14.3,23.3]		11.3 [9.5,13.3]		-7.1*
Wealth quintile					
Poorest	20.8 [16.6,25.7]		16.2 [12.5,20.7]		-4.6
Poorer	17.3 [13.4,22.0]		13.6 [10.3,17.7]		-3.7
Middle	17.9 [14.4,22.1]		10.4 [7.5,14.1]		-7.5*
Richer	22.0 [17.8,26.8]		10.4 [7.5,14.3]		-11.6*
Richest	21.3 [16.8,26.5]		10.6 [7.7,14.4]		-10.7*
Place of residence					
Urban	20.1 [17.7,22.7]		11.9 [9.7,14.4]		-8.2*
Rural	19.0 [15.4,23.2]		12.6 [10.3,15.4]		-6.3*
Region					
Tripoli	18.2 [14.6,22.4]	*	7.8 [5.8,10.6]	*	-10.3*
Beirut	26.5 [21.3,32.4]		14.2 [9.6,20.4]		-12.3*
Beqaa	15.8 [9.5,25.2]		13.0 [5.3,28.5]		-2.8
Saida	18.2 [14.4,22.8]		10.8 [7.9,14.5]		-7.4*
Tyre	19.1 [15.3,23.6]		19.3 [15.5,23.7]		0.1

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.07: Percentage of children under age 5 who are stunted, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



The percentage of children under age 5 who were overweight declined significantly between 2006 and 2011. In 2006, 15% of children were overweight, compared to 10% in 2011. Declines in the percentage of children who were overweight were evident by many characteristics, as shown in Table PRL.11.

In 2006, a similar percentage of boys and girls under age 5 were overweight (16% and 14%). Both experienced significant declines in the percentage overweight, and by 2011, 11% of boys and 9% of girls were overweight. In 2011, the difference by child's sex was significant. By mother's education level, children with mothers with a primary education experienced a significant decline in the percentage overweight, from 16% to 7% between the two surveys. Children of mothers with no education and a secondary or higher education did not experience a significant change. However, because of the large reductions, there was no difference in the percent of children who were overweight by mother's education in 2011. By wealth, the poorest and richest wealth quintiles saw a significant change between the two surveys. In 2006, the poorest quintile had the highest percentage of overweight children compared to all other quintiles. However, in 2011 the poorest had the lowest although overweight did not differ significantly by wealth in 2011. The steep decline for the poorest and richest wealth quintile is shown in Figure PRL.08.

In 2006, 14% of children in urban areas and 21% of children in rural areas were overweight. By 2011, the percentage of overweight children in urban and rural areas converged and were no longer significantly different. The percentage of overweight children in rural areas declined by more than half, which accounts for this convergence.

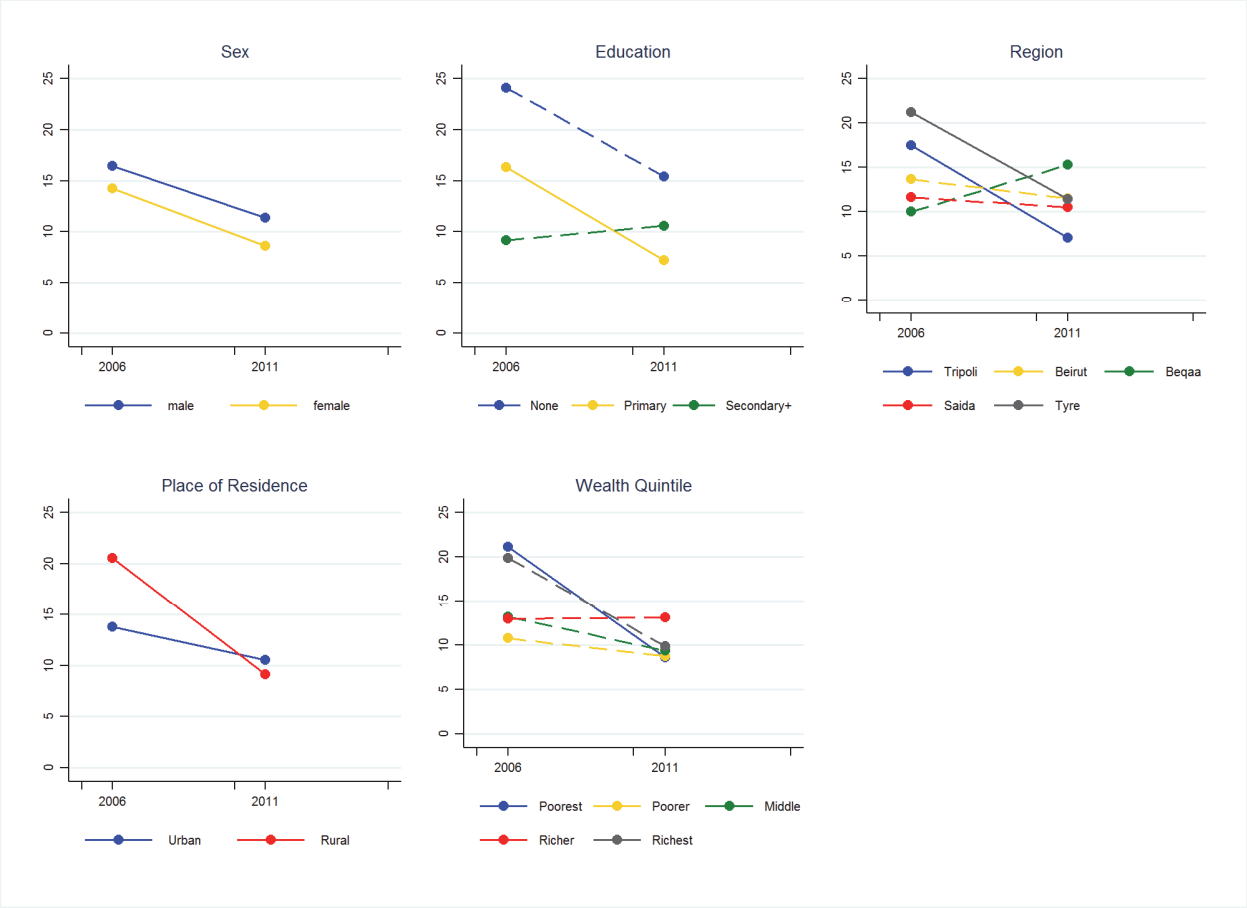
A similar shift occurred by region. In 2006, the lowest percentage of overweight children were in the Beqaa Region (10%), but by 2011, Beqaa had the highest percentage of overweight children (15%) compared to other regions, although these differences by region were not significant in 2011. The Tripoli Region changed from 17% children who were overweight in 2006 to 7% in 2011, while the Tyre Region had a similar decline, from 21% to 11%.

Table PRL.11: Percentage of children under age 5 who are overweight, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4

	2006		2011		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	15.3 [13.7,17.1]		10.0 [8.6,11.6]		-5.3*
Child's sex					
Male	16.4 [14.1,19.1]		11.4 [9.4,13.7]	*	-5.1*
Female	14.3 [12.0,17.0]		8.6 [7.0,10.6]		-5.6*
Mother's education					
None	24.1 [17.6,32.1]	*	(15.4 [7.1,30.2])		-8.7
Primary	16.3 [14.3,18.6]		7.2 [4.9,10.4]		-9.1*
Secondary +	9.2 [6.5,12.9]		10.6 [9.0,12.4]		1.4
Wealth quintile					
Poorest	21.1 [16.4,26.7]	*	8.6 [5.7,12.7]		-12.5*
Poorer	10.8 [7.9,14.4]		8.8 [6.3,12.1]		-2.0
Middle	13.2 [10.3,16.7]		9.4 [6.9,12.7]		-3.7
Richer	13.0 [10.0,16.6]		13.1 [9.8,17.4]		0.2
Richest	19.9 [15.8,24.7]		9.9 [6.9,13.8]		-10.0*
Place of residence					
Urban	13.7 [11.9,15.8]	*	10.5 [8.7,12.6]		-3.2*
Rural	20.5 [16.9,24.8]		9.1 [6.9,11.9]		-11.5*
Region					
Tripoli	17.4 [14.2,21.3]	*	7.0 [5.2,9.5]		-10.4*
Beirut	13.6 [10.5,17.5]		11.5 [8.2,15.9]		-2.1
Beqaa	10.0 [6.0,16.3]		15.3 [5.9,34.0]		5.3
Saida	11.6 [8.8,15.1]		10.5 [7.9,13.8]		-1.1
Tyre	21.2 [17.1,26.1]		11.4 [8.2,15.7]		-9.8*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure PRL.08: Percentage of children under age 5 who are overweight, by background characteristics, Palestinian Refugees of Lebanon 2006 MICS3 and 2011 MICS4



Under-5 Mortality

In 2011, the PRL had an under-5 mortality rate of 17/1000 live births. This indicator was not available for the 2006 survey to observe trends. Children with mothers with no education had the highest mortality rate, at 57/1000, compared to 10/1000 for children with mothers with a primary education, and 18/1000 for children with mothers with a secondary or higher level of education. However, the confidence intervals for children with mothers with no education were very wide. Large disparities existed in under-5 mortality by region. The lowest under-5 mortality rate was in Beirut, at 8/1000 live births. Beqaa's under-5 mortality was 30/1000, higher than any other region in Table PRL.12.

Table PRL.12: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Palestinian Refugees of Lebanon 2011 MICS4

Variable	U5M [C.I.]
Total	17 [13,24]
Child's sex	
Male	19 [12,30]
Female	16 [10,25]
Mother's education	
None	57 [14,206]
Primary	10 [4,23]
Secondary +	18 [13,26]
Wealth quintile	
Poorest	26 [14,46]
Poorer	15 [7,33]
Middle	12 [5,28]
Richer	20 [10,38]
Richest	14 [6,30]
Place of residence	
Urban	15 [10,23]
Rural	22 [14,36]
Region	
Tripoli	23 [14,36]
Beirut	8 [2,25]
Beqaa	30 [11,81]
Saida	15 [8,29]
Tyre	19 [8,42]

Lebanon (Palestinian Refugees) Summary

In 2011, the TFR among the PRL was 2.8 births per woman. The Beqaa Region had the lowest TFR, which neared replacement at 2.4. Modern contraceptive use among married women age 15-49 remained steady overall at just above 50% between 2006 and 2011, but declined by many characteristics. This was most notable in the Beqaa Region, which declined from 58% to 38%. By 2011, Beqaa had the lowest percentage of modern contraceptive use by region. In contrast, Beqaa experienced a 10% increase in traditional contraceptive use between 2006 and 2011, which was unsurpassed by any other region. There was no change in modern or traditional contraceptive use for the PRL overall.

The ANC and delivery indicators varied. In 2011, 90% of women had the recommended four or more ANC visits for their most recent pregnancy, although this was 45% for women age 44-49. Nearly all women delivered with an SBA in both 2006 and 2011, and nearly all women delivered in a health facility in both years as well. The percentage of women who delivered by C-section was 30% in 2011, but as high as 47% among women in the Beqaa Region.

Child health indicators showed improving trends between 2006 and 2011. Care-seeking for children under age 5 with ARI symptoms increased from 44% to 82% overall, and improved by most characteristics when sufficient data were available. Less than one-fifth of children under age 6 months were exclusively breastfed in 2006 and 2011. Stunting among children under age 5 declined overall, from 20% to 12%, and the percentage of children who were overweight decreased from 15% to 10%. In 2006, the Beqaa Region had a higher percentage of children who were overweight than any other region, while in 2011, Beqaa had the lowest percentage of overweight children compared to the other regions. Finally, under-5 mortality in PRL was 17/1000 live births in 2011, although this varied widely, particularly by the mother's education level. The under-5 mortality rate among women with no education was 57/1000 live births, although this estimate had a wide confidence interval.

Libya

Libya, with an estimated total population of 6.3 million as of 2015, has endured a state of near constant conflict since 2011 (Population Reference Bureau 2016). In 2011, uprisings associated with the Arab Spring resulted in the overthrow of then president Muammar Gaddafi. Subsequently, Libya began a civil war, which continues today. Six years of conflict have made the consistent, accurate collection of public health data difficult, particularly in areas controlled by militias and the so-called Islamic State. There are an estimated 435,000 internally displaced people in Libya and over 30,000 civilians who have suffered severe injuries as a result of the on-going civil war (WHO 2016c). Since 2007, life expectancy at birth has remained stable at just below 72 years (World Bank 2017c). In 2016, the total fertility rate was estimated to be 2.3, a decrease from 3.0 in 2008 (Population Reference Bureau 2016). In some cases, maternal and child health outcomes have improved over the last 10 years although current data are unavailable for certain outcomes. The effects of the recent conflict on the Libyan health system have been dramatic, although recent data is difficult to collect.

Improvements in maternal and reproductive health outcomes in Libya are difficult to determine given the lack of recent, nation-wide data. The maternal mortality ratio (MMR) has remained steady at 9 maternal deaths per 100,000 live births since 2010 (Maternal Mortality Estimation Inter-Agency Group 2016). In 2008, 99.8% of births were attended by a skilled health professional but this is expected to have decreased in recent years due to the deterioration of the health system (World Bank 2017c). A 2014 study assessed the attitudes toward antenatal care (ANC) of pregnant women who were attending primary health clinics in Benghazi. The authors found that 85% of the women had a high level of knowledge of ANC and 96% had a positive attitude toward ANC (Ibrahim, El Borgy, and Mohammed 2014). Nationwide data on delivery and birth outcomes are unavailable. A 2014 study compared the prevalence of pre-term birth, low birth weight, and cesarean deliveries at a large hospital in Benghazi in the months prior to the 2011 civil war and during the height of the conflict. The authors found statistically significant increases in all three indicators and suggested that the increases may be due, at least in part, to the psychosocial stress associated with living in a conflict zone (Bodalal et al. 2014).

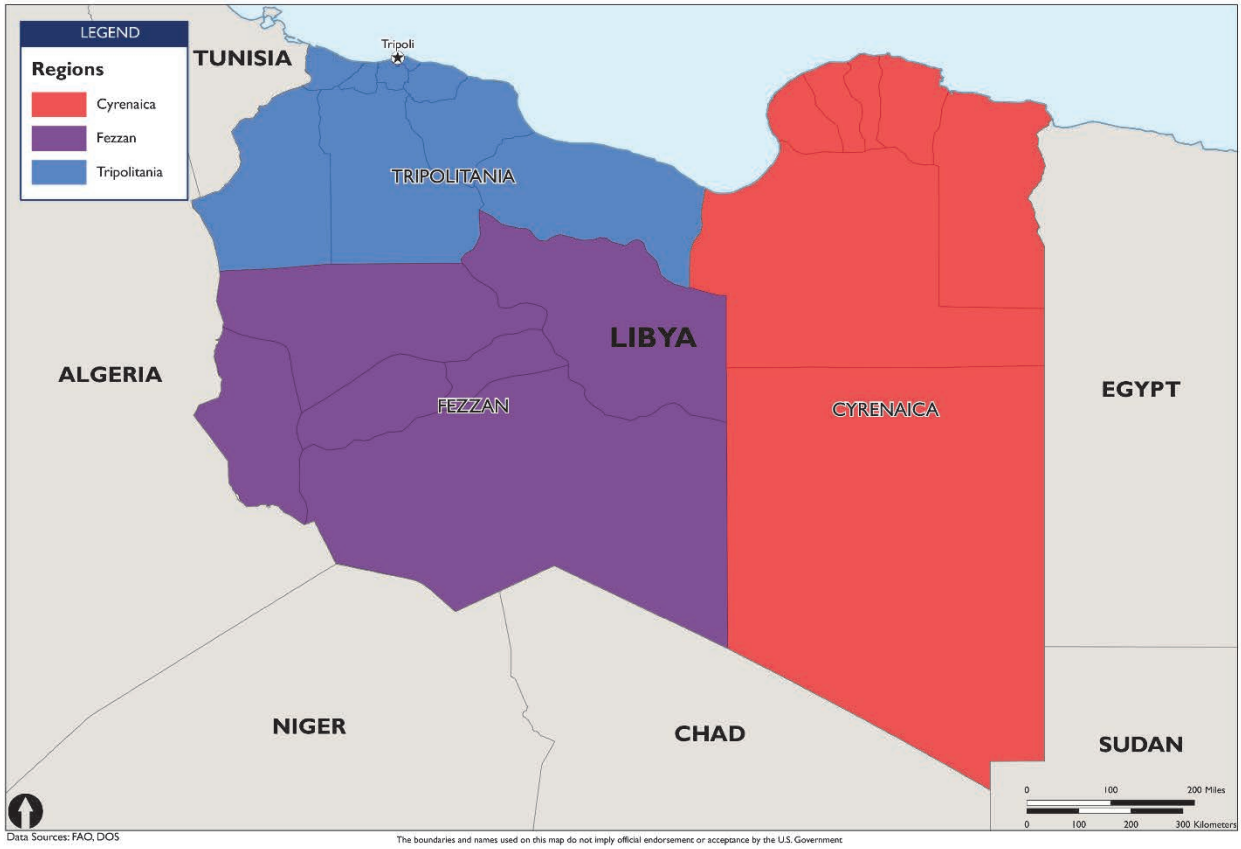
Data on child and infant health outcomes are available, although the data are dated. Since 2002, the infant mortality rate has declined from 19.8 to 14 deaths per 1,000 live births in 2008 (UNICEF et al. 2016). The under-5 mortality rate has also decreased over the same time period from 25.8 to 20.1 deaths per 1,000 live births (UNICEF et al. 2016). The measles immunization coverage among two-year olds has decreased slightly over the past decade from 98% coverage in 2007 to 93% coverage in 2015 (World Bank 2017c). Overweight and obesity among children and adolescents are growing concerns. Among adolescents, age 15-18 years, a survey in Tripoli found that 9.9% and 15.3% of the study population were overweight or obese, according to the WHO standard (Musaiger et al. 2016). A second study estimated the prevalence of overweight in males under age 20 to be 32.5% and 41.7% in females (Ng et al. 2014). While obesity is a growing problem, stunting in children remains significant. A 2009 study that used a nationally representative sample of children under age 5 found the stunting prevalence to be 20.7% (El Taguri et al. 2009). Other health concerns include the potential mental health consequences of the protracted conflict on the Libyan population. To date, these effects have not been formally assessed in the Libyan population, although at least one study has modeled the potential impacts (Charlson et al. 2012). By using mental health prevalence models based on other conflict areas, the authors of this study predicted that among Libyan populations directly exposed to conflict, the prevalence of post-traumatic stress disorder may be 12.4% and severe depression as high as 19.8% (Charlson et al. 2012).

Since the beginning of the Arab Spring in 2011, the Libyan health system has deteriorated significantly. After the 2011 uprisings, a large portion of medical professionals fled the country and have not yet returned. This left Libya with a severe shortage of medical professionals (Terzian 2016). According to WHO, an

estimated 60% of hospitals have closed in conflict areas or become inaccessible (WHO 2016c). In 2012, after the 2011 uprisings, the reality that the Libyan health system was close to collapse prompted a conference between the Libyan Ministry of Health and the WHO that focused on rebuilding the health system (El Oakley et al. 2013). As a result, there were several recommendations that included free basic and preventative health care for all Libyans and a suggested target-level of healthcare spending equivalent to 5.5-6% of the country's GDP by 2030 (El Oakley et al. 2013). As of 2014, Libya's health expenditure as a percent of the GDP was approximately 5% (World Bank 2017c). Currently, there is a high dependence on foreign health workers and a substantial portion of government health funds dedicated to a program which sends Libyans to other countries for healthcare (WHO 2016c). A 2015 case study examined the program of sending injured Libyans abroad for treatment and its impact on the Libyan health system in conjunction with the presence of international security forces (Bourdeaux et al. 2015). In this case study, key informants argued that the program, which costs approximately $3 billion USD, could have been avoided if international security forces had provided more direct health care for those wounded in the conflict (Bourdeaux et al. 2015).

The results discussed below for Libya were produced from the 2007 PAPFAM survey. No other survey after 2007 was available for comparison to observe trends in the indicators. A PAPFAM survey was conducted in Libya in 2014, although the data were not available for analysis.

Figure Map 6: Libya Map



Note: See Appendix for a description of regions.

Contraceptive Use

As shown in Table Libya.01, similar percentages of women were using modern and traditional contraceptive methods at the time of the survey in 2007 (approximately 20% for both indicators). Modern contraceptive use in Libya was the lowest of all the countries included in this report (Overall Summary, Figure 2). Conversely, traditional contraceptive use was the highest, although not statistically different from Jordan (Overall Summary, Figure 3).

Compared to women in other age groups, women age 35-44 had the highest proportion of current modern contraceptive use and women age 25-34 had the highest rates of traditional contraceptive use. Current use of both modern and traditional methods increased with education, although more dramatically for traditional methods where the gap between women with no education and secondary or more education was more than 10 percentage points. Women with a primary and secondary or more education had similar rates of modern contraceptive use and the gap between women with no education and secondary or more education was approximately 5 percentage points.

Modern contraceptive use increased with wealth. A similar trend is observed for traditional method use, except in the wealthiest quintile. There was a significant difference between the wealth quintiles for modern contraceptive use, although wealth quintile did not differ significantly by traditional contraceptive use.

Both modern and traditional contraceptive method use varied by region. Modern contraceptive use was the highest in the Cyrenaica Region, traditional contraceptive use was highest in Tripolitania, and Fezzan had the lowest proportion of women using modern and traditional contraceptive methods.

Table Libya.01: Percentage of women currently using modern or traditional contraception among women age 15-49 in a union, by background characteristics, Libya 2007 PAPFAM

	Modern CPR		Traditional CPR	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	19.3 [18.3,20.4]		20.2 [19.2,21.3]	
Age				
15-24	10.8 [7.9,14.6]	*	13.7 [10.6,17.6]	*
25-34	15.5 [14.1,17.1]		22.0 [20.4,23.6]	
35-44	23.3 [21.8,24.8]		21.7 [20.2,23.3]	
45-49	20.4 [17.9,23.1]		13.9 [11.5,16.5]	
Education				
None	15.4 [12.9,18.2]	*	9.9 [8.2,11.8]	*
Primary	19.4 [17.3,21.7]		19.5 [17.2,22.0]	
Secondary +	19.9 [18.7,21.2]		22.1 [20.9,23.3]	
Wealth quintile				
Poorest	13.6 [11.9,15.4]	*	18.3 [16.4,20.4]	
Poorer	17.6 [15.6,19.9]		19.0 [17.0,21.2]	
Middle	19.4 [17.4,21.7]		21.3 [19.1,23.6]	
Richer	23.4 [21.2,25.7]		22.1 [19.9,24.5]	
Richest	24.4 [22.0,27.0]		20.7 [18.4,23.2]	
Region				
Tripolitania	19.0 [17.7,20.5]	*	22.6 [21.2,24.1]	*
Cyrenaica	22.1 [20.3,24.1]		16.3 [15.0,17.7]	
Fezzan	11.5 [10.0,13.1]		12.3 [10.9,14.0]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

The vast majority of women in Libya gave birth with a skilled birth attendant (SBA) and delivered in a health facility. Although significant differences were found by all characteristics included in Table Libya.02 except for wealth quintile for health facility delivery, percentages of SBA assisted and health facilities deliveries were above 95% for almost all subgroups of women. One exception is in the Fezzan Region, which had notably lower percentages of SBA and health facility deliveries compared to the other two regions although the percentage was above 90% for both indicators.

The percentage of women who had a C-section delivery for their most recent birth in Libya was 15% overall, although this varied by several characteristics shown in Table Libya.02. The highest percentage of C-section delivery was among women age 35-44—more than twice as high as women age 15-24. Delivery by C-section increased with level of education. Approximately 8% of women with no education delivered their most recent birth by C-section compared to 15-16% of women with primary or secondary or more education. C-section delivery did not differ significantly by wealth quintile. There were significant differences in C-section delivery by region. The highest percentage of C-section delivery was found in the Tripolitania Region (16%), while the lowest was in Fezzan (9%).

Table Libya.02: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant, delivered in a health facility, or delivered by caesarean section in the 2 years before the survey, by background characteristics, Libya 2007 PAPFAM

	SBA		DHF		C-section	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	98.7 [98.5,98.9]		98.4 [98.1,98.6]		14.9 [13.8,15.9]	
Age						
15-24	99.6 [98.6,99.9]	*	99.6 [98.6,99.9]	*	8.1 [5.6,11.7]	*
25-34	99.2 [98.9,99.4]		98.9 [98.5,99.2]		12.9 [11.6,14.4]	
35-44	98.2 [97.7,98.5]		97.8 [97.3,98.2]		18.3 [16.6,20.0]	
45-49	96.6 [95.1,97.7]		96.2 [94.5,97.4]		12.5 [8.5,18.0]	
Education						
None	95.4 [93.9,96.5]	*	95.0 [93.3,96.2]	*	7.6 [5.4,10.6]	*
Primary	98.2 [97.3,98.8]		97.9 [96.9,98.6]		15.2 [12.7,18.0]	
Secondary +	99.1 [98.9,99.3]		98.8 [98.5,99.0]		15.5 [14.3,16.8]	
Wealth quintile						
Poorest	98.0 [97.3,98.6]	*	97.8 [97.0,98.3]		13.7 [11.8,15.9]	
Poorer	98.7 [98.2,99.1]		98.4 [97.8,98.8]		14.5 [12.4,16.8]	
Middle	99.0 [98.6,99.3]		98.6 [98.1,99.0]		16.3 [14.3,18.6]	
Richer	99.1 [98.6,99.4]		98.7 [98.2,99.1]		14.0 [11.9,16.3]	
Richest	98.7 [98.2,99.1]		98.4 [97.8,98.9]		16.0 [13.6,18.8]	
Region						
Tripolitania	99.7 [99.4,99.8]	*	99.6 [99.3,99.7]	*	15.9 [14.5,17.3]	*
Cyrenaica	98.1 [97.5,98.6]		97.7 [97.0,98.3]		13.8 [12.0,15.9]	
Fezzan	92.2 [90.7,93.5]		90.1 [88.4,91.6]		9.4 [8.1,10.9]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Treatment or advice for ARI symptoms was sought for approximately two-thirds of children under age 5 who exhibited symptoms within the 2 weeks before the survey. This did not vary by the characteristics in Table Libya.03, other than the mother's education. Mothers with no education had a lower rate of care-seeking for ARI symptoms for their children compared to women with more education. However, this figure was based on a limited number of observations and should be interpreted with caution. Large gaps in care-seeking behavior were observed between the wealth quintiles and especially between the poorest and poorer quintiles compared to the richest wealth quintile, with approximately 70% in the lowest two wealth quintiles compared to 57% in the richest quintile.

Table Libya.03: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Libya 2007 PAPFAM

Variable	% [C.I.]	Sig.[1]
Total	66.4 [60.7,71.7]	
Child's sex		
Male	69.3 [61.6,76.0]	
Female	62.9 [53.2,71.6]	
Mother's education		
None	(44.7 [27.1,63.7])	*
Primary	77.8 [63.6,87.6]	
Secondary +	65.8 [59.0,72.0]	
Wealth quintile		
Poorest	70.3 [59.1,79.5]	
Poorer	71.1 [59.1,80.7]	
Middle	61.0 [46.9,73.6]	
Richer	66.2 [50.6,78.9]	
Richest	57.1 [45.3,68.2]	
Region		
Tripolitania	65.0 [57.6,71.9]	
Cyrenaica	68.5 [59.5,76.3]	
Fezzan	74.6 [61.6,84.3]	

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. ¹ Significance of the covariate in each survey.

Child Nutrition

As shown in Table Libya.04, the percentage of exclusively breastfed children under age 6 months in Libya was 10%, which is among the lowest for the countries in this report (along with Tunisia and Yemen as shown in the Overall Summary section, Figure 9). Exclusive breastfeeding did not differ by sex of the child, mother's education, or wealth, which were all near 10%. However, exclusive breastfeeding did differ by region. The Tripolitania Region had the highest percentage of exclusive breastfeeding at 12%, while exclusive breastfeeding in Fezzan was only 2%.

Table Libya.04: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Libya 2007 PAPFAM

Variable	% [C.I.]	Sig.[1]
Total	9.5 [8.2,11.0]	
Child's sex		
Male	9.9 [8.1,12.0]	
Female	9.1 [7.5,11.0]	
Mother's education		
None	10.7 [6.6,16.8]	
Primary	9.0 [6.3,12.6]	
Secondary +	9.5 [8.0,11.2]	
Wealth quintile		
Poorest	8.4 [6.2,11.3]	
Poorer	9.0 [6.5,12.1]	
Middle	9.3 [7.1,12.2]	
Richer	9.8 [7.2,13.2]	
Richest	12.2 [9.1,16.2]	
Region		
Tripolitania	11.6 [9.7,13.8]	*
Cyrenaica	6.6 [5.2,8.3]	
Fezzan	1.9 [1.1,3.3]	

* Significant p-value. [1] Significance of the covariate in each survey.

Under-5 Mortality

The under-5 mortality rate in Libya was 20 deaths per 1000 live births. Under-5 mortality for male children was 25, compared to 15 for female children. Under-5 mortality was highest for children of mothers with no education and lowest for those in the richer wealth quintile at 10 deaths per 1000 live births. For the richest wealth quintile, it was 15 deaths. Differences in under-5 mortality were evident by region as well. While Tripolitania and Cyrenaica's under-5 mortality rates were 19 and 16 respectively, Fezzan had an under-5 mortality rate of 41, which was twice as high as Tripolitania.

Table Libya.05: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Libya 2007 PAPFAM

Variable	U5M [C.I.]
Total	20 [17,24]
Child's sex	
Male	25 [20,31]
Female	15 [12,18]
Mother's education	
None	28 [19,40]
Primary	23[16,34]
Secondary +	19 [15,23]
Wealth quintile	
Poorest	23 [17,31]
Poorer	22 [16,31]
Middle	26 [18,35]
Richer	10 [7,16]
Richest	15 [11,22]
Region	
Tripolitania	19 [15,24]
Cyrenaica	16 [12,23]
Fezzan	41 [33,50]

Libya Summary

About 20% of married women age 15-49 in Libya used a form of modern or traditional contraception in 2007. The lowest percentage of modern contraceptive use was among women age 15-24 and women in the Fezzan Region. The highest percentage of modern contraceptive use was among women in the richest wealth quintile.

Delivery indicators were high overall. Nearly all women delivered their most recent pregnancy with an SBA and at a health facility (99% and 98%). This ranged very little by most background characteristics. However, the Fezzan Region had the lowest percentage of women giving birth with assistance from an SBA or at a health facility (92% and 90%). C-section delivery was 15% overall, but varied widely from 8% of women age 15-24 and women with no education to 18% of women age 35-44.

Care was sought for two-thirds of children under age 5 with ARI symptoms in the 2 weeks prior to the survey. However, only 10% of children under age 6 months were exclusively breastfed. Under-5 mortality was 20/1000 live births. The Fezzan Region had the highest under-5 mortality rate at 41/1000. In general, the Fezzan Region fared worse than the Tripolitania and Cyrenaica regions across most indicators included in the report.

Morocco

In 2015, Morocco had an estimated total population of 34.7 million people (Population Reference Bureau 2016). In 2011, protests throughout Morocco spurred by uprisings across the region during the Arab Spring. Despite recent turmoil in the region, Morocco has largely escaped much of the violence and social upheaval associated with other Arab Spring uprisings. Over the past decade, health outcomes in Morocco have generally improved across maternal, reproductive, and child health indicators. Many of these improvements are due to the different programs and health infrastructure improvements spearheaded by the government during the last 15 years (Abdesslam 2012; Abouchadi, Belghiti Alaoui, et al. 2013; Boutayeb et al. 2016). These include expanding insurance coverage, increasing access to healthcare, and improving data collection. Despite the overall improvement in public health, disparities by wealth, geographic location, and other sociodemographic characteristics remain. The results of a 2011 national survey demonstrate that Morocco has entered the final phase of a demographic transition with falling fertility rates and increasing life expectancy at birth (Abdesslam 2012).

Beginning in the early 2000s, the Moroccan government specifically prioritized maternal health, and maternal and reproductive health outcomes have improved (Van Lerberghe et al. 2014). The government plan included three broad goals that include reducing geographical and financial barriers to obstetric care, improving the quality of obstetric care, and improving or expanding programs dedicated to maternal health (Boukhalfa et al. 2016). An audit of maternal deaths in Morocco in 2009 found that 76% of maternal deaths were preventable (Abouchadi, Alaoui, et al. 2013). Several major programs emerged from the government's maternal and obstetric care plan such as a formal maternal mortality surveillance program, begun in 2009 by the Ministry of Health, which has helped expand knowledge and improve maternal health data in Morocco (Abouchadi, Belghiti Alaoui, et al. 2013). The maternal mortality ratio (MMR) has declined over the past 10 years, and has decreased from 190 in 2005 to 121 maternal deaths per 100,000 live births in 2015, although there are considerable disparities across urban and rural locations (Maternal Mortality Estimation Inter-Agency Group 2016). For example, in 2010 the MMR among rural women was 148 compared with 73 among urban women (Boutayeb et al. 2016). The Moroccan Ministry of Health recently stated that the 2017 National Survey on Population and Family Health, which has yet to be formally published, found an MMR of 72.6 that indicated a steep decline (Maroc.ma 2017). A 2014 case study suggested that some of this decline may be due to the revitalization and expansion of midwifery and nurse-midwives as birth attendants in Morocco (Van Lerberghe et al. 2014).

A second major program that resulted from the government's focus on maternal health is the Free Delivery and Cesarean Policy, which entitles all Moroccan women to a cost-free delivery in any public hospital (Boukhalfa et al. 2016). A 2016 assessment of this policy found that it has largely eliminated costs for women who deliver at public hospitals, although almost no delivery was cost-free because of prescriptions given to women at the time of hospital discharge (Boukhalfa et al. 2016). The percentage of women who delivered in facilities as well as the percentage of births attended by a skilled medical professional have increased overall and across wealth quintiles over the past 10 years (Van Lerberghe et al. 2014). Despite these gains, large disparities remain. In 2011, women in the richest quintile delivered in facilities nearly 100% of the time, while women in the lowest wealth quintile delivered in facilities approximately 40% of the time (Van Lerberghe et al. 2014). Further highlighting socioeconomic disparities in maternal health in Morocco, one recent study examined self-reported maternal morbidity among women in Marrakesh. The authors found a maternal morbidity prevalence of 13.1% and that illiterate women had a 24% increase in the odds of experiencing maternal morbidity compared with their literate counterparts (Elkhoudri, Amor, and Baali 2015). A second study also found an association between illiteracy and severe maternal morbidity, with illiterate women more than twice as likely to suffer a "near miss" compared to literate women (Assarag et al. 2015). Reproductive health indicators such as contraceptive prevalence have increased but remain somewhat low. For example, the contraceptive prevalence rate among women of reproductive age was 67%

in 2016 (Population Reference Bureau 2016). The knowledge and acceptability of the HPV vaccine was also studied in a sample of Moroccan parents. This study was especially important because cervical cancer is the second most common form of cancer in women in Morocco. The authors found that no parents had vaccinated their daughters against HPV and less than 5% of parents demonstrated awareness of HPV infection (Mouallif et al. 2014).

Child and infant health indicators have improved over the past decade. The infant mortality rate has declined from 32 in 2007 to 23.7 infant deaths per 1,000 live births in 2015 (World Bank 2017d). The under-5 mortality rate has declined from 32 to 27.6 deaths per 1,000 live births over the same time period (World Bank 2017d). A 2015 study examined predictors of prematurity in a maternity ward in Rabat. The authors found that low levels of maternal education, low utilization of prenatal care, and multiparity were highly associated with preterm birth in the study population (Sabiri et al. 2015). Vaccination coverage among children is high at over 99% at a national level (Boutayeb et al. 2016). Among rural children, vaccination coverage has improved from 87% in 2003 to 100% in 2011 (Boutayeb et al. 2016). Breastfeeding initiation is common in Morocco, however, although weaning before age 6 months is an increasing practice (Adarmouch et al. 2013). Morocco is similar to other countries in the region and is undergoing a nutritional transition, which includes over-nutrition as an increasing public health concern (Musaiger et al. 2016; Ng et al. 2014). In 2015 10.7% of children under age 5 were considered overweight or obese, ranking Morocco 100 of 126 countries worldwide (International Food Policy Research Institute 2016). A second study, which examined anemia in school-aged children, found an anemia prevalence of 16.2% (Achouri et al. 2015). The study also found that anemia was highly positively associated with the education level of the mother (Achouri et al. 2015).

After the 2011 protests, Morocco adopted a new constitution that included articles which detailed the right to universal access to quality healthcare (Tinasti 2015). The healthcare system still faces large challenges before these goals can be achieved. It is estimated that 24% of the population has difficulties accessing healthcare services, and this is further compounded by an acute shortage of medical professionals (Tinasti 2015). In 2013, the percentage of out-of-pocket expenditures on health as a proportion of the total expenditure on health reached 88% (Tinasti 2015). However, there have been some positive changes. Since 2000, the percentage of Moroccans with health insurance has increased from 15% to 60% in early 2015 (Boutayeb et al. 2016). Much of this increase in health insurance coverage occurred as a result of the two large health insurance schemes created by the government in 2005 (Tinasti 2015). The first scheme, the Mandatory Medical Insurance (AMO), provides coverage for public and private employees. The second, the Medical Assistance Scheme (RAMED), provides financial protection from out-of-pocket health expenses for the poorest Moroccans (Tinasti 2015). In 2005, Morocco implemented a nation-wide quality improvement intervention aimed at hospitals, community health centers, and other institutions that provide health care. A 2014 evaluation of the intervention found substantial improvement among participating institutions that included improved communication and broader dissemination of best practices (Sahel et al. 2015).

The results discussed below for Morocco were produced from the 2011 PAPFAM survey. No other survey after 2011 was available for comparison to observe trends in the indicators.

Figure Map 7: Morocco Map

Note: See Appendix for a description of regions.

Contraceptive Use

As shown in Table Morocco.01, 54% of women used a modern contraceptive method at the time of the 2011 survey. In contrast, 8% of women were using a traditional method. Modern contraceptive use only differed by age, place of residence, and region while traditional contraceptive use differed by all characteristics in Table Morocco.01.

Modern contraceptive use did not differ significantly by education or wealth. Over 50% of women with all levels of education and wealth used modern contraception. However, the proportions differed by age. Women age 25-34 and 35-44 had higher rates of current modern contraceptive use than women age 15-24 or age 45-49. Modern contraceptive use was significantly more common in rural areas compared to urban, and also varied by region. The Central/Tensift Region had the largest percentage of women who used modern contraception (61%), while the Northwest Region had the lowest (48%). In contrast, the Northwest Region had the largest proportion of women who use traditional contraceptive methods, while the Central/Tensift Region had the lowest. Traditional contraceptive use differed by all characteristics, as shown in Table Morocco.01. In contrast to modern contraceptive use, traditional contraceptive use increased with age. The oldest women (age 45-49) had a higher rate of traditional contraceptive use compared to women in the younger age groups. In addition, traditional contraceptive method use increased with education. Compared to women with no education or a primary education, women with a secondary or more education used traditional contraceptive methods at a higher rate. Traditional contraceptive method use was significantly higher in urban areas compared to rural, and differed by region.

Table Morocco.01: Percentage of women currently using modern or traditional contraception among women age 15-49 in a union, by background characteristics, Morocco 2011 PAPFAM

	Modern CPR		Traditional CPR	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	53.9 [52.6,55.3]		7.8 [7.1,8.7]	
Age				
15-24	47.1 [44.2,49.9]	*	3.8 [2.8,5.1]	*
25-34	59.6 [57.7,61.5]		6.7 [5.7,7.9]	
35-44	58.1 [55.9,60.2]		9.8 [8.7,11.0]	
45-49	38.6 [35.7,41.5]		10.0 [8.3,12.0]	
Education				
None	54.2 [52.5,55.9]		7.2 [6.4,8.2]	*
Primary	52.9 [50.6,55.2]		8.6 [7.3,10.1]	
Secondary +	53.9 [49.8,58.0]		12.3 [9.9,15.3]	
Wealth quintile				
Poorest	54.7 [50.8,58.6]		6.2 [4.4,8.5]	*
Poorer	54.0 [51.1,56.8]		5.7 [4.4,7.3]	
Middle	54.6 [52.0,57.2]		6.4 [5.3,7.9]	
Richer	52.3 [49.7,54.9]		9.1 [7.8,10.7]	
Richest	53.9 [51.5,56.4]		12.1 [10.4,14.0]	
Place of residence				
Urban	52.5 [51.1,54.0]	*	9.6 [8.7,10.5]	*
Rural	55.6 [53.1,58.1]		5.7 [4.6,7.2]	
Region				
Central/Tensift	60.5 [58.6,62.3]	*	4.7 [4.0,5.6]	*
Northwest	47.7 [45.0,50.3]		12.3 [10.6,14.3]	
South Central	51.9 [47.0,56.8]		7.1 [5.2,9.8]	
North Central	49.3 [45.4,53.2]		11.3 [8.5,14.9]	
Eastern	55.8 [51.7,59.7]		5.3 [3.6,7.8]	
Southern	50.8 [45.2,56.4]		7.6 [5.4,10.7]	

* Significant p-value. [1] Significance of the covariate in each survey.

Antenatal Care

As shown in Table Morocco.02, under half of women in Morocco in 2011 had four or more ANC visits for their most recent pregnancy in the 2 years before the survey. This differed by education, wealth, and place of residence.

Although the ANC indicator did not differ significantly by age, 21% of women age 45-49 attended four or more ANC visits compared to close to 40% in the remaining age groups. Women with a secondary or more education had drastically higher percentages of four or more ANC visits (close to 85%), compared with women with no education or primary education at 33% and 58% respectively. In addition, the percentage of women who had four or more ANC visits increased with wealth. While 12% of the poorest women had four or more ANC visits, 76% of the richest women did. Although ANC differed by place of residence and was significantly higher in urban areas, it did not differ significantly by region. However, the North Central Region had the lowest percentage of four or more ANC visits at 33%, compared to 60% in the South Central Region.

Table Morocco.02: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Morocco 2011 PAPFAM

Variable	% [C.I.]	Sig.[1]
Total	41.7 [38.4,45.1]	
Age		
15-24	39.9 [35.7,44.2]	
25-34	42.4 [38.2,46.7]	
35-44	43.6 [38.4,48.9]	
45-49	21.0 [10.8,36.8]	
Education		
None	32.8 [29.2,36.6]	*
Primary	58.0 [53.7,62.3]	
Secondary +	84.8 [76.9,90.3]	
Wealth quintile		
Poorest	11.8 [7.8,17.4]	*
Poorer	30.1 [24.6,36.3]	
Middle	47.9 [42.6,53.3]	
Richer	63.3 [58.2,68.0]	
Richest	76.2 [69.9,81.4]	
Place of residence		
Urban	61.9 [58.5,65.3]	*
Rural	24.4 [20.2,29.2]	
Region		
Central/Tensift	41.7 [36.3,47.2]	
Northwest	41.4 [36.6,46.5]	
South Central	60.0 [48.1,70.8]	
North Central	33.3 [25.2,42.6]	
Eastern	40.3 [24.1,58.8]	
Southern	41.6 [32.2,51.6]	

Notes: * Indicates a significant p-value. [1] Significance of the covariate in each survey.

Delivery

Table Morocco.03 shows that approximately three-fourths of Moroccan women gave birth with the assistance of a skilled birth attendant (SBA) or delivered in a health facility (DHF). Percentages of women delivering with an SBA differed by age category, education level, wealth quintile, and place of residence.

These differences differed significantly by education, wealth quintile, and place of residence for the health facility delivery indicator.

Compared to women in older age groups, women age 15-24 had higher rates of SBA use (80% of women age 15-24 compared to 50% of women age 45-49). This pattern was consistent for giving birth in a health facility as well, with three-quarters of women age 15-24 delivering in a health facility compared to 58% of women age 45-49. However, the differences of health facility delivery by age were not significant. Nearly all women with a secondary or more education gave birth with an SBA or in a health facility (98%). This contrasts with the smaller proportions of women with no education giving birth with an SBA or in a health facility (71% and 66% respectively).

Percentages of women with SBA assisted deliveries and health facility deliveries both increased with wealth. In the richest wealth quintile, nearly all women delivered their most recent birth with assistance by an SBA and the majority (95%) delivered in a health facility. In comparison, half of women in the poorest wealth quintile delivered with an SBA, and less than half (41%) delivered in a health facility.

While 94% of women in urban areas gave birth with an SBA, women in rural areas were significantly less likely to do so (64%). This was similar for health facility deliveries with 93% of urban women who delivered in a health facility compared to 56% of rural women. Percentages of SBA assisted and health facility deliveries did not differ significantly by region, although the highest percentage for both indicators was found in the South Central Region.

Table Morocco.03: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant or delivered in a health facility in the 2 years before the survey, by background characteristics, Morocco 2011 PAPFAM

	SBA		DHF	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	77.6 [74.3,80.5]		73.2 [68.9,77.0]	
Age				
15-24	80.1 [75.5,84.0]	*	75.1 [69.0,80.4]	
25-34	77.0 [72.8,80.7]		73.8 [68.8,78.2]	
35-44	77.4 [73.0,81.2]		70.4 [64.6,75.6]	
45-49	50.3 [36.7,63.8]		57.7 [45.5,68.9]	
Education				
None	70.6 [66.9,74.0]	*	65.9 [60.8,70.6]	*
Primary	93.0 [89.4,95.5]		88.9 [84.6,92.1]	
Secondary +	99.7 [97.5,100.0]		98.0 [93.1,99.4]	
Wealth quintile				
Poorest	50.5 [44.5,56.5]	*	41.4 [34.2,49.0]	*
Poorer	72.4 [66.7,77.5]		67.5 [60.3,73.9]	
Middle	86.0 [81.3,89.7]		87.0 [83.0,90.1]	
Richer	95.1 [92.6,96.7]		92.1 [89.0,94.4]	
Richest	98.8 [96.9,99.6]		94.5 [88.9,97.4]	
Place of residence				
Urban	93.6 [91.3,95.3]	*	92.9 [90.6,94.7]	*
Rural	63.8 [58.9,68.4]		56.3 [49.7,62.6]	
Region				
Central/Tensift	75.3 [69.5,80.2]		76.7 [70.0,82.3]	
Northwest	80.6 [75.9,84.6]		74.0 [68.2,79.2]	
South Central	86.7 [77.6,92.5]		82.2 [74.5,87.9]	
North Central	74.7 [66.7,81.3]		65.7 [52.4,76.9]	
Eastern	77.6 [56.6,90.2]		74.0 [44.7,91.0]	
Southern	77.1 [66.4,85.2]		64.9 [51.2,76.5]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Almost half of Moroccan children under age 5 had treatment sought for their ARI symptoms. In Table Morocco.04, care-seeking for ARI symptoms differed significantly by wealth quintile, place of residence, and region but not the child's sex or mother's education. The richest quintile had the highest percentage of care-seeking for ARI symptoms (68%), while the poorest wealth quintile had the lowest (27%). A higher percentage of those in urban residences sought advice or treatment for children with ARI symptoms compared to those in rural areas. By region, the Eastern region had the highest percentage of care-seeking although this was based on a few observations. The lowest percentage was found in the North Central region.

Table Morocco.04: Percentage of children under age five who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Morocco 2011 PAPFAM

Variable	% [C.I.]	Sig.[1]
Total	45.0 [39.6,50.6]	
Child's sex		
Male	45.5 [37.8,53.4]	
Female	44.5 [36.6,52.7]	
Mother's education		
None	42.1 [35.6,48.9]	
Primary	54.1 [43.9,64.0]	
Secondary +	ND	
Wealth quintile		
Poorest	27.1 [18.1,38.5]	*
Poorer	46.8 [33.2,61.0]	
Middle	53.2 [43.9,62.3]	
Richer	46.8 [34.3,59.8]	
Richest	67.8 [55.1,78.4]	
Place of residence		
Urban	57.1 [49.7,64.1]	*
Rural	33.3 [25.7,41.8]	
Region		
Central/Tensift	43.7 [34.5,53.5]	*
Northwest	47.1 [34.9,59.5]	
South Central	(39.8 [23.0,59.4])	
North Central	28.8 [20.8,38.4]	
Eastern	(60.3 [37.6,79.3])	
Southern	57.3 [40.0,73.0]	

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Child Nutrition

Table Morocco.05 shows that a quarter of all children (both male and female) under age 6 months in Morocco were exclusively breastfed. This differed significantly only by wealth quintile. The richest wealth quintile had the lowest proportion of children breastfed with 17% of exclusively breastfed children. The highest proportion of exclusive breastfeeding was among those in the poorest wealth quintile with more than a third of children under age 6 months exclusively breastfed. While not significant, rural residences trended toward higher percentages of exclusive breastfeeding compared to urban residences.

Table Morocco.05: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Morocco 2011 PAPFAM

Variable	% [C.I.]	Sig.[1]
Total	26.0 [21.8,30.7]	
Child's sex		
Male	26.6 [21.6,32.3]	
Female	25.2 [19.7,31.8]	
Mother's education		
None	26.9 [21.9,32.7]	
Primary	24.6 [18.0,32.7]	
Secondary +	(19.9 [10.1,35.4])	
Wealth quintile		
Poorest	35.3 [25.9,46.1]	*
Poorer	26.0 [18.3,35.6]	
Middle	19.5 [12.5,29.1]	
Richer	26.8 [19.0,36.3]	
Richest	17.0 [9.5,28.6]	
Place of residence		
Urban	21.9 [17.5,26.9]	
Rural	29.3 [22.6,37.0]	
Region		
Central/Tensift	27.0 [20.1,35.3]	
Northwest	23.6 [14.9,35.3]	
South Central	(23.2 [12.6,38.8])	
North Central	25.9 [16.4,38.3]	
Eastern	26.5 [19.0,35.7]	
Southern	28.5 [15.7,46.1]	

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. ¹ Significance of the covariate in each survey.

Morocco Summary

Over half of Moroccan women used a method of modern contraception. Modern contraceptive use reached 61% in Central/Tensift Region. In contrast, only 8% of women used a method of traditional contraception.

The ANC and delivery indicators were low in Morocco. Fewer than half of women had the recommended four or more ANC visits during their most recent pregnancy (42%), although this varied widely, particularly by education level and wealth quintile. A third of women with no education had four ANC visits, compared to 85% of women with a secondary or higher level of education. Three quarters of women in the richest wealth quintile had four ANC visits, while only 12% of women in the poorest quintile did. Delivery with an SBA was 78% overall, and lowest among women in the poorest wealth quintile and women age 45-49, while delivery with an SBA reached 100% among women with a secondary or higher level of education. Health facility delivery showed a similar trend. While 73% of women delivered at a health facility overall, 41% of the poorest women did compared to 95% of the richest women.

Care was sought for fewer than half of children under age 5 with ARI symptoms in the 2 weeks before the survey. This varied by wealth, urban/rural residence, and region. While care was sought for 27% of children in the poorest quintile, care was sought for 68% of children in the richest quintile. A quarter of children under age 6 months were exclusively breastfed, and this varied significantly by wealth. The highest percentage of children exclusively breastfed were in the poorest quintile, at 35%, and the lowest percentage was in the richest quintile at 17%.

Syria

Since 2011, Syria has been embroiled in a violent, complex civil war that has had devastating consequences for maternal, reproductive, and child health. The ongoing health and safety impact of the conflict has been extreme, precipitating an almost complete collapse of the health system. By late 2016, the Syrian Centre for Policy Research estimated that 470,000 Syrians have been killed and nearly 2 million wounded since fighting began in 2011 (Nasser et al. 2016). Estimates for 2016 suggest that 10.9 million Syrians are internally displaced and 4.8 million Syrians are refugees, who have fled primarily to Lebanon, Jordan, Iraq, and Turkey (Nasser et al. 2016). A great deal of evidence has indicated that the health of the Syrian refugees has been greatly affected and includes higher risks for gender based violence and child marriage (Klann 2014; UN Women 2013; UNFPA 2017). By 2016, 45% of the population had been displaced and the poverty rate skyrocketed to 85.2% (Nasser et al. 2016; WHO 2016d). An estimated 69.3% of those in poverty are categorized as living in "extreme poverty" which means that they are unable to secure the basic items required for survival (Nasser et al. 2016; WHO 2016d). In just four years, life expectancy has declined from 70.5 years in 2010 to 55.4 in 2015 (Nasser et al. 2016). The intensity of the fighting has made it difficult to collect data on common public health indicators such as maternal or infant mortality. The information that has been collected indicates a universal decline in the health and safety of the Syrian population.

Although there is limited data, experts estimated that virtually every maternal and reproductive health indicator in Syria has regressed since 2011. Prior to the civil war, the overwhelming majority of Syrian women delivered with the help of a skilled medical professional (Save the Children 2014). Recent evidence indicates that there has been a large shift towards unassisted births in response to the lack of medical personnel, difficulties in reaching health facilities, and an overall dearth of access to reproductive healthcare (Save the Children 2014). Furthermore, the collapse of the healthcare system has made accessing antenatal and postpartum care extremely difficult (Save the Children 2014). One indication of this is the documented increase in the prevalence of cesarean sections. Since 2011, the cesarean section prevalence has doubled from 19% in 2011 to 45% in 2013 (Save the Children 2014). Experts attribute this increase to women wanting to ensure they do not go into labor in an insecure or inaccessible setting, and therefore scheduling their deliveries (Save the Children 2014). Prior to the civil war, researchers conducted a maternal mortality audit with data from 1989-2008 to better understand the levels and causes of maternal mortality in Syria (Almerie, Matar, and Almerie 2011). The authors found that over that 20 year period, 40.7% of maternal deaths resulted from hemorrhage, while the second and third leading causes of death were hypertensive disorders and embolism, respectively (Almerie, Matar, and Almerie 2011). A study that used data from 2003 investigated the causes for every maternal death in Syria for that year and determined that 54% of maternal deaths were due to poor clinical skill or lack of clinical competency (Bashour et al. 2009). A similar study that used data prior to 2011 examined the prevalence and causes of maternal near-miss cases in Damascus, which are defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy (Almerie et al. 2010). The authors found a maternal near-miss rate of 32.9 per 1,000 live births, with hypertensive disorders and hemorrhage as the leading causes of a near-miss case (Almerie et al. 2010). A second study from 2011 found a maternal near-miss rate of 4.5. However, the data were collected over a 12-week period in 2011, in contrast to the first study that used data over a multi-year period from 2006-2007 (Bashour et al. 2015).

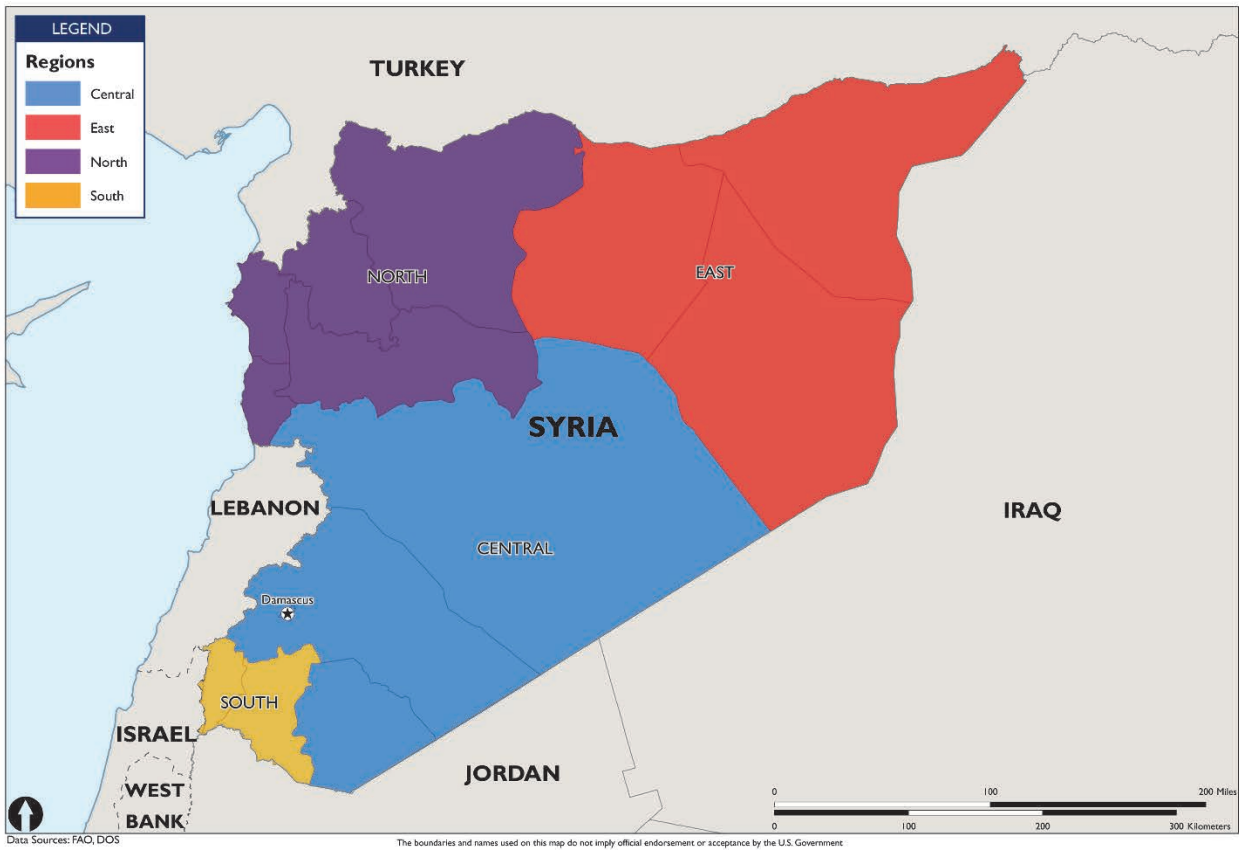
Current infant and child health indicators are difficult to collect reliably, although there is reason to believe that much of the progress made toward reducing child mortality before 2011 has since been erased. By 2016, nearly 17,000 children had been killed since the beginning of the war (Elsafti et al. 2016). Prior to the current conflict, 15% of under-5 mortality was attributable to pneumonia and diarrhea. However, by 2014, that mortality has doubled to over 30% (Save the Children 2014). Since 2009, vaccination coverage among children for measles, polio, and DTP has fallen from 99% to 63%, 57%, and 51% respectively in

2016 (WHO 2016d). In June 2017, the WHO reported that 17 children had been paralyzed by polio, which marked the second large outbreak of polio in Syria since the beginning of the war (Gladstone 2017). The first outbreak involved 36 lab-confirmed cases of polio, although one study estimates that the true number of cases was more than 80 based on clinical diagnosis (Tajaldin et al. 2015). A 2015 survey of 1,000 children from various governorates found that 15% did not have access to safe drinking water or adequate nutrition, and over 50% did not have access to education (Elsafti et al. 2016). There is also evidence that the prevalence of breastfeeding, both immediately after birth and exclusively until age 6 months, has decreased (Devakumar et al. 2015). Overall, it is estimated that two million Syrian children are under-nourished (Devakumar et al. 2015). A 2015 cross-sectional survey of children in the northwestern sections of Syria found that 32% of surveyed children had clinical symptoms of malnutrition (Elsafti et al. 2016).

Since the start of the war, healthcare facilities and health workers have been consistent targets, with escalation in frequency in recent years and in violation of international humanitarian law set forth in the Geneva Convention (Fouad et al.). In 2016, there were 207 reported attacks on healthcare facilities and personnel in Syria, which represents an 89% increase in targeted attacks from 2015 (Fouad et al.; WHO 2016a). Between 2011 and early 2017, 814 medical personnel were killed, with medical doctors as the largest percentage of fatalities (Fouad et al.). In response to the targeted attacks, an estimated 50% of Syria's medical doctors have left the country, a reality that compounded the bleak healthcare situation (Fouad et al.). The number of doctors on a per-capita basis declined from 1 doctor per 800 residents in 2010 to an estimated 1 doctor per 7,000 residents in 2015 (Fouad et al.). Some data suggest that 27% of the Syrian population may live in areas completely devoid of trained healthcare personnel (Fouad et al.). Only half of the public hospitals and healthcare centers that existed prior to 2011 remain operational, and the rest have either closed or are only partially functional (WHO 2016d). According to the WHO, trauma is now the leading cause of morbidity and mortality in Syria (WHO 2016d). A 2016 assessment of trauma hospitals in Syria found that just 16% of hospitals had a functioning inpatient ward to care for patients after surgery (Mowafi et al. 2016). The authors also found that just 23% of trauma hospitals had a fixed x-ray machine and that half relied on supply routes that were never or only occasionally open (Mowafi et al. 2016). Prior to the civil war, Syria had one of the stronger health infrastructures in the region, with a focus on primary and preventative health care (Sen and Al-Faisal 2013). Syria also had a strong pharmaceutical industry that produced 90% of the pharmaceutical need within Syria, but since the start of the war, this has declined to 10% (Ben Taleb et al. 2015).

This literature review is based on the most recent reports and data. However, the following analysis uses MICS survey data collected in 2006, prior to the start of the current conflict. The results discussed below for Syria were produced from the 2006 MICS survey. No other survey after 2006 was available for comparison to observe trends in the indicators. It is important to note that these results should be viewed as a baseline and that indicators are expected to have deteriorated in response to the escalating violence in Syria since 2011.

Figure Map 8: Syria Map



Note: See Appendix for a description of regions.

Contraceptive Use

Almost half (45%) of women in Syria used modern contraception at the time of the MICS3 survey in 2006. This varied by all characteristics in Table Syria.01. Modern contraceptive use increased with education, wealth, and age, except for women age 45-49. Urban women had a higher percentage of modern contraceptive use than rural women by about 10-percentage points. Modern contraceptive use varied by region, and was the highest in North and Central regions (47% and 49%), and lowest in East Region (32%).

Current traditional contraceptive use was 13% in 2006. Traditional contraceptive use increased with age and education. Use also increased with wealth, except for the richer quintile, which had lower use than the middle quintile by 1%. Traditional contraceptive use did not vary by place of residence, but did vary by region. The North and Central regions had the highest percent of traditional use at 14% and 17%, while the East and South regions were considerably lower at 7% and 5%.

Table Syria.01: Percentage of women currently using modern or traditional contraception among women age 15-49 in a union, by background characteristics, Syria 2006 MICS3

	Modern CPR		Traditional CPR	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	45.1 [44.1,46.1]		13.2 [12.5,13.9]	
Age				
15-24	28.6 [26.7,30.6]	*	7.5 [6.4,8.7]	*
25-34	48.6 [47.1,50.1]		11.6 [10.7,12.6]	
35-44	52.9 [51.3,54.5]		16.4 [15.3,17.6]	
45-49	33.6 [31.0,36.3]		17.5 [15.6,19.7]	
Education				
None	36.5 [34.4,38.6]	*	8.8 [7.6,10.0]	*
Primary	46.3 [44.6,48.0]		11.2 [10.2,12.2]	
Secondary +	47.9 [46.5,49.2]		16.6 [15.6,17.7]	
Wealth quintile				
Poorest	34.1 [31.4,36.8]	*	7.8 [6.6,9.0]	*
Poorer	40.8 [38.8,42.8]		12.0 [10.8,13.5]	
Middle	46.2 [44.2,48.2]		15.0 [13.7,16.5]	
Richer	49.6 [47.6,51.6]		14.1 [12.7,15.5]	
Richest	52.4 [50.4,54.5]		15.9 [14.5,17.4]	
Place of residence				
Urban	49.7 [48.3,51.0]	*	13.8 [12.9,14.8]	
Rural	39.3 [37.7,41.0]		12.4 [11.5,13.5]	
Region				
North	47.2 [45.5,48.9]	*	13.5 [12.5,14.6]	*
East	31.8 [29.3,34.3]		7.3 [6.2,8.7]	
Central	48.9 [47.2,50.5]		16.5 [15.2,17.8]	
South	37.5 [34.4,40.8]		4.9 [3.6,6.6]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Ninety-one percent (91%) of women delivered their most recent birth with an SBA in the 2 years before the 2006 survey, although this varied by all characteristics shown in Table Syria.02. SBA use declined as age increased. Women age 45-49 who delivered with assistance by an SBA were 20-percentage points less than women age 15-24 (71% vs. 93%). The use of an SBA increased with education. Most (97%) of women with a secondary or higher level of education used an SBA. Except for a slight decline between the middle and richer wealth quintiles, SBA use increased with wealth. Nearly all women in the richest quintile gave birth with an SBA, compared to 75% of women in the poorest quintile. A significantly higher percent of

women in urban areas used an SBA compared to women in rural areas. In addition, SBA use varied by region. The East Region had the lowest percentage of SBA use at 79%, compared to 97% of women in the Central Region.

More than two-thirds of women delivered their most recent birth in a health facility within the 2 years before the survey in 2006. This varied by all characteristics in Table Syria.02. Health facility use increased with higher education and wealth, and showed a decreasing trend with age. A significantly higher percent of women in urban areas delivered in a health facility compared to women in rural areas. Health facility births also varied by region. The North Region had the smallest percent of women who gave birth in a health facility, compared to the Central Region which had the largest (65% vs. 83%).

Table Syria.02: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant or delivered in a health facility in the 2 years before the survey, by background characteristics, Syria 2006 MICS3

	SBA		DHF	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	91.4 [90.2,92.6]		70.4 [68.6,72.2]	
Age				
15-24	93.3 [91.2,94.9]	*	73.3 [70.5,76.0]	*
25-34	91.7 [90.1,93.0]		69.1 [66.7,71.5]	
35-44	88.9 [86.4,91.0]		69.3 [65.8,72.6]	
45-49	71.1 [54.5,83.4]		60.5 [43.9,75.0]	
Education				
None	74.1 [69.7,78.0]	*	51.9 [47.3,56.5]	*
Primary	91.6 [89.8,93.1]		66.3 [63.3,69.1]	
Secondary +	97.1 [96.2,97.8]		80.1 [78.1,82.1]	
Wealth quintile				
Poorest	74.9 [70.7,78.6]	*	55.3 [50.7,59.8]	*
Poorer	93.0 [91.0,94.6]		71.2 [68.0,74.3]	
Middle	96.7 [95.0,97.8]		71.2 [67.6,74.6]	
Richer	95.8 [94.0,97.1]		75.2 [71.7,78.4]	
Richest	98.6 [97.3,99.2]		82.6 [79.2,85.6]	
Place of residence				
Urban	96.3 [95.2,97.2]	*	75.3 [73.1,77.4]	*
Rural	86.5 [84.2,88.5]		65.5 [62.5,68.3]	
Region				
North	91.5 [89.3,93.2]	*	65.0 [62.0,67.8]	*
East	79.1 [74.6,83.0]		59.0 [54.2,63.6]	
Central	97.2 [95.8,98.1]		83.1 [80.1,85.7]	
South	94.1 [90.6,96.3]		71.3 [64.5,77.2]	

Notes: * Indicates a significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Over two-thirds of children age 12-23 months received all basic vaccinations in 2006. This did not vary by sex or place of residence. However, as mother's education increased the percent of children with all basic vaccinations increased. Under half (45%) of children with mothers with no education had all basic vaccinations, compared to 77% of children whose mothers had a secondary or higher education. Vaccinations increased incrementally with wealth quintile as well, with 52% of those in the poorest quintile and 76% of those in the richest quintile receiving all basic vaccinations. There were differences in the percent of children vaccinated by region, but not by urban/rural residence. In the Central Region, 78% of children had all basic vaccinations, compared to 50% of children in the East Region.

Table Syria.03: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Syria 2006 MICS3

Variable	% [C.I.]	Sig.[1]
Total	68.1 [65.6,70.5]	
Child's sex		
Male	67.2 [64.0,70.2]	
Female	69.1 [65.7,72.3]	
Mother's education		
None	45.4 [39.5,51.4]	*
Primary	66.7 [62.8,70.4]	
Secondary +	76.9 [73.7,79.7]	
Wealth quintile		
Poorest	52.4 [46.5,58.3]	*
Poorer	69.2 [64.7,73.4]	
Middle	72.3 [67.4,76.7]	
Richer	72.7 [67.5,77.3]	
Richest	76.2 [71.0,80.7]	
Place of residence		
Urban	70.1 [66.5,73.4]	
Rural	66.1 [62.4,69.5]	
Region		
North	67.0 [63.0,70.8]	*
East	50.4 [44.3,56.6]	
Central	77.9 [74.0,81.3]	
South	72.8 [60.8,82.2]	

* Significant p-value. [1] Significance of the covariate in each survey.

Advice or treatment for children under age 5 with ARI symptoms was sought for 77% of children overall within 2 weeks before the survey in 2006. In Table Syria.04, care-seeking for ARI symptoms differed significantly by mother's education, wealth quintile, and place of residence, but not by the child's sex or region. Care-seeking increased as mother's level of education increased. Approximately 82% of children of mothers with a secondary or higher level of education had care sought for ARI symptoms, compared to 69% of children with mothers with no education. The richest wealth quintile had the highest percentage of care-seeking for ARI symptoms (86%), while the poorer wealth quintile had the lowest (67%). There was no consistent pattern of care-seeking by wealth. A higher percentage of children with ARI symptoms in urban residences had advice or treatment sought compared with children in rural areas (81% vs. 72%). There was no significant variation in care-seeking by region.

Table Syria.04: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Syria 2006 MICS3

Variable	% [C.I.]	Sig.[1]
Total	76.8 [73.0,80.2]	
Child's sex		
Male	79.9 [74.9,84.2]	
Female	72.8 [66.4,78.4]	
Mother's education		
None	68.6 [57.3,78.1]	*
Primary	72.8 [66.0,78.7]	
Secondary +	82.2 [77.0,86.5]	
Wealth quintile		
Poorest	71.6 [60.6,80.5]	*
Poorer	66.7 [58.4,74.0]	
Middle	81.1 [73.9,86.7]	
Richer	79.4 [69.8,86.6]	
Richest	86.2 [77.1,92.1]	
Place of residence		
Urban	80.5 [75.5,84.7]	*
Rural	72.1 [66.0,77.5]	
Region		
North	81.5 [75.6,86.3]	
East	74.4 [62.2,83.7]	
Central	73.4 [67.3,78.8]	
South	(73.5 [52.1,87.7])	

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Child Nutrition

Table Syria.05 shows that, overall, 29% of children under age 6 months were exclusively breastfed at the time of the survey in 2006. The percent of children breastfed did not differ significantly by the child's sex, mother's level of education, place of residence, or region, although it did vary by wealth quintile. As wealth increased, exclusive breastfeeding decreased, so that 36% of children in the poorest wealth quintile were exclusively breastfed, compared to 24% in the richer and richest wealth quintiles.

Table Syria.05: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Syria 2006 MICS3

Variable	% [C.I.]	Sig.[1]
Total	28.7 [25.9,31.7]	
Child's sex		
Male	27.2 [23.6,31.2]	
Female	30.4 [26.6,34.6]	
Mother's education		
None	31.4 [24.8,38.8]	
Primary	29.3 [24.9,34.1]	
Secondary +	27.2 [23.3,31.5]	
Wealth quintile		
Poorest	35.5 [29.1,42.4]	*
Poorer	28.6 [23.2,34.8]	
Middle	29.6 [24.5,35.4]	
Richer	23.8 [18.4,30.1]	
Richest	23.8 [18.0,30.8]	
Place of residence		
Urban	27.6 [23.8,31.7]	
Rural	30.0 [25.8,34.5]	
Region		
North	31.8 [27.2,36.8]	
East	26.8 [20.7,34.0]	
Central	25.3 [20.7,30.5]	
South	30.1 [21.3,40.7]	

* Significant p-value. [1] Significance of the covariate in each survey.

Table Syria.06 reports the percent of children who were stunted and overweight at the time of the survey in 2006. Twenty-two percent (22%) of children overall were stunted, and this varied by several characteristics. A higher percentage of male children were stunted than female children. Stunting decreased as mother's education increased and as wealth increased. The percentage of children stunted did not differ by place of residence, but it did differ by region. The East Region had the highest percentage of children stunted at 27%, while South Region had the smallest percentage at 12%.

The percentage of overweight children in Syria was 12% overall, and did not differ by mother's education, wealth, or place of residence. A significantly higher percentage of girls were overweight than boys. Children in East and Central regions had the highest percent of overweight children (13% and 14%), while the South Region had that lowest, at 8%.

Table Syria.06: Percentage of children under age 5 who are stunted or overweight, by background characteristics, Syria 2006 MICS3

	Stunted		Overweight	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	22.4 [21.3,23.5]		12.4 [11.5,13.3]	
Child's sex				
Male	23.6 [22.2,25.0]	*	11.8 [10.8,12.9]	*
Female	21.1 [19.8,22.5]		13.1 [12.0,14.3]	
Mother's education				
None	29.1 [26.2,32.2]	*	12.9 [11.0,15.1]	
Primary	25.2 [23.5,27.0]		13.0 [11.6,14.4]	
Secondary +	17.6 [16.3,18.9]		11.7 [10.7,12.8]	
Wealth quintile				
Poorest	29.5 [26.6,32.5]	*	13.4 [11.4,15.7]	
Poorer	21.1 [19.3,23.0]		11.4 [10.0,13.0]	
Middle	20.9 [19.0,23.0]		11.6 [10.2,13.2]	
Richer	20.2 [18.0,22.5]		13.5 [11.6,15.6]	
Richest	19.9 [17.5,22.4]		12.4 [10.6,14.4]	
Place of residence				
Urban	21.9 [20.4,23.5]		12.9 [11.7,14.2]	
Rural	22.9 [21.4,24.5]		11.9 [10.7,13.2]	
Region				
North	23.9 [22.1,25.8]	*	12.1 [10.7,13.6]	*
East	26.5 [23.6,29.6]		13.2 [11.1,15.5]	
Central	21.1 [19.5,22.9]		13.6 [12.2,15.2]	
South	11.9 [9.4,15.0]		8.4 [6.7,10.5]	

* Significant p-value. [1] Significance of the covariate in each survey.

Syria Summary

In 2006, just under half of married women ages 15-49 in Syria were using a method of modern contraception, and 13% were using a traditional method. Modern use ranged from 29% of women age 15-24 to 53% of women age 35-44.

Almost all (91%) women delivered with the assistance of an SBA. However, this varied by all background characteristics including education and wealth. About three-quarters of women with no education and women in the poorest wealth quintile delivered with an SBA, compared to 97% of women with a secondary or higher level of education and 99% of women in the richest wealth quintile. In contrast, delivery in a health facility was lower, at 70% overall, ranging from 52% of women with no education to 83% of women in the richest wealth quintile and women in the Central Region. This suggests that many deliveries assisted by an SBA are occurring outside of a health facility.

Child health indicators also varied by many background characteristics. Although 68% of children age 12-23 months had all basic vaccinations overall, it was 45% for children with mothers with no education. In the East Region, 50% of children age 12-23 months had all basic vaccinations, compared to 78% in the Central Region. Care-seeking for ARI symptoms in children under age 5 was slightly less variable, at 77% overall. Only care-seeking for children with mothers with no education and children in the poorer wealth quintile was below 70%. Exclusive breastfeeding of children under age 6 months was 29% overall and there was a decreasing trend as wealth increased. Stunting among children under age 5 was 22% overall. In the South Region, 12% of children were stunted, which was the lowest reported. The percentage of overweight children was 12% overall and ranged from 8% in the South Region to 14% in the Central Region and in the richer wealth quintile. Given the social and political context in Syria since 2006, these data should be used as a baseline and not interpreted as the current state of maternal and child health in Syria.

Tunisia

In 2015, Tunisia had an estimated total population of 11.3 million (Population Reference Bureau 2016). In 2011, widespread protests and civil unrest in Tunisia forced the resignation of the country's long serving President. These protests are widely considered as the impetus for similar protests in Egypt, Yemen, and other countries in the region, which are collectively called the Arab Spring. After the resignation of the Tunisian President, elections were held which were largely declared free and democratic by the international community. Since Tunisia's independence from colonial-rule in the 1950s, the country has made great strides toward improving health outcomes among the population. Disparities in health outcomes exist across geographic and socioeconomic groups, but overall, maternal, reproductive, and child health outcomes in Tunisia have steadily improved over the past decade.

Indicators across the maternal and reproductive health spectrum have improved or remained steady in Tunisia over the past 10 years. Maternal mortality has decreased since 2005 from 74 to 62 maternal deaths per 100,000 live births in 2015 (Maternal Mortality Estimation Inter-Agency Group 2016). A review of maternal deaths in 2010 found the leading causes of maternal death to be hemorrhage, thrombo-embolic disease, and complications from preeclampsia (Tej Dellagi et al. 2014). A second study that examined trends in the maternal mortality rate (MMR) over time found that the disparity between urban and rural women narrowed over the past 10 years although rural areas still had high levels of maternal death compared with the urban areas (Farhat et al. 2012). Over the past decade, both the percentage of women who receive antenatal care (ANC) and the proportion of births attended by a skilled medical professional remain high (World Bank 2017e). In 2012, 98% of pregnant received one or more ANC visits (World Bank 2017e), and 98.6% of births were attended by a skilled medical professional (World Bank 2017e). The contraceptive prevalence rate among women age 15-44 has increased slightly, from 60.2% in 2006 to 62.5% in 2012 (World Bank 2017e). Tunisia has several long-standing policies aimed at protecting contraception and prenatal care. Beginning in the 1960s, Tunisia guaranteed free contraception and in the 1990s, the country enacted a policy that entitled pregnant women to several free prenatal and postnatal visits (Amroussia 2016).

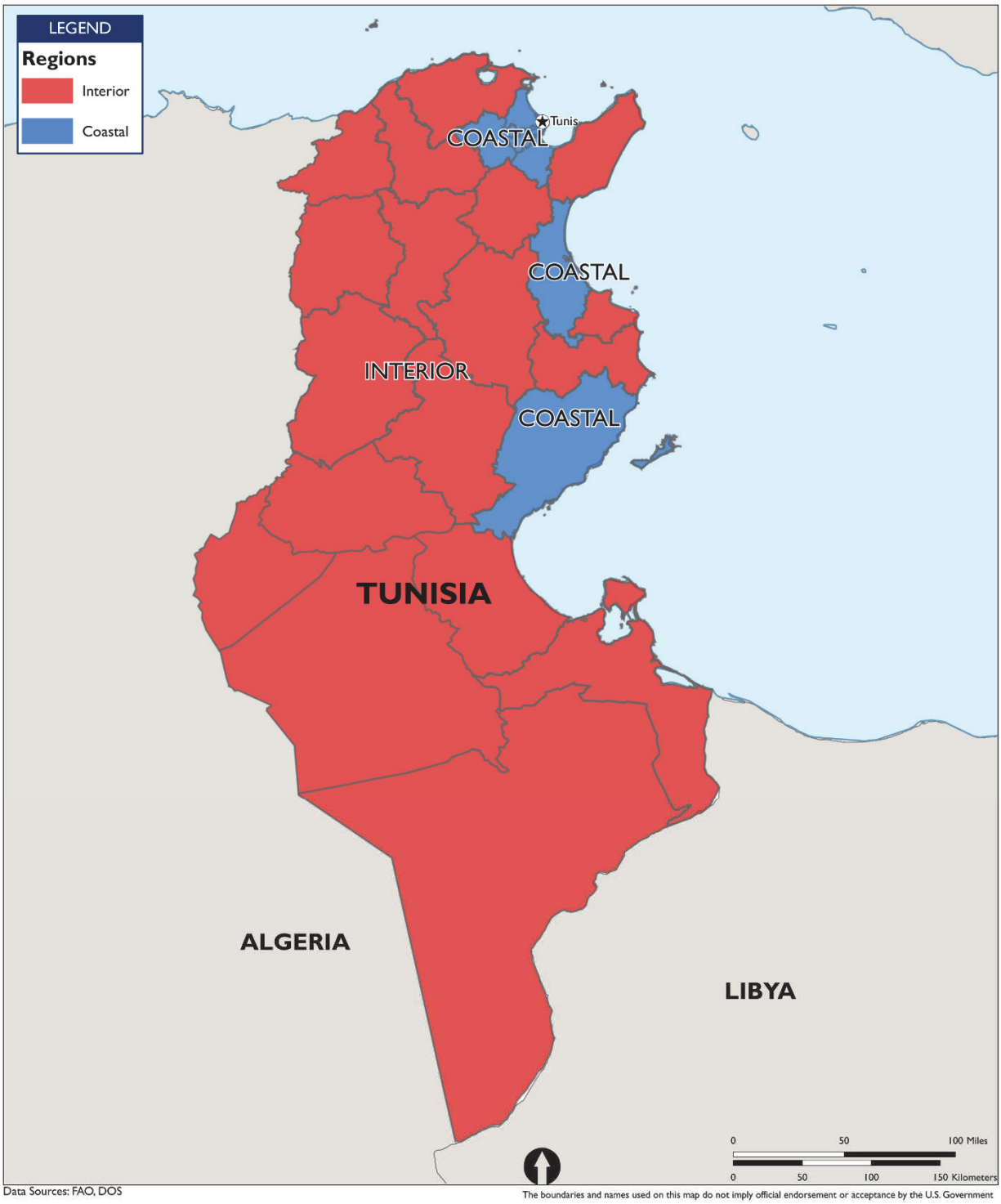
Child health, particularly in terms of mortality rates, has improved over the last decade in Tunisia. The infant mortality rate declined from 18.5 in 2006 to 12.1 infant deaths per 1,000 live births in 2015 (World Bank 2017e). Over the same time period, the under-5 mortality rate has declined from 21.7 to 14.0 deaths per 1,000 live births (World Bank 2017e). A 2015 study examined the prevalence and risk factors associated with pre-term birth in Tunisia (El Mhamdi et al. 2015). Over the study period of 1994-2012, the authors found that the prevalence of pre-term birth had increased significantly from 4.8% to 7.2% in 2012 (El Mhamdi et al. 2015). An inter-pregnancy interval less than 24 months and maternal age less than 20 or greater than 35 were both significantly associated with pre-term birth (El-Jardali et al. 2010). Immunization coverage for both DTP and measles remains high at over 95% coverage among children age 23 months (World Bank 2017e). A recent survey of Tunisia mothers found that while almost all breastfed their infants immediately after delivery, only 1.9% provided exclusive breastfeeding up to 6 months (Bouanene et al. 2010). From a nutritional standpoint, Tunisia is undergoing a transition with an increasing prevalence of overweight and obesity among children and adults. Stunting and wasting among children under-5 have remained largely unchanged since 2006. In 2012, the prevalence of stunting was 10.1%, which was a 1 percentage-point increase from 2006, and the prevalence of wasting was 2.8%, which was virtually unchanged since 2006 (World Bank 2017e).

Since the 1950s, Tunisia has operated a free health care system, in which the government served as the single largest healthcare provider (Saleh et al. 2014). As of 2006, 95% of the Tunisia population had access to a health care facility within 5 kilometers of their home (WHO 2006). In recent years, a growing network of private healthcare providers has opened the healthcare market for those who can afford the private care

(Saleh et al. 2014). Despite a robust healthcare infrastructure, universal insurance coverage has not yet been achieved in Tunisia. It is estimated that 8-10% of the population is not covered and in 2010, the out-of-pocket expenditure was estimated to be 45% of the total health expenditure in Tunisia (Chahed and Arfa 2014). The total expenditure on healthcare as a proportion of GDP has increased from 5.3% in 2001 to 6.2% in 2011 (Saleh et al. 2014). A 2015 analysis of the Tunisian health system assessed the capacity of the health system to handle the increasing proportion of morbidity and mortality caused by non-communicable diseases (NCDs) such as cancer, heart disease, and diabetes (Ben Romdhane et al. 2015). The authors found that the primary health care system in Tunisia was ill-equipped to address NCDs because for many years, infectious disease and morbidity associated with poor sanitation have been the priorities (Ben Romdhane et al. 2015). These shortcomings extend to staff knowledge and availability, information-sharing systems, and adherence to a disease-focused care model rather than a prevention-focused care model (Ben Romdhane et al. 2015).

The results discussed below for Tunisia were produced from the 2011-12 MICS survey. No other survey after 2012 was available for comparison to observe trends in the indicators.

Figure Map 9: Tunisia Map



Note: See Appendix for a description of regions.

Total Fertility Rate

The 2011-12 MICS4 found that the total fertility rate (TFR) in Tunisia was 2.1 children. This was the lowest TFR of all the countries included in this report. The TFR in Tunisia did not vary widely by the characteristics included in Table Tunisia.01. The TFR was between 1.8 and 2.3 for all subgroups, and was lowest in the richest wealth quintile, at the below replacement rate of 1.8, and highest in the richer wealth quintile and in rural areas at 2.3.

Table Tunisia.01: Total fertility rate for the 3 years before the survey, by background characteristics, Tunisia 2011-12 MICS4

	TFR [C.I.]
Total	2.1 [2.0,2.2]
Education	
None	2.1 [1.8,2.6]
Primary	2.2 [2.0,2.4]
Secondary +	2.1 [1.9,2.2]
Wealth quintile	
Poorest	2.2 [1.9,2.5]
Poorer	2.2 [1.9,2.5]
Middle	2.0 [1.7,2.2]
Richer	2.3 [2.0,2.5]
Richest	1.8 [1.6,2.0]
Place of residence	
Urban	2.0 [1.8,2.1]
Rural	2.3 [2.1,2.5]
Region	
Interior	2.1 [2.0,2.3]
Coastal	1.9 [1.7,2.2]

Contraceptive Use

Half of women age 15-49 in Tunisia were using modern contraception at the time of the 2011-12 survey, although this varied significantly by all characteristics in Table Tunisia.02, except for region.

There were significant differences in modern contraceptive use by age. Women age 35-44 had the highest percent of modern contraceptive use at 56%, while women age 15-24 had the lowest at 34%. Modern contraceptive use differed significantly by education, although the pattern was not linear. Women with a primary education had the highest modern contraceptive use at 55%, while women with a secondary or higher level of education had the lowest at 47%. Women with no education fell in between at 52%. By wealth quintile, modern contraceptive use was highest among the poorest women in Tunisia (56%), with use declining incrementally with each increasing wealth quintile. Forty-seven percent (47%) of women in the richest wealth quintile used modern contraception. Women in rural areas had a significantly higher percentage of modern contraceptive use than women in urban areas (54% vs. 49%).

A smaller percentage of women in Tunisia were using traditional contraception at the time of the 2011-12 survey. Twelve percent (12%) of women were using traditional contraception overall, but this varied widely by all characteristics in Table Tuniaia.02.

Similar to modern contraceptive use, women age 35-44 had the highest percentage of traditional contraceptive use at 14%, and women age 15-44 had the lowest at 5%. Traditional contraceptive use increased incrementally with the level of education and wealth quintile. By education, women with a secondary or higher level of education had the highest percentage of traditional contraceptive use (15%),

compared to 6% among women with no education. By wealth, women in the richest wealth quintile had the highest percentage of traditional contraceptive use (18%) and women in the poorest wealth quintile the lowest (6%).

A significantly higher percentage of women in urban areas used traditional contraception (15%) compared to women in rural areas (6%), while a significantly higher percentage of women in the Coastal Region used traditional methods (17%) compared to the Interior Region (10%).

Table Tunisia.02: Percentage of women currently using modern or traditional contraception among women age 15-49 in a union, by background characteristics, Tunisia 2011-12 MICS4

	Modern CPR		Traditional CPR	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	50.7 [48.9,52.5]		11.8 [10.6,13.2]	
Age				
15-24	34.2 [27.5,41.7]	*	5.3 [2.9,9.4]	*
25-34	51.4 [48.2,54.6]		9.4 [7.8,11.3]	
35-44	55.8 [53.0,58.6]		13.9 [12.0,16.2]	
45-49	43.5 [39.8,47.2]		13.0 [10.5,16.0]	
Education				
None	51.8 [47.4,56.0]	*	5.6 [4.0,7.7]	*
Primary	55.0 [51.9,58.1]		10.5 [8.8,12.6]	
Secondary +	47.0 [44.5,49.5]		15.1 [13.2,17.2]	
Wealth quintile				
Poorest	55.7 [51.9,59.4]	*	6.1 [4.5,8.4]	*
Poorer	55.4 [51.6,59.2]		6.9 [5.2,9.0]	
Middle	49.3 [44.9,53.7]		11.1 [9.0,13.8]	
Richer	47.8 [43.6,52.0]		14.9 [12.3,17.9]	
Richest	46.6 [43.1,50.2]		18.3 [15.0,22.2]	
Place of residence				
Urban	49.2 [47.0,51.5]	*	14.6 [12.9,16.5]	*
Rural	53.7 [50.4,56.9]		6.1 [4.8,7.8]	
Region				
Interior	50.6 [48.5,52.7]		10.0 [8.8,11.4]	*
Coastal	51.1 [47.4,54.8]		17.2 [14.0,21.0]	

* Significant p-value. [1] Significance of the covariate in each survey.

Antenatal Care

Table Tunisia.03 reports that 85% of women in Tunisia had the recommended four or more ANC visits during their most recent pregnancy, although this varied by several characteristics. The percentage of women who had four or more ANC visits increased with level of education, with 89% of women with a secondary or higher level of education having four or more visits compared to 71% of women with no education. The pattern by wealth was similar. Almost all women in the richest wealth quintile had four or more ANC visits, compared to 73% of women in the poorest quintile. However, the poorer and middle quintiles did not follow this pattern, and their overlapping confidence intervals indicate that they may not have differed.

Women in urban areas had a significantly higher percentage of four or more ANC visits (88%) than women in rural areas (80%). The same held true for women in the Coastal Region (90%) compared to women in the Interior Region (84%).

Table Tunisia.03: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Tunisia 2011-12 MICS4

Variable	% [C.I.]	Sig.[1]
Total	85.1 [82.5,87.4]	
Age		
15-24	83.8 [73.8,90.5]	
25-34	86.2 [83.0,88.8]	
35-44	83.0 [78.2,86.9]	
45-49	ND	
Education		
None	71.2 [63.0,78.3]	*
Primary	81.8 [77.0,85.7]	
Secondary +	89.4 [86.0,92.1]	
Wealth quintile		
Poorest	73.2 [66.6,79.0]	*
Poorer	84.6 [78.1,89.5]	
Middle	82.2 [75.1,87.6]	
Richer	89.3 [83.6,93.2]	
Richest	96.3 [91.3,98.5]	
Place of residence		
Urban	88.2 [84.8,90.8]	*
Rural	79.9 [75.5,83.8]	
Region		
Interior	83.5 [80.5,86.1]	*
Coastal	90.3 [83.8,94.4]	

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Overall, 74% of women in Tunisia gave birth with an SBA in the 2011-12 survey. This differed significantly by all characteristics in Table Tunisia.04, except for age. A higher percentage of women with a secondary or higher level of education gave birth with an SBA (79%), compared to women with no education or a primary education (67% and 66%). The percentage of women delivering with an SBA increased incrementally with wealth quintile. Of women in the poorest wealth quintile, 63% delivered with an SBA compared to 89% of women in the richest wealth quintile. Women in urban areas had a higher percentage of delivery with an SBA compared to rural women, as did women in the Coastal Region compared to the Interior Region. The SBA use in the Coastal Region was 16-percentage points higher than in the Interior Region.

Nearly all women delivered their most recent birth in a health facility. While differences were statistically significant by characteristics in Table Tunisia.04, the interval between the highest and lowest percentage of health facility delivery was small, with 93% (women with no education) to 100% (women with a secondary or higher level of education, women in the middle, richer, and richest wealth quintiles, women residing in urban areas, and women in the Coastal Region) delivered in a health facility. Health facility delivery increased incrementally with level of education. While 100% of women in the poorer, middle, richer, and richest wealth quintiles delivered in a health facility, only 94% of women in the poorest wealth quintile did.

Overall, the percentage of women who delivered by C-section in Tunisia was 27% in 2011-12. The percentage of women who delivered their most recent birth by C-section varied by age, wealth, place of

residence, and region. Women age 15-24 had the lowest percentage of C-section deliveries (14%) by age and of all characteristics included in Table Tunisia.04. In contrast, 29% of women age 35-44 delivered by C-section. The percentage of C-section deliveries by wealth quintile also differed significantly. Although the middle and richer wealth quintiles had very similar percentages of C-section deliveries (31%), a smaller percentage of women in the poorest wealth quintile gave birth by C-section (15%). Thirty-eight percent (38%) of women in the richest wealth quintile delivered by C-section, which was the highest of any subgroup in Table Tunisia.04. As with SBA and health facility delivery, the percentage of women delivering by C-section was higher for women in urban areas than rural areas, and women in the Coastal Region compared to the Interior Region.

Table Tunisia.04: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant, delivered in a health facility, or delivered by caesarean section in the 2 years before the survey, by background characteristics, Tunisia 2011-12 MICS4

	SBA		DHF		C-section	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	73.6 [70.3,76.6]		98.5 [97.6,99.1]		26.7 [23.7,29.9]	
Age						
15-24	66.3 [55.1,76.0]		98.6 [93.0,99.7]		13.5 [7.6,22.8]	*
25-34	73.3 [69.1,77.1]		98.3 [97.1,99.0]		27.5 [23.6,31.8]	
35-44	76.9 [71.1,81.8]		98.8 [97.7,99.4]		29.2 [23.6,35.5]	
45-49	ND		ND		ND	
Education						
None	66.6 [58.3,74.0]	*	93.1 [87.9,96.2]	*	17.9 [11.8,26.2]	
Primary	66.3 [60.5,71.6]		98.0 [96.2,99.0]		27.3 [22.1,33.1]	
Secondary +	78.6 [74.1,82.5]		99.8 [99.2,99.9]		28.0 [24.0,32.4]	
Wealth quintile						
Poorest	62.8 [55.7,69.4]	*	93.8 [89.7,96.4]	*	15.3 [11.1,20.7]	*
Poorer	68.9 [62.4,74.6]		99.5 [97.8,99.9]		19.7 [14.2,26.7]	
Middle	72.4 [64.4,79.3]		99.7 [97.5,100.0]		31.1 [24.0,39.2]	
Richer	75.8 [68.1,82.1]		99.8 [98.6,100.0]		30.7 [24.4,37.8]	
Richest	89.1 [82.3,93.5]		99.7 [97.5,100.0]		37.7 [29.4,46.8]	
Place of residence						
Urban	77.2 [72.8,81.0]	*	99.7 [99.1,99.9]	*	30.9 [27.1,35.0]	*
Rural	67.4 [62.0,72.3]		96.5 [94.1,98.0]		19.5 [15.0,24.9]	
Region						
Interior	69.8 [66.2,73.2]	*	98.0 [96.8,98.8]	*	24.3 [21.1,27.7]	*
Coastal	85.7 [76.7,91.6]		100.0		34.5 [27.2,42.7]	

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Child Health Care

Treatment or advice was sought for 60% of children with ARI symptoms within the 2 weeks before the survey in 2011-12. This did not vary significantly by sex of the child, mother's education, place of residence, or region, but did differ by wealth quintile, as shown in Table Tunisia.05. Care-seeking was highest for children in the richest wealth quintile at 74%, and lowest for children in the poorest wealth quintile at 46%.

Table Tunisia.05: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Tunisia 2011-12 MICS4

Variable	% [C.I.]	Sig.[1]
Total	59.5 [54.3,64.5]	
Child's sex		
Male	60.8 [53.9,67.3]	
Female	58.0 [50.4,65.1]	
Mother's education		
None	46.6 [32.7,61.1]	
Primary	63.4 [54.7,71.3]	
Secondary +	60.2 [52.6,67.4]	
Wealth quintile		
Poorest	46.1 [36.7,55.9]	*
Poorer	62.8 [50.4,73.8]	
Middle	56.3 [42.2,69.5]	
Richer	67.6 [53.7,79.0]	
Richest	74.1 [57.9,85.6]	
Place of residence		
Urban	63.1 [56.8,69.0]	
Rural	52.9 [43.8,61.8]	
Region		
Interior	57.4 [51.6,63.0]	
Coastal	65.6 [53.7,75.9]	

* Significant p-value. [1] Significance of the covariate in each survey.

Child Nutrition

At 9%, Tunisia had one of the lowest percentages of children under age 6 months who were exclusively breastfed of the countries in this report (Overall Summary, Figure 9). Of the characteristics in Table Tunisia.06, exclusive breastfeeding differed significantly only by the mother's level of education. Although 5% of children with mothers with a secondary or higher level of education were exclusively breastfed, 14% of those with a primary education, and 16% of those with no education were exclusively breastfed. The results for mothers with no education should be interpreted with caution because they are based on a small number of cases. There was no clear pattern of exclusive breastfeeding by wealth quintile. The highest percentage of exclusive breastfeeding was in the poorest quintile (16%), and the lowest in the middle quintile (1%). The same percentage of children under age 6 months were breastfed in urban and rural areas. While 10% of children in the Interior Region were exclusively breastfed, 3% of children in the Coastal Region were. This difference was not statistically significant.

Table Tunisia.06: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Tunisia 2011-12 MICS4

Variable	% [C.I.]	Sig.[1]
Total	8.5 [5.5,12.8]	
Child's sex		
Male	7.1 [3.8,12.6]	
Female	10.2 [5.4,18.4]	
Mother's education		
None	(15.5 [6.0,34.7])	*
Primary	14.0 [6.6,27.3]	
Secondary +	5.2 [3.0,8.9]	
Wealth quintile		
Poorest	15.7 [8.1,28.0]	
Poorer	9.2 [4.3,18.5]	
Middle	1.4 [0.3,6.0]	
Richer	9.1 [4.0,19.5]	
Richest	7.1 [1.9,22.9]	
Place of residence		
Urban	8.4 [4.7,14.7]	
Rural	8.6 [4.9,14.7]	
Region		
Interior	10.2 [6.6,15.3]	
Coastal	3.0 [0.4,20.8]	

Note: Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey.

Overall, 10% of children under age 5 were stunted in Tunisia in 2011-12 (Table Tunisia.07). This varied based on several characteristics including sex, mother's education, wealth, and place of residence. A higher percentage of boys were stunted compared to girls (11% vs. 9%). By mother's education, the highest percent of stunting (16%) was found in children with mothers with no education. In comparison, 9% of children with mothers with a secondary or higher level of education and 10% of children with mothers with a primary education were stunted.

By wealth quintile, the percentage of children who were stunted was highest among the poorest (16%) and the poorer quintiles (10%). However, stunting was lowest in the middle (8%) and richest wealth quintiles (8%). A significantly higher percentage of children living in rural areas were stunted than those living in urban areas (14% vs. 8%), although stunting did not differ by region.

The presence of overweight children under age 5 in Tunisia was 14% overall and did not differ significantly by any characteristics in Table Tunisia.07. The range that compared all characteristics was between 12% (children in the richest wealth quintile) and 16% (children in the middle and richer wealth quintiles).

Table Tunisia.07: Percentage of children under age 5 who are stunted or overweight, by background characteristics, Tunisia 2011-12 MICS4

	Stunted		Overweight	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	10.1 [8.7,11.7]		14.3 [12.8,16.0]	
Child's sex				
Male	11.3 [9.5,13.5]	*	14.8 [12.8,17.0]	
Female	8.8 [7.2,10.8]		13.7 [11.7,16.0]	
Mother's education				
None	16.4 [12.7,20.9]	*	14.7 [10.8,19.8]	
Primary	9.9 [7.7,12.6]		14.4 [11.9,17.4]	
Secondary +	8.8 [7.1,10.9]		14.1 [12.0,16.5]	
Wealth quintile				
Poorest	15.6 [12.2,19.6]	*	14.8 [11.9,18.3]	
Poorer	10.2 [7.6,13.6]		12.5 [9.6,16.1]	
Middle	7.5 [4.9,11.3]		15.7 [12.0,20.3]	
Richer	9.1 [6.5,12.6]		16.0 [12.9,19.7]	
Richest	7.7 [5.1,11.5]		12.3 [8.8,16.9]	
Place of residence				
Urban	8.1 [6.5,10.0]	*	14.2 [12.4,16.4]	
Rural	13.6 [11.2,16.5]		14.4 [11.9,17.2]	
Region				
Interior	10.6 [9.0,12.4]		14.3 [12.7,16.1]	
Coastal	8.5 [5.8,12.5]		14.2 [10.6,18.7]	

* Significant p-value. [1] Significance of the covariate in each survey.

Under-5 Mortality

Under-5 mortality in Tunisia was 19/1000 live births in 2011-12, and ranged from 7/1000 in the richer wealth quintile to 42/1000 for children of mothers with no education. Under-5 mortality declined as mother's education and wealth increased (except for the richest wealth quintile, with an under-5 mortality rate of 16/1000). In addition, under-5 mortality was higher in rural areas than urban areas and in the Interior Region compared to the Coastal Region.

Table Tunisia.08: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Tunisia 2011-12 MICS4

Variable	U5M [C.I.]
Total	19 [15,25]
Child's sex	
Male	21 [15,31]
Female	17 [11,26]
Mother's education	
None	42 [26,67]
Primary	20 [13,33]
Secondary +	13 [8,21]
Wealth quintile	
Poorest	32 [20,50]
Poorer	20 [12,35]
Middle	24 [13,45]
Richer	7 [3,19]
Richest	16 [7,34]
Place of residence	
Urban	15 [10,23]
Rural	26 [18,38]
Region	
Interior	20 [15,27]
Coastal	17 [8,33]

Tunisia Summary

Tunisia had a replacement level TFR at 2.1 births per woman in 2011-12. There were few differences in TFR by background characteristics. Approximately half of married women age 15-49 were using a method of modern contraception at the time of the survey, compared to 12% using a traditional method. The lowest percentage of modern contraceptive use was among women age 15-24, who also had the lowest traditional contraceptive use. Modern contraceptive use did not follow an expected pattern by wealth quintile, with percentages of use decreasing as wealth quintile increased.

Overall, 85% of women received the four or more recommended ANC visits during their most recent pregnancy, but this varied by education, wealth, urban/rural residence, and region. There was variance by wealth with 73% of women in the poorest wealth quintile and 96% of women in the richest wealth quintile having four or more ANC visits. Less than three-quarters of women delivered their most recent birth with an SBA, but nearly all gave birth in a health facility. The higher percentage of deliveries in a health facility compared to deliveries assisted by an SBA indicates that many deliveries in the health facility were performed by non-skilled birth attendants. Health facility delivery was lowest at 93% among women with no education. Just over a quarter of women gave birth by C-section; however, among women in the richest wealth quintile, 38% gave birth by C-section.

Child health indicators varied. While care was sought for 60% of children under five with ARI symptoms in the two weeks prior to the survey, only 9% of children under six months were exclusively breastfed. Exclusive breastfeeding was highest among women in the poorest wealth quintile and among children with mothers with no education. A tenth of children were stunted and 14% were overweight. Finally, under-5 mortality was 19/1000 live births overall, ranging from 7/1000 in the richer wealth quintile to 42/1000 among mothers with no education.

West Bank and Gaza Strip

In 2015, there were an estimated 4.7 million people living in the West Bank and Gaza Strip (WHO and Ministry of Health [State of Palestine] 2016). The long-standing conflict between Israel and the Palestinian Territories has affected not only the economic and social well-being of Palestinians, but also the health system and health outcomes. The last major conflict that took place in July 2014 in the Gaza Strip resulted in over 2,000 fatalities (Naim et al. 2016). Since 2007, the Gaza Strip has been subjected to a blockade that restricts movement and supplies in and out of the territory. This has had severe economic ramifications and resulted in one of the highest unemployment rates (over 40%) in the world (UNRWA 2016a). The Gaza blockade has resulted in disparate health outcomes between the West Bank and Gaza Strip. Over the past decade, maternal and child health outcomes have fluctuated and in some instances, have worsened among the Palestinians living in the West Bank and Gaza Strip.

Maternal health has been greatly affected by the Gaza blockade and has varied across both the West Bank and Gaza Strip in recent years. In 2008, the maternal mortality rate (MMR) across the West Bank and Gaza Strip was 38 maternal deaths per 100,000 live births (WHO and Ministry of Health [State of Palestine] 2016). This declined to 24.1 by 2013, with a rate of 26.1 in the West Bank and 21.9 in Gaza (WHO and Ministry of Health [State of Palestine] 2016). However, in 2014, the MMR increased slightly overall to 24.7 with the Gaza strip experiencing a dramatic increase to 30.6 maternal deaths per 1000,000 live births (WHO and Ministry of Health [State of Palestine] 2016). A 2015 study by the United National Population Fund (UNFPA) sought to understand this increase, with many experts speculating that the July 2014 war with Israel may have affected the MMR (Naim et al. 2016). The authors concluded that the July 2014 war was linked to several maternal deaths although they also found that severe breakdowns in communication, poor record keeping, and a dysfunctional referral system between hospitals contributed to the surge in maternal deaths (Naim et al. 2016). Similar to their assessment of maternal deaths in the Gaza Strip after the July 2014 war, UNFPA also conducted an evaluation of the war's impact on reproductive health services in the Gaza Strip (Shaar et al. 2014). During the course and immediate aftermath of the seven-week war, the authors found an overall increase in stillbirths, miscarriages, preterm birth, and low-birth weight among the surveyed maternity wards (Shaar et al. 2014). Beyond the impact on maternity care, just 50% of primary care facilities were operational during the war, which precipitated a large decrease in antenatal care (ANC) and family planning visits (Shaar et al. 2014). In the West Bank, a 2015 study that examined the patterns of maternal morbidity at a hospital in Ramallah found that among 1,558 births, 26.9% of women experienced at least one maternal morbidity (Hassan, Wick, and DeJong 2015). A second study also examined births at a hospital in Ramallah and found that among the observed births, 12.1% had complications that included live-threatening morbidities (Bashour et al. 2015). Although maternal mortality has not universally improved across the Palestinian territories, skilled birth attendance and the prevalence of facility births both exceed 99% (WHO and Ministry of Health [State of Palestine] 2016).

Infant and child mortality rates have declined over the past decade, although there are persistently higher levels of mortality in the Gaza Strip when compared to the West Bank. According to the Palestinian Ministry of Health, as of 2014, the infant mortality rate (IMR) was 12.7 per 1,000 live births, which decreased from 25 per 1,000 live births in 1995 (WHO and Ministry of Health [State of Palestine] 2016). The IMR was 14.1 in the Gaza Strip and 11.6 in the West Bank (WHO and Ministry of Health [State of Palestine] 2016). Other infant outcomes among the Palestinian population have also been assessed. The WHO examined the prevalence of small-for-gestational-age (SGA) births across 29 countries and found that the West Bank and Gaza Strip had the third highest prevalence (16.1% of births considered SGA) among all the countries (Ota et al. 2014).

Food insecurity is a widespread problem with 27% of the population in the Gaza Strip and the West Bank considered food insecure in 2014 (Palestine Food Security Sector and Palestinian Central Bureau of

Statistics 2016). Children living in the Gaza Strip have been particularly vulnerable to food insecurity since the institution of the blockade in 2007. A 2009 study examined the nutritional status of preschoolers in the Gaza Strip, after the imposition of the Gaza blockade (Radi et al. 2013). The authors found that 85% of the children surveyed in Gaza City lived in household classified as food insecure and that the prevalence of wasting, stunting, and underweight was 3.5%, 15%, and 6.1%, respectively (Radi et al. 2013). The authors hypothesize that the nutritional deficiencies and material hardships observed in this population are a direct result of the continued Gaza blockade (Radi et al. 2013). A 2013 assessment of weaning practices among mothers who attended six randomly selected UNRWA health clinics in the Gaza Strip found that 28.4% reported exclusively breastfeeding for 4-6 months (Abu Hamad and Sammour 2013). In this sample, the principal reason for weaning was pregnancy, which was reported by 42.8% of mothers (Abu Hamad and Sammour 2013). However, a similar assessment at three refugee camps in Nablus in the West Bank found that nearly 70% of infants were exclusively breastfed for the first six months of life (Musmar and Qanadeelu 2012). A random sample of school-age children living in the West Bank found the prevalence of parasitic infection to be 22.2%, which indicated that these infections are endemic to the area and widespread (Hussein 2011). Parasitic infection was significantly associated with lower parental education and living in rural or refugee camp areas (Hussein 2011).

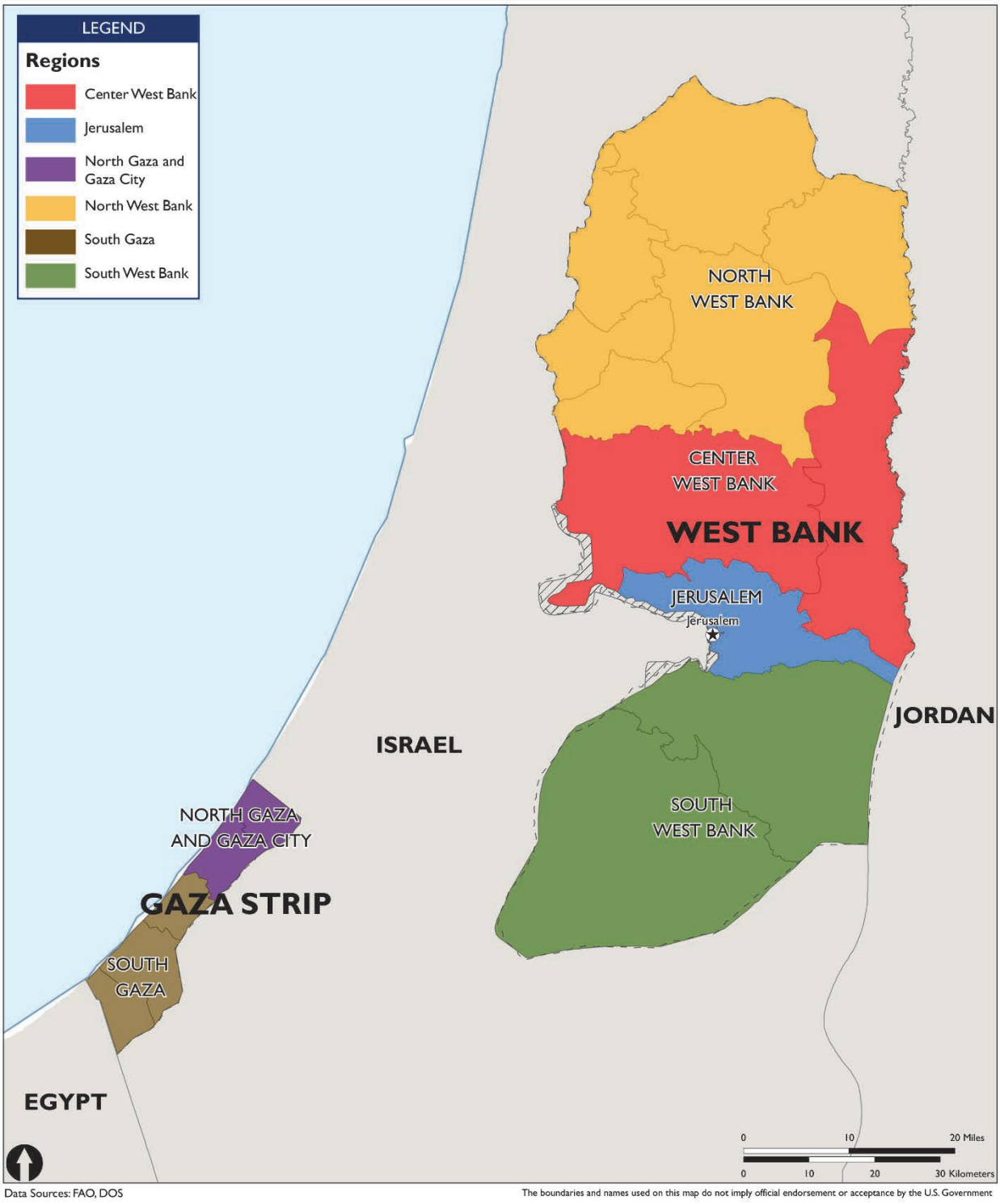
There is an extensive body of literature that examines the mental health ramifications for Palestinian children of living in a long-term conflict zone. Data from the early 2000s found an increase in the incidence rate of several mental health disorders across the Gaza Strip and the West Bank (Giacaman et al. 2011). For example, the incidence of affective disorders and neurosis have doubled from approximately 5 cases per 100,000 people in 2001 to over 10 cases per 100,000 people in 2005 (Giacaman et al. 2011). While some of these increases may reflect a true increase in incidence, some of the increase may also be attributable to better detection and screening for mental health disorders. An analysis by Doctors Without Borders found that 75% of Palestinian children who sought mental health services had mental health problems associated with armed conflict (Lokuge et al. 2013). A study in 2012 estimated that 95% of children under age 18 living in the Gaza Strip suffer some symptoms of post- traumatic stress syndrome (PTSD) (Thirkell 2012). An assessment of preschoolers living in the Gaza Strip found that 37% had poor mental health and that children with higher exposure to traumatic events has significantly worse health-related quality of life scores (Massad et al. 2011). A 2009 survey that examined PTSD in children age 12-16 in the Gaza Strip found that, on average, children reported witnessing 8.2 traumatic events (Thabet et al. 2009). Among the children surveyed, 30.8% met the DSM-IV diagnostic criteria for PTSD, while more than 80% reported at least some PTSD symptoms (Thabet et al. 2009). The Ministry of Health recognizes the urgent need for improved mental health services in the West Bank and Gaza Strip and recently released a Mental Health Strategy Report for 2015-2019 to help improve quality and access to these services (Ministry of Health [Palestine] 2015). As of 2013, there were 13 government-run community mental health centers in the West Bank and six in the Gaza Strip, with demand for services increasing on an annual basis (Ministry of Health [Palestine] 2015). UNRWA is also an important source of mental health services through their Community Mental Health Program, and provided mental health services for an estimated 60,000 Palestinians in 2013 alone (Ministry of Health [Palestine] 2015).

Healthcare is provided primarily by four main entities in the West Bank and Gaza Strip: the Ministry of Health, UNRWA, various NGOs, and the private sector (Hamidi et al. 2016). Overall, the Ministry of Health provides 61.3% of primary healthcare in the Palestinian Territories, although in the Gaza Strip, UNRWA is the main provider of healthcare to the majority of Palestinians who reside there (Hamidi et al. 2016; UNRWA 2016c). This is due to the high percentage of Palestinians with refugee status in the Gaza Strip (UNRWA 2016b). The size of the healthcare work force in the Gaza Strip and the West Bank has increased over the past two decades, and has nearly tripled in size since 1995 (WHO and Ministry of Health [State of Palestine] 2016). The number of healthcare facilities has also increased from 454 in 1994 to 750 in 2012 (Hamidi et al. 2016). Costs have also been increasing along with this growth in the healthcare system. Between 2000 and 2011, the per-capita household out-of-pocket healthcare expenditure increased from

$54USD to $133USD (Hamidi et al. 2016). This is particularly troublesome given the very high levels of poverty in the Gaza Strip and the West Bank. The Gaza blockade has severely affected the health system. Stock-outs and supply shortages are very common in health facilities in the Gaza Strip, and the problems are further compounded by aging and broken medical equipment (Shaar et al. 2014). At the end of the July 2014 war, it was estimated that only 50% of medical equipment in the Gaza Strip was functioning (Shaar et al. 2014). One of the greatest threats to the health system in the Gaza Strip is the recent reduction in electricity and power supplies (United Nations 2017a). Beginning in late 2016, the daily electricity allowance in the Gaza Strip was reduced to less than 4 hours per day (Al-Mughrabi 2017). This continuing electricity shortage has caused hospitals to work at minimal capacity, with electricity available for only the most critical functions such as neonatal intensive care units and storage of blood products and vaccines (United Nations 2017a).

The results discussed below for the West Bank and Gaza Strip (WBG) used data from the 2010 and 2014 MICS surveys.

Figure Map 10: State of Palestine Map—West Bank and Gaza Strip



Note: See Appendix for a description of regions.

Total Fertility Rate

The total fertility rate (TFR) decreased significantly in WBG between the 2010 and 2014 MICS surveys from 4.5 to 4.1, as shown in Table WBG.01. The TFR reductions were significant by most characteristics in the table. The TFR declined among women with a primary education and a secondary or higher education, although in both years, the TFR was lowest among women with no education. The TFR declined significantly in all wealth quintiles except for the poorest and richest. In 2010 and 2014, women in the poorest wealth quintile had the highest TFR and women in the richest quintile had the lowest. The TFR declined between the two surveys in urban areas, rural areas, and camps. In 2010, the TFR was highest in the camps, although in 2014, the TFR was slightly higher in urban areas.

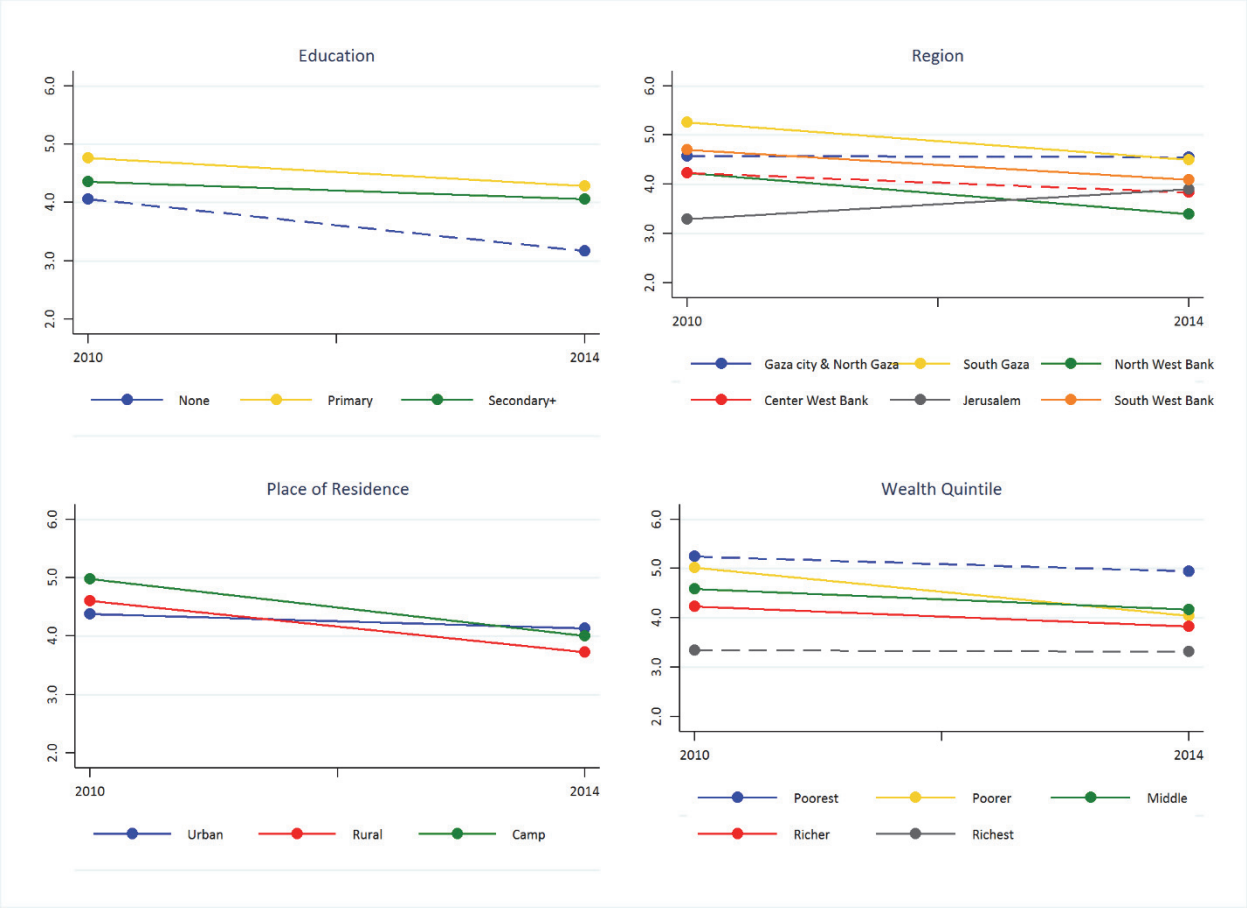
All significant changes indicated a declining TFR, except for Jerusalem, where there was the only increase in TFR by all sub-characteristics, as shown in Table WBG.01. Jerusalem had the lowest TFR of any region in 2010, although this was not the case in 2014, as illustrated in Figure WBG.01.

Table WBG.01: Total fertility rate for the 3 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010	2014	
Variable	TFR [C.I.]	TFR [C.I.]	Diff[1]
Total	4.5 [4.4,4.6]	4.1 [3.9,4.2]	-0.4*
Education			
None	4.1 [3.7,4.4]	3.2 [2.0,5.1]	-0.9
Primary	4.8 [4.6,4.9]	4.3 [4.1,4.5]	-0.5*
Secondary +	4.4 [4.2,4.5]	4.1 [3.9,4.2]	-0.3*
Wealth quintile			
Poorest	5.2 [5.0,5.5]	4.9 [4.7,5.2]	-0.3
Poorer	5.0 [4.8,5.2]	4.0 [3.7,4.4]	-1.0*
Middle	4.6 [4.4,4.8]	4.2 [3.9,4.4]	-0.4*
Richer	4.2 [4.0,4.4]	3.8 [3.6,4.1]	-0.4*
Richest	3.3 [3.1,3.6]	3.3 [3.1,3.5]	0.0
Place of residence			
Urban	4.4 [4.3,4.5]	4.1 [4.0,4.3]	-0.2*
Rural	4.6 [4.3,4.9]	3.7 [3.4,4.0]	-0.9*
Camps	5.0 [4.7,5.3]	4.0 [3.6,4.4]	-1.0*
Region			
Gaza City & North Gaza	4.6 [4.3,4.8]	4.6 [4.2,4.9]	0.0
South Gaza	5.3 [5.0,5.5]	4.5 [4.2,4.8]	-0.8*
North West Bank	4.2 [4.0,4.4]	3.4 [3.2,3.6]	-0.8*
Center West Bank	4.2 [3.8,4.7]	3.8 [3.5,4.2]	-0.4
Jerusalem	3.3 [2.9,3.7]	3.9 [3.5,4.3]	0.6*
South West Bank	4.7 [4.5,5.0]	4.1 [3.8,4.4]	-0.6*

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure WBG.01: Total fertility rate for the 3 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Contraceptive Use

There was no change overall in the percentage of women (44%) who were using modern contraception at the time of the surveys in 2010 and 2014. By the background characteristics in Table WBG.02, only women age 45-49 showed a significant change between 2010 and 2014. However, in both years, modern contraceptive use varied significantly by age, education, wealth quintile, and region.

There was a significant increase in the percentage of women age 45-49 who used modern contraception between the two surveys. In 2010, 37% of women age 45-49 were using modern contraception, compared to 44% in 2014. Women age 35-44 had the highest percentage of modern contraceptive use in both surveys (56% and 59%), and women age 15-24 had the lowest (26% and 23%). In both years, modern contraceptive use increased with age until the oldest group, which had a lower percentage of modern contraceptive use, as illustrated in Figure WBG.02.

There were no changes between the surveys in modern contraceptive use by education or wealth quintile. However, in both 2010 and 2014, a higher percentage of women with a primary education used modern contraception than women with no education or with a secondary or higher level of education. Modern contraceptive use also increased with wealth, although 43% of women in the poorer and middle quintiles were using modern contraception in both years.

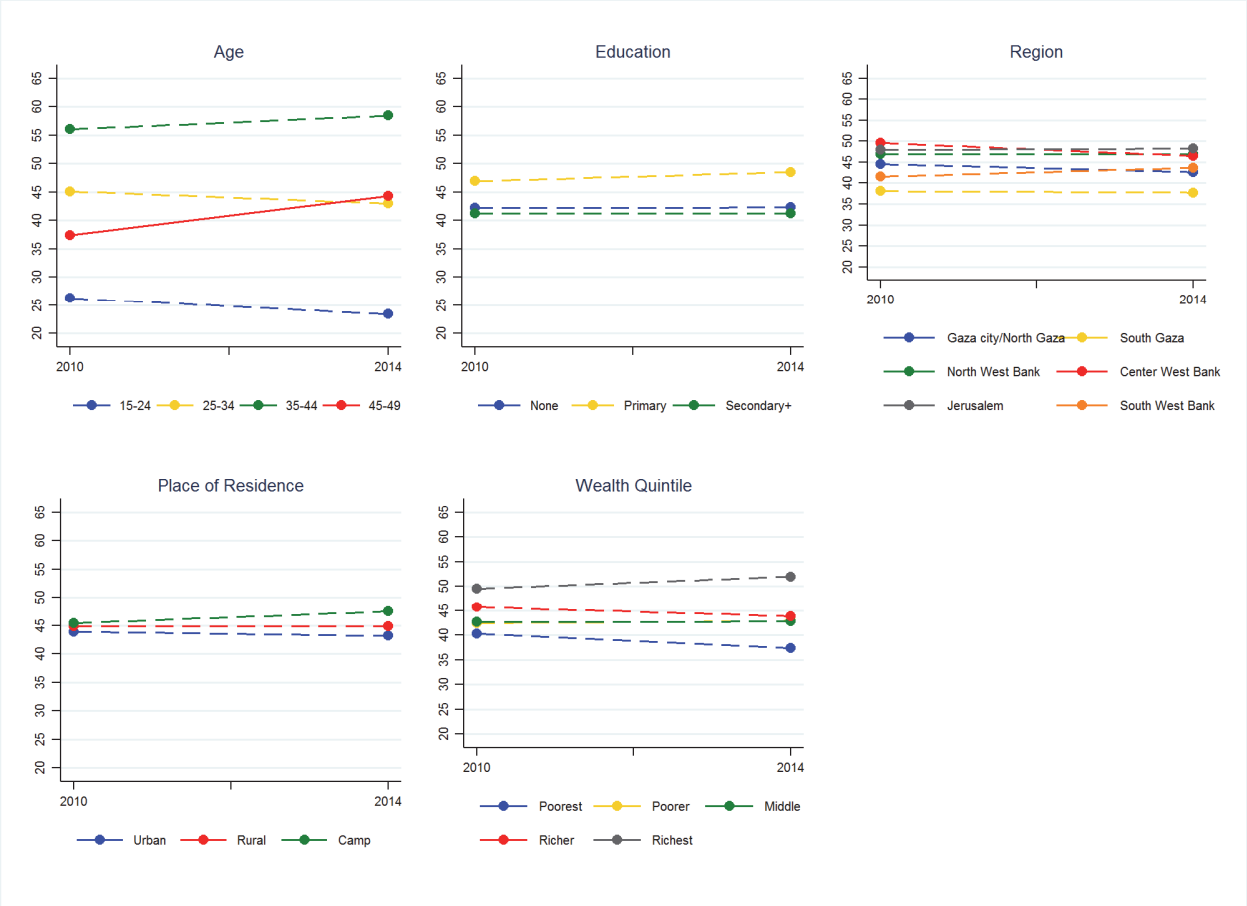
There were no significant changes between the surveys by place of residence or region. Modern contraceptive did not vary by place of residence in both surveys although use varied by region in 2010 and 2014. In 2010, by region, the Center West Bank had the highest percentage of women using modern contraception (50%). In 2014, Jerusalem had the highest at 48%, while South Gaza had the lowest percentage of modern contraceptive use of all regions (38%) in both 2010 and 2014.

Table WBG.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	44.2 [43.1,45.3]		43.8 [42.6,45.0]		-0.4
Age					
15-24	26.3 [24.0,28.6]	*	23.4 [21.2,25.8]	*	-2.9
25-34	45.1 [43.5,46.7]		43.0 [41.1,44.9]		-2.1
35-44	56.0 [54.3,57.8]		58.5 [56.4,60.5]		2.4
45-49	37.3 [34.6,40.2]		44.3 [41.2,47.5]		7.0*
Education					
None	42.3 [38.7,45.9]	*	42.3 [27.9,58.2]	*	0.0
Primary	46.9 [45.5,48.3]		48.5 [46.6,50.5]		1.6
Secondary +	41.2 [39.6,42.9]		41.2 [39.8,42.7]		0.0
Wealth quintile					
Poorest	40.3 [37.9,42.7]	*	37.4 [35.0,39.8]	*	-2.9
Poorer	42.5 [40.4,44.6]		42.9 [40.3,45.6]		0.5
Middle	42.7 [40.6,44.9]		42.8 [40.3,45.3]		0.0
Richer	45.7 [43.3,48.1]		43.9 [41.5,46.3]		-1.8
Richest	49.5 [47.0,52.1]		52.0 [49.3,54.7]		2.5
Place of residence					
Urban	43.9 [42.6,45.2]		43.2 [41.8,44.6]		-0.8
Rural	44.9 [42.4,47.4]		44.9 [42.0,47.8]		0.0
Camps	45.4 [42.1,48.9]		47.5 [43.8,51.1]		2.0
Region					
Gaza City & North Gaza	44.6 [42.3,46.8]	*	42.7 [40.1,45.3]	*	-1.9
South Gaza	38.1 [36.0,40.3]		37.8 [35.0,40.6]		-0.3
North West Bank	47.0 [45.0,49.0]		46.9 [44.5,49.3]		-0.1
Center West Bank	49.6 [45.2,54.1]		46.5 [42.2,50.8]		-3.1
Jerusalem	47.9 [43.0,52.9]		48.2 [43.6,53.0]		-0.3
South West Bank	41.5 [39.0,44.1]		43.7 [41.2,46.2]		2.2

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Traditional contraceptive use increased significantly in the WBG from 8% in 2010 to 13% in 2014. Changes were significant by many characteristics included in Table WBG.03.

The percentage of women using traditional contraception increased with age in both 2010 and 2014. All age categories experienced an increase in the percentage of women using traditional contraception between the two surveys, and the increases were of similar magnitudes, which were between 4% and 5%. The differences in traditional contraceptive use by age in 2010 remained in 2014. Traditional contraceptive use did not differ significantly by education in either survey, despite the significant increase in the percentage of women using traditional contraception among those with a primary and a secondary or higher level of education between 2010 and 2014.

Traditional contraceptive use differed by wealth quintile in 2010, but did not in 2014. This was due to significant increases in the percent of women using traditional contraception in all wealth quintiles. The increase in traditional use and narrowing of the disparity by wealth quintiles is shown in Figure WBG.03.

Urban, rural, and camp residences all experienced increases in traditional contraceptive use between 2010 and 2014 between five and six percentage points. Despite doubling from 5% traditional contraceptive use in 2010 to 10% in 2014, camps had the lowest percentage of women using traditional contraception in both years.

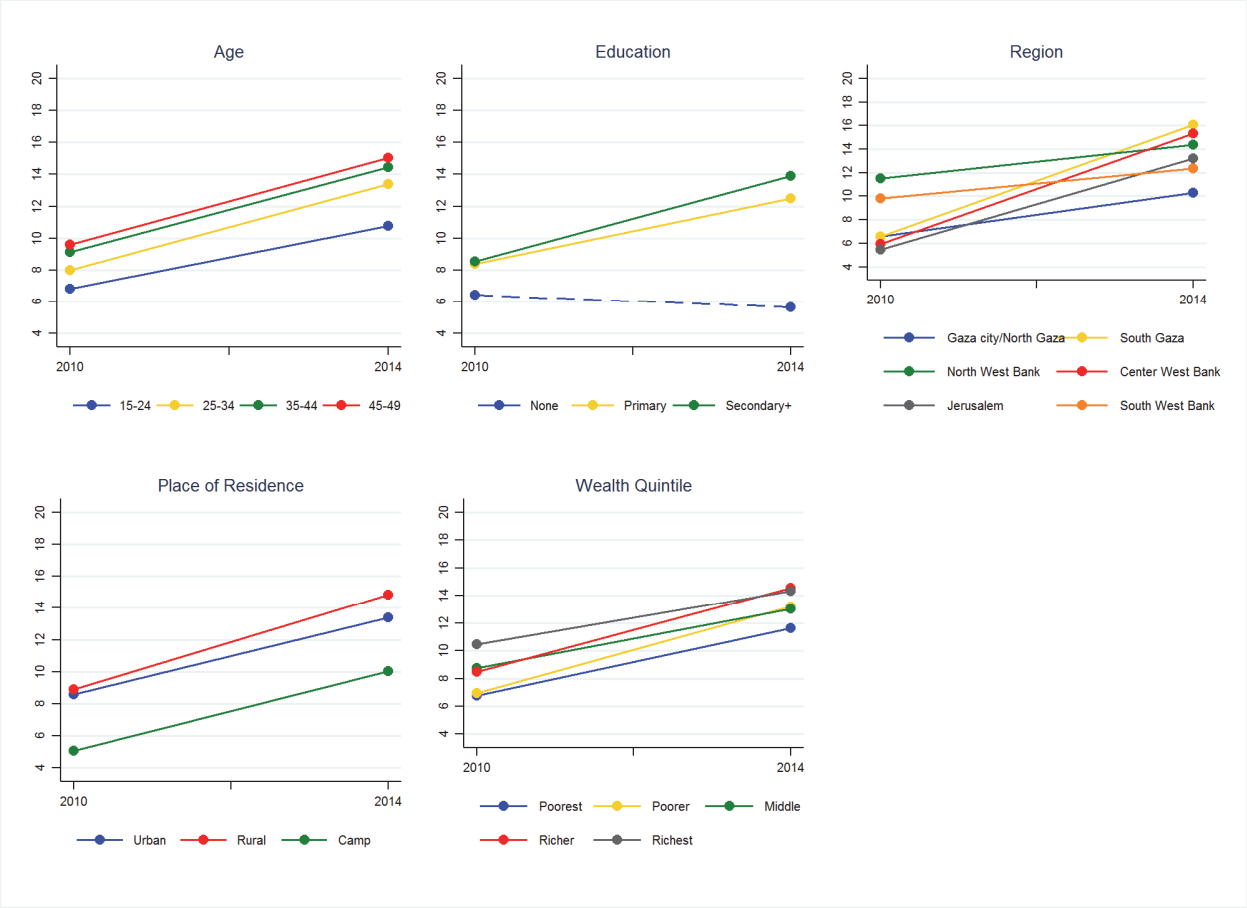
All regions experienced significant increases in traditional contraceptive use between 2010 and 2014. South Gaza experienced a 10-percentage point increase, which is the largest magnitude of change by any characteristic included in Table WBG.03. The percentage of women using traditional contraception in South Gaza was among the lowest in 2010, and the highest of any region in 2014. Center West Bank experienced a similar magnitude of change, moving from the second lowest to the second highest percentage of traditional contraceptive use by region, as illustrated in Figure WBG.03.

Table WBG.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	8.3 [7.7,9.0]		13.3 [12.5,14.2]		5.0*
Age					
15-24	6.8 [5.6,8.2]	*	10.8 [9.3,12.5]	*	4.0*
25-34	8.0 [7.1,8.9]		13.4 [12.1,14.8]		5.4*
35-44	9.1 [8.1,10.3]		14.4 [13.0,16.0]		5.3*
45-49	9.6 [8.0,11.4]		15.0 [12.7,17.7]		5.4*
Education					
None	6.4 [5.0,8.3]		5.7 [1.5,19.1]		-0.8
Primary	8.4 [7.6,9.2]		12.5 [11.2,13.9]		4.1*
Secondary +	8.6 [7.7,9.5]		13.9 [12.8,15.0]		5.3*
Wealth quintile					
Poorest	6.8 [5.7,8.1]	*	11.6 [9.9,13.6]		4.8*
Poorer	6.9 [5.9,8.2]		13.2 [11.5,15.2]		6.3*
Middle	8.7 [7.5,10.1]		13.0 [11.5,14.7]		4.3*
Richer	8.5 [7.3,9.8]		14.5 [12.7,16.5]		6.0*
Richest	10.5 [9.0,12.1]		14.3 [12.6,16.3]		3.9*
Place of residence					
Urban	8.6 [7.9,9.4]	*	13.4 [12.4,14.4]	*	4.8*
Rural	8.9 [7.5,10.5]		14.9 [12.7,17.3]		6.0*
Camps	5.0 [3.9,6.5]		10.0 [7.7,13.0]		5.0*
Region					
Gaza City & North Gaza	6.6 [5.4,7.9]	*	10.3 [8.7,12.2]	*	3.7*
South Gaza	6.6 [5.4,7.9]		16.1 [14.0,18.4]		9.5*
North West Bank	11.5 [10.3,12.8]		14.4 [12.6,16.3]		2.9*
Center West Bank	6.0 [4.2,8.4]		15.3 [12.3,18.9]		9.4*
Jerusalem	5.5 [3.7,8.0]		13.2 [10.5,16.4]		7.7*
South West Bank	9.8 [8.3,11.6]		12.4 [10.8,14.2]		2.6*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Antenatal Care

Overall, the WBG experienced a significant increase in the percentage of women who had the recommended four or more ANC visits during their most recent pregnancy. At 96% in 2014, WBG had among the highest percentage of women who received four or more ANC visits during their most recent pregnancy of all countries in this report (Overall Summary, Figure 4). Significant differences by age, education, wealth, place of residence, and region present in 2010 were no longer significant in 2014. This was due to the relatively large increases in sub-groups who had among the lowest percentages of ANC visits in 2010.

By wealth, the poorest quintile had the lowest percentage of women with four or more ANC visits in 2010 (91%), although this increased to 96% in 2014. Due to this increase, and small and insignificant changes in other wealth quintiles, ANC visits did not differ by wealth in 2014. This convergence is illustrated in Figure WBG.04.

There were also significant differences in the percentage of women who had four or more ANC visits by place of residence in 2010. Rural areas had the smallest percent of women with four or more ANC visits in 2010, but this increased by five percentage points in 2014. In 2014, there were no significant differences in ANC by place of residence.

This pattern of convergence occurred by region as well. The smallest percentage of women with four or more ANC visits in 2010 was found in Jerusalem and the South West Bank, although both increased by six-percentage points in 2014. None of the other regions saw significant changes, so that in 2014, there were no significant differences in ANC visits by region.

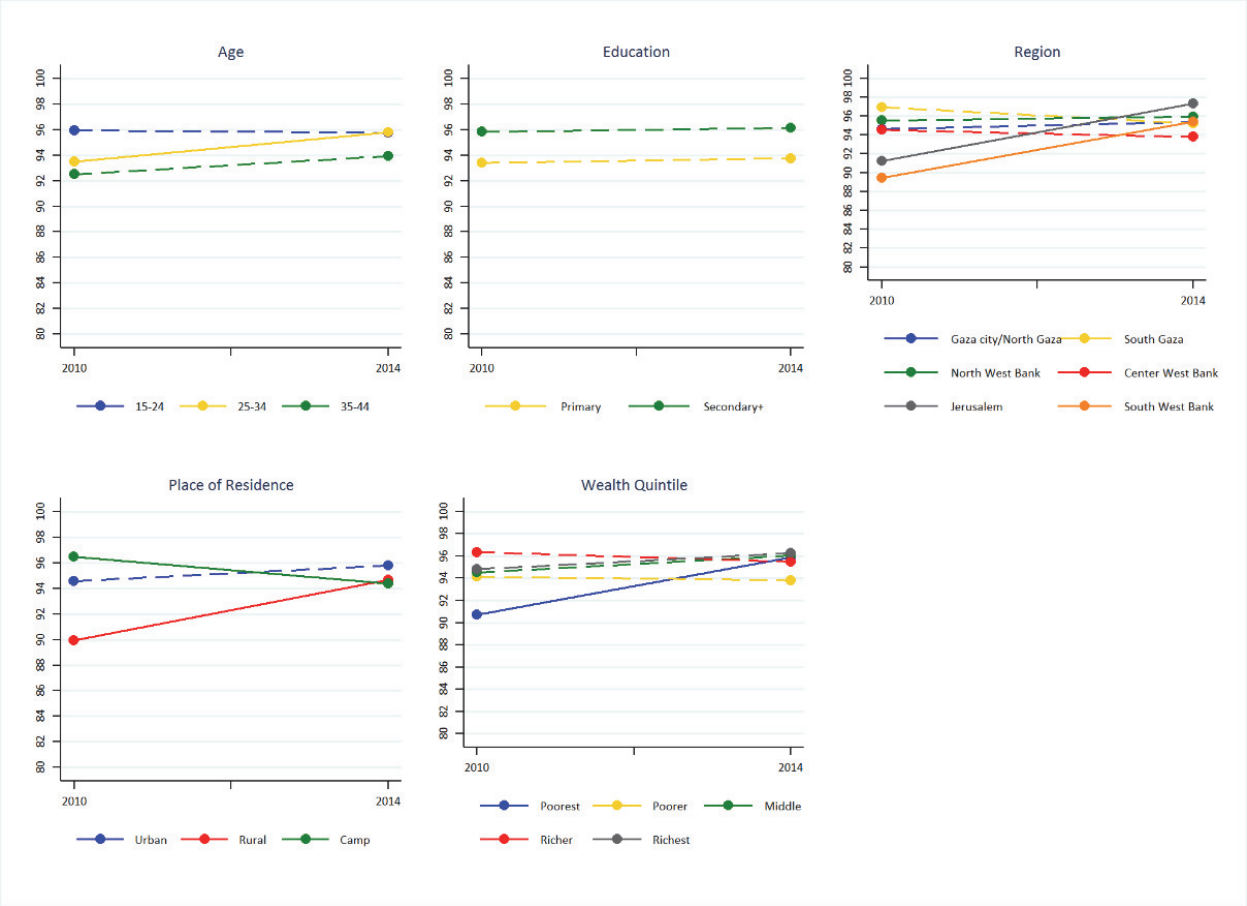
Table WBG.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	94.0 [93.2,94.7]		95.5 [94.6,96.3]		1.5*
Age					
15-24	95.9 [94.6,96.9]	*	95.8 [94.1,96.9]		-0.2
25-34	93.5 [92.3,94.5]		95.8 [94.5,96.8]		2.3*
35-44	92.5 [90.5,94.1]		93.9 [91.0,96.0]		1.4
45-49	90.6 [61.9,98.3]		ND		
Education					
None	83.4 [77.6,87.9]	*	ND		
Primary	93.4 [92.2,94.4]		93.8 [91.5,95.5]		0.4
Secondary +	95.8 [94.9,96.6]		96.1 [95.2,96.9]		0.3
Wealth quintile					
Poorest	90.7 [88.7,92.4]	*	95.9 [94.0,97.2]		5.1*
Poorer	94.1 [92.3,95.5]		93.8 [91.0,95.8]		-0.3
Middle	94.5 [92.7,95.9]		96.1 [94.0,97.4]		1.5
Richer	96.4 [94.9,97.4]		95.5 [92.9,97.2]		-0.9
Richest	94.8 [92.8,96.3]		96.3 [93.0,98.0]		1.4
Place of residence					
Urban	94.6 [93.7,95.3]	*	95.8 [94.7,96.7]		1.2
Rural	90.0 [87.5,92.0]		94.7 [91.9,96.5]		4.7*
Camps	96.5 [94.6,97.7]		94.4 [91.5,96.3]		2.1
Region					
Gaza City & North Gaza	94.7 [92.9,96.0]	*	95.4 [93.2,96.9]		0.7
South Gaza	97.0 [95.7,97.8]		95.2 [93.2,96.7]		-1.7
North West Bank	95.5 [94.0,96.7]		96.0 [93.8,97.4]		0.4
Center West Bank	94.5 [91.5,96.6]		93.8 [88.7,96.7]		-0.7
Jerusalem	91.2 [86.2,94.6]		97.4 [92.0,99.2]		6.1*
South West Bank	89.4 [87.3,91.3]		95.4 [92.9,97.1]		6.0*

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Delivery

There was a slight, but statistically significant increase in the percentage of women who delivered with an SBA between 2010 and 2014, from 99% to 100% overall. In 2010, SBA deliveries ranged among characteristics from 97% to 100%, while in 2014, they ranged from 99% to 100%.

Changes were significant for two subgroups in Table WBG.05—women age 25-34 increased SBA deliveries from 99% in 2010 to 100% in 2014, and women in the South West Bank increased SBA deliveries from 98% in 2010 to 100% in 2014. In addition, significant differences in SBA deliveries by education, place of residence, and region in 2010 were no longer significant in 2014 because nearly all women in all categories were delivering their babies with assistance by an SBA in 2014.

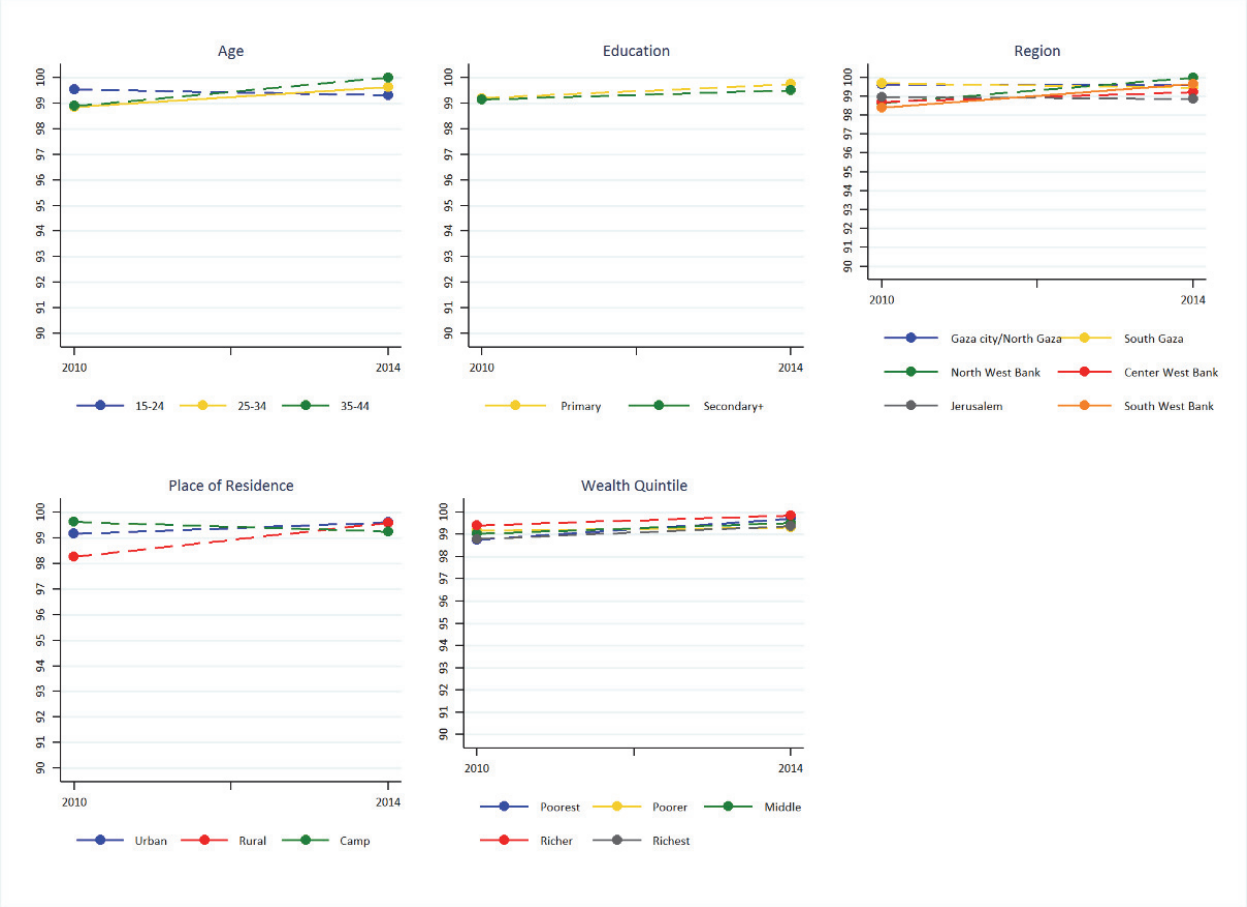
Table WBG.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	99.0 [98.7,99.3]		99.6 [99.2,99.8]		0.5*
Age					
15-24	99.5 [99.0,99.8]		99.3 [98.5,99.7]		0.2
25-34	98.8 [98.3,99.2]		99.6 [99.2,99.8]		0.8*
35-44	98.9 [98.0,99.4]		100.0		1.1
45-49	ND		ND		
Education					
None	96.8 [92.9,98.6]	*	ND		
Primary	99.2 [98.7,99.5]		99.7 [99.0,99.9]		0.5
Secondary +	99.1 [98.6,99.5]		99.5 [99.0,99.7]		0.4
Wealth quintile					
Poorest	98.8 [97.8,99.3]		99.7 [98.8,99.9]		0.9
Poorer	99.2 [98.4,99.6]		99.3 [98.1,99.7]		0.1
Middle	99.0 [98.2,99.5]		99.5 [98.5,99.8]		0.5
Richer	99.4 [98.6,99.8]		99.9 [99.0,100.0]		0.4
Richest	98.8 [97.5,99.4]		99.4 [97.1,99.9]		0.6
Place of residence					
Urban	99.2 [98.8,99.4]	*	99.6 [99.2,99.8]		0.4
Rural	98.3 [96.8,99.0]		99.6 [98.4,99.9]		1.3
Camps	99.6 [98.4,99.9]		99.3 [96.7,99.8]		0.4
Region					
Gaza City & North Gaza	99.6 [99.0,99.9]	*	99.6 [98.8,99.9]		0.0
South Gaza	99.7 [99.0,99.9]		99.5 [98.4,99.8]		0.2
North West Bank	98.7 [97.8,99.2]		100.0		1.3
Center West Bank	98.7 [95.9,99.6]		99.2 [97.0,99.8]		0.5
Jerusalem	99.0 [96.7,99.7]		98.9 [94.5,99.8]		0.1
South West Bank	98.4 [97.2,99.1]		99.7 [98.6,99.9]		1.3*

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



The percentage of women who delivered in a health facility increased significantly overall, from 98% to 99%, between the 2010 and 2014 surveys. Changes were small but statistically significant for several characteristics in Table WBG.06. In addition, while there were significant differences in health center delivery by education and region in 2010, these differences were no longer significant in 2014.

Increases in facility delivery were experienced by women age 25-34, women with a primary and secondary or higher level of education, women in the poorest and poorer wealth quintiles, women in urban and rural areas, and women in Gaza City, North Gaza, and the North West Bank. The magnitude of significant increases ranged from 1-2 percentage points.

In 2010, the percentage of women who delivered in a health facility by all characteristics in Table WBG.06 ranged from 96% to 99%, while in 2014, the range was 99% to 100%. The narrowing of the ranges is illustrated in Figure WBG.06.

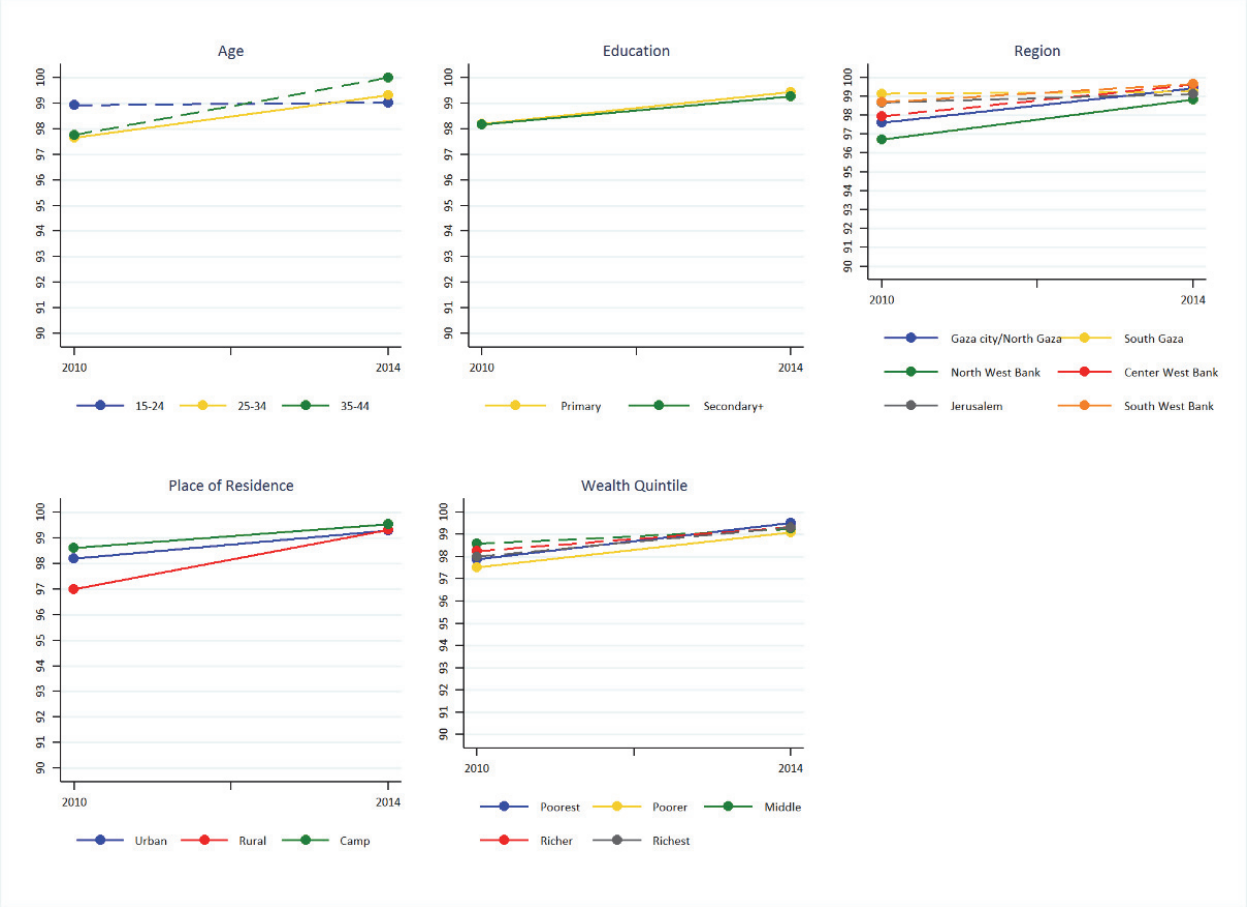
Table WBG.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	98.0 [97.5,98.5]		99.3 [98.9,99.6]		1.3*
Age					
15-24	98.9 [97.9,99.5]		99.0 [98.2,99.5]		0.1
25-34	97.6 [96.9,98.2]		99.3 [98.7,99.6]		1.7*
35-44	97.8 [96.2,98.7]		100.0		2.2
45-49	ND		ND		
Education					
None	95.6 [92.2,97.6]	*	ND		
Primary	98.2 [97.4,98.7]		99.4 [98.5,99.8]		1.3*
Secondary +	98.2 [97.4,98.7]		99.3 [98.7,99.6]		1.1*
Wealth quintile					
Poorest	97.9 [96.5,98.7]		99.5 [98.5,99.8]		1.6*
Poorer	97.5 [96.2,98.4]		99.1 [97.8,99.6]		1.6*
Middle	98.6 [97.6,99.2]		99.3 [98.0,99.7]		0.7
Richer	98.3 [97.1,98.9]		99.3 [98.2,99.7]		1.1
Richest	98.0 [96.6,98.9]		99.3 [97.0,99.8]		1.3
Place of residence					
Urban	98.2 [97.6,98.7]		99.3 [98.8,99.6]		1.1*
Rural	97.0 [94.7,98.3]		99.3 [97.9,99.8]		2.3*
Camps	98.6 [97.0,99.4]		99.5 [96.3,99.9]		0.9
Region					
Gaza City & North Gaza	97.6 [96.1,98.5]	*	99.4 [98.4,99.8]		1.8*
South Gaza	99.1 [98.2,99.6]		99.3 [98.0,99.7]		0.1
North West Bank	96.7 [95.0,97.9]		98.8 [97.4,99.5]		2.1*
Center West Bank	97.9 [95.9,99.0]		99.6 [97.3,99.9]		1.7
Jerusalem	98.7 [95.7,99.6]		99.1 [93.8,99.9]		0.4
South West Bank	98.7 [97.6,99.3]		99.7 [98.6,99.9]		1.0

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Overall, the percentage of women who delivered their most recent birth by C-section between 2010 and 2014 increased from 17% to 20%. There were significant changes by many characteristics in Table WBG.07.

In both 2010 and 2014, women age 15-24 had the lowest percentage of women who delivered by C-section compared to all other age categories. While the other age categories had significant increases in C-section delivery between the two surveys, women age 15-24 did not. Women age 45-49 had a drastic increase in the percentage of women who delivered by C-section. While 13% of these women delivered by C-section in 2010, 68% did in 2014. This shift is illustrated in Figure WBG.07.

The percentage of C-section delivery increased for women with a primary and secondary or higher level of education between 2010 and 2014. However, the percentage of women who had C-sections did not vary by level of education in either year. By wealth quintile, the percentage of women delivering by C-section did not differ significantly in 2010, but did in 2014. This was due to a significant increase in the percent of women in the richer and richest wealth quintiles delivering by C-section between the two surveys. In 2010, 19% of women in the richest wealth quintile had a C-section, and this increased to 27% in 2014.

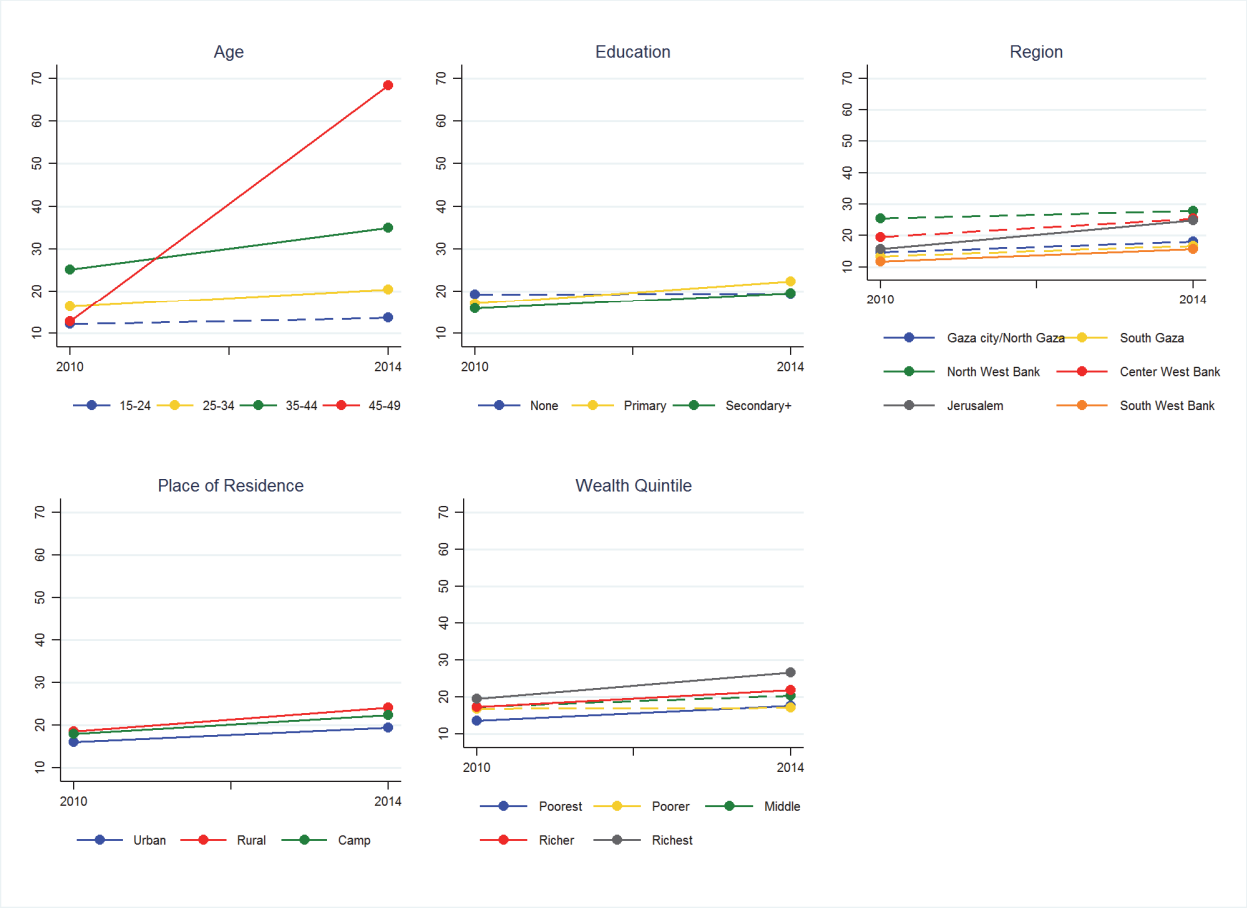
A higher percentage of women who reside in urban and rural areas delivered by C-section in 2014 than in 2010. However, in both years, there were no significant differences in C-section delivery by residence. In contrast, there were significant differences by region in both 2010 and 2014. Despite a significant increase between surveys, the South West Bank was the region with the lowest percentage of women delivering by C-section in 2010 and 2014, at 12% and 16% respectively. In 2010, 16% of women in Jerusalem delivered by C-section. This increased to 25% in 2014, which was the largest increase by region.

Table WBG.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	16.7 [15.5,17.9]		20.4 [18.9,21.9]		3.7*
Age					
15-24	12.2 [10.3,14.5]	*	13.6 [11.6,16.0]	*	1.4
25-34	16.3 [14.8,18.0]		20.5 [18.4,22.7]		4.2*
35-44	25.2 [22.3,28.3]		35.0 [30.6,39.6]		9.8*
45-49	12.8 [3.3,39.0]		68.3 [35.4,89.5]		55.5*
Education					
None	19.2 [14.3,25.3]		19.5 [4.2,57.0]		0.3
Primary	17.1 [15.4,18.9]		22.4 [19.6,25.5]		5.3*
Secondary +	16.0 [14.3,17.7]		19.6 [17.9,21.4]		3.6*
Wealth quintile					
Poorest	13.6 [11.4,16.1]		17.7 [14.8,20.9]	*	4.1*
Poorer	16.9 [14.8,19.2]		17.1 [14.2,20.4]		0.2
Middle	17.4 [14.9,20.2]		20.3 [17.2,23.8]		2.9
Richer	17.2 [14.6,20.2]		21.9 [18.8,25.3]		4.6*
Richest	19.4 [16.2,23.1]		26.5 [22.5,31.0]		7.1*
Place of residence					
Urban	16.1 [14.7,17.6]		19.4 [17.7,21.3]		3.3*
Rural	18.5 [15.7,21.7]		24.1 [20.3,28.2]		5.6*
Camps	18.0 [14.7,21.8]		22.4 [17.7,28.0]		4.4
Region					
Gaza City & North Gaza	14.6 [12.5,17.1]	*	18.0 [14.9,21.7]	*	3.4
South Gaza	13.3 [11.3,15.7]		16.7 [14.0,19.8]		3.4
North West Bank	25.4 [22.5,28.5]		27.9 [24.1,32.1]		2.5
Center West Bank	19.5 [14.2,26.2]		25.3 [20.4,31.0]		5.8
Jerusalem	15.8 [11.4,21.3]		24.8 [19.8,30.6]		9.1*
South West Bank	11.8 [9.6,14.3]		15.7 [13.0,18.9]		4.0*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Child Health Care

Advice and treatment seeking for children under age 5 with ARI symptoms in the 2 weeks before the survey increased significantly overall, and by many characteristics included in Table WBG.08. Overall, care-seeking for children with ARI increased from 65% in 2010 to 77% in 2014.

There were no differences between the percentage of care-seeking for boys and girls in either survey. In addition, care-seeking increased for both boys and girls between 2010 and 2014, and by a similar magnitude of 11 and 12-percentage points. Care-seeking also increased significantly for children with mothers with a secondary or higher education, from 59% in 2010 to 80% in 2014. Care-seeking for ARI symptoms was significantly higher for children with mothers with a secondary or higher level of education than those with a primary education in 2014.

Care-seeking for ARI symptoms did not vary significantly by wealth quintile in 2010 or 2014. Care-seeking for children in the poorest wealth quintile increased from 58% in 2010 to 78% in 2014. This shift is shown in Figure WBG.08.

By place of residence, the lowest percentage of care-seeking was for children in camps, at 51% in 2010. In 2014, care was sought for 77% children with ARI symptoms in camps, which was statistically the same as children residing in urban and rural areas. This was due to a 26-percentage point increase in care-seeking for children who reside in camps.

In 2010, South Gaza had the lowest percentage of care-seeking for children with ARI symptoms at 47%. This increased by 29-percentage points between the two surveys, which is the largest magnitude of change reported in Table WBG.08. In 2010, South Gaza had the lowest percentage of care-seeking. By 2014, care-seeking in South Gaza was not statistically different from care-seeking in other regions.

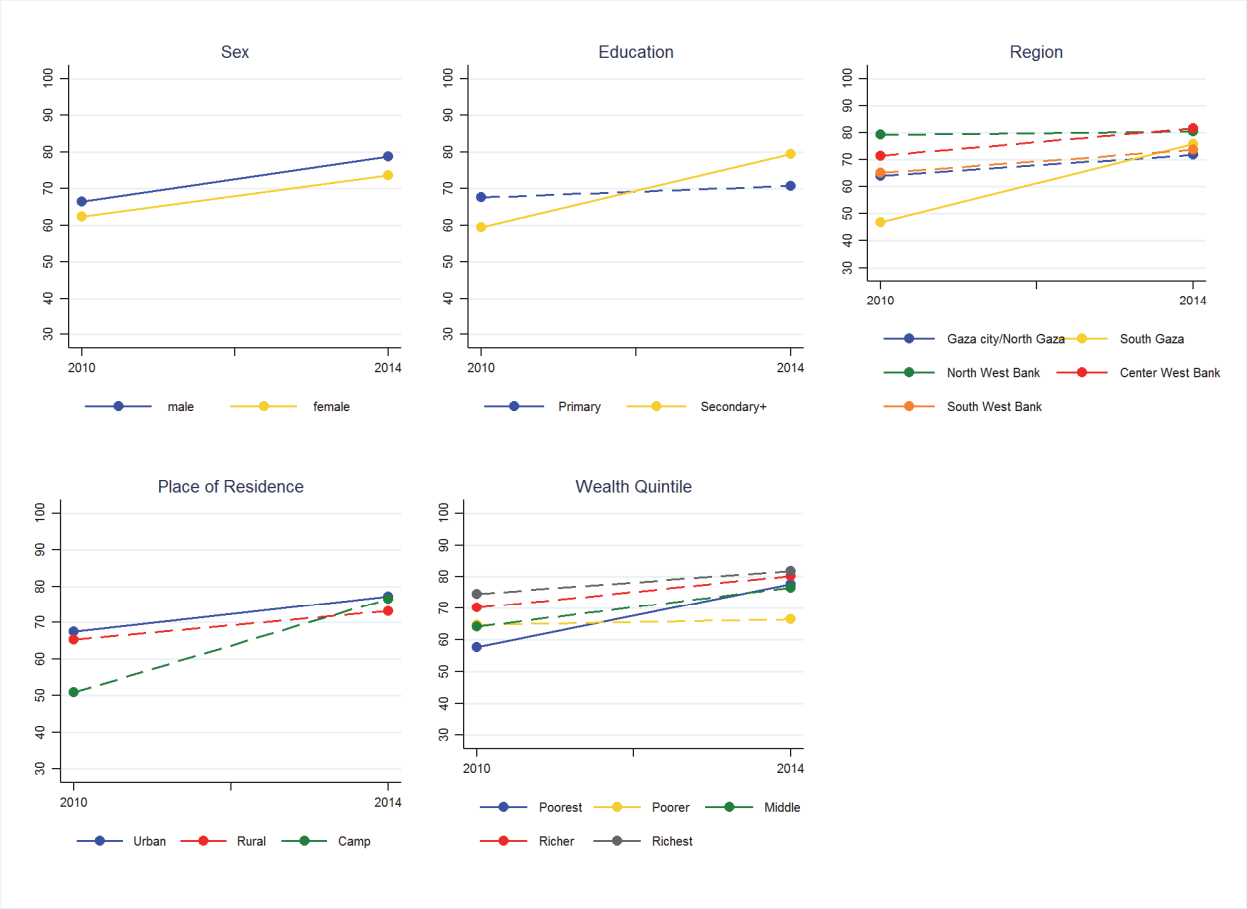
Table WBG.08: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	64.8 [60.1,69.3]		76.5 [73.1,79.7]		11.7*
Child's sex					
Male	66.5 [60.4,72.1]		78.7 [74.6,82.3]		12.2*
Female	62.4 [55.8,68.6]		73.7 [68.0,78.7]		11.2*
Mother's education					
None	68.1 [47.3,83.6]		ND	*	
Primary	67.6 [61.5,73.1]		70.8 [64.8,76.2]		3.2
Secondary +	59.4 [51.8,66.6]		79.5 [75.5,82.9]		20.0*
Wealth quintile					
Poorest	57.6 [47.6,67.1]		77.6 [70.7,83.3]		20.0*
Poorer	64.7 [55.9,72.7]		66.5 [57.9,74.1]		1.7
Middle	64.1 [51.8,74.9]		76.6 [68.8,83.0]		12.5
Richer	70.2 [59.8,78.8]		80.3 [73.7,85.6]		10.1
Richest	74.6 [60.0,85.2]		81.9 [70.5,89.5]		7.3
Place of residence					
Urban	67.4 [61.5,72.9]	*	77.3 [73.4,80.8]		9.9*
Rural	65.3 [55.3,74.2]		73.2 [63.2,81.3]		7.9
Camps	50.9 [37.4,64.2]		76.5 [62.7,86.3]		25.6*
Region					
Gaza City & North Gaza	63.9 [53.5,73.2]	*	71.9 [62.5,79.7]		7.9
South Gaza	46.9 [35.6,58.6]		75.8 [69.5,81.2]		28.9*
North West Bank	79.2 [71.9,85.0]		80.5 [73.5,86.0]		1.3
Center West Bank	(71.5 [51.1,85.7])		81.7 [67.5,90.5]		10.2
Jerusalem	ND		86.7 [68.4,95.2]		
South West Bank	65.1 [54.2,74.7]		73.7 [65.3,80.6]		8.6

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.08: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Child Nutrition

Table WBG.09 reports that the percentage of children under age 6 months who were exclusively breastfed increased significantly from 29% in 2010 to 39% in 2014. By 2014, the WBG had among the highest percent of children exclusively breastfed of all countries included in this report (Overall Summary, Figure 9). There were no significant differences in the percentage of children who were exclusive breastfed by any sub-group in 2010 or 2014. However, several subgroups included in Table WBG.09 experienced a significant increase in exclusive breastfeeding between the two surveys.

The percentage of children exclusively breastfed increased for both boys and girls between the two surveys. The change was significant for boys. By 2014, 39% of boys and 38% of girls were exclusively breastfed. In 2010, 28% of children of mothers with a primary education were exclusively breastfed. In 2014, this increased to 44%, which surpassed the percentage of children exclusively breastfed among mothers with a secondary or higher level of education. The sample size for children with mothers with no education was under 25 unweighted cases in 2014 and was therefore not reported.

Exclusive breastfeeding increased significantly in the poorest, middle, and richer wealth quintiles between the two surveys. By wealth quintile, between 37% and 42% of children were exclusively breastfed in 2014, compared to 23% and 38% in 2010. The pattern of exclusive breastfeeding by wealth category was not linear, as illustrated in Figure WBG.09.

Exclusive breastfeeding increased significantly for children residing in urban and rural areas between the two surveys. In 2010, the lowest percentage of children who were exclusively breastfed were in rural areas, but in 2014 children in rural areas had the highest percentage of exclusive breastfeeding. The differences between place of residence were not statistically significant, as illustrated in Figure. WBG.09. By region, exclusive breastfeeding became more disparate between 2010 and 2014.Only the South West Bank Region had a statistically significant increase in the percentage of children exclusively breastfed.

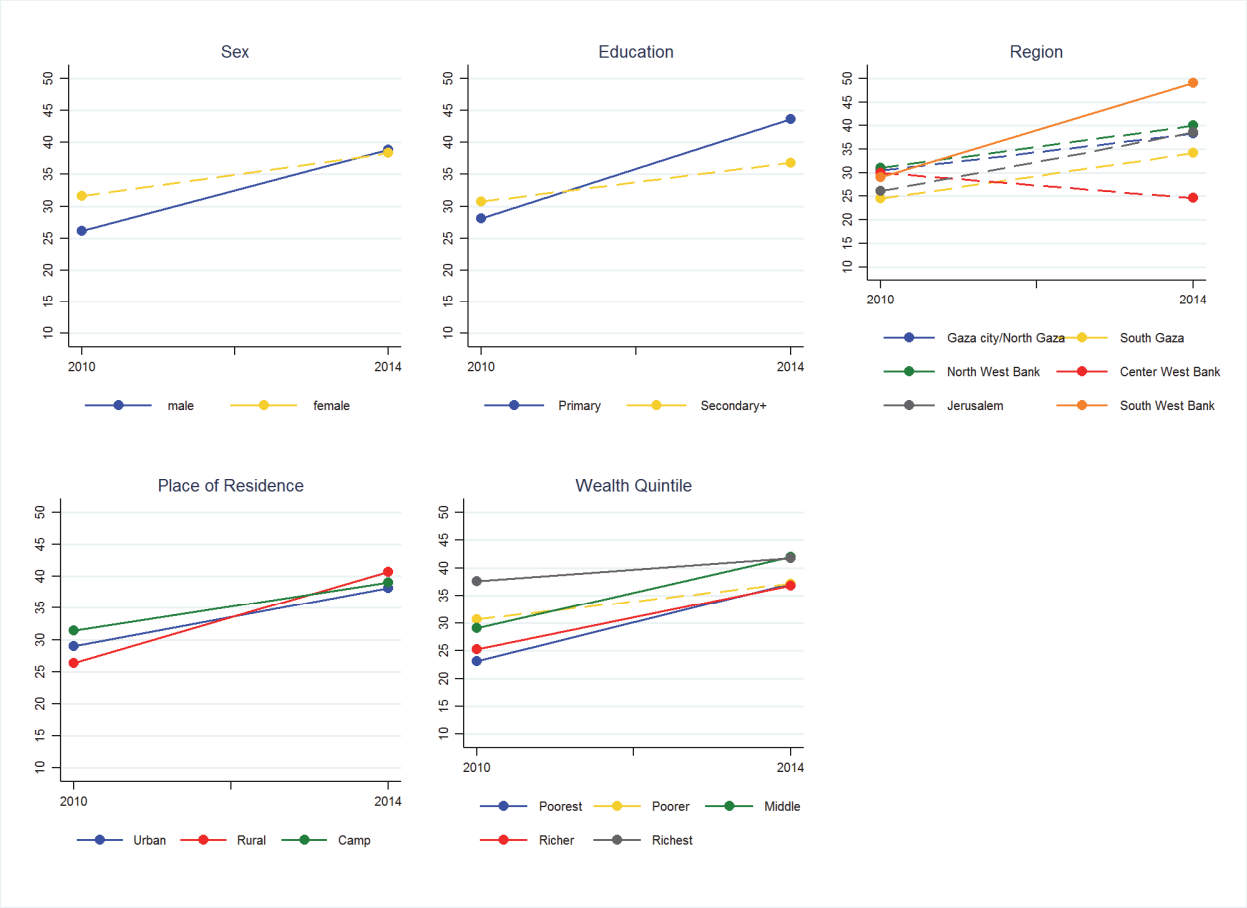
Table WBG.09: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	28.8 [25.9,31.9]		38.6 [34.7,42.7]		9.8*
Child's sex					
Male	26.1 [22.2,30.4]		38.9 [33.6,44.5]		12.8*
Female	31.7 [27.4,36.2]		38.3 [32.6,44.4]		6.7
Mother's education					
None	(13.4 [6.2,26.6])		ND		
Primary	28.1 [24.2,32.4]		43.7 [35.8,51.8]		15.5*
Secondary +	30.7 [26.5,35.4]		36.8 [32.2,41.7]		6.1
Wealth quintile					
Poorest	23.1 [17.7,29.7]		37.2 [29.9,45.1]		14.1*
Poorer	30.7 [24.7,37.4]		37.2 [27.0,48.7]		6.6
Middle	29.1 [23.3,35.6]		41.9 [32.3,52.2]		12.9*
Richer	25.2 [19.5,32.0]		36.8 [28.6,45.8]		11.5*
Richest	37.6 [29.6,46.5]		41.8 [32.1,52.1]		4.1
Place of residence					
Urban	29.0 [25.6,32.7]		38.2 [33.5,43.1]		9.2*
Rural	26.4 [20.0,33.9]		40.7 [32.0,50.0]		14.3*
Camps	31.5 [22.7,41.7]		39.1 [26.8,52.9]		7.6
Region					
Gaza City & North Gaza	30.4 [24.3,37.4]		38.3 [31.1,45.9]		7.8
South Gaza	24.5 [18.3,32.0]		34.1 [23.3,46.9]		9.6
North West Bank	31.0 [25.4,37.2]		40.0 [31.9,48.6]		8.9
Center West Bank	30.0 [18.9,44.1]		24.6 [15.1,37.5]		-5.4
Jerusalem	26.1 [15.4,40.5]		(38.6 [22.0,58.2])		12.5
South West Bank	29.0 [22.9,35.9]		49.0 [41.4,56.6]		20.0*

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure WBG.09: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



In the WBG, stunting in children under age 5 declined from 11% to 7% between 2010 and 2014. There were significant declines by all characteristics included in Table WBG.10.

The percentage of boys and girls who were stunted significantly declined between the two surveys. However, in both surveys, significantly more boys were stunted than girls. The gap between boys and girls narrowed slightly in 2014. In both 2010 and 2014, a lower percentage of children with mothers with a secondary or higher level of education were stunted compared to children with mothers with a primary or no education. The pattern of stunting by mother's education level remained consistent between the two surveys, although stunting declined significantly for children with mothers with a primary or secondary or higher level of education. Despite this, the disparity in stunting by mother's level of education remained in 2014.

There were significant reductions in the percentage of children who were stunted in the poorest, middle, and richest wealth quintiles. The reductions of the greatest magnitude were in the poorest quintile, so that in 2014, there were no longer significant differences in stunting by wealth quintile. The convergence and overall reduction in stunting by wealth is shown in Figure WBG.10.

The percentage of children who reside in urban areas, rural areas, and camps who were stunted declined between the two surveys. There were no significant differences in the percentage of children stunted by place of residence in either 2010 or 2014. However, there were significant differences in the percentage of children who were stunted by region. While Jerusalem saw the sharpest decline in stunting by eight-

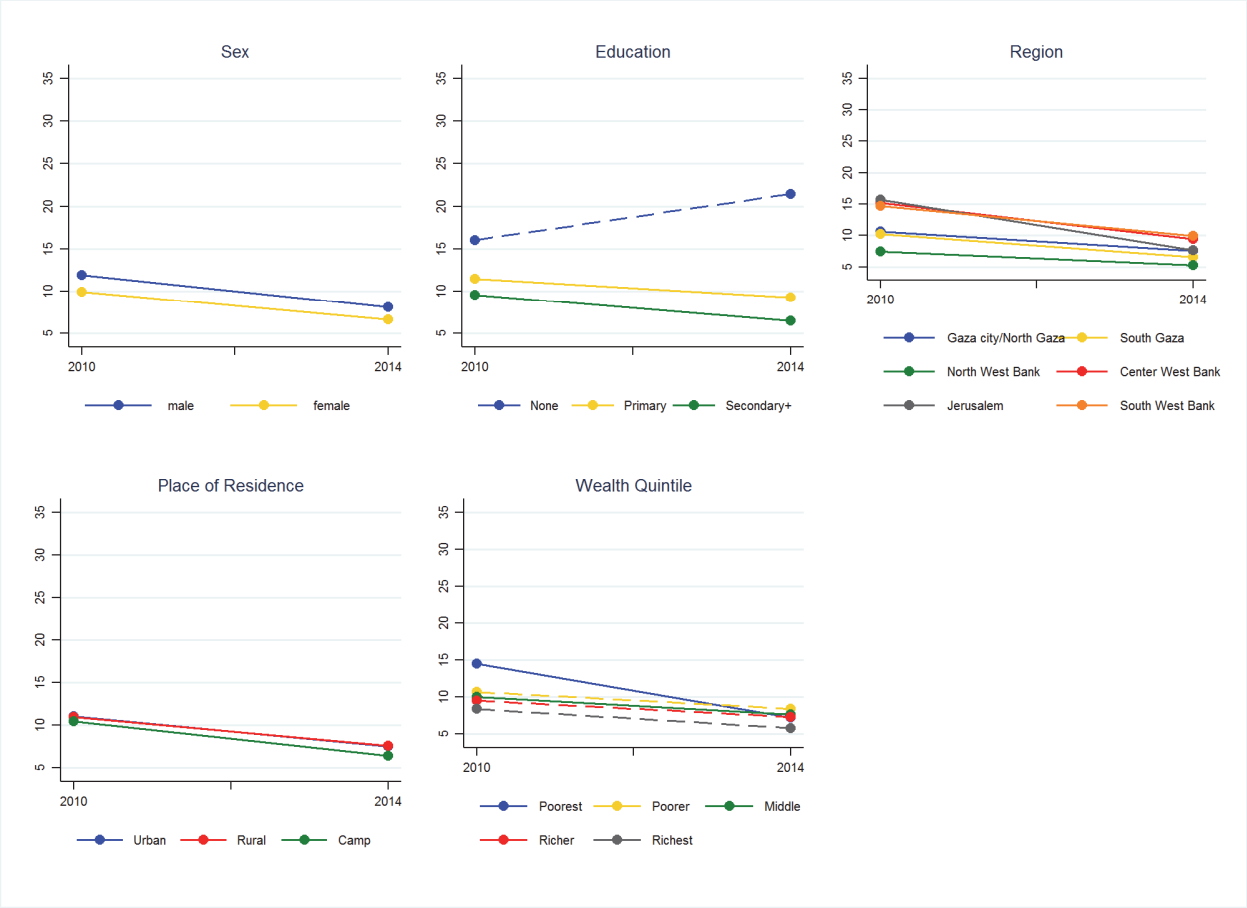
percentage points, stunting declined significantly in all regions. In 2010, stunting by region ranged from 8% in the North West Bank to 16% in Jerusalem. In 2014, stunting ranged from 5% in North West Bank to 10% in South West Bank.

Table WBG.10: Percentage of children under age 5 who are stunted, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	10.9 [10.2,11.8]		7.4 [6.7,8.2]		-3.5*
Child's sex					
Male	11.9 [10.9,13.0]	*	8.1 [7.2,9.2]	*	-3.8*
Female	10.0 [9.0,11.0]		6.6 [5.7,7.6]		-3.3*
Mother's education					
None	16.0 [13.0,19.7]	*	(21.5 [8.6,44.1])	*	5.4
Primary	11.5 [10.5,12.6]		9.3 [8.0,10.7]		-2.2*
Secondary +	9.6 [8.6,10.7]		6.5 [5.7,7.4]		-3.1*
Wealth quintile					
Poorest	14.5 [12.9,16.2]	*	7.3 [6.0,8.7]		-7.2*
Poorer	10.7 [9.3,12.3]		8.4 [6.9,10.3]		-2.3
Middle	10.0 [8.6,11.8]		7.6 [6.2,9.4]		-2.4*
Richer	9.5 [8.0,11.3]		7.3 [5.9,9.1]		-2.2
Richest	8.4 [6.6,10.5]		5.8 [4.4,7.6]		-2.6*
Place of residence					
Urban	11.0 [10.1,12.0]		7.5 [6.7,8.4]		-3.5*
Rural	10.9 [9.2,13.0]		7.6 [5.9,9.7]		-3.4*
Camps	10.5 [8.3,13.1]		6.4 [4.8,8.6]		-4.1*
Region					
Gaza City & North Gaza	10.6 [9.2,12.2]	*	7.5 [6.2,9.0]	*	-3.1*
South Gaza	10.2 [8.7,11.9]		6.5 [5.1,8.3]		-3.7*
North West Bank	7.5 [6.2,8.9]		5.2 [4.1,6.7]		-2.2*
Center West Bank	15.2 [12.1,19.0]		9.4 [7.0,12.5]		-5.8*
Jerusalem	15.7 [11.3,21.5]		7.7 [5.6,10.5]		-8.1*
South West Bank	14.7 [12.4,17.3]		9.9 [7.9,12.3]		-4.8*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference

Figure WBG.10: Percentage of children under age 5 who are stunted, West Bank and Gaza 2010 MICS4 and 2014 MICS5



There was a significant increase in the percentage of children under age 5 who were overweight in the WBG between 2010 and 2014. In 2010, 5% of children were overweight. This rose to 8% in 2014. The percentage of overweight children increased by most characteristics included in Table WBG.11, with the exception of children residing in Jerusalem, where there was a significant decline in the percentage of overweight children between the two surveys.

In both 2010 and 2014, significantly more boys were overweight than girls, and the percentage of both boys and girls who were overweight increased significantly between the two surveys. In 2014, 9% of boys and 7% of girls were overweight.

The percentage of children who were overweight did not vary significantly by mother's education level in 2010 or 2014. A higher percentage of children with mothers with a primary or a secondary or higher level of education were overweight in 2014 compared to 2010 (both increased from 5% to 8%).

In 2010, the poorest, poorer, middle, and richer wealth quintiles all had approximately 5% children who were overweight. By 2014, there were significant differences in the percentage of children who were overweight by wealth quintile. The middle, richer, and richest quintiles all experienced significant increases in the percent of children who were overweight between 2010 and 2014. In 2014, the poorest wealth quintile had the lowest percentage of children who were overweight (6%) and the highest percentages were in the middle and richest quintiles (10%).

In 2010, there were no differences in the percent of children who were overweight by place of residence. However, there were differences by place of residence in 2014, which were primarily due to a significant increase in the percent of children who were overweight in urban and rural areas. In 2014, 11% of children in rural areas were overweight, compared to 5% in 2010. The percentage of children who were overweight increased in urban areas and camps, but to a lesser degree and not significantly in camps. This increase and dispersion by place of residence are illustrated in Figure WBG.11.

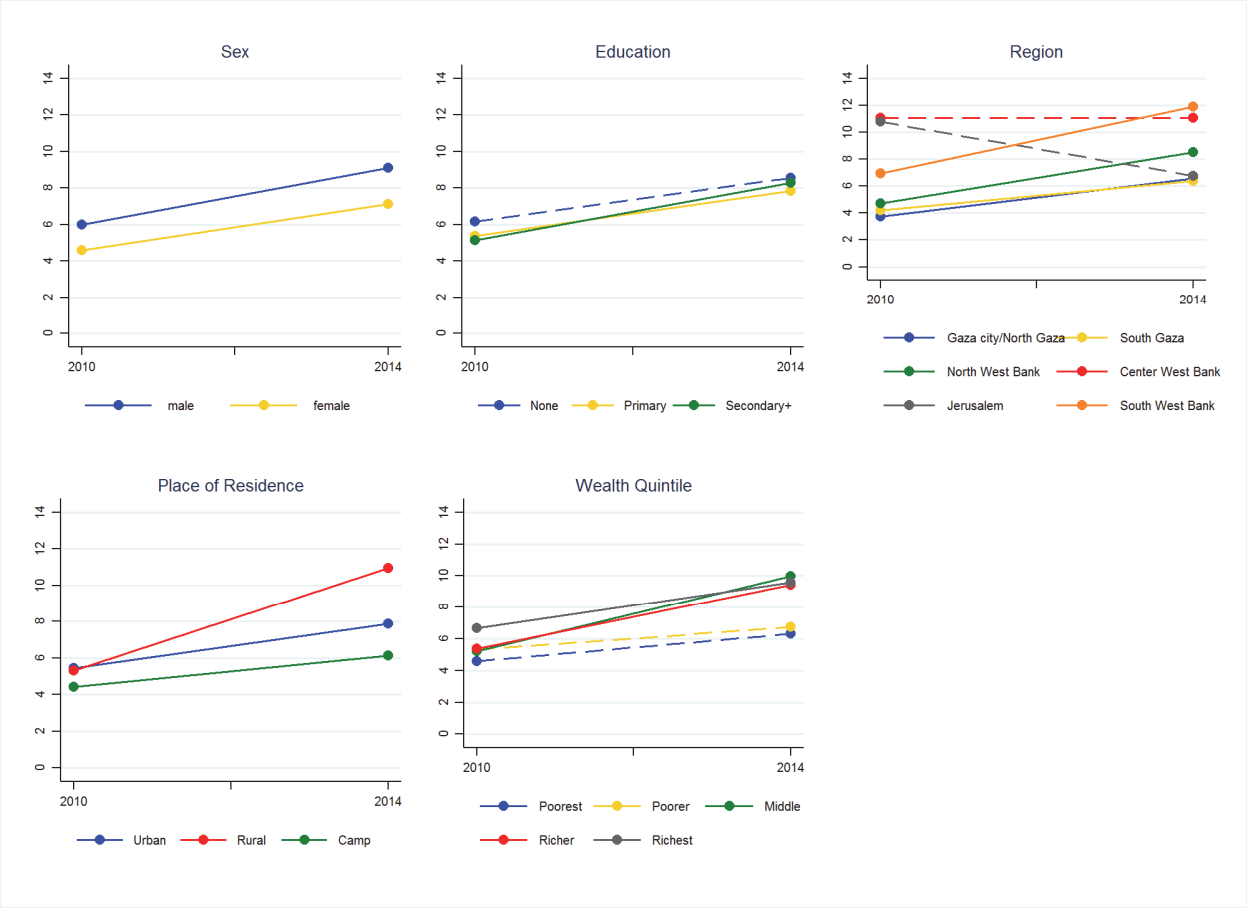
There were significant differences in the percentage of children who were overweight by region in both 2010 and 2014. The South West Bank had the greatest increase between the two surveys, although all regions except for Central West Bank and Jerusalem experienced an increase in the percent of children who were overweight between the two surveys.

Table WBG.11: Percentage of children under age 5 who are overweight, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010		2014		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	5.3 [4.8,5.9]		8.2 [7.4,8.9]		2.8*
Child's sex					
Male	6.0 [5.3,6.8]	*	9.1 [8.1,10.2]	*	3.1*
Female	4.6 [4.0,5.3]		7.1 [6.3,8.1]		2.5*
Mother's education					
None	6.2 [4.4,8.7]		(8.5 [2.1,29.4])		2.4
Primary	5.4 [4.7,6.1]		7.9 [6.7,9.2]		2.5*
Secondary +	5.1 [4.4,6.0]		8.3 [7.5,9.2]		3.1*
Wealth quintile					
Poorest	4.6 [3.6,5.8]		6.3 [5.1,7.8]	*	1.7
Poorer	5.3 [4.4,6.4]		6.7 [5.4,8.4]		1.4
Middle	5.2 [4.2,6.4]		10.0 [8.4,11.8]		4.8*
Richer	5.4 [4.3,6.6]		9.4 [7.7,11.5]		4.0*
Richest	6.7 [5.2,8.5]		9.6 [7.7,11.9]		2.9*
Place of residence					
Urban	5.5 [4.8,6.2]		7.9 [7.0,8.8]	*	2.4*
Rural	5.3 [4.1,6.8]		10.9 [9.1,13.1]		5.6*
Camps	4.4 [3.2,6.0]		6.1 [4.5,8.3]		1.7
Region					
Gaza City & North Gaza	3.8 [2.9,4.9]	*	6.6 [5.3,8.2]	*	2.8*
South Gaza	4.2 [3.3,5.3]		6.4 [5.2,7.8]		2.2*
North West Bank	4.7 [3.8,5.8]		8.5 [7.1,10.2]		3.8*
Center West Bank	11.1 [7.7,15.7]		11.1 [7.7,15.8]		0.0
Jerusalem	10.8 [7.2,15.9]		6.8 [4.8,9.4]		-4.0
South West Bank	6.9 [5.7,8.4]		11.9 [9.8,14.5]		5.0*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference

Figure WBG.11: Percentage of children under age 5 who are overweight, West Bank and Gaza 2010 MICS4 and 2014 MICS5



Under-5 Mortality

Under-5 mortality declined from 23/1000 to 21/000 live births between 2010 and 2014. The decrease was only significant for children in the poorest wealth quintile, where there was a reduction from a mortality rate of 32/1000 in 2010 to 20/1000 2014. In 2014, the lowest under-5 mortality was among children in the richest wealth quintile at 14/1000, while the highest was among children with mothers with no education at 30/1000.

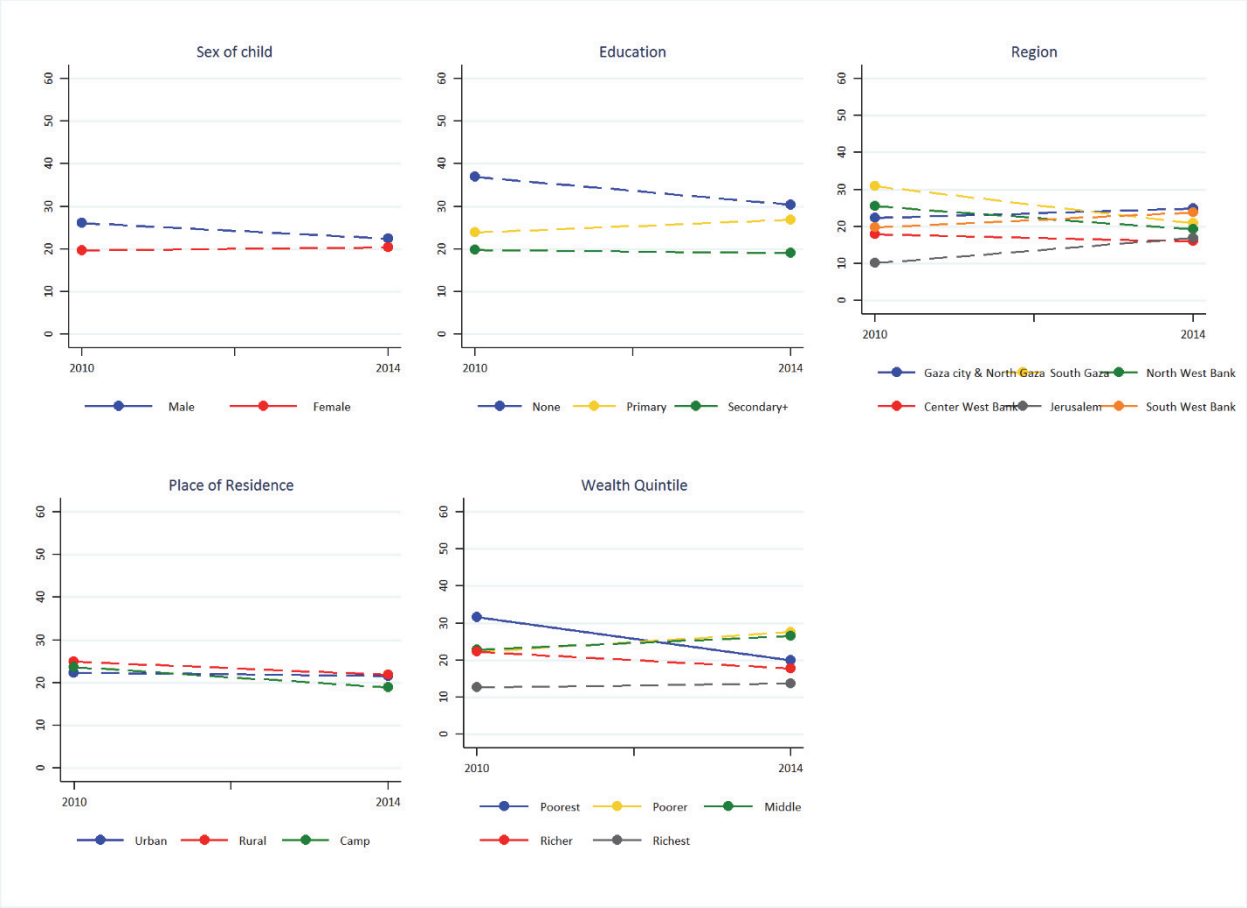
Despite a lack of statistical significance, declines in under-5 mortality by region were notable, and in particular in South Gaza and the North West Bank.

Table WBG.12: Under-5 mortality rates for the 5 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5

	2010	2014	
Variable	U5M [C.I.]	U5M [C.I.]	Diff[1]
Total	23 [20,26]	21 [18,25]	-2
Child's sex			
Male	26 [22,31]	22 [18,28]	-4
Female	20 [16,24]	20 [16,25]	1
Mother's education			
None	37 [25,55]	30 [8,114]	-7
Primary	24 [20,29]	27 [20,35]	3
Secondary +	20 [16,25]	19 [15,23]	-1
Wealth quintile			
Poorest	32 [25,40]	20 [14,29]	-12*
Poorer	22 [17,29]	28 [19,39]	5
Middle	23 [17,30]	27 [19,36]	4
Richer	22 [16,31]	18 [12,26]	-4
Richest	13 [8,21]	14 [8,24]	1
Place of residence			
Urban	22 [19,26]	22 [18,26]	-1
Rural	25 [19,33]	22 [15,32]	-3
Camps	24 [17,33]	19 [12,30]	-5
Region			
Gaza City & North Gaza	22 [17,30]	25 [18,35]	3
South Gaza	31 [23,42]	21 [15,29]	-10
North West Bank	26 [21,32]	19 [13,28]	-6
Center West Bank	18 [10,33]	16 [8,32]	-2
Jerusalem	10 [5,21]	17 [8,35]	7
South West Bank	20 [14,28]	24 [17,33]	4

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure WBG.12: Under-5 mortality rates for the 5 years before the survey, by background characteristics, West Bank and Gaza 2010 MICS4 and 2014 MICS5



West Bank and Gaza Strip Summary

The WBG had a TFR of 4.5 in 2010, which declined to 4.1 in 2014. Jerusalem was a notable exception, with the only statistically significant increase in TFR from 3.3 to 3.9 during this time. In general, the TFR declined with increasing wealth. Fewer than half of women were using a method of modern contraception in 2010, and this did not change significantly in 2014. The smallest percentage of women using modern contraception in both years was in the age 15-24 group. Traditional contraceptive use increased from 8% in 2010 to 13% in 2014, and increased significantly by nearly all background characteristics.

The ANC and delivery indicators were high in 2010 and 2014. By 2014, most women (96%) had the recommended four or more ANC visits. While there was some variance by background characteristics in 2010, particularly by region, there were no differences in 2014. Delivering with an SBA was nearly universal with 99% of women delivered with an SBA in 2010, and 100% in 2014. The percentage delivering at a health facility was similar at 98% in 2010 and 99% in 2014. C-sections became more prevalent in 2014, and increased from 17% to 20%. C-sections increased with age and wealth, and varied by region. In 2010 and 2014, the South West Bank had the lowest and the North West Bank had the highest percentage of C-section deliveries by region.

Several child health indicators showed improvements between 2010 and 2014. Exclusive breastfeeding of children under age 6 months increased from 29% to 39%. Women in the poorest wealth quintile increased exclusive breastfeeding from 23% to 37%. Stunting in children under age 5 decreased from 11% to 7%.

However, the percentage of overweight children increased from 5% to 8%. Finally, under-5 mortality was reduced from 23/1000 to 21/1000 live births between 2010 and 2014. This reduction was not significant overall or by background characteristics, except for the poorest wealth quintile, among whom under-5 mortality declined from 32 to 20/1000 live births.

Yemen

As of 2016, Yemen has a total population of 27.5 million people, with 35% of the population living in urban areas (Population Reference Bureau 2016). Yemen is among the poorest country in the Arab region (Population Reference Bureau 2016). Since the Arab Spring in 2011, Yemen has experienced a state of near constant unrest and conflict. Since 2015, a civil war has consumed the country. The United Nations estimates that in the first 18 months of fighting, 10,000 people were killed and three million Yemenis have been displaced (Ghobari 2016). Due to the continuing conflict, it has been difficult to collect health indicator estimates. For most estimates, the most recent estimates are from the 2013 Yemen Demographic and Health Survey (Ministry of Public Health and Population (MOPHP) et al. 2015). Many estimates from 2013 indicate progress in terms of maternal, child, and nutritional outcomes in Yemen. However, due to the deteriorating health system, early data from 2015 reveals that for some health indicators, progress has stalled or even reversed (Qirbi and Ismail 2017).

Maternal and reproductive health indicators have made progress in the last 10 years but are marked by consistent disparities across wealth and education groups. The maternal mortality ratio (MMR) has decline markedly since 2003 from 365 maternal deaths per 100,000 births to 148 in 2013 (Ministry of Public Health and Population (MOPHP) et al. 2015). Nearly 60% of the maternal deaths identified in the 2013 DHS occurred at home or on the way to a health facility, which is an indication of difficulties recognizing a medical emergency and accessing care (Ministry of Public Health and Population (MOPHP) et al. 2015). Both the percentage of births that occur in health facilities and the percentage of births attended by a skilled medical professional have increased, although the overall prevalence of both indicators is low (Ministry of Public Health and Population (MOPHP) et al. 2015). As with other maternal health indicators, striking disparities exist by wealth quintile (Ministry of Public Health and Population (MOPHP) et al. 2015). Some research has found that disparities by socioeconomic status extend to the prevalence of clinical outcomes such as eclampsia. A case control study in Hajjah, Yemen that compared women with eclampsia and preeclampsia to women with normal deliveries, and found low education and low level of prenatal care were significantly associated with preeclampsia (Al-Rukeimi, Al-Haddad, and Adam 2014). Nearly 40% of women report receiving no antenatal care, however, this represents some improvement from 2006 when 50% of women reported receiving no antenatal care (Ministry of Public Health and Population (MOPHP) et al. 2015). Just 28% of births in Yemen were protected against tetanus in 2013, a decrease from 31% of births in 2006 (Ministry of Public Health and Population (MOPHP) et al. 2015). A 2009 survey of 20 health facilities, including 4 district hospitals, found that none of the facilities were able to perform all eight of the signal functions for safe labor and delivery as designated by the WHO (Al Serouri et al. 2009). Among the district hospitals, none of them provided cesarean delivery services and overall, the authors found that due to lack of resources, poor management, and inadequately trained staff, none of the facilities were fully functioning (Al Serouri et al. 2009). A similar assessment of obstetric services conducted in 2010 found a sharp distinction between the health resources available to Yemeni women by location (Al Serouri et al. 2012). Across three rural governorates, Amran, Marib, and Shabwa, with a combined population of 1.9 million, there were just three obstetricians and three anesthesiologists (Al Serouri et al. 2012). In a single urban governorate, with a total population of 666,000, there were 54 obstetricians and 10 anesthesiologists (Al Serouri et al. 2012). An issue unique to Yemen is the chewing al-qat, a plant which serves as a natural amphetamine. A large survey from 2008 found that 40% of women reported chewing al-qat during pregnancy and those who reported chewing al-qat were more likely to be poor, live in a rural area, and have low education levels (Khawaja, Al-Nsour, and Saad 2008). A 2011 study found a significant dose-response relationship between the frequency of al-qat chewing and the number of child deaths experienced by a woman (Ibrahim Ali Omer et al. 2011). A case-control study in 2015 found that women who regularly chewed al-qat during pregnancy were significantly more likely to experience pre-term labor and preeclampsia. Their infants were more likely to be low birth weight, and had significantly increased odds of admission into the neonatal intensive care unit (Abdel-Aleem et al. 2015).

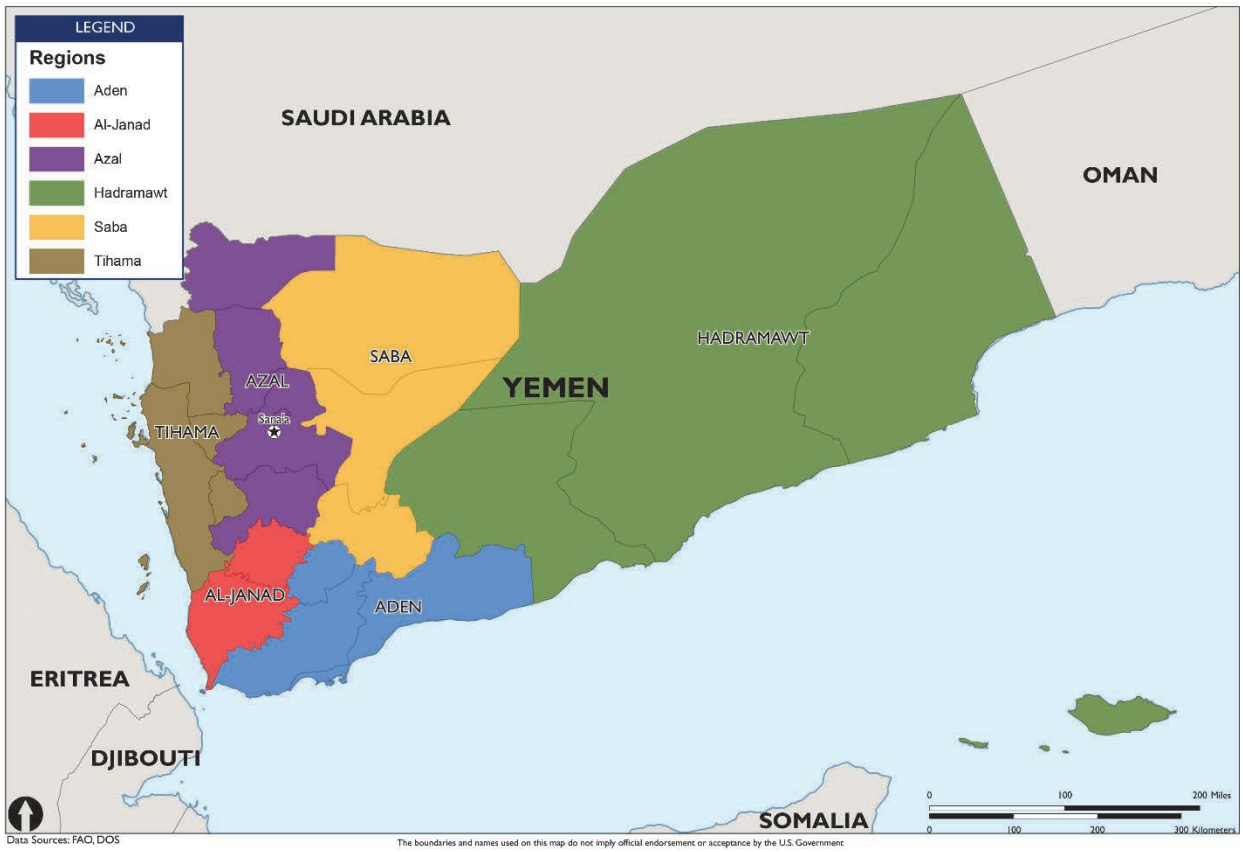
Women in Yemen face numerous obstacles in health care. In the 2013 DHS survey, women were asked about barriers to accessing healthcare in Yemen. The most commonly cited issues included not wanting to go alone, not having a female healthcare provider, distance to the facility, and ability to pay for care (Ministry of Public Health and Population (MOPHP) et al. 2015). A further barrier to health care is the nearly complete lack of health insurance among women in Yemen. In 2013, just over 2% of women surveyed reported having some form of health insurance (Ministry of Public Health and Population (MOPHP) et al. 2015). Beyond issues of access to healthcare, Yemeni women face other health challenges such as female circumcision. Overall, 19% of women age 15-49 have undergone some form of female circumcision (Ministry of Public Health and Population (MOPHP) et al. 2015). The largest differentials in prevalence of female circumcision are by geographic location with some Yemenis governorates, such as Al-Mhrah and Hadramout, reporting the prevalence of female circumcision as over 80%, while several other governorates report 0% prevalence (Ministry of Public Health and Population (MOPHP) et al. 2015). The contraceptive prevalence rate (CPR) among married women has increased since 2003, although there are large disparities in contraceptive use by wealth and place of residence. Women who live in urban areas and women in the highest wealth quintile have substantially higher levels of contraceptive use compared to poor, rural women (Ministry of Public Health and Population (MOPHP) et al. 2015). Nutritional deficits are also of concern. Among women age 15-49, 70% are anemic (Ministry of Public Health and Population (MOPHP) et al. 2015). Approximately 50% of women have a BMI (kg/m^2) within the normal range (BMI 18.5-24.9), 24% are overweight or obese (BMI ≥ 25), and the remaining quarter are considered underweight (Ministry of Public Health and Population (MOPHP) et al. 2015).

Similar to the maternal health indicators, infant and child health has improved over the last decade although disparities persist along socio-economic lines. Both infant mortality and under-5 mortality have declined since 2003. Despite this progress, there are significant differences in mortality by wealth and other socioeconomic indicators (Ministry of Public Health and Population (MOPHP) et al. 2015). A 2016 study found that Yemeni women in the highest wealth and education terciles had the lowest rates of stillbirth, neonatal, and infant mortality (Alosaimi et al. 2016). Vaccination coverage has declined since 2006. Overall, 16% of children have received no vaccinations by the age of 2, which is a slight increase from 2006 when 12% of children reported no vaccinations (Ministry of Public Health and Population (MOPHP) et al. 2015). Coverage rates for measles, polio, and DPT have all declined since 2006 (Ministry of Public Health and Population (MOPHP) et al. 2015). Diarrheal disease is quite prevalent with 31% of children under age 5 experiencing a diarrheal episode in the 2 weeks before the DHS administration (Ministry of Public Health and Population (MOPHP) et al. 2015). In 2017, Yemen was subject to an explosive cholera outbreak, with over 700,000 cases reported by mid-September and over associated 2,000 deaths, with thousands of new cases being reported each week (Miles 2017). The nutritional status of children in Yemen is poor (Rikimaru 2015). Among children under age 5, stunting and underweight are pervasive, with a smaller proportion of children considered wasted (Ministry of Public Health and Population (MOPHP) et al. 2015). All nutrition measures are higher among children living in poor and rural households compared with those living in wealthier households and urban areas (Ministry of Public Health and Population (MOPHP) et al. 2015). A survey among rural Yemeni children under age 5 found the prevalence of underweight and stunting to be 46% and 63%, respectively (Al-Sobaihi, Nakamura, and Kizuki 2016). Since 2003, the percentage of children considered underweight has decreased slightly, while the percent of children considered stunted or wasted has increased (Ministry of Public Health and Population (MOPHP) et al. 2015). Breastfeeding is nearly universal in Yemen, although the proportion of infants exclusively breastfed at age 6 months has decreased significantly (Ministry of Public Health and Population (MOPHP) et al. 2015). A recent report from 2017 indicates that the on-going conflict has resulted in sky-rocketing levels of undernutrition and food insecurity, with an estimated 2 million children acutely malnourished (World Food Programme 2017). Since 2014, the percentage of households reporting limited access to sufficient food has increased from 41% to 63% in 2017 (World Food Programme 2017).

Prior to the current conflict, Yemen's health system was dysfunctional with numerous barriers to access to care including high out-of-pocket expenditures, physical access to health facilities among rural populations, and inadequate training among providers (Qirbi and Ismail 2017). A 2010 study assessed the health infrastructure in Yemen by examining the relationship between distance to a health facility and child vaccination (Al-Taiar et al. 2010). The authors found a strong relationship between driving distance and vaccination, which indicated that in Yemen, physical distance to a health facility may be a strong predictor of access and use of medical services (Al-Taiar et al. 2010). This is an especially acute problem among households in rural areas. Prior to 2011, out-of-pocket spending by Yemeni families accounted for two-thirds of the total health expenditure in the country and by 2014, this increased to over 75% (Holst and Gericke 2012; Qirbi and Ismail 2017). Over the same time period, the percentage of total health expenditure from the government dropped from 33% to 22% (Qirbi and Ismail 2017). The remaining portion of total health expenditure was supported by international donors and public funding (Holst and Gericke 2012). Although the government was taking strides towards expanding public financing for the health care system, the 2011 political upheaval and the subsequent civil war have largely derailed these efforts (Qirbi and Ismail 2017). The healthcare cost burden was exacerbated in the time period right before the civil war in response to a steep decrease in outside donor funding (Qirbi and Ismail 2017). In 2011, as the political upheaval began, researchers conducted an evaluation of hospital disaster preparedness in Yemen's capital city, Sana'a (Aladhrai et al. 2015). In a follow-up assessment completed in 2013, the authors found that among the 11 hospitals surveyed, there was little to no progress made in hospital emergency preparedness despite the social and political turmoil (Aladhrai et al. 2015). Since the start of the civil war in 2015, the healthcare infrastructure in Yemen has collapsed. In June 2016, the WHO classified 17% of the health facilities in Yemen non-functional and another 38% were deemed partially functional (Qirbi and Ismail 2017). Among these health facilities, 8% have been completely or partially destroyed in the war (Qirbi and Ismail 2017). It is estimated that approximately half the population does not have access to basic healthcare (Qirbi and Ismail 2017). The effects of the rapidly deteriorating healthcare system are beginning to be seen in the latest health indicators from Yemen. Data from 2015 have shown a decrease in life expectancy and increases in the maternal mortality ratio (MMR), infant mortality rate, and the under-5 mortality rate (Qirbi and Ismail 2017).

The results discussed below for Yemen used data from the 2006 MICS survey and 2013 DHS survey. This is the only country in the report that compares data from two different sources.

Figure Map 11: Yemen Map



Note: See Appendix for a description of regions.

Total Fertility Rate

The total fertility rate (TFR) in Yemen decreased significantly between 2006 and 2013 from 5.2 to 4.4. The decrease in the TFR was apparent by most characteristics included in Table Yemen.01, and there were no significant increases in TFR by any characteristic. There were, however, several significant declines in the TFR.

Women with no education and women with a secondary or higher level of education both reduced their TFR between 2006 and 2013. In 2013, the TFR declined with increasing levels of education, so that the TFR among women with no education was 5.3, while among women with a secondary or higher level of education, the TFR was 2.8. The TFR declined for every wealth quintile except the poorest between 2006 and 2013. In both years, the TFR declined with increasing wealth. In 2013, the TFR ranged from 6.1 in the poorest wealth quintile to 2.9 in the richest wealth quintile.

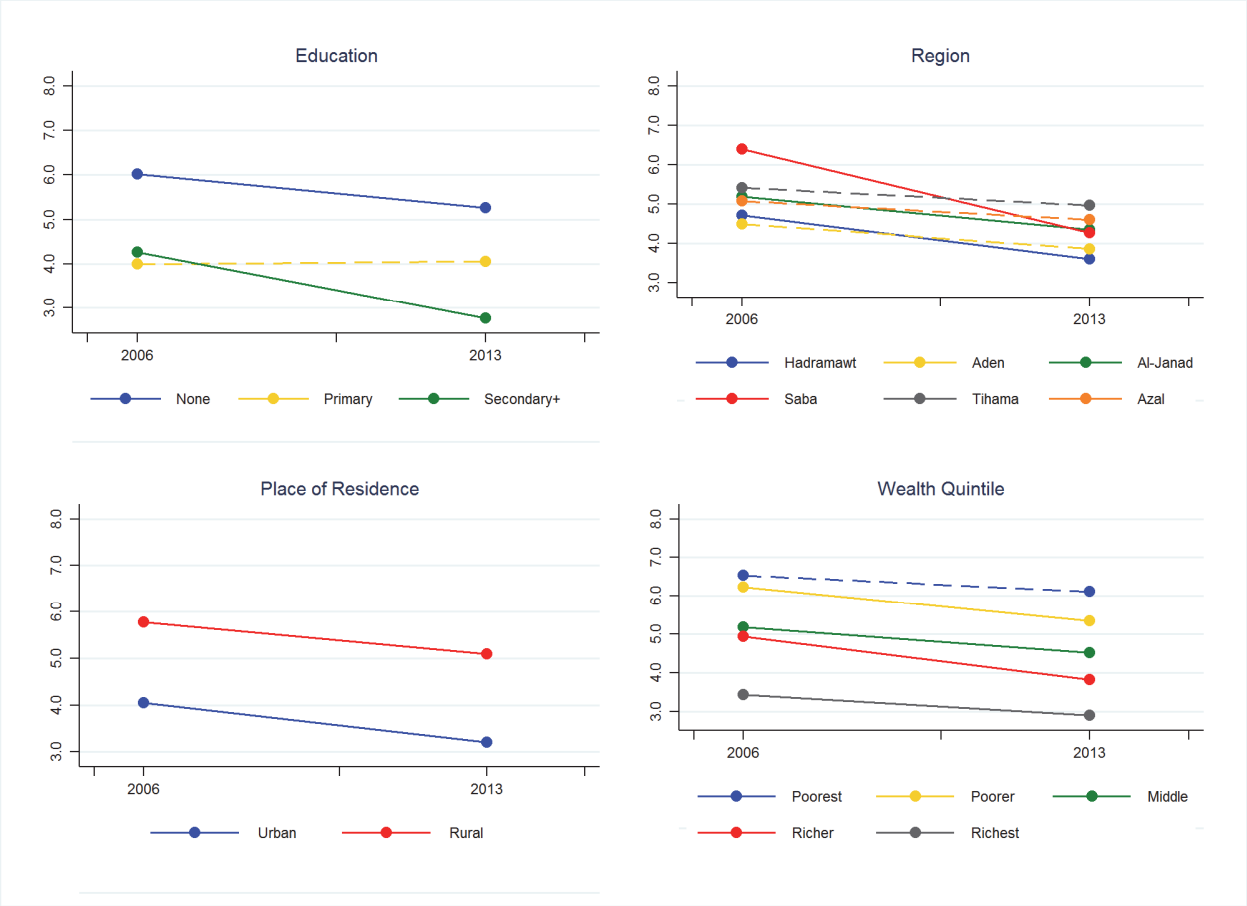
The TFR declined in both urban and rural areas and in several regions including Hadramawt, Al-Janad, and Saba. Of all regions, the Saba Region had the largest decline in the TFR from 6.4 in 2006 to 4.3 in 2013.

Table Yemen.01: Total fertility rate for the 4 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006	2013	
	TFR [C.I.]	TFR [C.I.]	Diff[1]
Total	5.2 [4.9,5.4]	4.4 [4.3,4.6]	-0.7*
Education			
None	6.0 [5.7,6.3]	5.3 [5.1,5.5]	-0.8*
Primary	4.0 [3.6,4.4]	4.1 [3.8,4.3]	0.1
Secondary +	4.3 [3.6,5.1]	2.8 [2.5,3.1]	-1.5*
Wealth quintile			
Poorest	6.5 [5.9,7.2]	6.1 [5.7,6.5]	-0.4
Poorer	6.2 [5.6,6.9]	5.3 [5.0,5.7]	-0.9*
Middle	5.2 [4.7,5.7]	4.5 [4.2,4.9]	-0.7*
Richer	4.9 [4.5,5.4]	3.8 [3.0.6,4]	-1.1*
Richest	3.4 [3.0,3.9]	2.9 [2.7,3.1]	-0.5*
Place of residence			
Urban	4.0 [3.7,4.4]	3.2 [3.0,3.4]	-0.8*
Rural	5.8 [5.5,6.1]	5.1 [4.9,5.3]	-0.7*
Region			
Hadramawt	4.7 [3.9,5.8]	3.6 [3.3,3.9]	-1.1*
Aden	4.5 [3.9,5.3]	3.9 [3.6,4.1]	-0.6
Al-Janad	5.2 [4.7,5.8]	4.3 [4.0,4.8]	-0.8*
Saba	6.4 [5.1,8.0]	4.3 [3.8,4.7]	-2.1*
Tihama	5.4 [5.0,5.9]	5.0 [4.6,5.3]	-0.5
Azal	5.1 [4.6,5.6]	4.6 [4.3,4.9]	-0.5

* Significant p-value. [1] Difference between the two surveys with the significance of the difference.

Figure Yemen.01: Total fertility rate for the 3 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS



Contraceptive Use

The percentage of women who were using a method of modern contraception at the time of the survey increased significantly in Yemen from 25% in 2006 to 29% in 2013. Modern contraceptive use also increased significantly by several characteristics in Table Yemen.02. Despite this increase, Yemen had among the lowest modern contraceptive use of all countries in this report (Overall Summary, Figure 2).

Modern contraceptive use remained consistent among women age 15-24 and 45-49 between the two surveys and increased significantly among women age 25-34 and 35-44. In both years, modern contraceptive use varied significantly by age group. The pattern of lowest use among women age 15-24 and 45-49 remained consistent between 2006 and 2013 (Table Yemen.02).

There was a significant increase from 21% to 25% in the percentage of women with no education using modern contraception between the two surveys. The increases for higher levels of education were not significant. In both years, modern contraceptive use varied significantly by level of education, and use increased as level of education increased. This is illustrated in Figure Yemen.02.

Modern contraceptive use increased significantly among women in the poorer and middle wealth quintiles, but not for women in the other wealth categories. There were significant differences in contraceptive use by wealth quintile in both 2006 and 2013. The pattern of increased modern contraceptive use with increasing wealth quintile remained consistent between the 2 years.

Urban areas had a significantly higher percentage of modern contraceptive use than rural areas in 2006 and 2013. Although modern contraceptive use increased significantly in rural areas between the two surveys, the gap between the two areas remained. In 2013, 40% of women in urban areas were using modern contraception compared to 24% of women in rural areas.

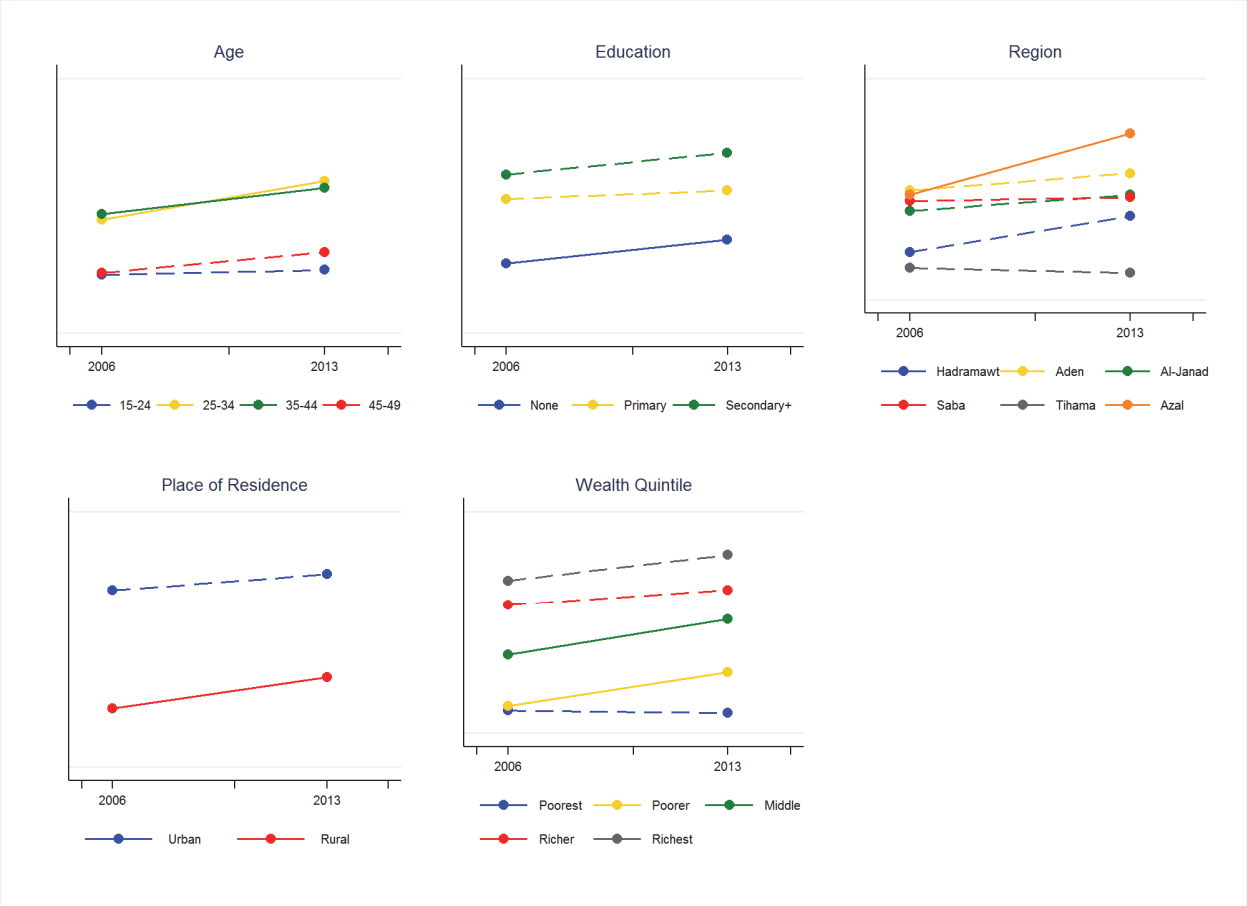
Modern contraceptive use changed significantly in the Azal Region, and increased from 29% in 2006 to 40% in 2013. In 2006, the Azal Region had approximately the same percent of modern contraceptive use as the Aden, Al-Janad, and Saba regions. However, in 2013, the Azal Region had the highest percent of modern contraceptive use compared to all other regions, with the next highest being the Aden Region at 33%. This difference in modern contraceptive use by region is illustrated in Figure Yemen.02.

Table Yemen.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	24.9 [22.7,27.2]		29.2 [27.9,30.4]		4.3*
Age					
15-24	19.3 [16.4,22.5]	*	20.0 [18.3,21.9]	*	0.8
25-34	27.9 [25.0,31.0]		34.0 [32.3,35.7]		6.1*
35-44	28.8 [25.6,32.3]		32.9 [31.0,34.9]		4.1*
45-49	19.6 [15.6,24.3]		22.9 [20.0,25.9]		3.3
Education					
None	21.1 [18.9,23.4]	*	24.8 [23.2,26.4]	*	3.7*
Primary	31.2 [27.9,34.6]		32.5 [30.7,34.2]		1.3
Secondary +	35.0 [29.2,41.3]		38.4 [35.6,41.2]		3.4
Wealth quintile					
Poorest	14.0 [10.8,18.0]	*	13.6 [11.7,15.9]	*	-0.4
Poorer	14.9 [11.8,18.7]		21.0 [19.0,23.2]		6.1*
Middle	24.1 [20.4,28.1]		30.5 [28.2,33.0]		6.5*
Richer	33.1 [29.0,37.5]		35.8 [33.4,38.3]		2.8
Richest	37.5 [33.0,42.3]		42.2 [40.0,44.5]		4.7
Place of residence					
Urban	37.7 [33.4,42.1]	*	40.2 [38.1,42.3]	*	2.5
Rural	19.2 [16.9,21.6]		24.0 [22.5,25.6]		4.9*
Region					
Hadramawt	18.7 [11.9,28.1]	*	25.2 [22.1,28.6]	*	6.5
Aden	29.8 [23.9,36.5]		32.9 [30.5,35.4]		3.1
Al-Janad	26.2 [21.3,31.7]		29.0 [26.1,32.1]		2.9
Saba	27.9 [15.0,46.0]		28.6 [25.1,32.4]		0.7
Tihama	15.8 [12.6,19.7]		15.0 [12.7,17.6]		-0.8
Azal	29.0 [25.0,33.4]		40.1 [37.6,42.6]		11.0*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.02: Percentage of women currently using modern contraception among women age 15-49 in a union, by background characteristics, Yemen 2006 MICS and 2013 DHS



Traditional contraceptive use in Yemen was also among the lowest of the countries in this report (Overall Summary, Figure 3), although it increased significantly between 2006 and 2013 (3% to 4%). Traditional contraceptive use increased in several subgroups between surveys, including among older women, women with no education or a primary education, and women in the poorer and richer wealth quintiles.

Traditional contraceptive use varied by age category in 2006 and in 2013. In both surveys, the oldest two age groups (age 35-44 and 45-49) had the highest percentage of traditional use by age. These were also the only two age groups that had a significant increase in traditional contraceptive use between the two surveys, reaching 6% by 2013.

In both 2006 and 2013, traditional contraceptive use increased with higher levels of education. Between the 2 years, women with no education and women with a primary education saw significant increases in traditional contraceptive use. This was most notable for women with a primary education, who increased traditional contraceptive use from 3% to 5%.

While traditional contraceptive use differed by wealth quintile in both 2006 and 2013, the substantial and significant increase among women in the richer wealth quintile—illustrated in Figure Yemen.03—partially closed the gap in traditional use between the richer and richest quintiles. Women in the poorer quintile also experienced a significant increase (1.5%) in traditional contraceptive use.

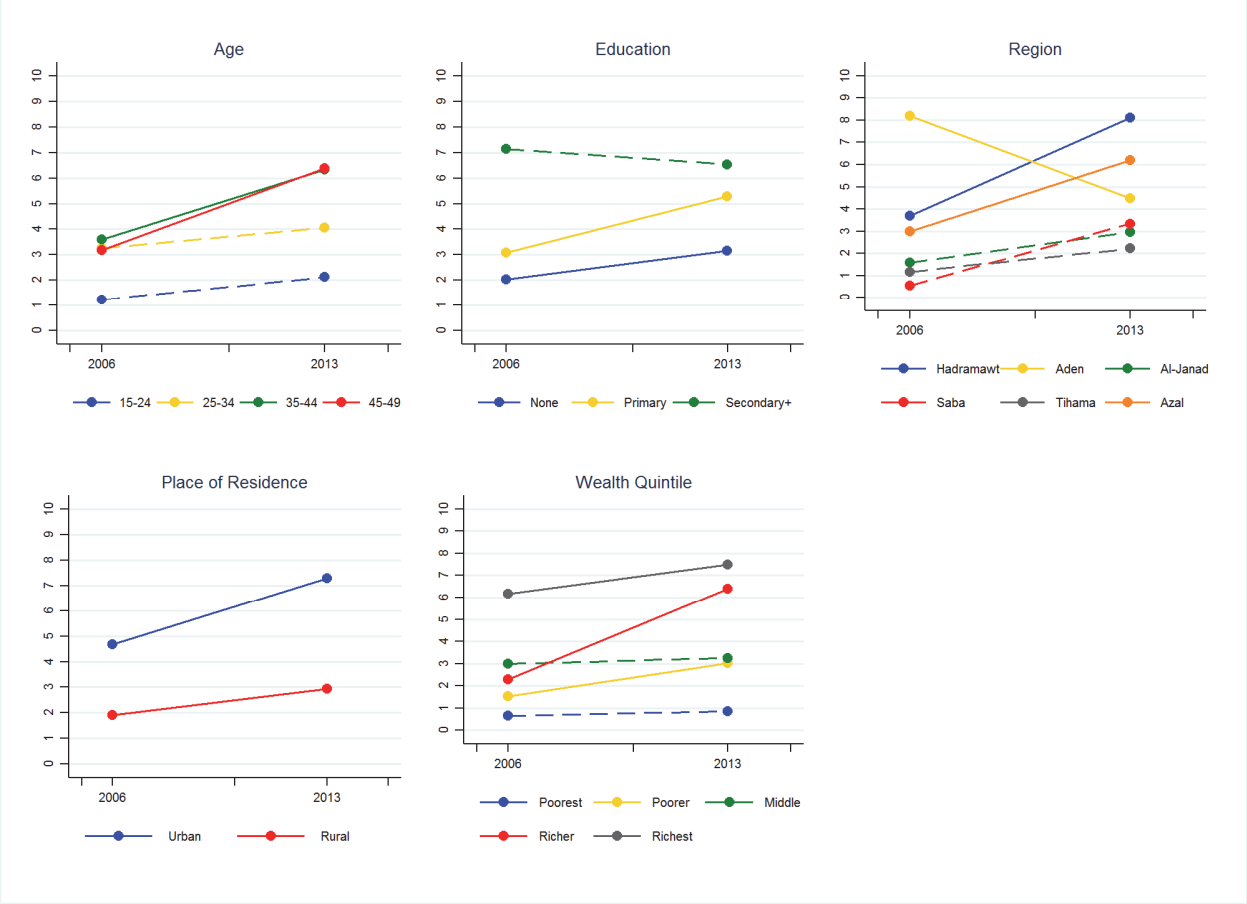
More urban women than rural women used traditional contraception in both surveys, although both had a significant increase in use between 2006 and 2013. In 2013, 7% of urban women and 3% of rural women used traditional contraception. There were also significant changes by region. Although the Hadramawt and Azal regions had significant increases in traditional contraceptive use, the Aden Region was the only region and the only characteristic with a significant decline in traditional contraceptive use between 2006 and 2013, as shown in Figure Yemen.03.

Table Yemen.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	2.8 [2.2,3.5]		4.3 [3.9,4.8]		1.6*
Age					
15-24	1.2 [0.7,2.2]	*	2.1 [1.7,2.7]	*	0.9
25-34	3.3 [2.3,4.6]		4.1 [3.5,4.7]		0.8
35-44	3.6 [2.4,5.4]		6.3 [5.4,7.3]		2.7*
45-49	3.2 [1.8,5.5]		6.4 [4.6,8.8]		3.2*
Education					
None	2.0 [1.4,2.9]	*	3.2 [2.7,3.7]	*	1.1*
Primary	3.1 [2.2,4.3]		5.3 [4.6,6.0]		2.2*
Secondary +	7.1 [4.5,11.1]		6.5 [5.4,7.9]		-0.6
Wealth quintile					
Poorest	0.7 [0.2,1.9]	*	0.9 [0.5,1.4]	*	0.2
Poorer	1.5 [0.8,2.7]		3.0 [2.3,4.0]		1.5*
Middle	3.0 [1.5,5.7]		3.3 [2.6,4.1]		0.3
Richer	2.3 [1.5,3.5]		6.4 [5.5,7.5]		4.1*
Richest	6.2 [4.5,8.4]		7.5 [6.4,8.8]		1.3
Place of residence					
Urban	4.7 [3.4,6.4]	*	7.3 [6.4,8.3]	*	2.6*
Rural	1.9 [1.4,2.7]		2.9 [2.5,3.4]		1.0*
Region					
Hadramawt	3.7 [2.2,6.2]	*	8.1 [6.7,9.7]	*	4.4*
Aden	8.2 [6.0,11.1]		4.5 [3.5,5.8]		-3.7*
Al-Janad	1.6 [0.8,3.0]		3.0 [2.1,4.1]		1.4
Saba	0.6 [0.0,6.7]		3.3 [2.2,5.1]		2.8
Tihama	1.2 [0.6,2.2]		2.2 [1.6,3.1]		1.0
Azal	3.0 [1.8,4.9]		6.2 [5.3,7.2]		3.2*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.03: Percentage of women currently using traditional contraception among women age 15-49 in a union, by background characteristics, Yemen 2006 MICS and 2013 DHS



Antenatal Care

In 2013, 25% of women in Yemen had the recommended four or more ANC visits during their most recent pregnancy within the 2 years before the survey. As shown in Table Yemen.04, this varied significantly by age, education, wealth quintile, place of residence, and region. This indicator was not available for the 2006 survey to observe trends.

The percentage of women who had four or more ANC visits declined with age with 28% of women age 15-24 having four or more visits and 7% of women age 45-49. The decline was incremental. Conversely, ANC increased with level of education. Women with a primary education had more than double the percentage of four or more ANC visits than women with no education (32% vs. 13%). Nearly half of women with a secondary or higher level of education had four or more ANC visits.

The percentage of women who had four or more ANC visits also increased with wealth quintile with 8% of women in the poorest quintile having four or more ANC visits and 62% of women in the richest quintile. There were incremental increases in the percentage of women with four or more ANC visits with each wealth quintile. The largest disparity in ANC visits was by wealth quintile.

Approximately half of women in urban areas had four or more ANC visits, compared to 16% of women in rural areas. This varied by region as well. Women in the Hadramawt Region had the highest percentage of four or more ANC visits at 43%, compared to women in Tihama with the lowest at 15%. The other regions were similar with between 25% and 33% of women having four or more ANC visits in the Aden, Al-Janad, Saba, and Azal regions.

Table Yemen.04: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, by background characteristics, Yemen 2013 DHS

Variable	% [C.I.]	Sig.[1]
Total	24.8 [23.2,26.4]	
Age		
15-24	28.4 [25.8,31.1]	*
25-34	25.1 [23.1,27.3]	
35-44	18.7 [16.0,21.7]	
45-49	6.5 [2.8,14.5]	
Education		
None	13.4 [11.7,15.2]	*
Primary	32.1 [29.5,34.7]	
Secondary +	50.7 [46.3,55.0]	
Wealth quintile		
Poorest	7.9 [6.0,10.3]	*
Poorer	11.8 [9.7,14.3]	
Middle	19.5 [16.8,22.6]	
Richer	34.2 [31.0,37.6]	
Richest	61.6 [56.7,66.3]	
Place of residence		
Urban	50.5 [47.0,54.0]	*
Rural	15.7 [14.1,17.4]	
Region		
Hadramawt	43.1 [36.2,50.2]	*
Aden	33.5 [29.3,38.0]	
Al-Janad	25.7 [21.9,29.9]	
Saba	29.0 [22.4,36.6]	
Tihama	14.5 [12.1,17.2]	
Azal	25.0 [22.3,27.9]	

* Significant p-value. [1] Significance of the covariate in each survey.

Delivery

Between the 2006 MICS and 2013 DHS surveys, the percentage of women who gave birth with a skilled birth attendant (SBA) for their most recent birth increased from 27% to 47% overall. This increase was evident and statistically significant by every characteristic included in Table Yemen.05. The percentage increase in SBA deliveries by all characteristics are illustrated in Figure Yemen.04.

Delivery with the assistance of an SBA increased significantly for all age categories. Women age 45-49 had the lowest percentage of SBA deliveries in both years, but still increased from 13% to 29% between surveys. Women age 15-24 experienced the largest percent increase by age, from 27% in 2006 to 53% in 2013. Because of this, the differences in SBA deliveries by age were significant in 2013.

The SBA deliveries increased among women with all levels of education. The greatest magnitude of change between 2006 and 2013 was among women with a secondary or higher level of education who experienced a 31-percentage point increase from 47% to 78%. The SBA deliveries among women with a primary education increased from 36% in 2006 to 57% in 2013, while women with no education increased from 20% to 33%.

Women in the richer wealth quintile had a 28-percentage point increase in SBA deliveries from 37% to 65%, while the percentage of women delivering with an SBA increased for all wealth quintiles. The smallest increase by wealth quintile was in women in the poorest wealth quintile (increased 11-percentage points

from 10% to 21%). In both years, SBA deliveries differed by wealth quintile and the pattern of increased SBA use with increased with wealth remained consistent.

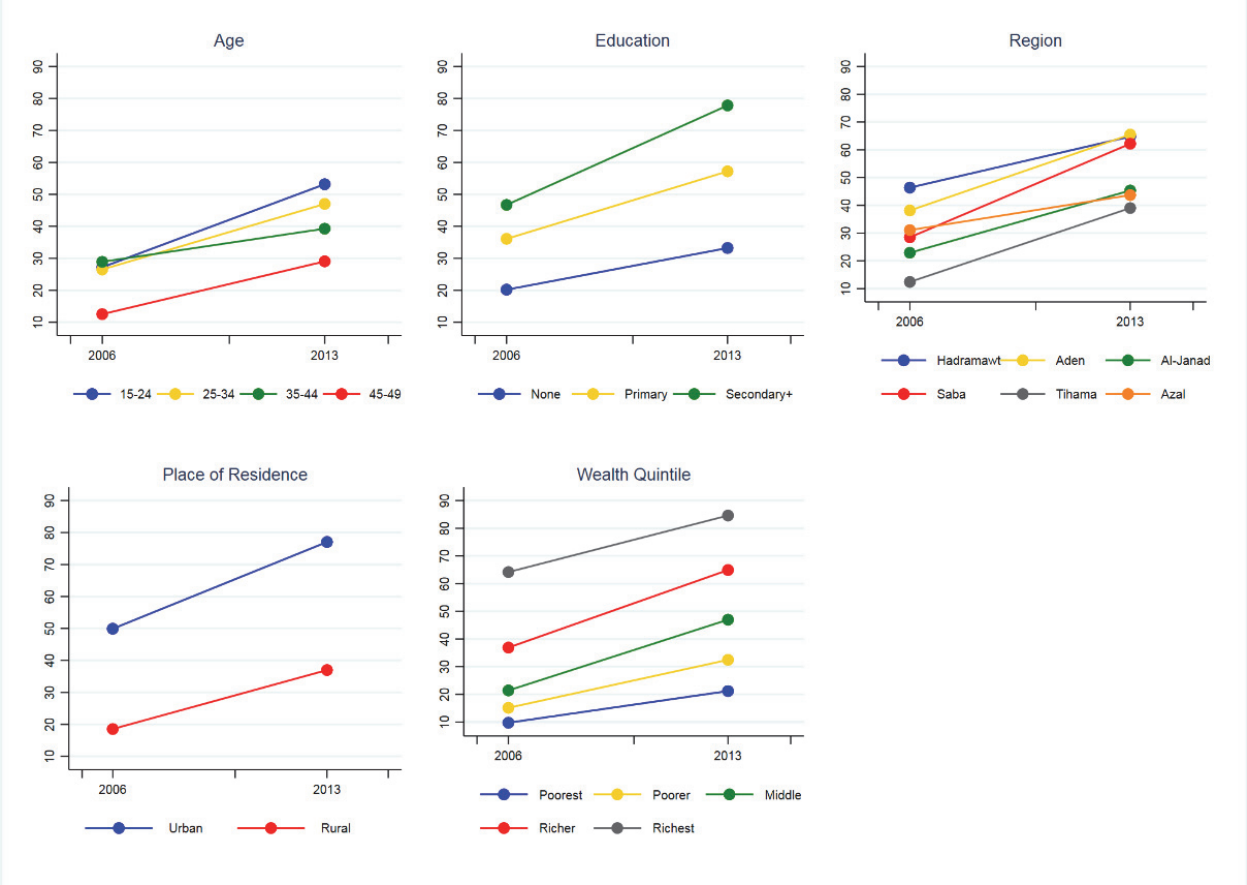
Women in urban areas also saw one of the largest percent increases in SBA deliveries from 50% in 2006 to 77% in 2013. A smaller percentage of women in rural areas delivered with an SBA in both years, although they increased from 19% to 37% between surveys. There was an increase in the percentage of SBA deliveries in all regions. Women in the Azal region had the smallest increase at 13-percentage points from 31% in 2006 to 44% in 2013, and women in the Saba region had the greatest increase of 34-percentage points from 29% to 62%. In both years, the Tihama Region had the lowest percentage of women who delivered with an SBA (39% in 2013), while the Hadramawt and Aden Regions had the highest (approximately 65% in 2013).

Table Yemen.05: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	26.9 [24.0,30.0]		47.4 [45.0,49.9]		20.5*
Age					
15-24	27.2 [23.1,31.7]		53.2 [49.6,56.8]	*	26.0*
25-34	26.5 [22.6,30.8]		47.0 [44.3,49.8]		20.5*
35-44	28.9 [23.5,35.0]		39.3 [35.5,43.1]		10.4*
45-49	12.5 [5.4,26.4]		29.0 [20.1,40.1]		16.5*
Education					
None	20.2 [17.1,23.7]	*	33.2 [30.7,35.8]	*	13.0*
Primary	36.1 [31.1,41.4]		57.2 [53.9,60.5]		21.1*
Secondary +	46.7 [37.8,55.8]		77.8 [73.6,81.6]		31.1*
Wealth quintile					
Poorest	9.8 [6.5,14.3]	*	21.2 [18.2,24.5]	*	11.4*
Poorer	15.1 [11.3,20.0]		32.5 [28.7,36.5]		17.3*
Middle	21.4 [16.5,27.3]		47.0 [42.1,51.9]		25.6*
Richer	36.9 [31.1,43.1]		64.9 [60.8,68.8]		28.0*
Richest	64.2 [57.0,70.8]		84.6 [80.7,87.8]		20.4*
Place of residence					
Urban	49.9 [44.3,55.5]	*	77.1 [73.0,80.7]	*	27.1*
Rural	18.6 [15.3,22.3]		37.0 [34.1,40.0]		18.4*
Region					
Hadramawt	46.4 [35.5,57.6]	*	64.8 [55.0,73.4]	*	18.4*
Aden	38.2 [28.8,48.5]		65.5 [60.5,70.1]		27.3*
Al-Janad	22.9 [17.6,29.4]		45.3 [40.0,50.8]		22.4*
Saba	28.5 [19.4,39.7]		62.2 [53.0,70.6]		33.7*
Tihama	12.4 [8.9,17.1]		39.0 [32.9,45.6]		26.6*
Azal	31.1 [24.9,38.0]		43.7 [40.2,47.2]		12.6*

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.04: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS



The percentage of women ages 15-49 who delivered their most recent birth at a health facility also increased significantly between 2006 and 2013, although by a smaller magnitude than deliveries with an SBA. Table Yemen.06 shows that there was a 8 percentage point increase in health facility deliveries overall, as well as statistically significant increases in health facility deliveries by many characteristics included in the table. Health facility deliveries increased for younger women, but not for older women between the two surveys. In 2006, the percentage of health facility deliveries did not differ significantly by age, but in 2013 it did. Women in the youngest age group, age 15-24, had the highest percentage of facility deliveries by age category at 35%. In 2013, health facility delivery declined as age increased. In both 2006 and 2013, the percentage of women who delivered at a health facility differed by level of education. Women with higher levels of education had higher percentages of health facility delivery in both years. In 2013, over half of women with a secondary or higher level of education delivered in a health facility, compared to 23% of women with no education.

There was a similar pattern of the percentage of women who delivered at a health facility increasing with wealth quintile in both 2006 and 2013. Although facility delivery increased significantly between the two surveys for all wealth quintiles, except the poorest, the pattern remained consistent. This is illustrated in Figure Yemen.05. In 2013, health facility delivery by wealth quintile ranges from 14% among women in the poorest quintile, to 61% among women in the richest quintile. In both 2006 and 2013, there was a significant difference in the percentage of women who gave birth in a health facility by place of residence. In 2006, 40% of women in urban areas and 17% of women in rural areas delivered at a health facility. In 2013, this was 52% in urban areas and 25% in rural areas. While women in urban and rural areas both experienced statistically significant increases in health facility deliveries between the two surveys, the

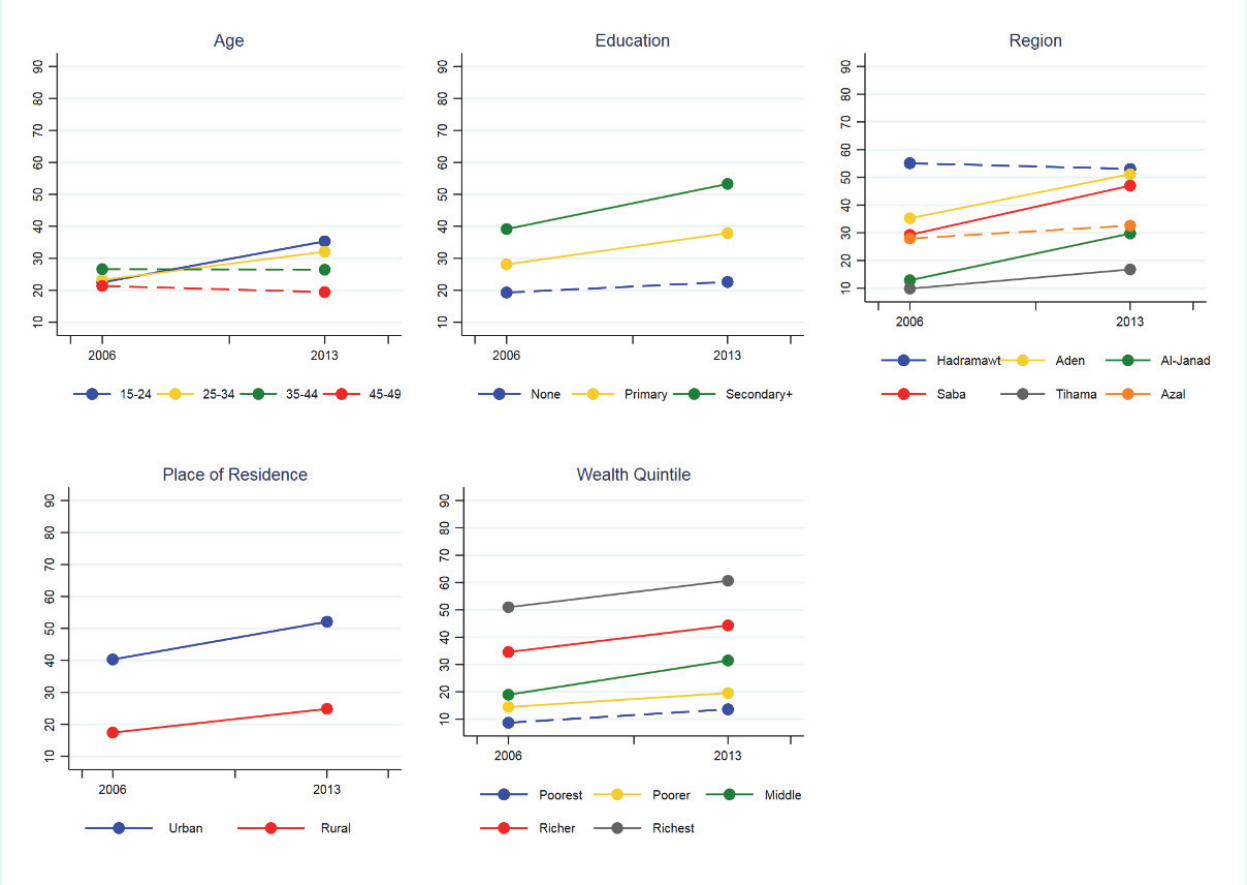
difference between them did not diminish. The highest magnitude of change in health facility delivery was seen by region. Specifically, the Al-Janad, Aden, and Saba regions increased health facility delivery by 16-18 percentage points. However, despite this gain, the Al-Janad Region had the second lowest percentage of health facility deliveries by region in 2013. Despite no significant changes in the Hadramawt and Azal regions, the pattern of health facility deliveries remained consistent by region in 2006 and 2013. The highest percentage of health facility delivery was in the Hadramawt Region, and the lowest was in Tihama in both surveys.

Table Yemen.06: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	23.5 [20.7,26.7]		31.9 [30.0,34.0]		8.4*
Age					
15-24	22.5 [18.4,27.1]		35.3 [32.1,38.7]	*	12.8*
25-34	23.2 [19.6,27.3]		32.1 [29.7,34.5]		8.8*
35-44	26.6 [21.1,32.9]		26.5 [23.3,29.9]		0.2
45-49	21.4 [10.6,38.3]		19.4 [12.0,30.0]		1.9
Education					
None	19.3 [16.1,22.9]	*	22.6 [20.5,24.9]	*	3.3
Primary	28.1 [23.6,33.1]		37.9 [34.8,41.0]		9.8*
Secondary +	39.2 [30.4,48.7]		53.3 [48.8,57.8]		14.1*
Wealth quintile					
Poorest	8.7 [5.6,13.4]	*	13.6 [11.3,16.3]	*	4.9
Poorer	14.4 [11.0,18.8]		19.6 [17.0,22.5]		5.1*
Middle	18.9 [14.9,23.8]		31.5 [27.7,35.5]		12.5*
Richer	34.6 [28.4,41.4]		44.3 [40.1,48.6]		9.7*
Richest	51.0 [44.5,57.4]		60.7 [56.1,65.0]		9.7*
Place of residence					
Urban	40.3 [34.5,46.3]	*	52.1 [47.8,56.4]	*	11.8*
Rural	17.4 [14.2,21.2]		24.9 [22.7,27.1]		7.4*
Region					
Hadramawt	55.1 [43.0,66.6]	*	53.0 [43.5,62.4]	*	2.0
Aden	35.3 [24.7,47.4]		51.2 [46.6,55.8]		15.9*
Al-Janad	12.9 [8.7,18.6]		29.8 [25.2,34.7]		16.9*
Saba	29.3 [19.9,40.8]		47.0 [41.0,53.1]		17.7*
Tihama	9.9 [6.7,14.3]		16.8 [13.6,20.5]		6.9*
Azal	28.0 [22.3,34.4]		32.6 [29.2,36.2]		4.7

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.05: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS



In 2013, 6% of women in Yemen gave birth by C-section. The percentage of women who gave birth by C-section did not differ significantly by age, although it did differ significantly by all other characteristics included in Table Yemen.07. This indicator was not available for the 2006 survey to observe trends.

Women with higher levels of education had higher percentages of C-section deliveries. Three-percent (3%) of women with no education had a C-section, compared to 7% with a primary, and 13% with a secondary or higher level of education. A similar pattern was observed for wealth quintile. One-percent (1%) of women in the poorest wealth quintile gave birth by C-section compared to 15% of women in the richest quintile.

Women in urban areas had a significantly higher percentage of delivering by C-section than rural women (12% vs. 4%), and, by region, women in the Hadramawt Region had the highest percentage of C-section births at 10%, and the Tihama Region had the lowest at 3%. Between 6% and 9% of women in the other four regions gave birth by C-section.

Table Yemen.07: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, by background characteristics, Yemen 2013 DHS

Variable	% [C.I.]	Sig.[1]
Total	5.7 [5.0,6.5]	
Age		
15-24	5.6 [4.3,7.4]	
25-34	5.7 [4.7,6.8]	
35-44	6.4 [4.9,8.4]	
45-49	0.1 [0.0,0.9]	
Education		
None	2.8 [2.3,3.6]	*
Primary	7.3 [5.9,8.9]	
Secondary +	13.0 [10.1,16.5]	
Wealth quintile		
Poorest	1.4 [0.8,2.3]	*
Poorer	2.6 [1.8,3.7]	
Middle	4.4 [3.3,5.9]	
Richer	8.3 [6.4,10.6]	
Richest	14.6 [11.9,17.8]	
Place of residence		
Urban	11.9 [9.9,14.2]	*
Rural	3.5 [2.9,4.3]	
Region		
Hadramawt	9.8 [7.0,13.6]	*
Aden	7.5 [5.7,10.0]	
Al-Janad	5.8 [4.2,8.0]	
Saba	9.0 [5.8,13.9]	
Tihama	2.8 [1.9,4.0]	
Azal	5.9 [4.6,7.6]	

* Significant p-value. ¹ Significance of the covariate in each survey.

Child Health Care

Between 2006 and 2013, the percentage of children age 12-23 months who received all basic vaccinations increased significantly overall, although the increase was only significant for a few characteristics included in Table Yemen.08. In 2006, 37% of children were vaccinated, compared to 43% in 2013. This did not vary by sex of the child in either 2006 or 2013, and there were slight, but not statistically significant, increases in the percentage of both girls and boys vaccinated between the two surveys.

The percentage of children vaccinated did not change significantly by the mother's level of education between 2006 and 2013. In both survey years, the percent of children vaccinated varied significantly by the mother's level of education and increased with increasing level of education. A similar pattern was observed by wealth. In both survey years, the percentage of children vaccinated increased as wealth increased. There was a significant increase in the percent of children vaccinated in the richer wealth quintile (40% in 2006 to 52% in 2013), although the changes were not significant among children in any other wealth quintile.

The percent of children vaccinated was higher in urban areas than rural areas in both surveys. However, children in rural areas experienced a significant increase in the percent vaccinated between 2006 and 2013. By 2013, while the difference in percent vaccinated between urban and rural children was still significant, the gap reduced slightly, as illustrated in Figure Yemen.06.

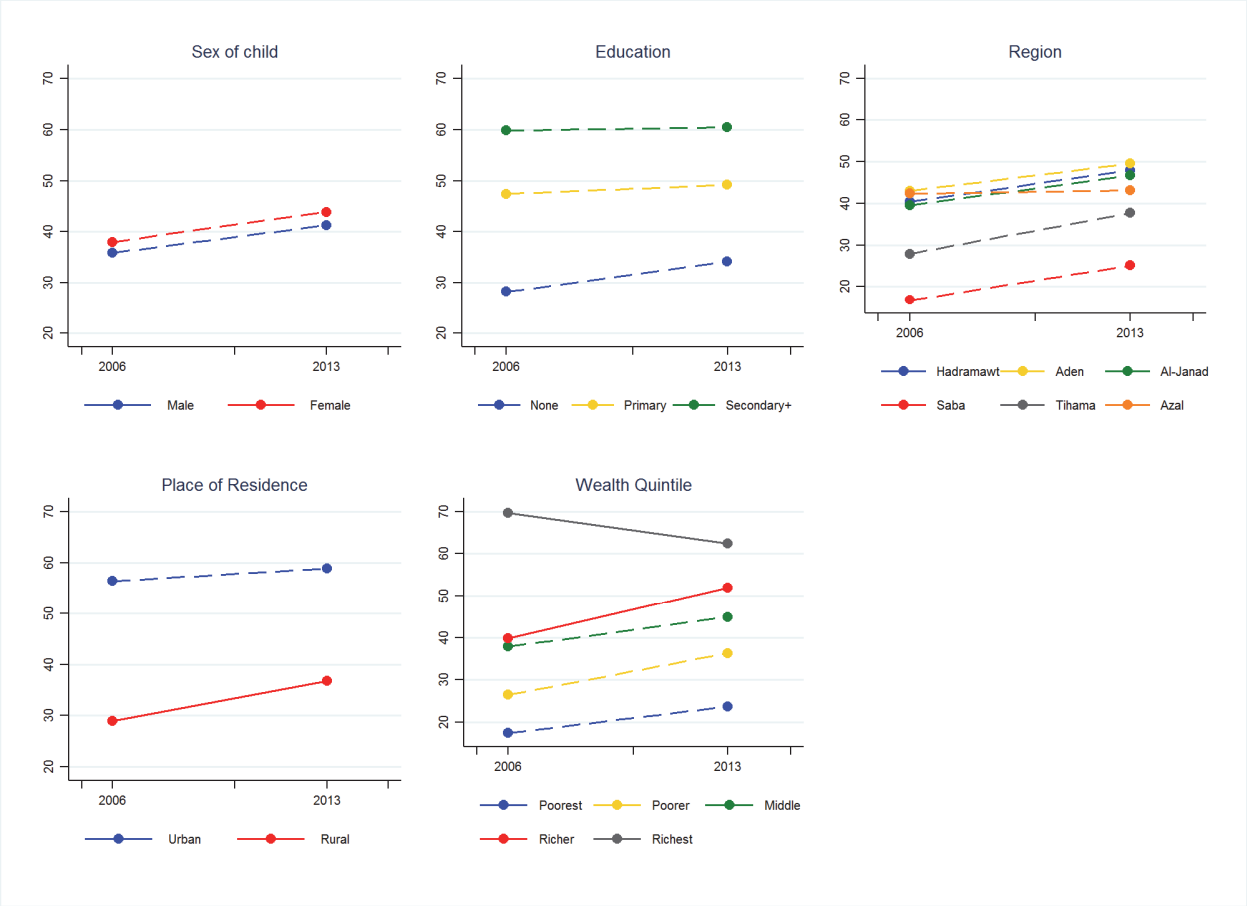
In 2006, the percent of children vaccinated did not differ significantly by region, and there were no significant changes in the percent of children vaccinated between 2006 and 2013. However, the 2013 data show statistically significant differences in the percent of children vaccinated by region, ranging from 25% in the Saba Region to 50% in Aden.

Table Yemen.08: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	37.0 [32.3,41.9]		42.6 [39.8,45.4]		5.6*
Child's sex					
Male	35.9 [30.2,42.0]		41.3 [38.0,44.8]		5.4
Female	38.0 [31.9,44.6]		43.9 [40.3,47.6]		5.9
Mother's education					
None	28.3 [23.0,34.2]	*	34.2 [30.7,37.7]	*	5.9
Primary	47.4 [38.4,56.6]		49.2 [44.6,53.7]		1.7
Secondary +	59.8 [48.2,70.4]		60.5 [54.3,66.3]		0.7
Wealth quintile					
Poorest	17.4 [10.3,27.9]	*	23.8 [19.3,29.0]	*	6.3
Poorer	26.5 [18.9,35.8]		36.3 [31.6,41.3]		9.9
Middle	37.9 [28.3,48.5]		44.9 [39.1,50.8]		7.0
Richer	39.9 [30.7,49.9]		52.0 [46.2,57.8]		12.1*
Richest	69.7 [58.8,78.8]		62.4 [56.9,67.5]		-7.4
Place of residence					
Urban	56.4 [48.1,64.3]	*	58.8 [53.8,63.7]	*	2.4
Rural	29.0 [23.6,35.1]		36.7 [33.5,40.1]		7.7*
Region					
Hadramawt	40.4 [20.6,64.0]		48.0 [39.8,56.3]	*	7.6
Aden	43.0 [29.3,58.0]		49.5 [43.2,55.9]		6.5
Al-Janad	39.6 [31.9,47.8]		46.7 [39.4,54.1]		7.1
Saba	(16.7 [6.3,37.3])		25.1 [17.3,35.0]		8.4
Tihama	27.9 [19.9,37.6]		37.7 [31.9,43.9]		9.8
Azal	42.4 [32.8,52.6]		43.1 [38.8,47.6]		0.7

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.06: Percentage of children age 12-23 months who have received all basic vaccinations, by background characteristics, Yemen 2006 MICS and 2013 DHS



The percentage of children under age 5 for whom medical advice or treatment was sought for ARI symptoms in the 2 weeks before the surveys declined overall between 2006 and 2013. In 2006, care was sought for 44% of children with ARI symptoms, compared to 34% in 2013. Care-seeking for ARI symptoms showed a declining trend by all characteristics in Table Yemen.09. Decreases were significant within several subgroups.

In 2006, care-seeking was similar for boys and girls, but declined steeply for girls between the two surveys. In 2013, there was a significant difference in care-seeking for boys and girls. Care for ARI symptoms was sought for 41% of boys compared to 27% of girls in 2013.

Significant declines in care-seeking were observed for children with mothers with no education and a primary level of education. However, in both 2006 and 2013, care-seeking for ARI did not differ significantly by mother's education level. Similarly, care-seeking showed a declining trend for all wealth quintiles, although the only significant decline was for children in the richer wealth quintile. The differences in care-seeking by wealth quintile were not significant in 2006 or 2013.

In 2006, there was a significantly higher percentage of care-seeking for children with ARI symptoms in urban areas compared to rural areas. Care-seeking decreased for children in both urban and rural areas between 2006 and 2013. However, care-seeking for children in urban areas declined more sharply, so that by 2013, there was no difference between urban and rural areas in the percent of children with ARI symptoms who had care sought for them.

There was not enough data to report on care-seeking for two regions in 2006 (Hadramawt and Saba). In 2013, all regions with data for both surveys had significant declines in care-seeking for ARI symptoms. There were also differences in care-seeking by region in 2013. In 2013, care-seeking ranged from 33% in the Tihama Region to 52% in Hadramawt. The declining trends in care-seeking for children with ARI symptoms across characteristics can be seen in Figure Yemen.07.

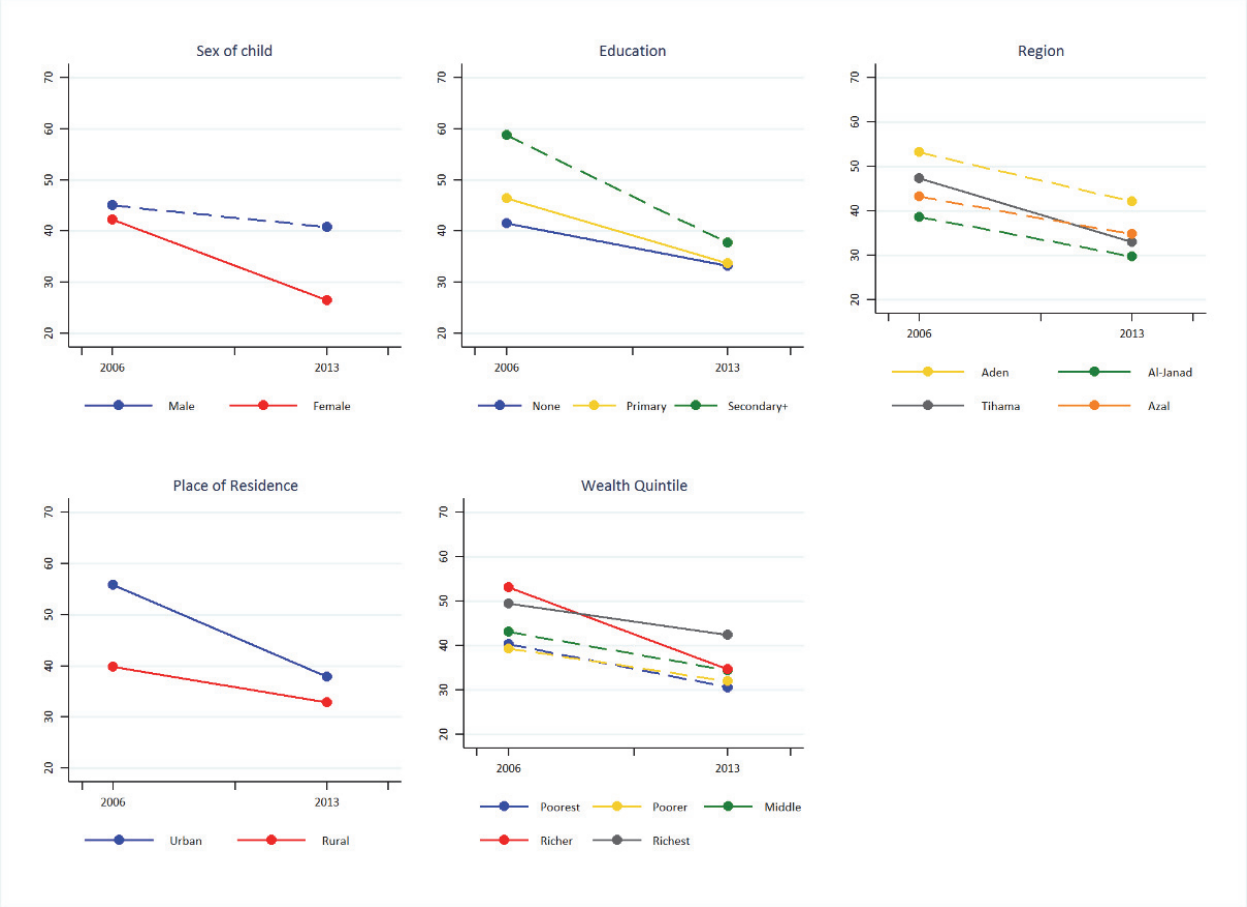
Table Yemen.09: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006		2013		
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]	Diff[2]
Total	43.7 [38.4,49.2]		34.0 [31.0,37.0]		-9.7*
Child's sex					
Male	45.0 [37.6,52.7]		40.8 [36.8,44.9]	*	-4.2
Female	42.2 [35.0,49.8]		26.5 [23.1,30.2]		-15.8*
Mother's education					
None	41.5 [35.5,47.9]		33.2 [29.7,37.0]		-8.3*
Primary	46.4 [36.7,56.4]		33.8 [28.6,39.4]		-12.7*
Secondary +	(58.7 [37.1,77.4])		37.7 [28.1,48.5]		-21.0
Wealth quintile					
Poorest	40.4 [30.2,51.4]		30.7 [25.5,36.3]		-9.7
Poorer	39.4 [29.7,50.0]		32.0 [26.7,37.8]		-7.4
Middle	43.1 [31.4,55.6]		34.5 [28.3,41.2]		-8.6
Richer	53.0 [38.0,67.5]		34.7 [28.3,41.6]		-18.4*
Richest	49.4 [34.1,64.9]		42.4 [33.5,51.8]		-7.0
Place of residence					
Urban	55.8 [43.6,67.4]	*	37.8 [31.2,45.0]		-18.0*
Rural	39.8 [33.9,46.1]		32.8 [29.6,36.2]		-7.0*
Region					
Hadramawt	ND		51.5 [39.3,63.6]	*	
Aden	(53.2 [36.6,69.1])		42.1 [34.1,50.7]		-11.0
Al-Janad	38.7 [26.7,52.2]		29.8 [24.1,36.1]		-8.9
Saba	ND		37.8 [31.6,44.3]		
Tihama	47.3 [38.0,56.9]		33.0 [26.4,40.4]		-14.4*
Azal	43.2 [33.4,53.6]		34.8 [29.9,40.0]		-8.5

Note: ND indicates figures are not shown because they were based on fewer than 25 unweighted cases. Figures in parenthesis are based on 25-49 unweighted cases.

* Significant p-value. [1] Significance of the covariate in each survey. [2] Difference between the two surveys with the significance of the difference.

Figure Yemen.07: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, by background characteristics, Yemen 2006 MICS and 2013 DHS



Child Nutrition

In 2013, 10% of children under age 6 months were exclusively breastfed in Yemen. Although there was some variation by the characteristics included in Table Yemen.10, the variation was not statistically significant. This indicator was not available for the 2006 survey.

There was a trend toward a lower percentage of children being exclusive breastfed with increasing levels of mother's education. The percent of children exclusively breastfed was consistent across wealth categories (10% to 12%), except for the richest wealth quintile with 7% of children exclusively breastfed. In urban areas, 9% of children were exclusively breastfed, compared to 11% in rural areas. By region, the percentage of children exclusively breastfed ranged from 5% of children in the Aden Region to 19% of children in Hadramawt.

Table Yemen.10: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, Yemen 2013 DHS

Variable	% [C.I.]	Sig.[1]
Total	10.3 [8.3,12.7]	
Child's sex		
Male	9.5 [7.3,12.3]	
Female	11.0 [8.4,14.4]	
Mother's education		
None	10.8 [8.4,13.9]	
Primary	10.7 [7.8,14.7]	
Secondary +	7.1 [4.3,11.4]	
Wealth quintile		
Poorest	10.4 [6.7,15.7]	
Poorer	11.7 [8.1,16.8]	
Middle	10.6 [7.1,15.6]	
Richer	10.3 [5.9,17.2]	
Richest	7.4 [3.9,13.6]	
Place of residence		
Urban	8.8 [5.3,14.3]	
Rural	10.8 [8.5,13.6]	
Region		
Hadramawt	18.6 [6.6,42.6]	
Aden	5.3 [2.8,9.9]	
Al-Janad	8.7 [5.1,14.5]	
Saba	7.9 [4.4,13.7]	
Tihama	9.1 [5.5,14.6]	
Azal	13.1 [9.9,17.2]	

* Significant p-value. ¹ Significance of the covariate in each survey.

Yemen had the highest percentage of children who were stunted and the lowest percentage of children who were overweight of all the countries in this report (Overall Summary, Figure 10 and 11). These indicators were not available for the 2006 survey to observe trends.

Table Yemen.11 shows that 47% of children in Yemen were stunted in 2013. Stunting differed significantly by all characteristics. Slightly more boys were stunted than girls (48% vs. 45%), and this difference was statistically significant. The percentage of children who were stunted decreased incrementally as mother's education level increased. The pattern was similar for wealth. There were incremental declines in stunting as wealth quintile increased. About a quarter of children in the richest quintile were stunted, compared to 59% in the poorest quintile. A high percentage of children residing in rural areas were stunted compared to children in urban areas. Regional differences were also observed. Over half of children in the Tihama Region were stunted, compared to 29% in Hadramawt.

The same table shows the percent of children who were overweight in Yemen in 2013. Two percent (2%) of children were overweight in the country overall, and this varied significantly only by wealth quintile and region. By wealth, the lowest percentage of children were overweight in the poorest wealth quintile. The highest percentage of children was overweight in the richer wealth quintile, followed by the richest. Regionally, there was variation in the percent of children who were overweight. The Hadramawt Region had the highest percent of overweight children at 4%, and the Saba and Tihama regions had the lowest at 1%. In all other regions, 2% of children were overweight.

Table Yemen.11: Percentage of children under age 5 who are stunted or overweight, by background characteristics, Yemen 2013 DHS

	Stunted		Overweight	
Variable	% [C.I.]	Sig.[1]	% [C.I.]	Sig.[1]
Total	46.5 [45.1,48.0]		2.0 [1.8,2.4]	
Child's sex				
Male	47.6 [45.9,49.4]	*	2.0 [1.7,2.5]	
Female	45.4 [43.7,47.1]		2.1 [1.7,2.5]	
Mother's education				
None	53.7 [52.0,55.3]	*	1.9 [1.6,2.3]	
Primary	40.1 [37.6,42.7]		2.4 [1.9,3.0]	
Secondary +	31.5 [28.7,34.5]		1.8 [1.2,2.7]	
Wealth quintile				
Poorest	59.2 [56.5,61.8]	*	1.3 [0.8,2.1]	*
Poorer	55.5 [52.9,58.1]		2.0 [1.4,2.7]	
Middle	48.1 [45.4,50.7]		1.9 [1.3,2.8]	
Richer	38.3 [36.0,40.8]		2.8 [2.1,3.6]	
Richest	25.9 [23.2,28.7]		2.4 [1.8,3.3]	
Place of residence				
Urban	33.7 [31.2,36.2]	*	2.4 [1.9,3.1]	
Rural	51.4 [49.8,53.0]		1.9 [1.6,2.3]	
Region				
Hadramawt	29.2 [25.9,32.8]	*	4.0 [2.9,5.7]	*
Aden	34.5 [31.6,37.5]		1.9 [1.3,2.8]	
Al-Janad	47.0 [43.8,50.3]		2.3 [1.6,3.2]	
Saba	40.0 [33.9,46.4]		1.3 [0.8,2.3]	
Tihama	53.6 [50.6,56.6]		1.3 [0.9,1.9]	
Azal	48.3 [46.0,50.7]		2.3 [1.8,2.9]	

* Significant p-value. [1] Significance of the covariate in each survey.

Under-5 Mortality

The under-5 mortality rate in Yemen decreased from 77/1000 live births in 2006 to 53/1000 in 2013. This 25-point reduction was statistically significant. Significant declines in under-5 mortality were apparent by many characteristics included in Table Yemen.12.

Boys and girls both experienced significant declines in under-5 mortality between 2006 and 2013, with the declines in boys from 80/1000 to 57/1000, and girls from 74/1000 to 48/1000. Children with mothers with no education had a significant decline in mortality as well from 84/1000 to 56/1000, which is similar to rates of under-5 mortality in children of mothers with a primary education.

Under-5 mortality in the poorest quintile had the largest decline by wealth quintile, from 117/1000 in 2006 to 56/1000 in 2013. In 2013, the poorest wealth quintile no longer had the highest under-5 mortality rate, and was surpassed by the poorer quintile. This pattern of change is illustrated in Figure Yemen.08. There was also a significant decline in under-5 mortality for the middle wealth quintile from 74/1000 in 2006 to 49/1000 in 2013.

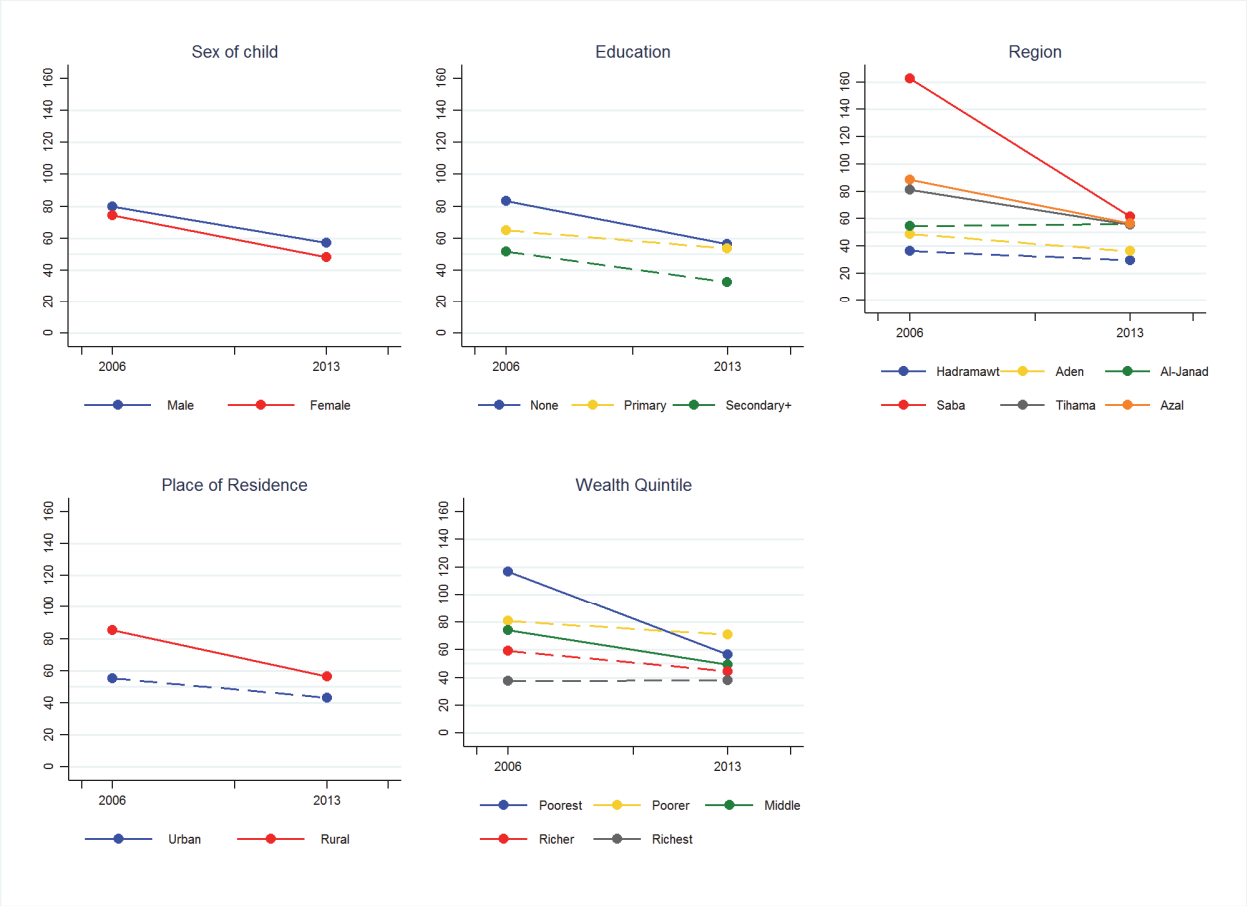
Under-5 mortality decreased significantly in rural areas between the two surveys from 85/1000 to 56/1000, although rural areas still had a higher mortality rate than urban areas in 2013, despite the 29-percentage point reduction. The Saba Region had the highest under-5 mortality rate of all the regions in both 2006 and 2013, but reduced mortality from 163/1000 to 61/1000 between the two surveys. Saba went from being an extreme outlier in 2006, to being similar to several other regions in Yemen in 2013. This is illustrated in Figure Yemen.08.

Table Yemen.12: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS

	2006	2013	
Variable	U5M [C.I.]	U5M [C.I.]	Diff[1]
Total	77 [66,90]	53 [48,58]	-25*
Child's sex			
Male	80 [67,95]	57 [50,65]	-23*
Female	74 [61,90]	48 [42,55]	-26*
Mother's education			
None	84 [69,101]	56 [49,64]	-27*
Primary	65 [49,86]	54 [47,62]	-11
Secondary +	52 [29,91]	32 [23,45]	-19
Wealth quintile			
Poorest	117 [95,144]	56 [47,67]	-61*
Poorer	81 [57,113]	71 [58,86]	-10
Middle	74 [56,97]	49 [40,60]	-25*
Richer	59 [40,87]	44 [36,55]	-15
Richest	37 [24,58]	38 [29,50]	1
Place of residence			
Urban	55 [39,78]	43 [36,52]	-12
Rural	85 [72,100]	56 [50,63]	-29*
Region			
Hadramawt	36 [18,73]	30 [21,42]	-7
Aden	49 [25,92]	36 [29,45]	-13
Al-Janad	55 [41,71]	56 [43,73]	2
Saba	163 [126,207]	61 [50,75]	-101*
Tihama	81 [63,104]	56 [45,68]	-26*
Azal	89 [67,116]	57 [49,65]	-32*

* Significant p-value. [1] Difference between the two surveys with the significance of the difference

Figure Yemen.08: Under-5 mortality rates for the 5 years before the survey, by background characteristics, Yemen 2006 MICS and 2013 DHS



Yemen Summary

The TFR in Yemen declined significantly from 5.2 in 2006 to 4.4 in 2013 but still remained as the country with one of the highest TFRs in this report. The largest decline in the TFR occurred in the Saba Region although this region did not show a significant increase in contraceptive use. Just under a third of married women age 15-49 were using modern contraception in Yemen in 2013, which was an increase from 2006. Fourteen percent (14%) of women in the poorest wealth quintile used a method of modern contraception in 2013, the lowest of any other subgroup. In the richest quintile, 42% of women were using modern contraception. Traditional contraceptive use also increased from 2006 to 2013, particularly in the Hadramawt region. In contrast, the Aden Region had a significant decrease in traditional contraceptive use.

There was variance by age, education, wealth, urban/rural residence, and region within the ANC and delivery related indicators. In 2013, a quarter of women in Yemen had the recommended four or more ANC visits during their most recent pregnancy. As women aged, the percentage who had ANC visits declined. Differences were present by education, wealth, urban/rural residence, and region. While 8% of women in the poorest wealth quintile had four or more ANC visits, 62% of women in the richest quintile did. Delivering with an SBA increased in Yemen between 2006 and 2013, from 27% to 47%. Increases were apparent throughout, although disparities by age, education, wealth, urban/rural residence, and region remained. SBA delivery increased with education and wealth, and decreased with age. Health facility delivery was similar with 24% in 2006 and 32% in 2013, with increases within education and wealth categories and decreases with age. Just 17% of women in the Tihama Region delivered at a health facility,

compared to 53% of women in Hadramawt. The higher percentage of deliveries by an SBA in 2013 compared to deliveries in a health facility implies that many deliveries by an SBA are occurring outside a health facility. In 2013, 6% of women in Yemen delivered by C-section, ranging from 1% of women in the poorest wealth quintile to 15% in the richest. Women age 45-49 had one of the lowest C-section rates at 0.1%.

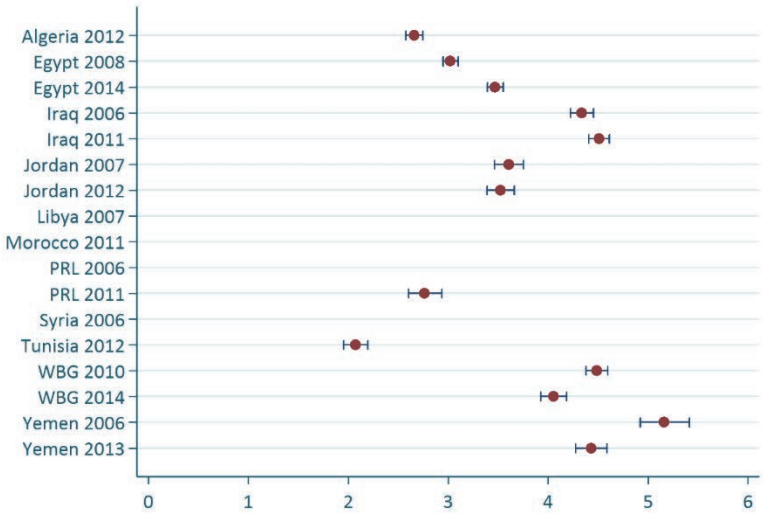
Child health indicators showed some improvements and some declines between 2006 and 2013. While the percentage of children age 12-23 months who had all basic vaccinations increased from 37% in 2006 to 43% in 2013, care-seeking for ARI symptoms for children under age 5 declined from 44% to 34%. Care-seeking for boys and girls was nearly equal in 2006, although in 2013 care-seeking was 41% for boys and 27% for girls. Large declines in care-seeking were apparent across characteristics. A tenth of children under age 6 months were exclusively breastfed in 2013, and this decreased as mother's education increased. The Aden Region had the lowest rate of exclusive breastfeeding at 5%, compared with 19% in Hadramawt. Stunting among children under age 5 was common with 47% of children stunted in 2013. Stunting declined as mother's education and wealth increased. Conversely, 2% of children were overweight. Under-5 mortality in Yemen reduced significantly from 77/1000 to 53/1000 live births between 2006 and 2013. Declines were large. The Saba Region experienced a decline under-5 mortality from 163/1000 to 61/1000 live births. However, by region, Saba continued had the highest under-5 mortality rate in both years.

Overall Summary

Fertility and Contraception

As shown in Figure 1, the TFR for all surveys was above replacement level except for the TFR in the Tunisia 2012 survey. In the West Bank, Gaza Strip, and Yemen, the TFR decreased significantly between the two surveys available for these countries. In Egypt, the TFR increased significantly between 2008 and 2014, while in Iraq and Jordan, the TFR remained unchanged. For the most recent surveys, the highest TFR was in Iraq in 2011 and this did not differ significantly from the TFR in Yemen in 2013. The TFR was above four in Iraq 2011, Yemen in 2013, and the West Bank and Gaza Strip in 2014. The lowest TFRs were found in Tunisia in 2012 (2.1), followed by Algeria in 2012 (2.7) and the Palestinian refugees of Lebanon (2.8). The TFR could not be computed for the Syria 2006 survey, the Palestinian Refugees of Lebanon 2006 survey, the Libya 2007 survey, and the Morocco 2011 survey.

Figure 1: Total fertility rate for the 3 years before the survey, all surveys



Figures 2 and 3 summarize the use of modern and traditional methods of contraception for all surveys. Over half of women in a union in Egypt, the Palestinian refugee camps in Lebanon, Morocco, and Tunisia were using a modern contraceptive method. The percentage in Algeria was slightly below 50%, while it was near 40% in Jordan, the West Bank and the Gaza Strip, and Syria. Among the countries with two surveys available, none showed a change in modern contraceptive use except for Iraq, where there was a significant decrease and Yemen, where there was a significant increase in use. Libya had the lowest percentage of modern contraceptive use with only 19% of women in a union using a modern method in 2007. The most recent survey in Yemen showed 29% for modern contraceptive use.

While Egypt had one of the highest percentages of modern contraceptive use, it had the lowest percentage of traditional contraceptive use, with only 2% of women using a traditional method in 2014. This was a significant decrease from 3% in 2008. By contrast, Libya had the lowest percentage of women using a modern contraceptive method and the highest percentage of traditional contraceptive use, with 20% of women in a union using a traditional method in 2007. Yemen had one of the lowest percentages for both modern and traditional contraceptive use. Use of a traditional method significantly increased in Yemen from 3% in 2006 to 4% in 2013, which was one of the lowest percentages among the countries in the analysis. The percentage of traditional contraceptive use in Jordan in 2012 did not differ significantly from that of Libya, with both having the highest percentages of traditional contraceptive use. Use of a traditional

method significantly increased in Jordan, Iraq, the West Bank and Gaza Strip, and Yemen but did not change for the Palestinian refugees of Lebanon. The largest increase was in Iraq and the West Bank and Gaza Strip with an increase of 5-6 percentage points between consecutive surveys for these countries.

Figure 2: Percentage of women currently using modern contraception among women age 15-49 in a union, all surveys

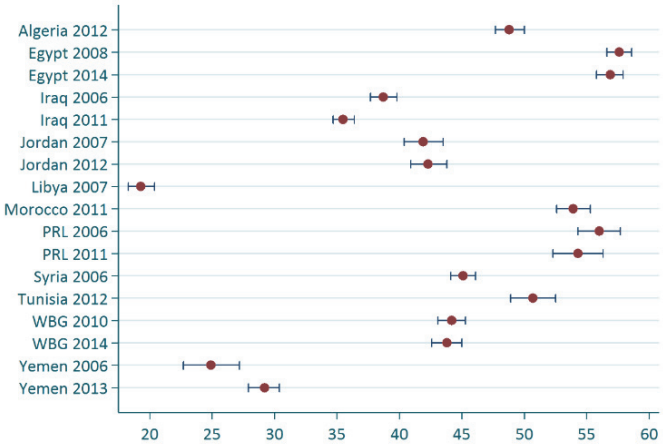
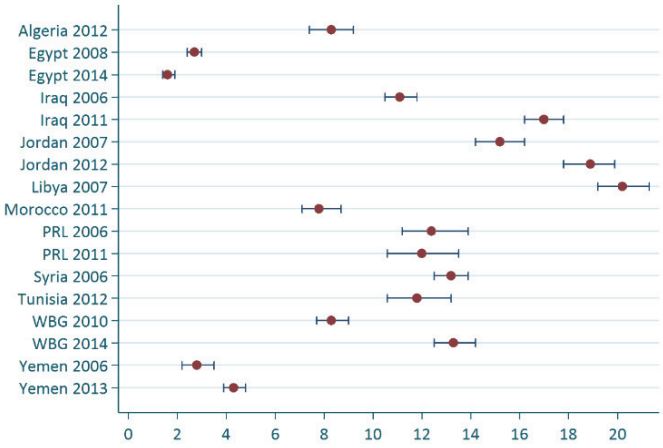


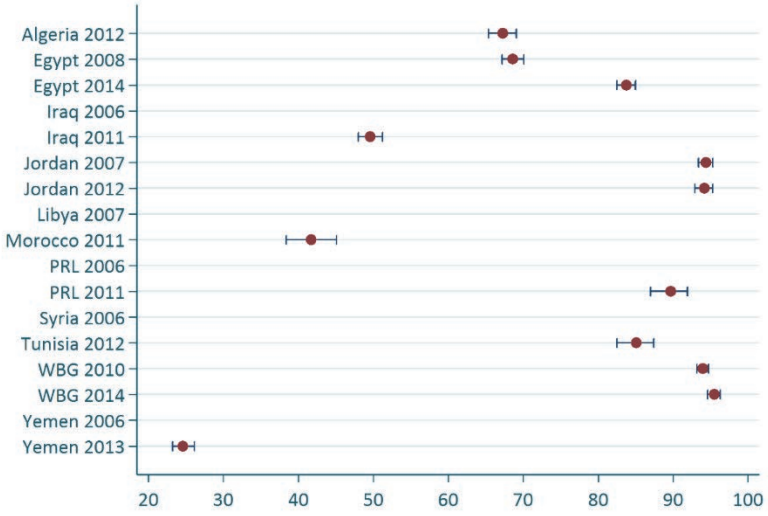
Figure 3: Percentage of women currently using traditional contraception among women age 15-49 in a union, all surveys



Antenatal Care and Delivery

Among the countries with available data on the number of antenatal care (ANC) visits, almost all women in the West Bank and Gaza Strip and Jordan had attended at least four ANC visits for their most recent birth. Approximately 96% of women had the recommended four or more ANC visits in the West Bank and Gaza Strip in the most recent survey in 2014, while it was 94% for Jordan in 2012. The percentage of ANC visits was just under 90% for the Palestinian refugees in Lebanon in 2011. There was a large and significant increase in the percentage of ANC visits in Egypt from 70% in 2008 to 84% in 2014. The lowest percentage was in Yemen in 2013 with only a quarter of women who had completed the minimum of four ANC visits. The indicator was not available in the Yemen 2006 survey, and was also unavailable for the 2006 Iraq, 2007 Libya, 2006 Palestinian refugees of Lebanon, and the 2006 Syria surveys. Thus, trends could not be observed for Iraq, the Palestinian Refugees of Lebanon, and Yemen.

Figure 4: Percentage of women age 15-49 who had four or more antenatal care visits for their most recent pregnancy in the 2 years before the survey, all surveys



Almost 100% of women in the West Bank and Gaza Strip, Libya, and the Palestinian refugees of Lebanon have delivered their most recent birth with an SBA. The percentage was also over 90% in Egypt in 2014, Jordan in both surveys, Algeria in 2012, Iraq in 2011, and Syria in 2006. The lowest percentage was in Yemen despite a large increase from 27% in 2006 to 47% in 2013. There was also a large increase in SBA delivery in Iraq from 55% in 2006 to 91% in 2011, which was an increase of 36 percentage points. There was an 11 percentage point increase in Egypt from 82% in 2008 to 93% in 2014.

Delivery in a health facility was also almost universal in Algeria in 2012, Libya in 2007, Palestinian refugees of Lebanon in both surveys, the West Bank and Gaza Strip in both surveys, and Tunisia in 2012. It was also very high in Jordan for both surveys (94%). The percentage of delivery by an SBA and delivery in a health facility were very similar for Jordan, Algeria, Libya, the Palestinian refugees of Lebanon, and the West Bank and Gaza Strip, which indicating that most SBAs were performing the delivery in a health facility. However, the percentages were very different for the recent surveys of Yemen, Iraq, and Tunisia. In the recent surveys of Yemen and Iraq, the percentage of delivery in a health facility was approximately 15 percentage points less than delivery by an SBA, indicating that many deliveries performed by an SBA occurred outside of a health facility. For Tunisia, 74% of women had their most recent birth delivered by an SBA although 99% of these births were performed in a health facility. These percentages suggest that many deliveries performed in a health facility were performed by an unskilled birth attendant. As with delivery by an SBA, there were significant increases in delivery in a health facility in Egypt, Iraq, and Yemen, with the largest increase—14 percentage points—observed in Egypt and Iraq.

Related to the large increase in health facility delivery in Egypt is the large increase in delivery by C-section, from 30% in 2008 to 57% in 2014. This was the largest percentage of C-section delivery among the countries with available information on this indicator. Almost a third of women in Jordan in 2012 and Palestinian refugees of Lebanon in 2011 had a C-section delivery for their most recent birth. In the West Bank and Gaza Strip, the percentage of C-section delivery increased from 17% in 2010 to 20% in 2014. The lowest percentage was in Yemen in 2013, with only 6% of women having a C-section delivery. Since this indicator was not available in the Iraq, Palestinian refugees of Lebanon, and Yemen 2006 surveys, trends could not be described for these countries. The indicator was also not available for the Morocco 2011 and the Syria 2006 surveys.

Figure 5: Percentage of women age 15-49 who had their most recent birth assisted by a skilled birth attendant in the 2 years before the survey, all surveys

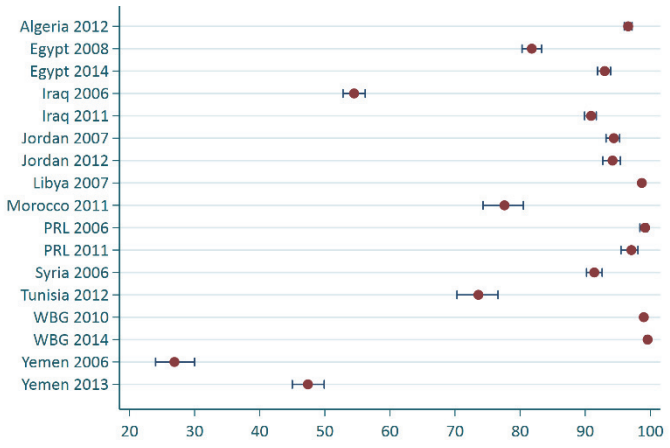


Figure 6: Percentage of women age 15-49 who delivered their most recent birth in a health facility in the 2 years before the survey, all surveys

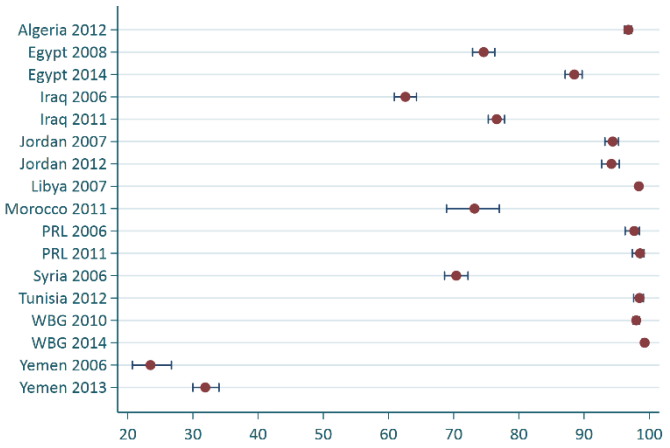
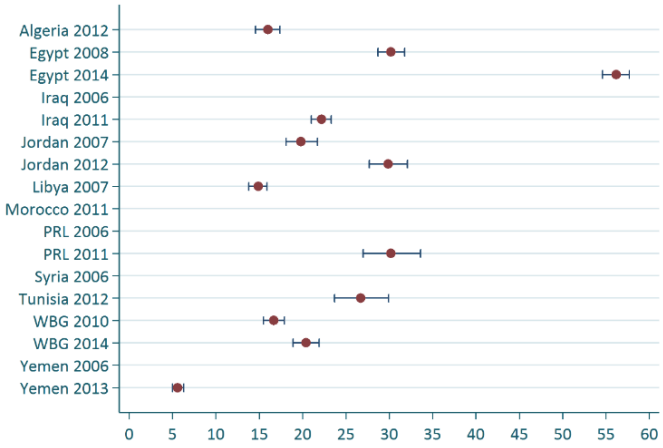


Figure 7: Percentage of women age 15-49 who delivered their most recent birth by caesarean section in the 2 years before the survey, all surveys



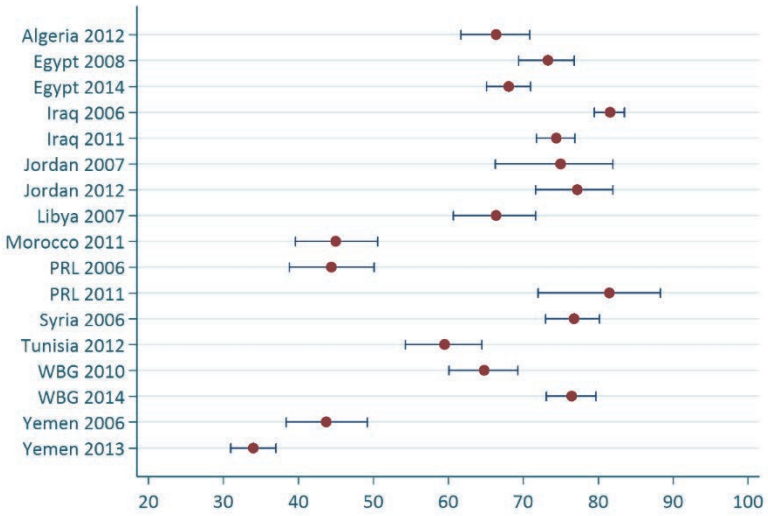
Child Health and Nutrition

The vaccination indicator was produced for four countries (Egypt, Jordan, Syria, and Yemen), in which the coverage of basic vaccinations was very different. Egypt and Jordan had the highest percentage of children age 12-23 months that had completed all basic vaccinations. However, this significantly decreased for Egypt from 92% in 2008 to 84% in 2014, and significantly increased for Jordan from 87% in 2007 to 93% in 2012. There was also a significant increase in Yemen, which had the lowest percentage of the four countries, from 37% in 2006 to 43% in 2013. In Syria, basic vaccination coverage for children age 12-23 months was 68% in 2006, although coverage is expected to have drastically declined since 2011.

Figure 8 shows that care-seeking for ARI symptoms ranged from two-thirds to three-fourths of children for Algeria, Egypt, Jordan, Iraq, Libya, the WBG, and Syria. There was a drastic increase in care-seeking for the PRL, which almost doubled from 44% in 2006 to 82% in 2011. There was a smaller but significant increase in the WBG from 65% in 2010 to 77% in 2014. The lowest percentage of care-seeking for ARI

symptoms, only 34%, was in Yemen in 2013. The indicator was also relatively low in Morocco, with care being sought for only 45% of children under age 5 with ARI symptoms.

Figure 8: Percentage of children under age 5 who had symptoms of ARI in the 2 weeks before the survey and for whom advice or treatment was sought from a health facility or provider, all surveys



Exclusive breastfeeding of children under age 6 months is generally not highly practiced in the countries in this report. The highest percentages from the most recent surveys were found in Egypt and the WBG in 2014, with approximately 40% of children under age 6 months being exclusively breastfed. Egypt had a higher percentage in 2008 (53%), although this significantly decreased to 40% in 2014. The indicator significantly increased in the WBG from 29% in 2008 to 39% in 2014. Exclusive breastfeeding ranged from approximately 20% to-25% in Algeria, Jordan, Iraq, Morocco, and Syria. Exclusive breastfeeding was the lowest in Libya, Tunisia, and Yemen at approximately 10%. This was followed closely by the PRL at 17% in 2011.

The percentage of stunted children was by far the highest in Yemen in 2013, with almost half of children under age 5 being stunted. Yemen also had the lowest percentage of overweight children under age 5. Stunting significantly decreased in Egypt, Jordan, the PRL, and the WBG. Approximately one-fifth of children under age 6 were stunted for the most recent surveys available in Egypt, Iraq, and Syria. For the most recent surveys of the remaining countries, stunting was approximately 10% or below. It was lowest in the WBG in 2014 and Jordan in 2012, below 10%. Egypt had one of the highest levels of stunting in 2014, and one of the highest levels of overweight children under age 6 in the same year. Approximately 15% of Egyptian children under age 6 were overweight in 2014. This was similar to the level in Tunisia in 2012. The most recent surveys of the remaining countries were below this level, with most having approximately 10% overweight children. Significant decreases in overweight children were observed in Egypt and Jordan. The PRL showed small but significant increases in Iraq and the WBG.

Figure 9: Percentage of children under age 6 months who are exclusively breastfed, by background characteristics, all surveys

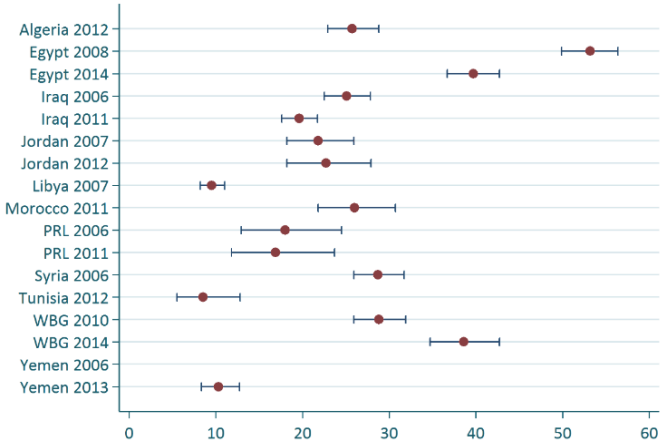


Figure 10: Percentage of children under age 5 who are stunted, by background characteristics, all surveys

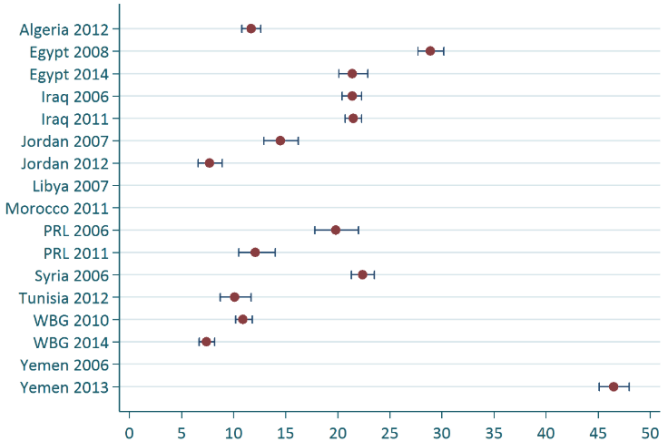
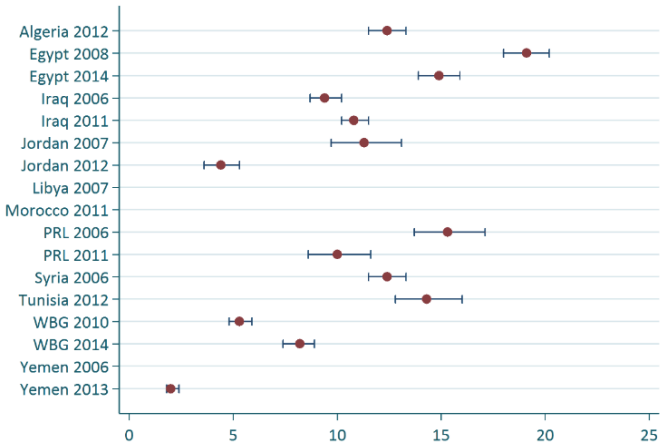
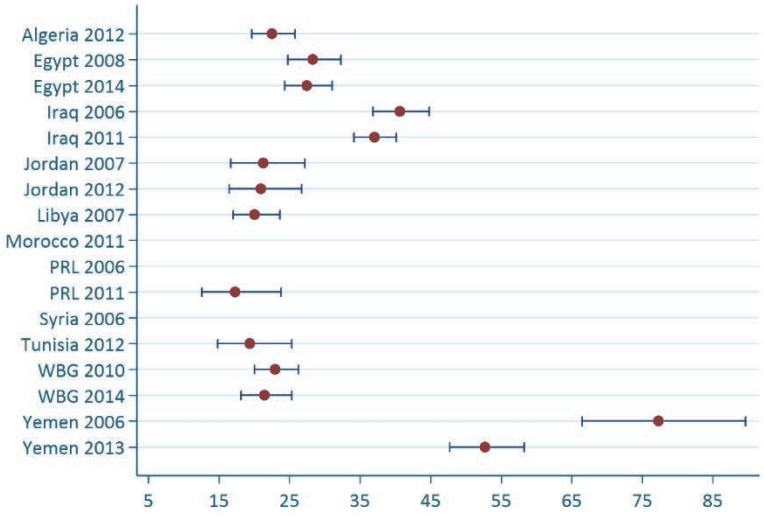


Figure 11: Percentage of children under age 5 who are overweight, by background characteristics, all surveys



The under-5 mortality rate significantly decreased in Yemen from 77/1000 births in 2006 to 53/1000 in 2013. Yemen remained the country with the highest under-5 mortality rate, among all the countries with available data on this indicator. The second highest rate was found in Iraq, approximately 40/1000 in both surveys. Under-5 mortality was approximately 20/1000 for Algeria, Tunisia, Jordan and the WBG in both surveys, and was the lowest for the PRL in 2011 at 17 deaths per 1000 live births. Under-5 mortality could not be assessed for Syria, the PRL 2006 survey, and Morocco.

Figure 12: Under-5 mortality rates for the 5 years before the survey, all surveys



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Appendix

Table 1: Region categories

Country	Regions
Algeria	North Center: Alger, Blida, Boumerdès, Tipaza, Bouira, Médéa, Tizi-Ouzou, Béjaïa, Chlef et Ain Defla North East: Annaba, Constantine, Skikda, Jijel, Mila, Souk Ahras, El Tarf et Guelma North West: Oran, Tlemcen, Mostaganem, Ain Témouchent, Relizane, Sidi Bel Abbés et Mascara Highlands Center: Djelfa, Laghouat et M'Sila Highlands East: Sétif, Batna, Khenchela, Bordj Bou Arréridj, Oum El Bouaghi et Tébessa Highlands West: Tiaret, Saïda, Tissemsilt, Naâma et El Bayadh South: Béchar, Tindouf et Adrar, Ghardaïa, Biskra, El Oued et Ouargla, Tamanrasset et Illizi
Egypt	Urban Governorates: Cairo, Alexandria, Port Said, Suez Lower Egypt: Damietta, Dakahlia, Sharkia, Kalyubia, Kafr El-Sheikh, Gharbia, Menoufia, Behera, Ismailia Upper Egypt: Giza, Beni Suef, Fayoum, Menya, Assuit, Souhag, Qena, Aswan, Luxor Frontier Governorates[1]: Red Sea, New Valley, Matroh, North Sinai, South Sinai
Iraq	Kurdistan Regional Government: Dohuk, Sulemaniya, Erbil North Central: Ninewa, Kirkuk West: Al-Anbar Central: Baghdad, Salahaddin, Diyala South Central: Babil, Karbala, Al-Najaf, Al-Qadisiya, Wasit South: Al-Muthanna, Thi-Qar, Missan, Basrah
Jordan	Central: Amman, Zarqa, Balqa, Madaba North: Irbid, Jarash, Ajloun, Mafraq South: Karak, Tafielah, Ma'an, Aqaba
Lebanon (Palestinian refugees)	Tripoli: Akkar, Tripoli, and North Beirut: Beirut and Mount Lebanon Beqaa: Baalbek, Beqaa, and Hermel Saida: Chouf and Saida Tyre: Nabatieh, South, and Tyre
Libya	Tripolitania: Sirt, Misurata, Al-Merqeb, Tripoli, El-Jafara, Zawia, El-Nikat El-Khams, El-Gabal El-Gharbi, Naloot Cyrenaica: El-Batan, Derna, Gebel Akhdar, El-Marj, Benghazi, El-Wahat, El-Kufra Fezzan: El-Joufra, Sebha, Wadi El-Shati, Wadi El-Haya, Murzuk, Ghat
Morocco	Central/Tensift: Chaouia Ourdigha, Grand Casablanca,Tadla,Azilal, Marrakech,Tensift,El-Haouz, Doukkala,Abda Northwest: El-Gharb,Chrarda Bni Hassen, Rabat-Sale,Zemmour,Zair, Tanger,Tetouan South Central: Meknes,Tafilalet North Central: Taza- Al Hoceima,Taounate, Fes, Boulemane Eastern: Region Oriental Southern: Sahara, Souss, Massa, Draa
Syria	North: Hama, Tartous, Lattakia, Idleb, Aleppo East: Lattakia, Deir Ezzor, Raqqa Central: Damascus, Rural-Damascus, Sweida, Homs South: Daraa, Quneitra
Tunisia	Coastal: District Tunis Interior: North East, North West, Center East, Kasserine, Kairouan, Sidi Bouzid, South East, South West
West Bank & Gaza Strip	North Gaza and Gaza City South Gaza: Deir El-Balah, Khan Younis, Rafah North West Bank: Jenin, Nablus, Tubas, Tulkarm, Qalqiliya, Salfit Center West Bank: Ramallah & Al-Bireh, Jericho Jerusalem South West Bank: Bethlehem, Hebron
Yemen	Hadramawt: Hadramout, Al-Maharah, Shabwah Aden: Aden, Abyan, Lahej, Al-Dala'a Al-Janad: Ibb, Taiz Saba: Mareb, Al-Jawf, A-Baidhah Tihama: Al-Hodeidah, Raimah, Al-Mahweet, Hajjah Azal: Sana'a City, Sana'a,Dhamar, Amran, Sa'adaj

[1] North and South Sinai were excluded from the 2014 DHS sample. This does not affect comparison with the 2008 DHS sample because sample size in these governorates is small.