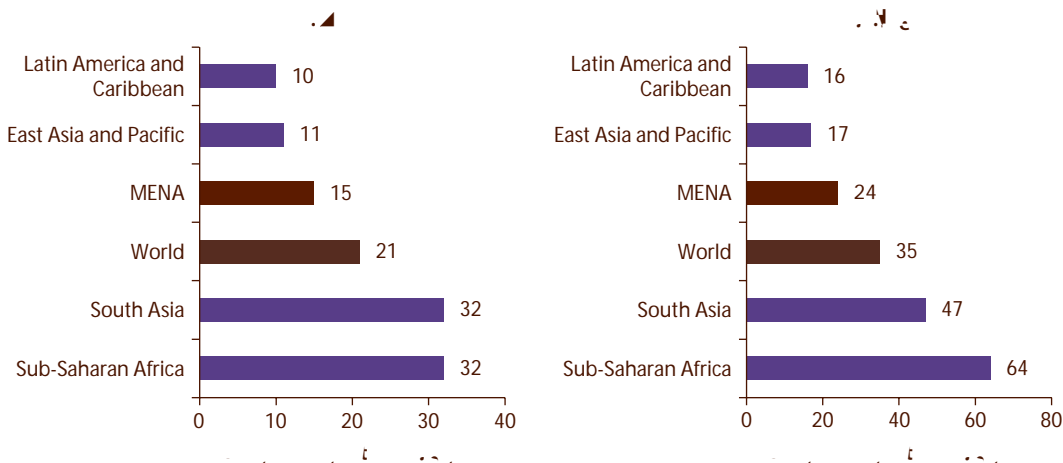


Figure 2.1 Infant and Neonatal Mortality Rates (Deaths per Thousand Births)—Regional Comparison, 2012



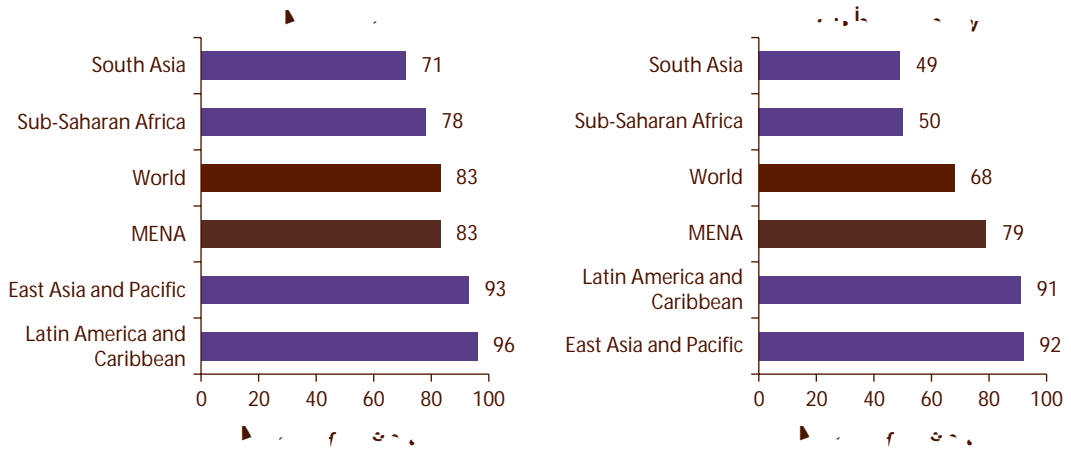
UNICEF 2014.
 MENA = Middle East and North Africa.

but its rate of 15 deaths per thousand births means that 1 in every 67 children dies in the first month of life (figure 2.1).

Addressing both early mortality and ECD begins during pregnancy. In MENA, 83 percent of births receive prenatal care. While this is the same as the world average, it is substantially lower than regions with similar income levels, such as East Asia and the Pacific and Latin America and the Caribbean, where over 90 percent of births receive prenatal care. MENA has only a 5-percentage-point higher rate of prenatal care than Sub-Saharan Africa. Delivery with a skilled attendant is also an important component of reducing newborn mortality and illness. At 79 percent, the rate of deliveries handled by a skilled attendant in MENA is substantially higher than the world average of 68 percent (figure 2.2), but below Latin America and the Caribbean and East Asia and the Pacific.

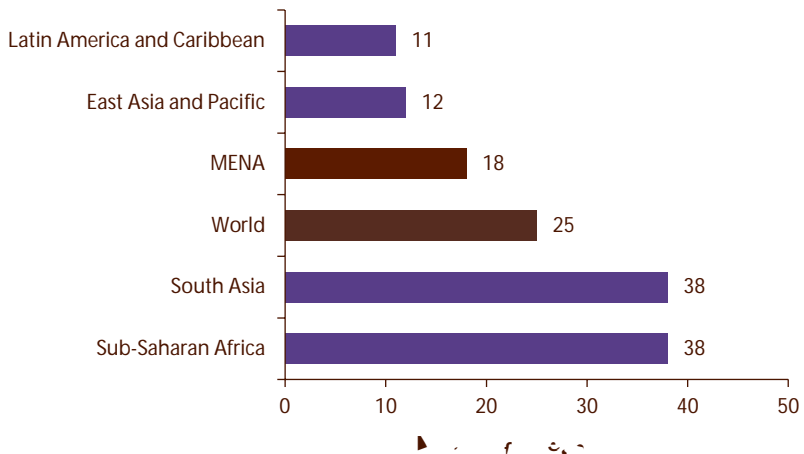
The full immunization of children plays an important role in reducing child mortality—diseases such as measles are a major cause of child mortality. MENA is approaching high immunization coverage, with 89 percent of children fully immunized against diphtheria, pertussis, and tetanus (DPT) (UNICEF 2014). Immunizations also prevent the illnesses that can hamper healthy physical growth (Molina 2012). While there are a variety of other important immunization needs, at least in terms of DPT, MENA is doing better than the world average (84 percent), and is close to other high-performing developing regions, such as Latin America and the Caribbean (93 percent) and East Asia and the Pacific (92 percent).

Malnutrition, which impairs the growth of almost a fifth of children, is a major challenge for MENA. Stunting—being more than two standard deviations below the height of a healthy reference child of the same age and gender—has been connected to decreased cognition, poorer school performance, decreased productivity later in life, and decreased income (Glewwe and Miguel 2008;

Figure 2.2 Prenatal Care and Delivery with a Skilled Attendant—Regional Comparison, 2008–12

UNICEF 2014.

MENA = Middle East and North Africa.

Figure 2.3 Children Stunted, Ages 0–59 Months—Regional Comparison, 2008–12

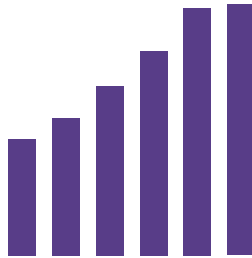
UNICEF 2014.

MENA = Middle East and North Africa.

Grantham-McGregor et al. 2007; Walker et al. 2011). Almost a fifth (18 percent) of children in MENA are stunted. As a result of being stunted, children in MENA will accumulate less health and human capital and face lower wages later in life. This is one-fifth of the future workforce that will be less productive in their working years, because of almost entirely preventable malnutrition. While MENA's rate of stunting is lower than the world average, as well as South Asia or Sub-Saharan Africa, it is higher than that of Latin America and the Caribbean, where 11 percent of children are stunted, and East Asia and Pacific, where 12 percent of children are stunted (figure 2.3).

Figure 2.4 Households with Adequately Iodized Salt—Regional Comparison, 2006–10





Source: UNICEF (2013), except Djibouti (Ministry of Health [Djibouti], Institute of Statistics and Demographic Studies, and League of Arab States 2012), Iraq (The Central Statistics Organization and the Kurdistan Regional Statistics Office 2012), and Tunisia (Ministry of Development and International Cooperation, National Institute of Statistics, and UNICEF 2013).

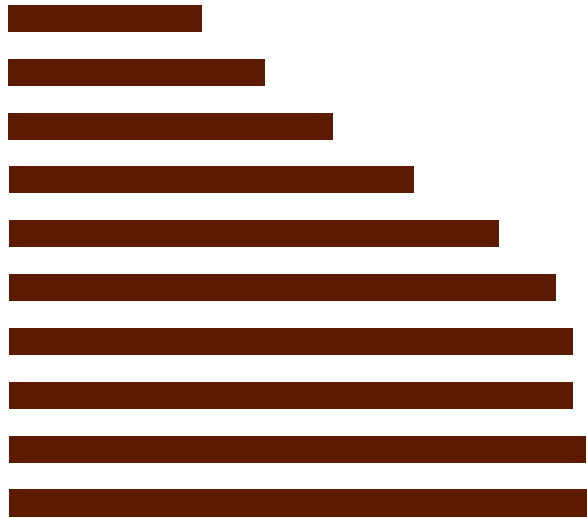
DRC = Democratic Republic of the Congo. Djibouti is for 24–59 months.

Republic (pre-conflict), and Tunisia do better, their rates are still low. In the random subsample of other countries, Afghanistan, Kyrgyzstan, and Serbia do better than any of the MENA countries with data. Looking at all the MENA countries with data, Tunisia performs the best but still ranks 24th out of 49 countries in terms of development activities. Iraq is 31st, Morocco 40th, Djibouti 44th, and Yemen 47th out of the 49 countries.

Early childhood education and early learning play an important role in school success. However, the MENA region is substantially underinvesting in this important stage of education. Despite evidence that early childhood care and education (ECCE) improves cognition and socioemotional development and endows lifetime benefits, pre-primary gross enrollment in MENA is almost half that of the world average. MENA's rate of pre-primary enrollment is lower than all other regions except Sub-Saharan Africa and is about one-third the rate of Europe and Central Asia and Latin America and the Caribbean (figure 2.6).

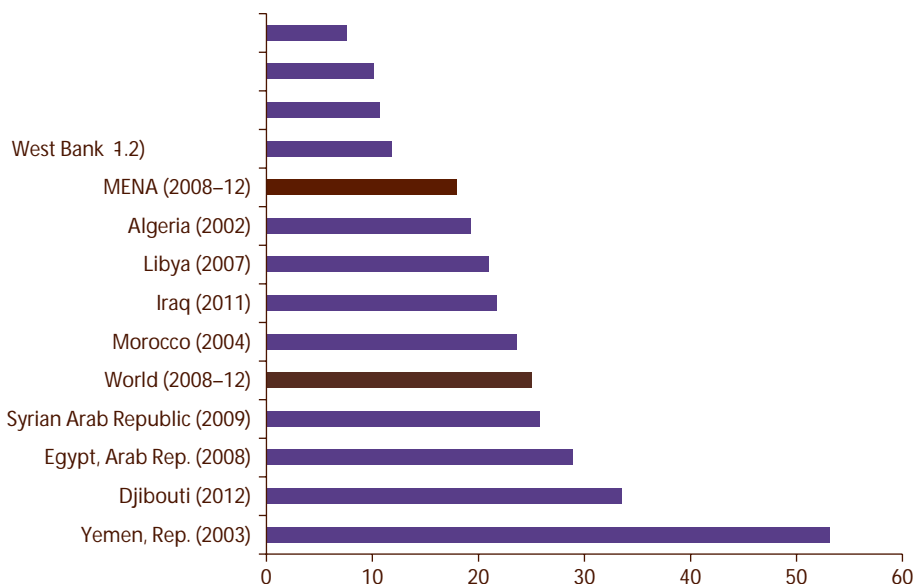
Another challenge that risks hindering the healthy development of children is violent discipline. Violent child discipline⁴ is widespread in MENA, negatively impacting children's physical, psychological, and social development. Comparing MENA countries with available data and countries in other regions shows that MENA countries have the highest percentage of children aged 2–14 years who are violently disciplined.⁵ Yemen and the West Bank and Gaza have the highest rates of violent discipline (out of 50 countries), with 95 percent of children violently disciplined. Tunisia, Iraq, Algeria, Syria (pre-conflict), Morocco, and the Arab

Republic of Egypt all have high rates of violent discipline, between 79 and 93 percent. Tunisia has the 5th highest rate of violent discipline, Egypt the 8th highest,



A number of MENA countries are approaching an adequate level of immunizations, while others have not achieved the necessary level of immunization coverage to protect children against preventable illnesses and deaths (figure 2.10). Children are considered fully immunized if they have received immunizations for all six major preventable childhood diseases: tuberculosis, diphtheria, whooping cough, tetanus,⁶ polio,⁷ and measles. They should be fully immunized by 12 months of age.⁸ A number of MENA countries have achieved the level of immunizations that will confer herd immunity,⁹ including Morocco, Tunisia, Egypt, Jordan, and Algeria. Libya, with 87 percent of children fully immunized, is quite close to adequate coverage. In Syria (pre-conflict) as of 2009, only 78 percent of children were fully immunized, and immunization rates are likely to have fallen as a result of the recent conflict. Yemen, Djibouti, Iraq, and Lebanon have very low rates of full immunization, ranging from 31–64 percent.

Receiving a full course of multidose vaccines is one of the greatest challenges in countries with lower immunization rates. Comparing the deficits in immunizations in Yemen, Djibouti, and Iraq shows that countries face somewhat different challenges in terms of immunization coverage; for instance, Iraq does much better on polio coverage than on DPT. Djibouti does better at Bacillus Calmette-Guérin vaccine coverage than Yemen, but Yemen does better than Djibouti on measles coverage. Children also tend to not complete a full course of multidose



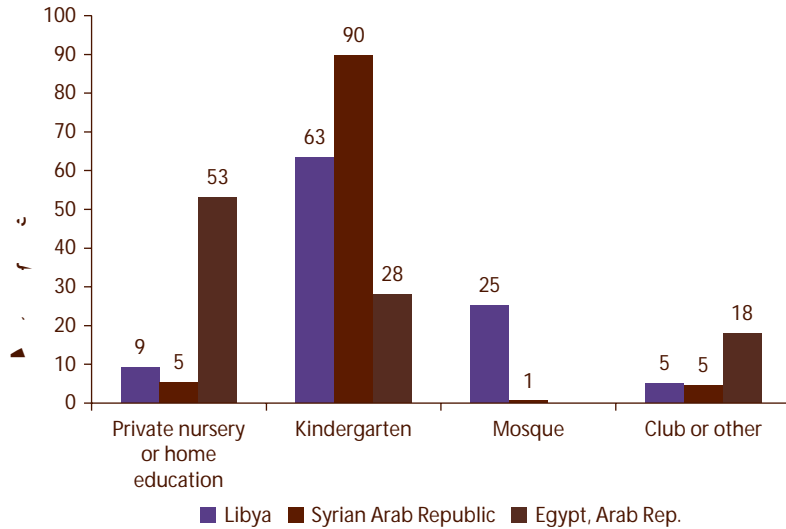
World Bank calculations based on household surveys (see annex 2B, table 2B.1). World and MENA averages from UNICEF (2014).
 MENA = Middle East and North Africa.

immunizations; in Djibouti, while around 70 percent of children receive the first polio dose, only around 40 percent receive the third dose. Increasing the rates of immunization coverage will require targeting all these different types of gaps, which are often country-specific.

Stunting is pervasive in all of the MENA countries. Figure 2.11 shows the percentage of children ages 0–59 months who are stunted in MENA countries. Although Jordan, Tunisia, Lebanon, and the West Bank and Gaza have rates that are relatively low, that 8–12 percent of children are stunted represents substantial harm to hundreds of thousands of children in terms of development and human capital accumulation. In a number of countries (Algeria, Libya, Morocco, Iraq, and Syria [pre-conflict]), a fifth to a quarter of children are stunted, meaning children have between a 1 in 5 to 1 in 4 chance of diminished physical and cognitive health and lower wages later in life. Egypt has more stunting than the world average, with 29 percent of children stunted. Djibouti is similar, with a third (34 percent) of children stunted. Yemen in particular has a very serious problem with nutrition and stunting, with more than 53 percent of children stunted; more than half the children in Yemen are falling short of their full development potential.

MENA countries have continually struggled to reduce stunting. Djibouti has had increases in stunting, from 28 percent in 1989 to 34 percent in 2012, and stunting in Yemen has remained above 50 percent since 1992 (World Development Indicators). Although Egypt was making progress in decreasing stunting through

Figure 2.13 ECCE Types by Country, Children Attending ECCE, Ages 3–5



World Bank calculations based on household surveys (see annex 2B, table 2B.1).

Syria (pre-conflict) and Libya are current early childhood care and education (ECCE) attendance. Egypt is ever attendance. Mosque was not a response option in Egypt.

Different countries have different ECCE systems. Figure 2.13 shows the different types of ECCE attended in Libya, Syria (pre-conflict), and Egypt. Kindergartens provide 90 percent of ECCE in Syria (pre-conflict), 63 percent in Libya, and 28 percent in Egypt. Mosques are an important ECCE provider in Libya (25 percent). Kindergartens in Egypt are a mix of public and private programs; private nurseries (53 percent of ECCE) are actually the most common form of ECCE. These different types of ECCE are likely to have varying quality and offer differing support for early development.

Even among very young children—ages two to five—violent discipline is common practice in MENA. In Djibouti, 36 percent of children ages two to five are violently disciplined, and this is the lowest rate in the region. In Syria (pre-conflict) the rate is 85 percent, and in Iraq 77 percent. Yemen and Tunisia have rates of 93 percent, and West Bank and Gaza is the highest, with 96 percent of children ages two to five violently disciplined.

Moreover, at age five a substantial proportion of children in MENA are engaged in some type of child labor—that is, working for someone not a member of the household, doing household chores, or doing other family work. Work and chores at such an early age are likely to endanger children’s development and may reduce their chances of successfully transitioning into school. There is variation among countries in MENA in the proportion of five-year-olds who are engaged in child labor: 24 percent in Tunisia, 19 percent in Djibouti, 16 percent in Yemen, 12 percent in Syria (pre-conflict), 10 percent in Iraq, and 7 percent in Libya.

Factors That Influence Early Childhood Development in MENA

C. Dealing with ECD

Countries' success in promoting ECD depends to some extent on their overall level of development. However, the differences in ECD across countries with similar levels of development also demonstrate that countries which commit to addressing ECD can make substantial progress regardless of their GDP or other development indicators. As figure 2.14 shows, places with quite similar levels of income, such as Egypt and Tunisia, have widely varying stunting rates, ranging from 29 percent in Egypt to 10 percent in Tunisia. In fact, Lebanon's stunting rate (11 percent) is quite close to that of Tunisia, which has substantially lower per capita GDP than Lebanon.

Stunting is linked with other indicators of human development. Figure 2.15 shows how stunting and the Human Development Index (HDI) are linked in each country. The HDI incorporates measures of income, education, and life expectancy. Countries with low HDI have high stunting, and stunting generally decreases with higher HDI. Although there is a clear link between overall human development and stunting, some countries' rates of stunting do not follow this pattern. For instance, Egypt, Libya, and Yemen have high stunting rates relative to their HDI, while Jordan and West Bank and Gaza have lower stunting than would be expected given their HDI.

Countries with similar primary enrollments often have very different pre-primary enrollments. Figure 2.16 shows the pre-primary gross enrollment and primary gross enrollment rates for different MENA countries. Countries with comparable and high primary gross enrollment rates have very different pre-primary enrollment rates. For instance, Iraq has a 104 percent gross enrollment

Child Background and ECD

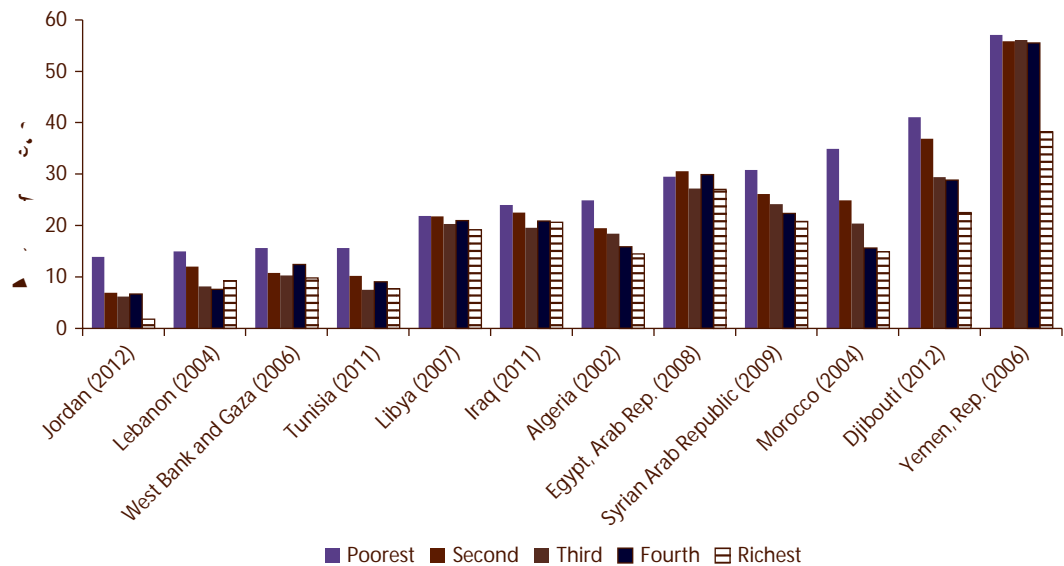
A number of background characteristics at the child, family, and community levels affect ECD outcomes: gender, parents' education, household socioeconomic status (wealth),¹¹ geographic location (region or governorate), and residence (urban/rural). Understanding these relationships can help identify why some children have poor ECD outcomes and which children to target with

chance of being immunized, while a child from the richest fifth of households has a 75 percent chance. Even being from the fourth level of wealth gives a child a much lower chance of being fully immunized in Yemen—only 45 percent.

Comparing the patterns of immunizations and prenatal care based on the level of a household’s wealth shows that in Djibouti, children have equal access to these important early health inputs regardless of wealth. In Egypt, despite substantial differences in prenatal care based on wealth, children are relatively equitably immunized. Iraq has moderate differences based on wealth in both prenatal care and early immunizations, as does Djibouti, while Morocco shows much greater differences in prenatal care than immunizations. In Yemen, there are enormous differences based on wealth in children’s chances of receiving both prenatal care and immunizations. Especially in countries with inequitable prenatal care but more equitable immunizations, examining how immunizations reach children regardless of wealth can provide important lessons for other countries, and for extending other health services.

While in some countries stunting is a pervasive problem regardless of a household’s wealth level, in other countries household wealth is closely associated with stunting. Overall, MENA has a substantial problem with stunting, but the contributions of public health problems, low nutrition quality, and food affordability vary substantially by country. In Libya and Egypt, there are small differences in the percentage of children who are stunted based on the wealth level of the household, which suggests that stunting is a pervasive public health and nutrition quality problem rather than an issue of food costs (figure 2.19). A number of countries, including Lebanon, West Bank and Gaza, Algeria, Iraq, Syria (pre-conflict),

Figure 2.19

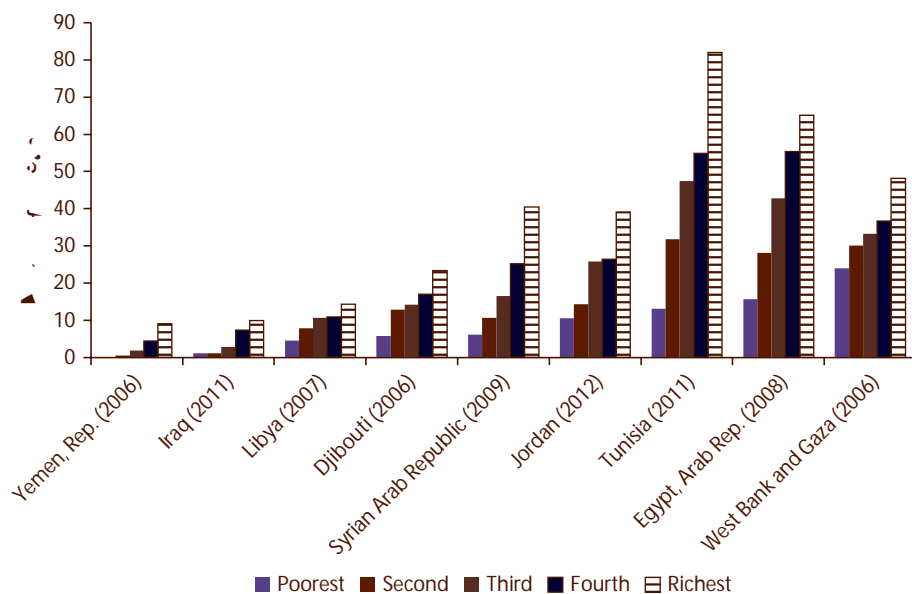


World Bank calculations based on household surveys (see annex 2B, table 2B.1).
 MENA = Middle East and North Africa.

Morocco, Djibouti, and Yemen, show some differences in the level of stunting based on household wealth, but there are still high rates of stunting even among the wealthiest. In Morocco and Djibouti, the poorest fifth of households has particularly high stunting. In Yemen, only the richest fifth of households has lower stunting than other wealth levels. Among all the countries and territories surveyed, it is only in Jordan that the richest 20 percent of households has stunting levels less than 2 percent—the level that would occur naturally in a healthy population.

Throughout MENA, children have very different chances of attending ECCE depending on their families' wealth. Figure 2.20 shows how ECCE attendance varies by wealth. In countries with low overall rates of ECCE attendance, such as Iraq and Yemen, children from the poorest households, who are the most likely to benefit from ECCE, have less than a 2 percent chance of attending, while in Iraq the richest children have a 10 percent chance, and in Yemen a 9 percent chance. In Libya, a child's chance of attending ECCE rises from 5 percent if he or she is from the poorest fifth of households to 14 percent if he or she is from the richest fifth of households. In Djibouti, the difference is 6 percent versus 23 percent. While the poorest children in Jordan have an 11 percent chance, the richest children have a 39 percent chance. In West Bank and Gaza, a child from the richest fifth of households is twice as likely to attend ECCE (48 percent) as a child from the poorest fifth of households (24 percent). In Egypt, a child from the richest fifth of households is more than four times as likely to attend ECCE (65 percent) as a child from the poorest fifth of

Figure 2.20 Children Attending ECCE, by Wealth Level and Country or Territory, Selected MENA Countries and Territories



World Bank calculations based on household surveys (see annex 2B, table 2B.1).
 Ages 3–4 in Jordan, Tunisia, West Bank and Gaza, Iraq, Djibouti, and Yemen. Ages 3–5 in Egypt, Syria (pre-conflict), and Libya. All are current early childhood care and education (ECCE) attendance except for Egypt, which is ever attendance.

households (16 percent). In Syria (pre-conflict), a child from the richest fifth of households is more than six times as likely to attend ECCE (41 percent) as a child from the poorest fifth of households (6 percent). A similar pattern is observed in Tunisia, where the poorest children have a 13 percent chance and the richest an 82 percent chance. These differences mean that, depending on the wealth of their households, children 019

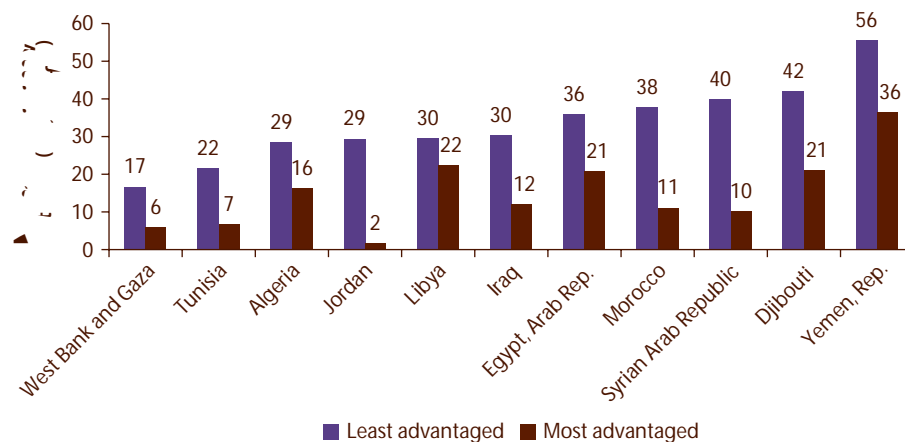
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immunized at age one, by country. The most advantaged child has a fairly high chance of being immunized (88–97 percent) everywhere except in Lebanon (79 percent) and Djibouti (33 percent). Lebanon and especially Djibouti have systematically low immunization rates. The chances of a least advantaged child being fully immunized vary widely by country. In Egypt, the least advantaged child actually has a slightly higher chance of being fully immunized—a result that is notable for its rarity. In Libya, Morocco, and Algeria, the least advantaged child has an 83–89 percent chance of being fully immunized at age one. In Syria (pre-conflict), the least advantaged child has only a 62 percent chance and in Djibouti, a 28 percent chance. In Jordan, which has relatively high immunization rates, the least advantaged child is nonetheless at a substantial disadvantage, with only a 33 percent chance of being fully immunized. In Lebanon and Yemen, the least advantaged child has a very small chance of being immunized, between 12 and 15 percent.

Everywhere, the least advantaged child has a higher chance of stunting than the most advantaged child, although the magnitude of differences varies substantially. Figure 2.26 shows how chances of stunting vary for the least and most advantaged children. While the chances of a most advantaged child being stunted vary from 2 percent in Jordan to 36 percent in Yemen, the chances of a least advantaged child being stunted vary from 17 percent in the West Bank and Gaza to 56 percent in Yemen. The least advantaged child always has a high chance of being stunted. In some countries, such as in Libya and Yemen, the relative differences are not very large; in others, such as Jordan, Syria (pre-conflict), and Morocco, the differences are substantial.

Children have very different chances for healthy brain development based on their circumstances. Figure 2.27 shows that the chances of having adequately iodized salt in their household vary between the least and most advantaged child. Notably, the West Bank and Gaza is not included in the figure because the model

Figure 2.26 Stunting, Ages 0–59 Months—Most and Least Advantaged Simulations



World Bank calculations based on household surveys (see annex 2B, table 2B.1).

Conclusions

likely to receive early developmental supports. Inequality in the early years, particularly in terms of early childhood care and education, means that children reach school age with very different chances to succeed. This inequality will only compound as children continue to develop. Early childhood is an important time to give children equal chances to succeed in school and in adult life. More must be done to ensure that children in MENA have equal opportunities to grow and thrive. Investing in the early years and redressing inequality have the potential to dramatically change the lives of millions of children, and even the development trajectories of MENA countries.

Annex 2A: Early Childhood Development Indicators, by Country or Territory

Table 2A.1 ECD Indicators, by Country or Territory

Country or Territory	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	79.2	94.4	92.6	2.0	3.3	19.3	0.4	36.6	36.2	14.1	18.6
Libya	87.9	87.4	30.7	3.6	6.0	33.5	0.4	36.6	36.2	14.1	18.6
Egypt, Arab Rep.	73.6	79.0	91.7	1.6	2.4	28.9	76.7	0.4	36.6	36.2	14.1
Jordan	77.7	90.8	64.3	2.0	3.1	21.7	24.4	53.5	77.2	3.8	10.1
Jordan, Dead Sea Basin	99.1	99.6	93.0	1.5	1.8	7.6	0.4	81.6	91.3	21.7	0.4
Lebanon	95.4	98.2	51.5	1.0	1.5	10.7	0.4	0.4	0.4	0.4	0.4
Libya	93.8	98.7	86.9	1.1	1.7	21.0	52.5	0.4	0.4	9.3	7.0
Morocco	67.9	62.9	89.6	2.5	3.8	23.1	0.4	0.4	0.4	0.4	0.4
Syria, Arab Rep.	87.7	96.3	77.9	1.2	1.7	25.8	30.4	55.0	85.0	17.2	12.3
Tunisia	98.1	98.6	89.6	1.2	1.7	10.1	0.4	71.1	94.9	44.5	24.0
West Bank and Gaza	98.5	97.7	0.4	2.1	3.0	11.8	87.7	46.8	95.5	34.1	0.4
Yemen, Rep.	47.0	35.7	40.7	4.0	7.1	53.1	0.4	25.5	93.2	2.7	15.8

World Bank calculations based on household surveys (see annex 2B, table 2B.1).
 ECCE = early childhood care and education. — = not available.

Annex 2B: Microdata Datasets

Table 2B.1 Data Sources

Country	Survey
Algeria	PAPFAM 2002 (National Office of Statistics, Ministry of Health Population and Hospital Reform, and League of Arab States 2003)
Djibouti	PAPFAM 2012 (Ministry of Health [Djibouti], Institute of Statistics and Demographic Studies, and League of Arab States 2012) and MICS 2006 (Ministry of Health and League of Arab States 2007)
Egypt, Arab Rep.	DHS 2008 (El-Zanaty and Way 2009)
Jordan	MICS 2011 (The Central Statistics Organization and the Kurdistan Regional Statistics Office 2012)
Jordan	DHS 2012 (Department of Statistics [Jordan] and ICF International 2013)
Lebanon	PAPFAM 2004 (The Arab League and The Republic of Lebanon Central Administration of Statistics 2006)
Lebanon	PAPFAM 2007 (League of Arab States 2009)
Morocco	DHS 2003/4 (Ministry of Health, ORC Morocco, and League of Arab States 2005)
Syrian Arab Republic	MICS 2006 (Central Bureau of Statistics et al. 2008) and PAPFAM 2009 (League of Arab States and Syrian Arab Republic 2011)
Tunisia	MICS 2011/2012 (Ministry of Development and International Cooperation, National Institute of Statistics, and UNICEF 2013)
West Bank and Gaza	PAPFAM/MICS (NHS) 2006 (Palestinian Central Bureau of Statistics 2007)
Yemen, Rep.	PAPFAM 2003 (Ministry of Health and Population Republic of Yemen and Pan-Arab Project for Family Health) and MICS 2006 (Ministry of Health and Population and UNICEF 2008)

DHS is the Demographic and Health Survey, MICS is the Multiple Indicator Cluster Survey, and PAPFAM is the Pan-Arab Project for Family Health Survey. The 2006 NHS for West Bank and Gaza was a combined PAPFAM/MICS survey.

Notes

1. Some of the data is from surveys that are several years old; however, it is the latest available, and it offers an opportunity to analyze the status of ECD at that point of time, which also presents a baseline for future analysis when newer data is available.
2. More than 15 ppm of iodine in the salt.
3. The six activities were: (1) read books or look at picture books with the child; (2) tell stories to the child; (3) sing songs with the child; (4) take the child outside the home, compound, yard, or enclosure; (5) play with the child; and (6) spend time with the child, naming, counting, and/or drawing things.
4. Per the MICS definitions, violent child discipline is based on discipline by anyone in the household within the last month, and includes psychological aggression (shouted, yelled, or screamed at the child; called the child dumb, lazy, or another name like that); physical punishment (shook the child; spanked, hit or slapped the child on the bottom with a bare hand; hit the child on the bottom or elsewhere on the body with something like a belt, hairbrush, stick, or other hard object; hit or slapped the child on the hand, arm, or leg); and severe physical punishment (hit or slapped the child on the face, head, or ears; beat the child with an implement (hit over and over as hard as one could).
5. Source is UNICEF (2013), except Djibouti (Ministry of Health (Djibouti), Institute of Statistics and Demographic Studies, and League of Arab States 2012), Iraq (The Central Statistics Organization and the Kurdistan Regional Statistics Office 2012), and Tunisia (Ministry of Development and International Cooperation, National Institute of Statistics, and UNICEF 2013).

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