My Childhood, My Future

Early Childhood Development in Syria

WORLD BANK GROUP

CHAPTER 12

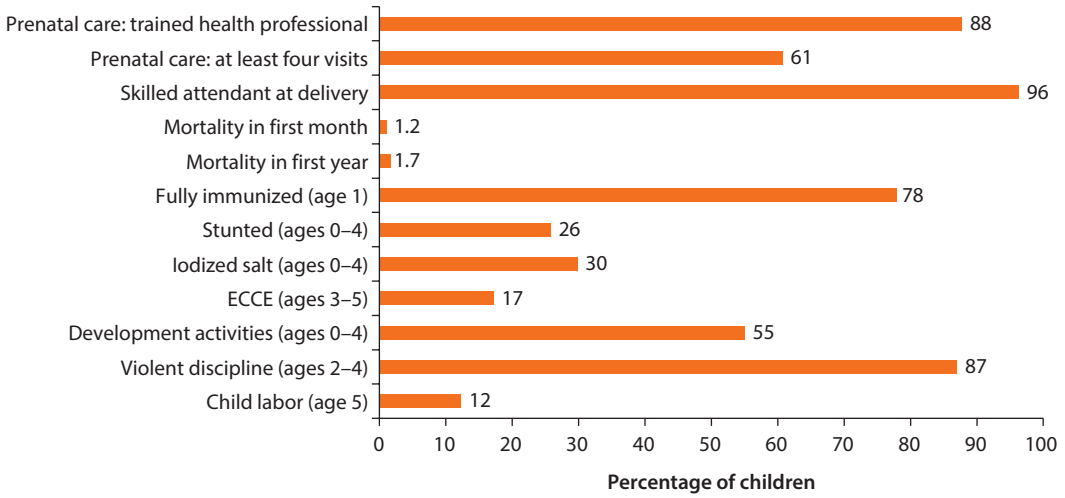
The Syrian Arab Republic

The State of Early Childhood Development in the Syrian Arab Republic

Children in the Syrian Arab Republic were falling short of their full potential for early childhood development (ECD) even before the onset of the Arab Spring and the ensuing civil conflict. Figure 12.1 shows summary indicators of ECD in Syria from before the recent conflict. In terms of prenatal and delivery care, 88 percent of births received prenatal care, with only 61 percent receiving regular prenatal care, and 96 percent of births had a skilled attendant at delivery. In the first month of life, 1.2 percent of children died, and in the first year of life, 1.7 percent of children died. In terms of immunization rates, only 78 percent of children age one were fully immunized. Malnutrition is a problem in Syria, where 26 percent of children were stunted. Just a third (30 percent) of children in Syria had access to adequately iodized salt. In terms of their social and emotional development, only 55 percent of children experienced development activities, and 87 percent of children had been violently disciplined. Children were almost as likely to be engaged in child labor at age five (12 percent) as to attend early childhood care and education (ECCE) at ages three to five years (17 percent).

This chapter presents the status of ECD in Syria prior to the Arab Spring and the ensuing civil conflict. The health status of children is examined through indicators (see box 12.1) of early mortality, prenatal care, having a trained attendant at birth, and immunizations. Children's nutritional status is measured by stunting (height-for-age), as well as the availability of micronutrients, specifically iodine. To assess cognitive and social or emotional development, the analysis looks at the extent to which children are engaged in developmental learning activities, attendance in early childhood care and education, and whether children are violently disciplined. Child labor at age five is also examined. To better understand the context and conditions that influence ECD outcomes, the analysis also examines background factors that may be associated with ECD outcomes at the individual, household, and community levels and their relationships (see annexes 12A, 12B, and 12C for additional information on the data and these relationships). For the overall country context, see box 12.2. Finally, the analysis measures the gaps and extent of inequality in ECD outcomes.

Figure 12.1 ECD Summary Indicators



Source: World Bank calculations based on Syria Multiple Indicator Cluster Survey (MICS) 2006 and Syria Pan Arab Project for Family Health (PAPFAM) 2009.
Note: ECCE = early childhood care and education; ECD = early childhood development.

Box 12.1 ECD Indicators Examined in the Syrian Arab Republic

Prenatal care
Trained attendant at delivery
Neonatal mortality (dying in the first month)
Infant mortality (dying in the first year)
Fully immunized
Stunting/Height-for-age
Salt iodization
Early childhood care and education
Parental development activities
Violent child discipline
Child labor

The analysis is based on the latest available data: the Pan Arab Project for Family Health survey (PAPFAM) from 2009 and the most recent Multiple Indicator Cluster Survey (MICS) from 2006. When an indicator is available in the more recent of the two surveys, the PAPFAM is used. However, several indicators are only available in the MICS. Together, the data cover the various dimensions of early childhood from before a child is born up until the age of school entry (age six years in Syria). If more indicators were available and examined, they could provide an even richer picture of ECD in Syria. While we do not have data on the status of early childhood in Syria today, there is no doubt that it has changed substantially from the time of the latest data in 2009. Nonetheless, this analysis will help serve as a baseline for the status of ECD prior to the conflict.

Box 12.2 Summary of Development Indicators in the Syrian Arab Republic

Preconflict, the Syrian Arab Republic was a lower-middle-income country with fairly good human development indicators (table B12.2.1). Syria had an estimated population of 22.4 million in 2012, of which 35 percent were under the age of 15. The average life expectancy at birth was 75 years. The primary gross enrollment rate in Syria was 122 percent in 2012. According to the latest United Nations Development Programme rating, Syria ranks 116 out of 186 countries with comparable data in the 2012 Human Development Index.

Table B12.2.1 Syrian Arab Republic's Socioeconomic Indicators

	1990	*2012*
Total population (millions)	12.4	22.4
% of population under 15	47	35
GDP per capita (current US dollars)	$989	—
Life expectancy at birth (years)	70	75
School enrollment, primary (% gross)	106	122

Sources: UNDP 2014; World Development Indicators.
Note: GDP = gross domestic product; — = not available.

Survival, Health Care, and Nutrition

The first step in healthy ECD is simply surviving early childhood. In Syria in 2009, 1 in every 59 children died in the first year of life. Reducing under-five mortality rates by two-thirds is one of the Millennium Development Goals and a vital goal in Syria's effort to promote ECD. Infant mortality, which refers to children dying before their first birthday,[1] was 17 children per thousand in 2009. This was well below the average rate for the Middle East and North Africa (MENA) region in 2012 (24 per thousand) (UNICEF 2014). Although Syria was doing well in terms of infant mortality prior to the recent conflict, the security and health situation has substantially deteriorated, which will definitely have a negative impact on children's survival and health. Most health-related infant mortality is composed of neonatal mortality—children dying within the first month of life. As of 2009 in Syria, 12 children out of every thousand died during their first month of life, which was below the 2012 MENA regional average of 15 in every thousand (UNICEF 2014). The infant mortality rate had been falling over time in Syria—down from around 35 children per thousand in 1998—but like many other countries in the region, Syria has not made as much progress in reducing neonatal mortality, which was 18 per thousand in 1990 (World Development Indicators).

In Syria as of 2009, 88 percent of live births[2] received prenatal care from a health professional,[3] and most (61 percent) had regular care, with four or more visits. However, there are two gaps in prenatal care coverage: 12 percent of births did not receive prenatal care at all, and 27 percent of births received some

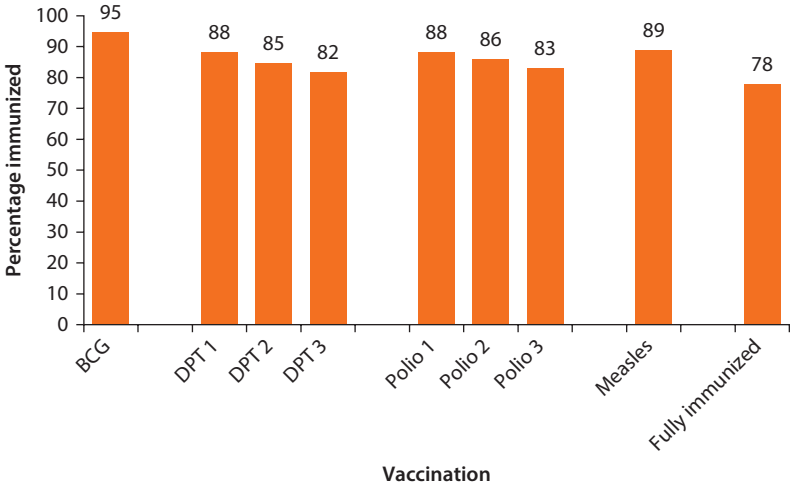
prenatal care but not regular care. Expansion of prenatal care has slowed recently, especially between 2006 and 2009. In 1993, only 51 percent of births received prenatal care (World Development Indicators); seven years later, in 2000, this had risen to 71 percent, a 20 percentage point increase. Six years after that, in 2006, prenatal care was at 84 percent, but three years later, in 2009, it stood at 88 percent. However, despite the slowdown in expansion, the 2009 rate of prenatal care in Syria was above the 2012 MENA region average of 83 percent (UNICEF 2014).

Delivery with a skilled attendant is also an important component of reducing newborn mortality and illness. Most births (96 percent)[4] in Syria were attended by a health professional as of 2009. Syria has been doing well on delivery care for decades; in 1993, the rate was already at 77 percent (World Development Indicators). Syria is well above the 2012 regional average for delivery care of 79 percent (UNICEF 2014). However, comparing delivery care and prenatal care, there is clearly greater access to skilled delivery care than prenatal care, especially regular prenatal care. That the same births are receiving delivery care but not prenatal care indicates that staff or facilities for care exist, and are accessible, but are underutilized for prenatal care.

The full immunization of children plays an important role in reducing childhood diseases that can hamper growth or cause death. Even before the conflict, Syria had not achieved the necessary level of immunization coverage; only 78 percent of children aged 12–23 months were fully immunized in 2009.[5] Children are considered fully immunized if they have received immunizations for all six major preventable child diseases: tuberculosis, diphtheria, whooping cough, tetanus,[6] polio,[7] and measles. They should be fully immunized by 12 months of age; this analysis focuses on children 12–23 months to allow for optimal parental recall. While Bacillus Calmette-Guérin (BCG) coverage is relatively high (95 percent), the third polio dose has only 83 percent coverage, the third diptheria, pertussis, and tetanus (DPT) dose only 82 percent, and the measles vaccine has only 89 percent coverage (figure 12.2). The gap between current immunization rates and full immunization of all children leaves children at risk for serious childhood illnesses and increased mortality. This situation is likely only to worsen under conflict conditions, as immunization programs are disrupted and health conditions deteriorate.

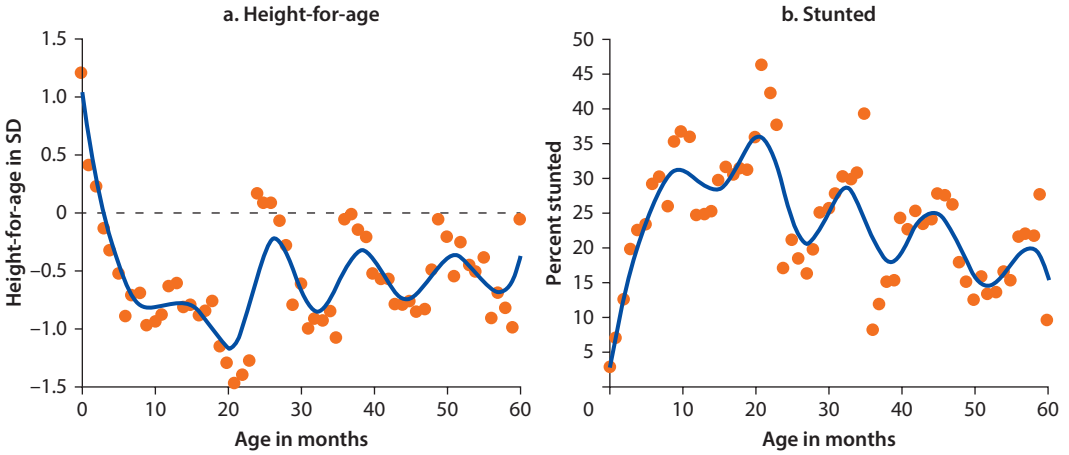
Children in Syria started their lives on fairly healthy footing, in terms of nutrition measured by height-for-age; however, over the first two years of life they experience a substantial falling off from healthy growth. More than a quarter (26 percent) of Syrian children under the age of five were stunted in 2009. As a result of their stunting, these children will accumulate less health and human capital and face lower wages later in life. This is one-quarter of the future workforce that will be less productive in their working years, due to almost entirely preventable malnutrition. Figure 12.3 shows how Syrian children fare compared to a healthy reference population.[8] Children in Syria start life with healthy height-for-age. However, by the age of six months they experience a substantial falling off and within the first year of life their growth falters further, to about 0.75 standard deviation (SD) below the reference population by age one. At ages

Figure 12.2 Percentage of Children Aged 12–23 Months Immunized, by Vaccination



Source: World Bank calculations based on Syria PAPFAM 2009.
Note: BCG = Bacillus Calmette-Guérin (tuberculosis vaccine); DPT = diphtheria, pertussis, tetanus.

Figure 12.3 Average Height-for-Age Compared to Healthy Reference Children, in Standard Deviations and Percentage Stunted, by Age in Months



Source: World Bank calculations based on Syria Pan Arab Project for Family Health (PAPFAM) 2009.
Note: SD = standard deviation.

two to four, children fluctuate between 0 and 1.0 SD below the reference population. There is also a substantial cyclical component to malnutrition and stunting in Syria, as figure 12.3 shows. Over the course of a year of age, there is almost an entire standard deviation in variation, which is particularly visible at ages two through four. This suggests that there is a persistent seasonal component to stunting and malnutrition in Syria. Targeting nutritional supplementation to this

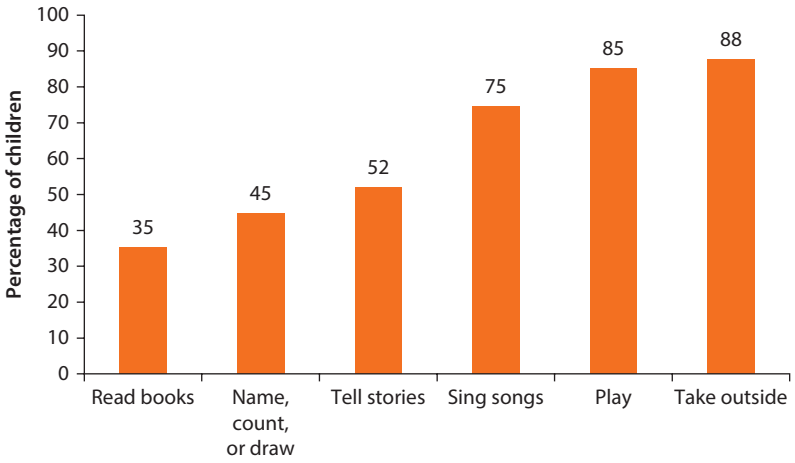
"lean" period will be an important and high-impact component of addressing malnutrition.

Micronutrients such as iron, vitamin A, zinc, and iodine, play an important role in both physical and cognitive development. Iodized salt is the primary means for delivering iodine to children. The shortage of iodized salt puts children at high risk for decreased cognitive development. Less than a third (30 percent) of children in Syria in 2009 had access to adequately iodized salt. This means that seventy percent of children under the age of five are at great risk for impaired cognitive development because of insufficient access to iodized salt in their households.[9]

Cognitive, Social, and Emotional Development

Adults' engagement in multiple activities that promote learning is an important support of cognitive development and an important indicator of parenting practices and the social-emotional engagement of parents with their children. Although it has been proven that play and interaction are important components of ECD, children in Syria were missing out on important opportunities for psychosocial growth even before the conflict. In the MICS survey of 2006, caretakers of children aged zero to four were asked whether adults in the household had engaged in any of six different activities that support child development.[10] Only half (55 percent) of children had experienced four or more development activities, and around 6 percent experienced no such activities. While all the activities are important to social and emotional development, reading and naming, counting, and drawing have an important educational and cognitive component. As activities, singing songs, being taken outside, and playing were particularly common (figure 12.4), with 75–88 percent of children experiencing each of these activities in the three days preceding the survey. The least frequently

Figure 12.4 Percentage of Children Aged 0–4 Experiencing Development Activities, by Activity



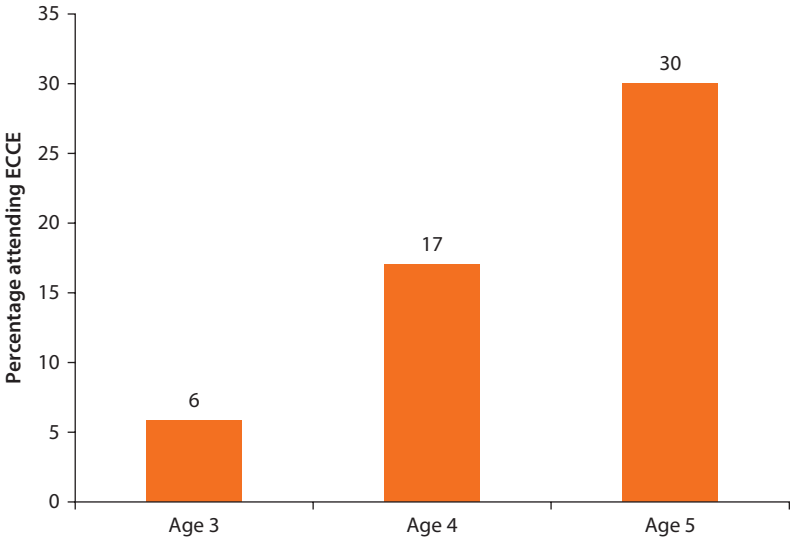
Source: World Bank calculations based on Syria MICS 2006.

observed activity was reading books—with only 35 percent of children having books (or picture books) read—followed by naming, counting, and drawing (45 percent). While families are generally engaged socially and emotionally with their children, there is room for improvement in the cognitive development of children, especially in terms of reading, naming, counting, and drawing.

Evidence has shown that early childhood care and education improves cognition and socioemotional development, with benefits that can last a lifetime. Yet only 17 percent of Syrian children aged three to five were attending an ECCE program in 2009. One of the Education for All goals is to expand early childhood care and education, especially for the most disadvantaged and vulnerable children. Early childhood education and early learning play an important role in school success. Although the MENA region generally has low early childhood attendance rates, with gross enrollment in pre-primary education at 27 percent (World Bank Development Indicators),[11] Syria lagged behind the regional average even before the conflict. Figure 12.5 presents the percentage of children aged three to five who were attending ECCE in 2009. While only 6 percent of three-year-olds were attending ECCE, 30 percent of five-year-olds were attending some type of ECCE, gaining important pre-primary skills. In Syria, ECCE is mainly composed of kindergartens. Kindergartens are more likely to be formal programs with educational curricula designed to prepare children for school. Ninety percent of ECCE students attend kindergartens, with some mosques and home education programs also providing ECCE.

Other challenges that have a negative impact on the healthy development of children in Syria are violent discipline[12] and child labor. Violent child discipline was

Figure 12.5 Percentage of Children Aged 3–5 Currently Attending ECCE, by Age



Source: World Bank calculations based on Syria PAPFAM 2009.
Note: ECCE = early childhood care and education.

common in Syria in 2006, with 85 percent of children aged two though five having experienced violent discipline. Disciplining children is an important part of child rearing; however, research has found that violent discipline negatively impacts the physical, psychological, and social development of children (UNICEF 2010). Although beating with an implement was relatively uncommon (5 percent), hitting, slapping, and spanking were common, as were shaking (60 percent) and shouting/yelling/screaming (78 percent). Moreover, at age five, 12 percent of children in Syria engaged in some type of child labor—working for someone not a member of the household, doing household chores, or doing other family work.[13] Children mostly were engaged in chores. Child labor, engaging in work or chores, can be particularly dangerous for young children. It also may hamper their ability to successfully transition to school.

Key Factors Affecting Early Childhood Development

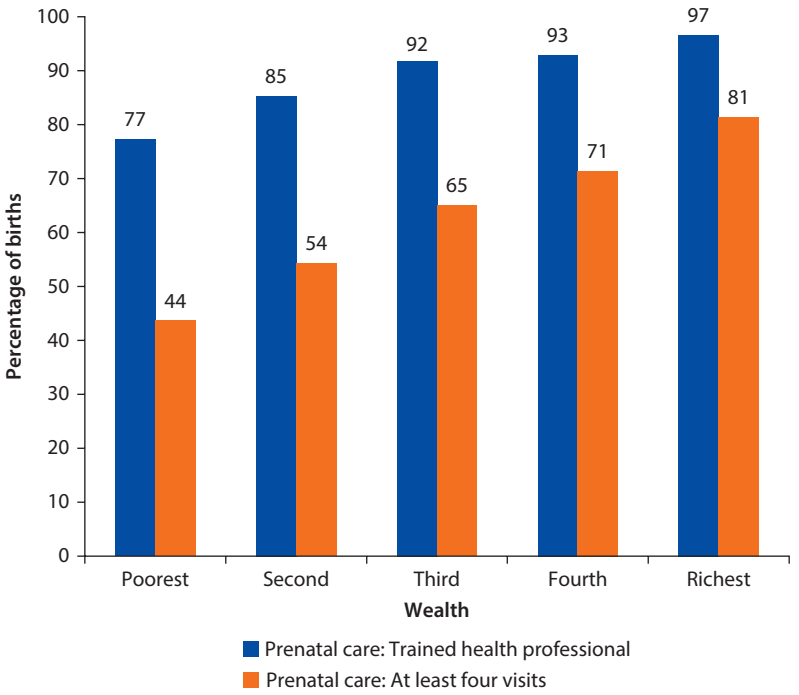
A number of background characteristics at the child, family, and community levels affect ECD outcomes: gender, parents' education, household socioeconomic status (wealth),[14] geographic location (region or governorate), and residence (urban/rural). Understanding these relationships can help identify why some children have poor ECD outcomes and which children to target with policy or programmatic interventions.

Survival, Health, and Nutrition

Background characteristics have a complex relationship with infant mortality in Syria. As of 2009, children from the poorest and richest wealth levels actually had quite similar probabilities of infant mortality. Children whose mothers had less than a complete preparatory education were more likely to die before their first birthday than children whose mothers have a complete preparatory education or higher. Children in the Middle region were more likely to die before their first birthday than children in other regions, while children in the Coastal region were less likely to die in the first year of life. Taking into consideration multiple characteristics, there are no substantial differences in the chance of infant or neonatal mortality across background characteristics.

Use of prenatal care, especially regular prenatal care, is closely associated with wealth, education, and geography. There are particularly large gaps across wealth levels, with births in poorer families less likely to receive prenatal care or regular prenatal care (figure 12.6). While 97 percent of births in the richest fifth of households received prenatal care, 77 percent of births in the poorest fifth of households did so. The gap is larger for regular care—81 percent of the richest fifth of households received regular prenatal care versus 44 percent of the poorest fifth. The differences between a mother with no education and a mother with higher education were even larger than the differences between the poorest and richest fifth of households. Births in the Northern region were the least likely to receive prenatal care at all (78 percent), while births in the Northern and Eastern regions were the least likely to receive regular prenatal care (48 percent).

Figure 12.6 Use of Prenatal Care and Regular Prenatal Care, by Wealth Level



Source: World Bank calculations based on Syria PAPFAM 2009.

In several governorates—Aleppo, Idleb, and Deir Ezzor—rates of prenatal care use were below 80 percent.

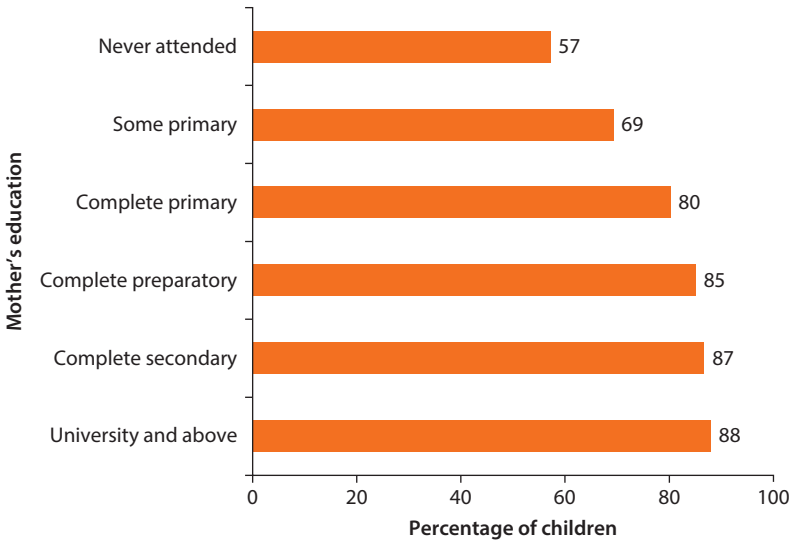
Taking into consideration other characteristics, use of prenatal care and regular visits were significantly[15] higher in all the other wealth levels as compared to the poorest fifth of households. Mothers with more education, especially mothers with higher education, were significantly more likely to have prenatal care and regular prenatal care. Mothers having a partner with higher education significantly increased the chances of receiving any and regular prenatal care. Being in a rural as opposed to urban area, and in the Northern, Eastern, and Middle regions as compared to the Southern region, significantly decreased the chances of both prenatal care and regular prenatal care; residence in the Coastal region showed higher chances of prenatal care and regular prenatal care than any other region, after accounting for other characteristics.

Use of skilled birth attendants showed only small differences based on wealth and education but showed some differences based on geography. While the Middle, Southern, and Coastal regions had 99 percent skilled delivery care coverage, the Northern region had 96 percent and Eastern region only 89 percent. Hassake and Deir Ezzor in particular had rates below 90 percent. After accounting for other characteristics, rural areas did not show a significantly different chance of having skilled attendants, but the Northern, Eastern, and

Middle regions had significantly lower rates of delivery with a skilled attendant than the Southern region; the Coastal region had a higher rate. There are some small but significant differences in the chance of using skilled attendants based on wealth, but the differences did not have a clear pattern. Greater mother's education significantly increased the chance of using skilled attendants as compared to mothers with no education, but the effects of father's education were not significant.

In general, Syria's rate of full immunization prior to the conflict fell below the level of immunizations that confers herd immunity,[16] and some areas had particularly low rates of immunization. The Northern and Eastern regions in particular had low rates—with around 70 percent of 12–23-month-olds fully immunized. The differences based on wealth were substantial, with a 70 percent rate for the poorest fifth of households and an 86 percent rate for the richest fifth of households. Syria was particularly struggling to reach mothers with no or little education with its immunization campaigns (figure 12.7); the rate of full immunization of children with uneducated mothers was only 57 percent and 69 percent for mothers with some primary education. Similar differences were evident based on partner's education. Taking into consideration other characteristics, only children in the Northern region had a significantly different (lower) chance of being fully immunized compared to the Southern region. There were no statistically significant differences based on wealth. Children had increasing chances of being immunized with increasing maternal education as well as increasing partner's education. There were no statistically significant differences based on child gender.

Figure 12.7 Percentage of Children Aged 12–23 Months Fully Immunized, by Mother's Education



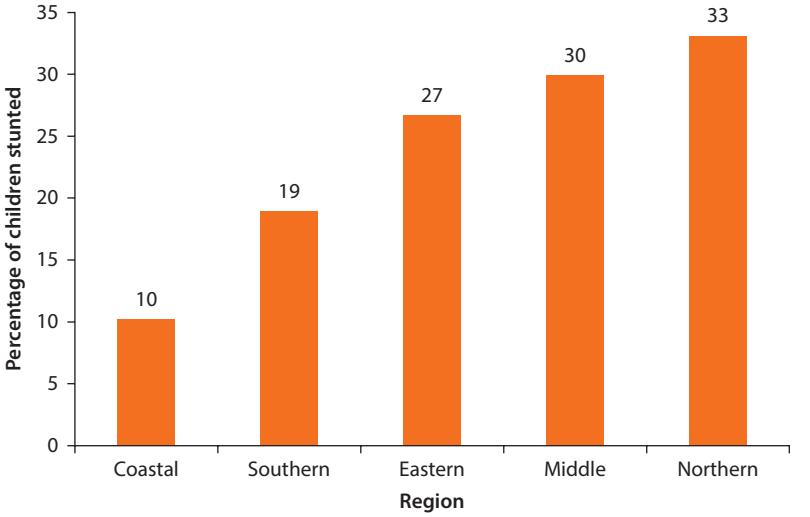
Source: World Bank calculations based on Syria PAPFAM 2009.

In preconflict Syria, rates of stunting showed moderate differences by wealth level, suggesting that both poverty and problems in public health and nutrition quality were driving stunting. For instance, while children from both the poorest and richest wealth levels had a high chance of being stunted, there was a clear difference based on wealth: a child from the poorest fifth of households had a 31 percent chance of being stunted, while a child from the richest fifth of households had a 21 percent chance. Similar and slightly stronger gradients were seen based on parents' education. There were notable differences based on geography (figure 12.8): children in the Northern region had a 33 percent stunting rate, in the Middle region a 30 percent stunting rate, in the Eastern region a 27 percent stunting rate, in the Southern region a 19 percent stunting rate, and in the Coastal region a 10 percent stunting rate. There were no urban-rural differences, but there were wide variations in stunting rates at the governorate level, with Aleppo and Homs having had stunting rates above 30 percent.

Taking into consideration other characteristics, children in Syria prior to the conflict were significantly less likely to be stunted if they were living in a rural area. They were more likely to be stunted if living in the North, East, or Middle regions, and less likely to be stunted if living in the Coastal region. There were small but significant differences by wealth after accounting for other characteristics, with wealthier children less likely to be stunted. Female children had higher average height-for-age, but not a significant difference in stunting compared to males. There were large differences in height-for-age and stunting based on mother's education but not father's education.

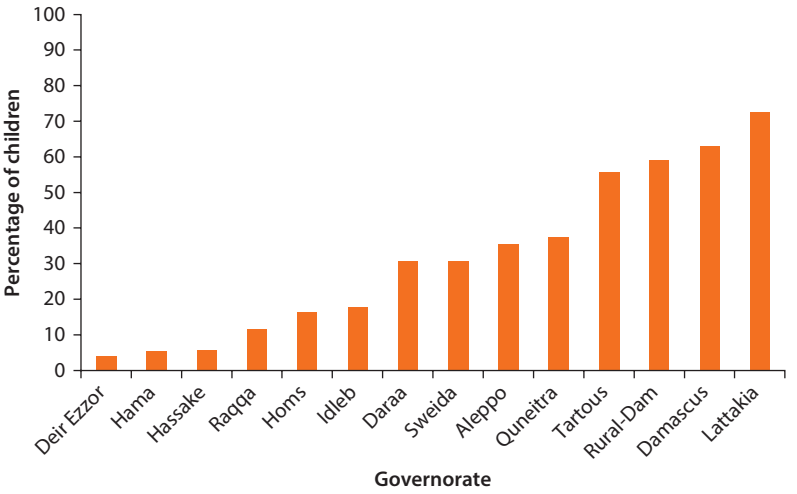
Access to iodized salt, and therefore the opportunity for healthy brain development, was associated with numerous background characteristics. Poorer children

Figure 12.8 Percentage of Children Aged 0–4 Stunted, by Region



Source: World Bank calculations based on Syria PAPFAM 2009.

Figure 12.9 Percentage of Children with Access to Adequately Iodized Salt, by Governorate



Source: World Bank calculations based on Syria PAPFAM 2009.

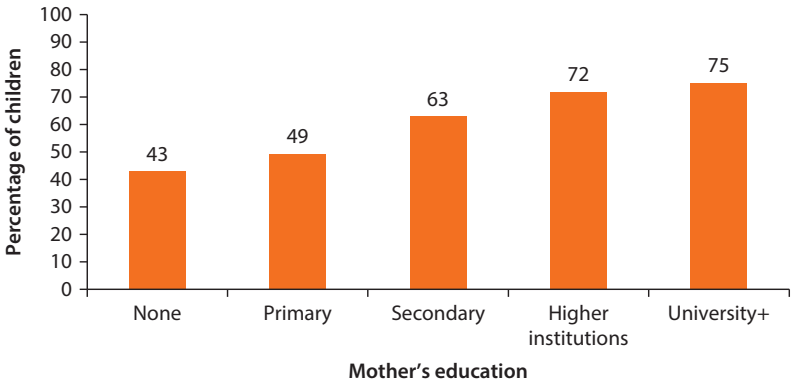
were less likely to have access to iodized salt. The poorest fifth of households in particular had the lowest rates of salt iodization, 13 percent, while children in the richest fifth of households had a 57 percent chance of having adequately iodized salt. A similar gradient was seen with parents' education. Geographic differences were quite large before the conflict in Syria. While urban areas had 41 percent salt iodization, rural areas had only 20 percent. The Eastern and Middle regions in particular had salt iodization rates below 10 percent, while the Southern and Coastal regions were above 50 percent. The largest differences were at the governorate level (figure 12.9). For instance, Latakia's salt iodization rate was 72 percent, but a number of other governorates were below 10 percent.

Taking into consideration other characteristics, children in rural areas were less likely to have access to iodized salt—as were children in the Northern, Eastern, and Middle regions—while children from the Coastal region were more likely to have iodized salt compared to those in the Southern region. After accounting for other characteristics, iodized salt prevalence was significantly higher with higher wealth levels, as compared to the poorest fifth of households. Use of iodized salt increased slightly but significantly if a mother has preparatory or secondary education, but there were no differences based on father's education.

Cognitive, Social, and Emotional Development

Children should have equal opportunities for parental care and development regardless of their background, but in Syria in 2006 there were substantial differences by background in children experiencing at least four development activities. While 41 percent of children from the poorest fifth of households experienced at least four development activities, 68 percent of children from the richest fifth of households did so. Similar differences were observed by parent's education

Figure 12.10 Percentage of Children Experiencing Four or More Development Activities, by Mother's Education



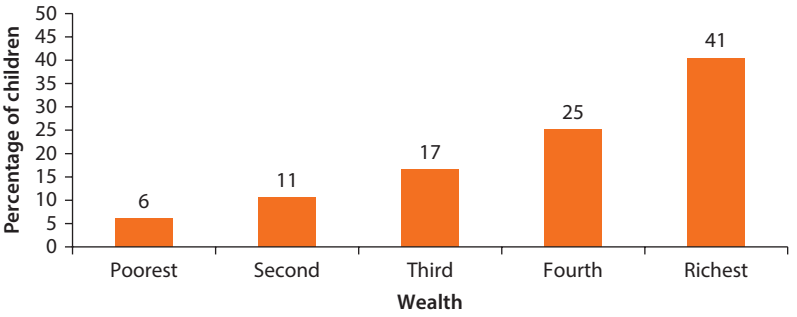
Source: World Bank calculations based on Syria MICS 2006.

(figure 12.10). Urban children were more likely to experience four development activities (60 percent) than rural children (50 percent). Regional differences were also acute, with the Northern and Middle regions below average and the Southern and Coastal regions above average. After accounting for other characteristics, children in the Northern, Middle, and Coastal regions were less likely to experience at least four development activities as compared to the Southern region. The chance of experiencing four development activities increased significantly with increasing wealth, as well as with increasing parental education.

Early childhood education has the greatest benefits for disadvantaged and vulnerable children. However, in preconflict Syria it was children from the most advantaged backgrounds who were attending ECCE. In 2009, a three- to five-year-old child from the poorest fifth of households had a 6 percent chance of attending ECCE, while a child from the richest fifth of households was almost seven times more likely to attend ECCE—a 40 percent chance (figure 12.11). Even larger differences were observed when comparing parents with no education to those with higher education. Substantial differences in rates of ECCE attendance based on geography also occurred, with a 21 percent ECCE attendance rate in urban areas compared to 13 percent in rural areas, and low attendance in the Eastern (5 percent) and Northern (12 percent) regions, especially compared to the Coastal region (44 percent). After accounting for other characteristics, children from the Northern and Eastern regions were less likely to attend ECCE than children from the Southern region, while children from the Coastal region were more likely to attend ECCE. ECCE attendance increased significantly with wealth, starting from the third 20 percent of households, and also increased with mother's and father's education.

Violent child discipline was widespread, with no large differences by background. Male children were slightly more likely to be violently disciplined than female children. The chance of being violently disciplined rose and then fell with wealth. While parents with higher education were slightly less likely to violently

Figure 12.11 Percentage of Children Aged 3–5 Attending ECCE, by Wealth Level



Source: World Bank calculations based on Syria PAPFAM 2009.
Note: ECCE = early childhood care and education.

discipline their children, there was no other clear relationship between parental education and violent discipline. Violent discipline was slightly less common in the Northern and Eastern regions than other regions. After accounting for other characteristics, violent discipline was lower in the Northern region than in the Southern region, but no other significant differences occurred.

Female children were more likely (14 percent) to have engaged in child labor than male children (11 percent); however, there were no clear differences in child labor based on wealth or parents' education. Children in the Eastern and Northern regions were less likely to engage in child labor, while those in the Middle, Southern, and Coastal regions were slightly more likely to do so. After accounting for other characteristics, the only statistically significant difference was with gender—females were slightly more likely to be engaged in child labor.

Children Face Unequal Opportunities for Healthy Development

Prior to the civil conflict, children in Syria faced unequal opportunities for healthy development, based on factors beyond their control. To measure the extent of inequality, the analysis calculates (a) the percentage of opportunities that needed to have been distributed differently for equality of opportunity to have occurred for each of the ECD indicators, and (b) the chance of whether these differences might have occurred by random variation (table 12.1). For prenatal care, 5.1 percent of opportunities would have to be distributed differently for there to have been equality of opportunity, and for skilled delivery 2.1 percent of opportunities. There are also somewhat unequal opportunities for children to get immunized because of their circumstances.

Children faced very unequal opportunities for healthy brain development, in terms of access to iodized salt, with 32.3 percent of opportunities that would have to be distributed differently for there to have been equality of opportunity. There was also a substantial amount of inequality in terms of participation in development activities and stunting. The greatest inequality was in terms of ECCE; 36.2 percent of chances to attend ECCE would need to have been distributed differently in order for children to have equality of opportunity. Overall,

Table 12.1 Percentage of Opportunities to Be Redistributed

	Dissimilarity Index
Prenatal care	5.1***
Skilled delivery	2.1***
Fully immunized	6.2*
Iodized salt	32.3***
Stunted	13.0***
ECCE	36.3***
Child labor	12.1
Violent discipline	1.7
Development activities	10.6***

Source: World Bank calculations based on Syria MICS 2006 and Syria PAPFAM 2009.
Note: Inequality for infant and neonatal mortality not calculated because models are statistically insignificant. Significance level: * = chance < 5%, ** = chance < 1%, *** = chance < 0.1%. ECCE = early childhood care and education.

Table 12.2 Contributions of Background Characteristics to Inequality
Percentage

	Wealth	*Mother's education*	*Father's education*	*Region*	*Rural*	*Child's sex*
Prenatal care	16.5	23.8	6.5	44.4	8.8	n.a.
Skilled delivery	21.4	25.1	7.2	32.1	14.2	n.a.
Fully immunized	10.3	29.1	11.1	46.5	2.2	0.8
Iodized salt	15.1	12.9	2.7	57.7	11.6	0.0
Stunted	12.9	18.1	5.4	60.0	2.6	0.9
ECCE	23.4	31.3	14.4	26.1	4.7	0.1
Child labor	11.2	17.1	9.3	44.8	2.0	15.6
Violent discipline	19.7	8.3	4.8	58.7	0.9	7.5
Development activities	17.5	23.0	12.5	40.6	6.4	0.0

Source: World Bank calculations based on Syria MICS 2006 and Syria PAPFAM 2009.
Note: Shapley decompositions of the dissimilarity index. ECCE = early childhood care and education; n.a. = not applicable.

children faced unequal opportunities based on their circumstances—unequal opportunities that would only compound each other over the early life course.

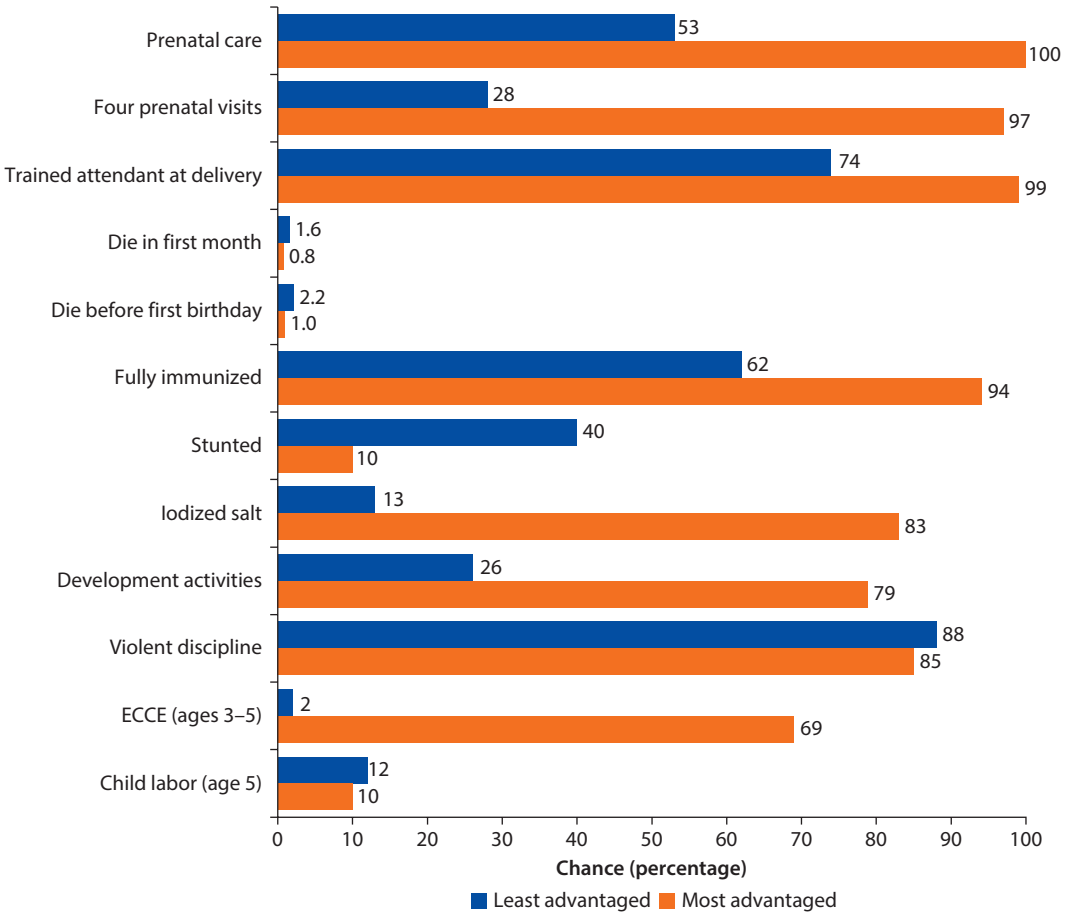
Wealth, mother's education, and geography made the largest contributions to children's unequal chances. Table 12.2 shows the different contributions of circumstances to inequality for different outcomes as percentages. Wealth played a particularly large role in delivery care and ECCE, contributing over a fifth to inequality for each of these measures. Mother's education was particularly important for prenatal care, skilled delivery, immunizations, development activities, and ECCE, contributing around a quarter to inequality on these indicators. Father's education played a relatively small but important role in inequality for these outcomes as well. Residence in different regions mattered for all outcomes, and differences were quite large. Regional differences were particularly large for inequality in prenatal care, immunizations, salt iodization, stunting, and development activities. Rural/urban differences made only small contributions to inequality. A child's gender contributed very little to inequality.

Children tend to be consistently advantaged or disadvantaged across a variety of dimensions of ECD and can face very different life chances based on just a few

characteristics. Early childhood is when cycles of poverty and inequality are transmitted across generations. If we observe a child who lived in the rural Northern region, in the poorest fifth of households, and with uneducated parents (a least advantaged child) and compare that child to one who had parents with higher education, was from the richest fifth of households, and lived in the urban Coastal region (a most advantaged child), we find that they have very different chances of healthy ECD. Figure 12.12 presents the chances (predicted chance) of different ECD indicators (based on the regressions) for these "least advantaged" and "most advantaged" individuals.

On every single indicator, the least advantaged child faced poorer ECD. Comparing the least and most advantaged, the gap in prenatal care was 47 percentage points, and the gap in regular prenatal care was 69 percentage points. The least advantaged child was twice as likely to die in the first month and twice as likely to die in the first year of life. The least advantaged child was 32 percentage

Figure 12.12 Most Advantaged and Least Advantaged Simulations



Source: World Bank calculations based on Syria MICS 2006 and Syria PAPFAM 2009.
Note: ECCE = early childhood care and education.

points less likely to be immunized and 30 percentage points more likely to be stunted. There was a 71 percentage point gap in salt iodization and a 53 percentage point gap in the chance of engaging in at least four development activities. The largest relative difference was in ECCE attendance, where the most advantaged child was 32 times more likely to attend ECCE than the least advantaged child. The least advantaged child was also slightly more likely to be engaged in child labor and to be violently disciplined.

Conclusions

This chapter has examined the state of ECD in preconflict Syria. Before the conflict, children's early health had some room for improvement, with gaps in prenatal care, regular prenatal care, and immunizations, but high rates of skilled delivery and low mortality. Even before the conflict, nutrition was an issue, with high rates of stunting and low rates of salt iodization. Children's cognitive, social, and emotional development had substantial gaps, with only moderate rates of development activities, low ECCE, and high violent discipline. There was also substantial inequality, particularly along regional lines. Since the conflict, the situation will have deteriorated further. More needs to be done to protect Syrian children during the conflict and ensure that the potential of a generation is not lost.

Annex 12A: The Data

The Data Sets

The analysis utilizes cross-sectional data on the well-being of women and children collected in the PAPFAM for 2009 in Syria, as well as the MICS from 2006. These surveys both have a household questionnaire that includes important background characteristics of individuals and families. They also have a questionnaire for ever-married women aged 15–49, which captures information on important components of ECD, such as prenatal care, skilled assistance with the delivery of children, and children's immunizations. Weight and height data are collected for children under five years of age. The surveys are nationally representative, and include data that allow for an analysis of the relationship between ECD and child and household indicators within Syria. See League of Arab States & Syrian Arab Republic (2011) and Central Bureau of Statistics, Pan-Arab Project for Family Health/League of Arab States, UNICEF, & United Nations Children's Fund (2008) for additional information in the final report on the surveys.

The Sample

The 2009 PAPFAM dataset for Syria sampled 24,883 households, 17,565 ever-married women aged 15–49, and 16,631 children younger than age five. The 2006 MICS dataset for Syria sampled 19,019 households, 25,026 ever-married women ages 15–49, and 11,104 children younger than age five. The analysis in this note is weighted in order to be representative at the national level. The sample sizes reported (N) in each of the tables are based on the unweighted number of observations in the data.

Annex 12B: Indicators by Background Characteristics

Table 12B.1 Indicators by Background Characteristics

	Prenatal care—trained health professional	*Prenatal care: at least four visits*	*Trained attendant at delivery*	*Die in first month*	*Die before first birthday*	*Fully immunized*	*Stunted*	*Height-for-age (SD)*	*Iodized salt*	*ECCE (ages 3–5)*	*Development activities*	*Violent discipline*	*Child labor (age 5)*	*Percent of children (aged 0–4)*
Year	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2006	2006	2006	2009
Gender														
Male				1.4	1.9	77.9	26.4	–0.75	30.7	16.9	55.0	86.1	10.9	51.4
Female				1.0	1.5	77.9	25.2	–0.63	30.1	17.6	55.1	83.6	13.8	48.6
Wealth, 20% of households														
Poorest	77.3	43.6	89.9	1.3	2.0	70.2	30.8	–0.91	13.0	6.1	40.7	82.7	11.2	28.2
Second	85.3	54.2	96.5	1.4	1.7	78.5	26.1	–0.73	26.9	10.6	54.3	87.7	11.8	23.3
Third	91.8	65.0	98.5	0.9	1.3	79.7	24.2	–0.60	35.6	16.5	55.0	86.5	14.6	20.0
Fourth	92.9	71.4	99.5	1.0	1.3	80.9	22.4	–0.55	39.6	25.2	61.3	85.8	11.1	16.3
Richest	96.6	81.3	99.4	1.5	1.9	85.6	20.8	–0.46	56.5	40.5	68.0	81.9	13.0	12.2
Woman's education														
Never attended	69.9	38.1	86.9	1.1	1.7	57.2	34.2	–1.06	12.6	2.6				16.5
Some primary	80.3	48.6	93.4	2.0	2.5	69.3	28.9	–0.85	17.6	5.7				10.9
Complete primary	89.4	59.3	97.7	1.4	1.9	80.2	25.0	–0.65	31.5	13.7				40.9
Complete preparatory	94.0	70.2	99.4	1.0	1.4	85.1	23.6	–0.63	41.0	24.2				14.2
Complete secondary	97.0	78.1	99.7	0.5	0.9	86.7	20.2	–0.42	44.7	41.8				13.7
University+	97.9	88.3	99.7	0.5	0.5	88.0	17.5	–0.27	51.0	55.4				3.8
Partner's education														
Never attended	71.2	40.7	87.7	1.4	2.0	53.5	31.8	–0.97	17.2	3.5				9.1
Some primary	83.2	50.9	94.6	1.5	1.9	75.7	28.1	–0.83	25.4	7.0				9.2

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Table 12B.1 Indicators by Background Characteristics *(continued)*

	Prenatal care—trained health professional	*Prenatal care: at least four visits*	*Trained attendant at delivery*	*Die in first month*	*Die before first birthday*	*Fully immunized*	*Stunted*	*Height-for-age (SD)*	*Iodized salt*	*ECCE (ages 3–5)*	*Development activities*	*Violent discipline*	*Child labor (age 5)*	*Percent of children (aged 0–4)*
Complete primary	87.4	58.2	96.2	1.3	1.9	77.6	26.7	–0.73	29.9	13.3				44.1
Complete preparatory	89.9	64.6	98.1	1.1	1.4	80.4	24.8	–0.64	33.5	18.2				16.0
Complete secondary	93.3	69.9	98.7	1.0	1.4	86.0	22.0	–0.51	36.6	29.9				14.2
University+	96.6	81.3	98.9	0.6	0.8	85.5	20.3	–0.46	40.7	46.5				7.1
DK	88.2	50.3	98.0	4.9	4.9	79.4	23.2	–0.49	22.8	8.9				0.4
Mother's education														
None											42.9	84.1	11.5	
Primary											49.2	84.3	10.7	
Secondary											62.9	86.7	14.3	
Higher institutions											71.9	83.8	14.7	
University+											75.1	80.8	13.4	
Father's education														
None											42.1	87.9	12.0	
Primary											48.7	83.5	11.6	
Secondary											58.4	86.2	12.7	
Higher institutions											65.8	84.9	16.4	
University+											66.4	81.7	10.9	
Residence														
Urban	91.7	68.3	98.8	1.2	1.6	79.6	25.8	–0.69	41.0	21.3	60.1	85.5	12.9	50.8
Rural	83.1	52.3	93.4	1.3	1.8	75.9	25.8	–0.69	19.8	13.0	50.0	84.5	11.7	49.2

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Table 12B.1 Indicators by Background Characteristics *(continued)*

	Prenatal care—trained health professional	*Prenatal care: at least four visits*	*Trained attendant at delivery*	*Die in first month*	*Die before first birthday*	*Fully immunized*	*Stunted*	*Height-for-age (SD)*	*Iodized salt*	*ECCE (ages 3–5)*	*Development activities*	*Violent discipline*	*Child labor (age 5)*	*Percent of children (aged 0–4)*
Region														
Northern	78.2	48.4	95.8	1.4	1.8	67.2	33.1	–1.12	30.2	12.1	43.2	81.9	11.4	29.4
Eastern	83.5	48.2	88.9	1.0	1.6	71.6	26.7	–0.75	5.6	4.6	55.1	82.9	8.4	21.1
Middle	89.7	59.2	99.0	1.7	2.2	86.5	29.9	–0.73	8.2	19.5	49.4	87.5	17.1	14.6
Southern	95.6	72.4	99.2	1.1	1.6	85.6	18.9	–0.34	51.3	23.6	67.5	87.1	13.0	27.6
Coastal	99.0	91.4	99.5	0.7	0.8	88.4	10.2	–0.01	65.5	44.1	63.8	87.5	13.5	7.3
Districts														
Damascus	97.2	84.5	99.1			90.7	26.2	–0.50	62.8	30.9	78.0	87.8		6.8
Aleppo	78.1	46.8	95.5			64.0	37.3	–1.35	35.5	11.4	40.9	80.2		20.9
Rural Damascus	95.2	74.2	99.2			80.3	20.3	–0.34	58.9	21.3	68.1	90.5		12.6
Homs	93.4	59.8	99.4			81.7	39.7	–1.08	16.2	18.0	40.6	85.8		7.4
Hama	85.8	58.7	98.7			92.6	20.7	–0.40	5.4	20.9	60.3	89.9		7.2
Lattakia	99.0	90.9	99.2			94.7	7.7	–0.20	72.4	42.0	58.0	84.5		4.5
Idleb	78.4	52.2	96.9			75.9	23.0	–0.56	17.6	14.0	48.9	85.9		8.5
Hassake	85.8	49.0	87.8			75.1	22.4	–0.40	5.6	5.4	48.2	93.0		7.9
Deir Ezzor	78.1	45.7	87.0			62.9	29.6	–0.84	4.0	4.2	69.8	88.9		7.2
Tartous	99.1	92.4	100.0			76.8	14.0	0.27	55.5	48.0	69.6	90.6		2.8
Raqqa	85.6	49.8	92.6			78.7	28.8	–1.09	11.6	4.2	45.6	59.3		6.0
Daraa	93.3	52.0	99.3			85.3	10.1	–0.07	30.5	16.8	58.2	82.8		6.0
Sweida	98.2	76.6	99.6			96.0	7.4	–0.38	30.5	34.9	66.1	97.9		1.8
Quneitra	94.1	56.5	98.3			82.8	21.3	–0.47	37.3	16.5	73.6	50.8		0.5
Total	87.7	60.8	96.3	1.2	1.7	77.9	25.8	–0.69	30.4	17.2	55.0	85.0	12.3	100.0
N (observations)	10,891	10,208	10,891	13,281	13,281	2,451	14,920	14,920	12,808	9,413	11,017	3,862	3,079	16,522

Source: World Bank calculations based on Syria MICS 2006 and Syria PAPFAM 2009.

Note: Governorate-level data for child labor, neonatal, and infant mortality is omitted due to small sample size. Other blank cells indicate not applicable or not available. DK = do not know; ECCE = early childhood care and education; SD = standard deviation.

Annex 12C: Relationship between ECD Indicators and Background, When Accounting for Multiple Characteristics

Table 12C.1 Relationship between ECD Indicators and Multiple Background Characteristics

	Prenatal	*Prenatal: four visits*	*Delivery*	*Fully immunized*	*Neonatal mortality*	*Infant mortality*	*Iodized salt*	*Stunted*	*Height-for-age (SD)*	*ECCE*	*Child labor*	*Violent discipline*	*Development activities*
Female	n.a.	n.a.	n.a.						+		+		
Rural	–	–	–				–	–	+				
Region—compared to Southern													
Northern	–	–	–	–			–	+	–	–		–	–
Eastern	–	–	–	–			–	+	–	–			
Middle	–	–					–	+	–				–
Coastal	+	+					+	–	+	+			–
Wealth—20% of households—compared to poorest													
Second	+	+	+				+	–	+				+
Third	+	+	+				+	–	+	+			+
Fourth	+	+	+				+	–	+	+			+
Highest	+	+	+				+	–	+	+			+
Woman's education—compared to no education													
Some primary	+	+			+			–	+		n.a.	n.a.	n.a.
Complete primary	+	+	+	+				–	+	+	n.a.	n.a.	n.a.
Complete preparatory	+	+	+	+			+	–	+	+	n.a.	n.a.	n.a.
Complete secondary	+	+	+	+			+	–	+	+	n.a.	n.a.	n.a.
Higher education	+	+		+				–	+	+	n.a.	n.a.	n.a.
Partner's education—compared to no education													
Some primary				+							n.a.	n.a.	n.a.
Complete primary				+							n.a.	n.a.	n.a.
Complete preparatory			+	+							n.a.	n.a.	n.a.

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Table 12C.1 Relationship between ECD Indicators and Multiple Background Characteristics *(continued)*

	Prenatal	*Prenatal: four visits*	*Delivery*	*Fully immunized*	*Neonatal mortality*	*Infant mortality*	*Iodized salt*	*Stunted*	*Height-for-age (SD)*	*ECCE*	*Child labor*	*Violent discipline*	*Development activities*
Complete secondary			+	+						+	n.a.	n.a.	n.a.
Higher education	+	+		+						+	n.a.	n.a.	n.a.
DK/missing											n.a.	n.a.	n.a.
Mother's education—compared to no education													
Read	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
Read and write	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
Basic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
Complete secondary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
Father's education—compared to no education													
Read	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
Read and write	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
Basic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
Complete secondary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			+
P-value (model)	0.000	0.000	0.000	0.000	0.112	0.114	0.000	0.000	0.000	0.000	0.032	0.047	0.000
Observations (N)	10887	10204	10887	2449	13276	13276	12653	14796	14796	9220	3079	3861	11014
R-squared									0.033				
Pseudo R-squared	0.150	0.113	0.228	0.075	0.027	0.020	0.210	0.031		0.192	0.017	0.014	0.059

Source: World Bank calculations based on Syria MICS 2006 and Syria PAPFAM 2009.
Note: Blank cells indicate no statistically significant relationship. DK = do not know; ECCE = early childhood care and education; ECD = early childhood development; SD = standard deviation. n.a. = not applicable.

Notes

1. Both infant and neonatal mortality rates are calculated based on deaths in the 12–59 months preceding the survey.
2. The Syria 2009 Pan Arab Project for Family Health (PAPFAM) asks about prenatal care for the most recent live birth in the past five years only. Since live births are likely to be associated with prenatal care, the percentage of births not receiving prenatal care is likely to be an underestimate of the percentage of pregnancies not receiving prenatal care.
3. Either a doctor or a nurse/midwife
4. As was true for prenatal care, delivery questions are asked about most recent live births in the last five years only. Since live births are likely to be associated with care by a health professional, the percentage of live births with a health professional is likely to overestimate the number of deliveries with a health professional.
5. As with prenatal and delivery care, these questions were asked of the most recent live birth in the past five years.
6. The DPT vaccine is a combination vaccine that covers diphtheria, whooping cough (pertussis), and tetanus. Children must receive three doses to be fully immunized.
7. Children must receive three doses to be fully immunized against polio.
8. The units show how Syrian children are, on average, different from the reference population in terms of standard deviations.
9. More than 15 ppm of iodine in the salt
10. The six activities are (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.
11. Data are for 2011.
12. 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).
13. The questions were: (1) During the past week, did (child) do any kind of work for someone who is not a member of this household? (2) During the past week, did (child) help with household chores, such as shopping, collecting firewood, cleaning, fetching water, or caring for children? (3) During the past week did (child) do any other family work (on the farm or in a business or selling goods in the street)?
14. Wealth is defined in terms of which 20 percent of households a child falls into, based on an asset (wealth) index of durable goods.
15. Throughout, we use a 5 percent level of significance.
16. Herd immunity occurs when even unvaccinated individuals in the population (the "herd") are protected against illness because the disease can no longer spread. This is achieved once around 90–95 percent of infants are vaccinated.

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