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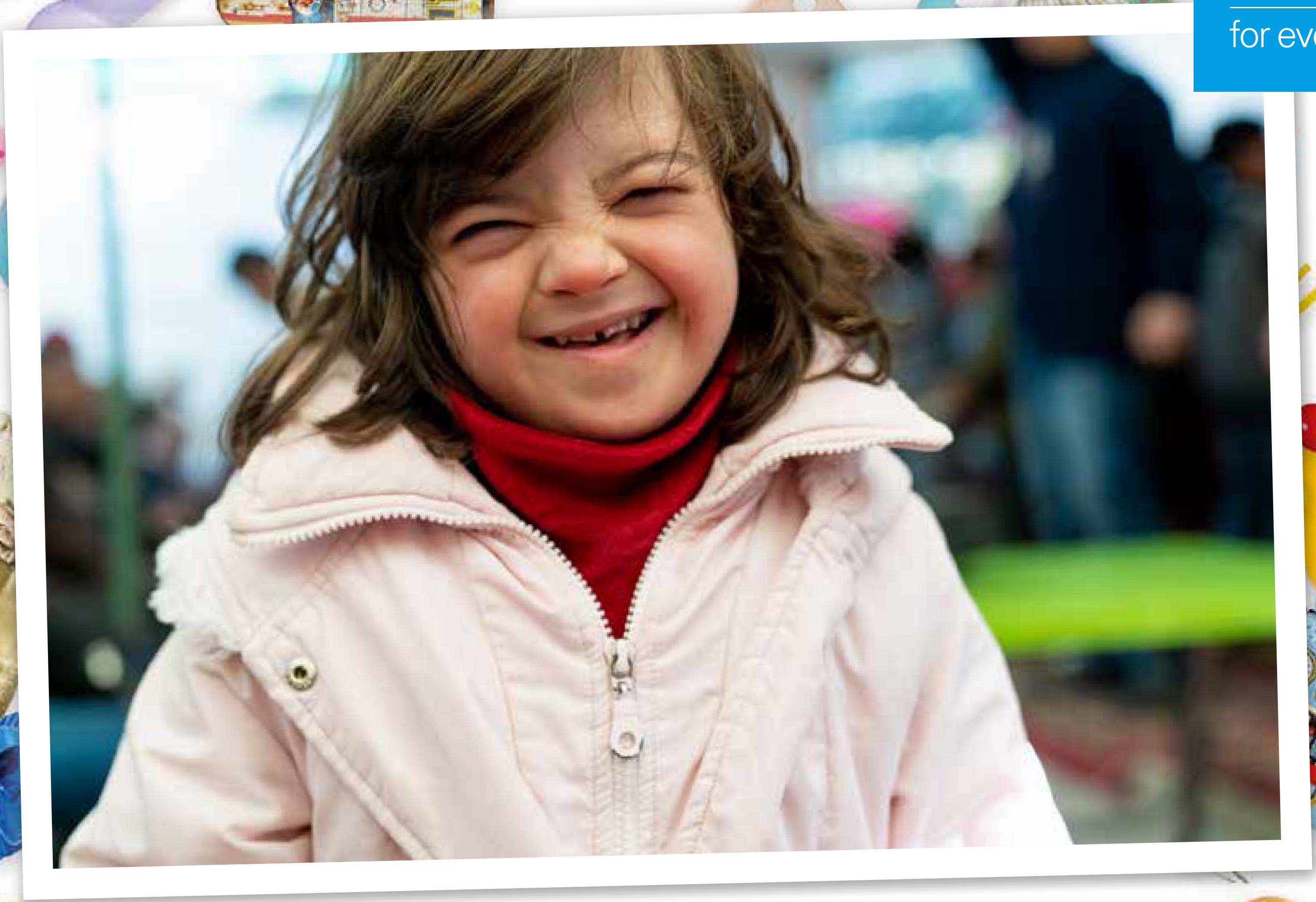

Children with Disabilities in the Middle East and North Africa:

A statistical overview of their well-being

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Contents








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Foreword

The Middle East and North Africa is home to nearly 21 million children with disabilities. In other words, one in seven children in the region has one or more functional difficulties. Disability is not always visible and is often overlooked.

Most children with disabilities in the region are isolated and excluded from society and their communities. They are often unable to learn, socialize, play and enjoy leisure activities. Their right to proper care, adequate nutrition and quality health services, and education, along with social protection, are frequently denied or deemed a low priority. This is occurring despite national commitments to support these children, the nearly universal ratification by countries in the region of both the Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities, as well as endorsement of the 2030 Agenda for Sustainable Development and its pledge to leave no one behind.

For many years, the lack of reliable data and analysis has contributed to an underestimation of the number of children with disabilities needing services, often leading to extreme exclusion and neglect. Such rights violations and marginalization follow children into adolescence and lead many to a life of dependency and poverty.

It does not have to be this way. New data collection tools – which have been included in household survey programmes such as the Multiple Indicator Cluster Surveys (MICS) and censuses – have increased significantly the availability of data on children with disabilities, prompted new analyses and yielded greater knowledge. These tools employ a comprehensive definition of disability based on functional difficulties versus medical diagnoses. They look at disability as a continuum, and include those impairments that may not be visible or readily apparent but that affect a child's ability to function in daily life. This information can help governments craft appropriate and carefully targeted programmes.

Late last year, UNICEF published *Seen, Counted, Included: Using data to shed light on the well-being of children with disabilities*. It presented the first global and regional estimates on children with disabilities and their well-being in multiple dimensions. This current report is a by-product of that global analysis and reflects data generated in the Middle East and North Africa. It focuses on four countries (Algeria, Iraq, State of Palestine and Tunisia) that have conducted a MICS in recent years. It provides decision-makers with crucial evidence for policy and programming to give every child – especially those with disabilities – an equal chance in life.

Join us in the journey to make this change happen!

Adele Khodr
Regional Director
UNICEF Regional Office for the Middle East and North Africa

Introduction

Nearly 21 million children with disabilities live in the Middle East and North Africa. Each of them – like every child in the world – has the right to be nurtured and supported through responsive care and education, to receive adequate nutrition and social protection, and to enjoy play and leisure time. Too often, however, such rights are denied. The reasons vary. They include stigma, lack of accessible services, institutionalization and physical barriers, but the consequences are sadly consistent. When marginalized from society, these children's chances to survive and thrive are diminished, along with their prospects for a bright future.

In 2015, the adoption of the 2030 Agenda for Sustainable Development was framed around the pledge of leaving no one behind. It calls for a commitment to ensure that all 17 Sustainable Development Goals (SDGs), comprising 169 targets, are achieved for the benefit of all members of society. It emphasizes reaching those furthest behind first, which inevitably includes children with disabilities and their families.

Monitoring the inclusion of children with disabilities in development efforts has long been held back by the lack of reliable and comprehensive data. Recent years, however, have seen renewed efforts to fill these data gaps. The development of new data collection tools has resulted in a substantial increase in the availability and quality of data on children with disabilities, fostering new analyses and contributing to increased knowledge generation.

This report is a testament to these efforts. It includes internationally comparable data from four countries in the Middle East and North Africa and covers 18 indicators of child well-being – from nutrition, health and education to protection from violence, exploitation and discrimination. It also presents global and regional estimates of children with disabilities drawn from more than 1,000 data sources, including 95 from countries in the Middle East and North Africa.

The report's objective is to promote the use of these data to make children with disabilities in the region more visible, bringing about a fuller understanding of their life experiences. It offers evidence crucial to decision-making to fulfil obligations, both moral and legal, to give every child an equal chance in life.

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Understanding disability in children

Children with disabilities are a highly diverse population group. They include children who were born with a genetic condition that affects their physical, mental or social development; who sustained a serious injury, nutritional deficiency or infection that contributed to long-term functional difficulties; or who were exposed to environmental toxins that resulted in developmental delays. Children with disabilities also include those who developed anxiety or depression as a result of stressful life events.

Disability is a complex and evolving concept, involving aspects of body function and structure (impairments), capacity (measured by the ability to carry out basic activities without the benefit of assistance in any form), and performance (measured by the individual's ability to carry out these same basic activities using assistance). As stated in the Convention on the Rights of Persons with Disabilities, disability stems from the interaction between certain conditions or impairments and an unaccommodating environment that hinders an individual's full and effective participation in society on an equal basis with others. The framework of the International Classification of Functioning, Disability and Health (ICF) relies on a three-level model to describe the concept of disability. According to the ICF, disability can occur as:

- An impairment in body function or structure (for example, a cataract or opacity of the natural lens of the eye, which prevents the passage of rays of light and impairs or destroys sight)
- A limitation in activity (for example, low vision or inability to see, read or engage in other activities)
- A restriction in participation (for example, exclusion from school or participation in other social, recreational or other events or roles).

The ICF framework defines disability within a biopsychosocial model, integrating both factors pertaining to the individual and his or her environment. In contrast, the medical model defines disability as a problem resulting from a medical condition. Awareness of the important role of the social context in defining disability led to the development of the social model of disability, which defines disability not merely as a medical condition or diagnosis but rather as a failure of the policy, cultural and physical environments to accommodate differences in function. For instance, children with myopia who do not have access to diagnostic services and glasses will have difficulty seeing, whereas those who have such access will not. Furthermore, children with similar functional difficulties may participate in society to varying degrees because of physical, communication and cultural barriers. Access to assistive devices, technology and services, as well as exposure to nurturing relationships and positive social norms and beliefs, are crucial to promoting the inclusion of all children, regardless of their impairments.

Counting children with disabilities

The availability of data on children with disabilities has been a longstanding challenge due to limitations related to the use of narrow definitions and the lack of a standardized data collection methodology. While most countries have produced estimates of the number of persons with disabilities, the use of different measurement tools limits the validity and comparability of data. The definition of disability that is used in any given data collection instrument determines who is identified as having a disability and included in the appraisal of evidence. Different conceptualizations and differences in operationalizing the concept of disability will directly impact the quality and utility of the gathered data. Historically, measures of disability have focused on domains related to physical and sensory functioning, while other domains, notably those related to psychosocial functioning, were largely overlooked. Language that was stigmatizing or judgemental was also commonly found in some of the questionnaires used to determine disability status.

An additional limitation to the production of high-quality data on children with disabilities relates to the protocols used to collect them. Non-inclusive data collection methods and analyses can lead to the generation of inaccurate, incomplete, irrelevant or misleading evidence.[1] The absence of inclusiveness may result in severe underestimations and misidentification of persons with disabilities, aggravating exclusion and preventing the implementation of efforts where they are most needed. Further to the considerations on measuring disability in general, identifying children with disabilities presents additional challenges. The domains of functioning that may indicate that a young child has a disability are different from those in older children and adults. For example, asking about difficulties related to self-care is relevant among older children and adults but not young children. In addition, measuring functional difficulties is complex since children, especially at younger ages, develop at different rates. Therefore, the identification of functional difficulties in children needs to account for what is a typical variation in development versus a developmental delay or a consequence of a specific impairment. Measuring disability among children requires instruments that are specifically designed to reflect the breadth of functional domains that are relevant for children. During childhood, this implies accounting for all the domains of physical, psychosocial, sensory and cognitive functioning. Furthermore, a comprehensive measure of disability must include all sorts of individual and environmental factors that may prevent children from developing skills and building trustworthy relationships and that inhibit their full and effective participation in society on an equal basis with others.

A new way to identify children with disabilities in data collection efforts

To address the paucity of data on the situation of children with disabilities globally, UNICEF and the Washington Group on Disability Statistics developed the Child Functioning Module for use in censuses and surveys. The module is intended to provide a population-level estimate of the number and proportion of children with functional difficulties. The module covers children between 2 and 17 years of age and assesses difficulties in various domains of functioning.[2] It conforms to the biopsychosocial model of disability, focusing on the presence and extent of functional difficulties rather than on body structure or conditions. For example, a mobility limitation can be the result of cerebral palsy, loss of limbs, paralysis, muscular dystrophy or spinal cord injuries. Behavioural issues may result from autism, attention deficit hyperactivity disorder or a mental health condition. Basing disability statistics on questions that ask about diagnosable conditions is problematic. Many caregivers may not know their child's diagnosis, particularly if this involves mental and psychosocial conditions; and knowledge about diagnoses is often correlated with education, socioeconomic status and access to health services, all of which may bias collected data. Questions that focus on basic actions, such as those in the Child Functioning Module, serve as a better basis for identifying children with disabilities. For the purposes of social participation and equalizing opportunities, functional status – and how that impacts someone's life – is of greater interest than the cause (medical or otherwise) since children with the same conditions or impairments may have very different degrees of difficulties. For example, one child with cerebral palsy might have a slight speech impairment but can easily be understood while another child with the same condition might not be able to speak at all, making communication challenging. Some of these difficulties are traditionally seen as a 'disability' while others are not. The Child Functioning Module is comprised of two questionnaires, one with 16 questions for children aged 2 to 4 years and another with 24 questions for children aged 5 to 17 years. The questions are to be administered to the mother or primary caregiver of the child in question. They are designed to identify difficulties according to a range of severity. To better reflect the degree of functional difficulty, each area is assessed against a rating scale. In addition to collecting data on domains related to physical, sensory and cognitive functioning, the Child Functioning Module includes questions on difficulties in psychosocial functioning. These questions identify children having difficulties expressing and managing emotions, accepting changes, controlling behaviour and making friends. While all children may sometimes manifest worry, sadness or anxiety, these emotions may be significant and frequent enough to place certain children at higher risk of dropping out of school, withdrawing from family or community life, or harming themselves. The reporting of anxiety or depression should be interpreted as an indication of those conditions, rather than as a clinical diagnosis. Results should not be used to assess the epidemiological characteristics of any disease or impairment; rather, they provide an indication of the prevalence of moderate to severe functional difficulties that, in interaction with various barriers, can place children at increased risk for non-participation and exclusion.

While the Child Functioning Module was originally developed and tested for use with surveys and censuses, work is ongoing to test the use of the module with other data sources, including administrative records. These efforts include testing the questions in education and health management information systems.

The Child Functioning Module was developed in consultation with organizations of persons with disabilities, among other stakeholder groups.

These organizations were instrumental in the design of the module, including through their engagement during its validation in the field.[3] The module also underwent extensive review by other experts and was tested in several countries to determine the quality of questions and how well they are understood by people in diverse cultures.[4] In March 2017, a joint statement issued by multiple UN agencies and Member States, organizations of persons with disabilities and other stakeholders recommended the module as the appropriate tool for SDG data disaggregation for children.[5]

The development of the Child Functioning Module and its roll-out as part of the Multiple Indicator Cluster Survey (MICS) programme has led to the release, for the first time, of cross-nationally comparable data on children with disabilities. In addition, many countries have also included the module as part of their nationally representative surveys. Estimates from more than 50 countries have been released as of September 2022, and data from at least 10 more surveys are expected to become available over the next couple of years.

The availability of data on children with disabilities in the Middle East and North Africa

The limitations affecting the availability, quality and comparability of data on children with disabilities worldwide are also found in the Middle East and North Africa.

All countries in this region have collected some data on children with disabilities, and most have more than one data source, indicating that data have been gathered at repeated intervals. Over the last six decades, at least 95 sources generated population-level data on children with disabilities (51 censuses and 44 surveys). The oldest source of data is from 1964 and the most recent from 2020. Of these 95 data sources, five were based on the Child Functioning Module; of these five, four used the Child Functioning Module as part of a MICS conducted between 2018 and 2020. Fourteen sources collected data on children using the Washington Group Short Set on Functioning, despite the fact that this six-question module was designed to produce internationally comparable data on adults with disabilities.[6] It therefore underestimates the proportion of children with disabilities (see Technical annex) and is not recommended for collecting data on this population group. Seventy-six sources generated data using a variety of instruments, which relied on diverse definitions, had different numbers of questions and used different wording for those questions (Table1). The use of non-standard tools is problematic since different methodologies and approaches can produce significantly different estimates of children with disabilities, even within the same country, and result in data of varying quality and scope (Figure 1).

Indeed, the proportions of children with disabilities identified through these different data sources across countries in the Middle East and North Africa varied widely, with estimates ranging from 0.1 per cent among children aged 0 to 14 years in Egypt (Census 1976) to 29 per cent among children aged 2 to 9 years in Yemen (MICS 2006).

That said, it is worth noting that most of the population-level data collection in this region over the last decade has relied on tools such as the Child Functioning Module and Washington Group Short Set on Functioning, which produce internationally comparable data. This trend is a positive step towards strengthening the availability and quality of data on children with disabilities in the region. As data collection efforts continue and expand across the Middle East and North Africa, countries should continue to prioritize the collection of data on children with disabilities using the Child Functioning Module. In doing so, they can help ensure that the right of all children to be seen, counted and included is fulfilled.

TABLE 1 Number of data sources on children with disabilities in the Middle East and North Africa, by tool used to identify such children

	Number of data sources
Child Functioning Module	5
Washington Group Short Set	14
Other tools	76

BOX 1

Collecting data on children with disabilities through Multiple Indicator Cluster Surveys

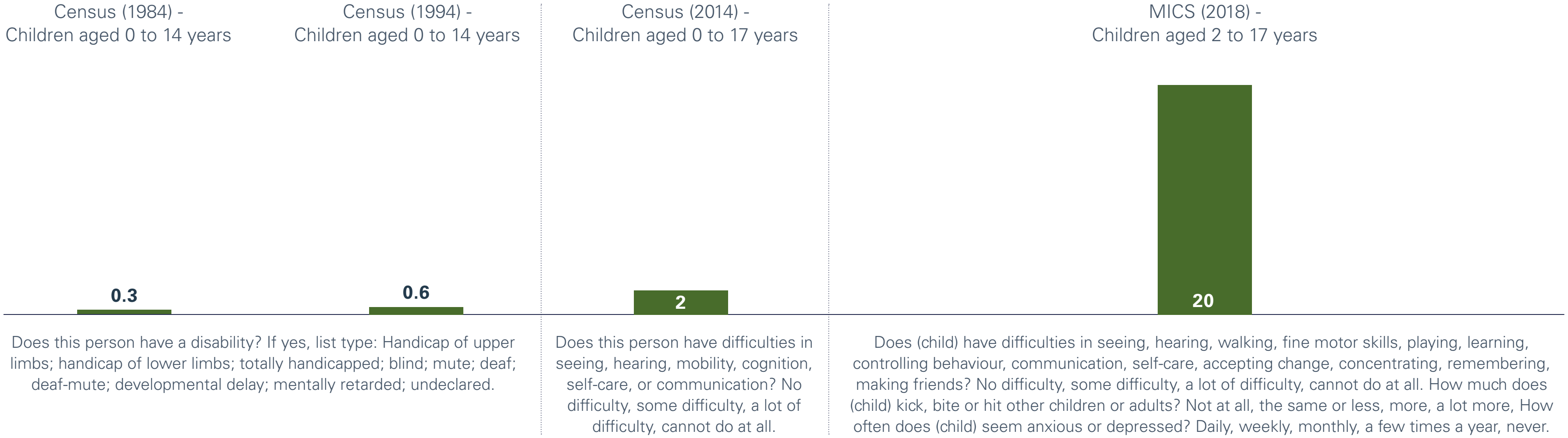
The MICS programme is designed to assist countries in collecting and analysing data on the situation of women and children. Since its inception in the mid-1990s, the MICS has enabled nearly 120 countries to collect nationally representative and internationally comparable data on more than 100 key indicators in areas such as nutrition, child health, mortality, education, water and sanitation, child protection, and HIV and AIDS.

The MICS tools, including core questionnaires and modules on specific topics, are developed by UNICEF in consultation with relevant experts from various UN organizations and interagency monitoring groups. The surveys are designed by country teams and implemented by local agencies, typically national statistical offices. The core questionnaires are a household questionnaire, a questionnaire for individual girls and women between the ages of 15 and 49, a questionnaire for individual boys and men aged 15 years and older, a questionnaire on children under age 5 (administered to mothers or primary caregivers), and a questionnaire on children aged 5 to 17 years (also administered to mothers or primary caregivers).

The questionnaires are all modular in nature and can be adapted or customized to the needs of the country. Trained fieldwork teams conduct interviews with household members on a variety of topics – focusing mainly on those issues that directly affect the lives of children and women. The MICS is an integral part of the policies and plans of many governments around the world and a major data source for more than 30 SDG indicators.

Starting in 2016, the Child Functioning Module and the Washington Group Short Set on Functioning became part of the MICS and are used to collect data on children aged 2 to 17 years and on adult women and men aged 18 and older, respectively. With the inclusion of these two tools, the MICS programme has become the largest source of internationally comparable data on children and adults with disabilities. When analysed in conjunction with other MICS indicators, the data can be used to document the inequities experienced by persons with disabilities at the global level.

FIGURE 1 How questionnaire design impacts the percentage of children identified as having disabilities: The example of Tunisia

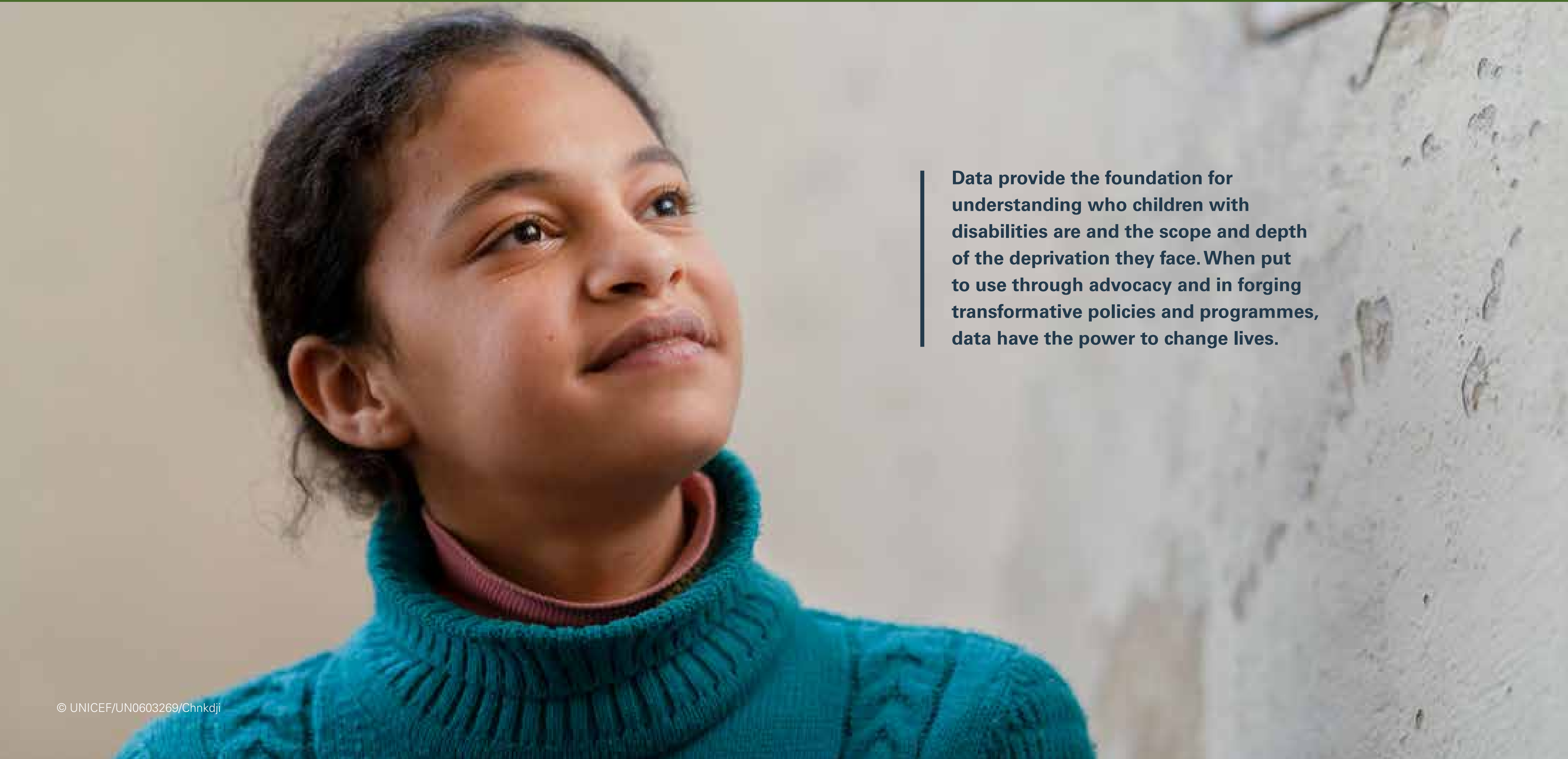


Does this person have a disability? If yes, list type: Handicap of upper limbs; handicap of lower limbs; totally handicapped; blind; mute; deaf; deaf-mute; developmental delay; mentally retarded; undeclared.

Does this person have difficulties in seeing, hearing, mobility, cognition, self-care, or communication? No difficulty, some difficulty, a lot of difficulty, cannot do at all.

Does (child) have difficulties in seeing, hearing, walking, fine motor skills, playing, learning, controlling behaviour, communication, self-care, accepting change, concentrating, remembering, making friends? No difficulty, some difficulty, a lot of difficulty, cannot do at all. How much does (child) kick, bite or hit other children or adults? Not at all, the same or less, more, a lot more, How often does (child) seem anxious or depressed? Daily, weekly, monthly, a few times a year, never.

Every child has the right to be counted



Data provide the foundation for understanding who children with disabilities are and the scope and depth of the deprivation they face. When put to use through advocacy and in forging transformative policies and programmes, data have the power to change lives.

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Indicators and data sources used in this chapter

This report aims to generate evidence on children with disabilities aligned, to the greatest extent possible, with the Convention on the Rights of Persons with Disabilities and the biopsychosocial model of disability. This intent guided the production of the global and regional estimates and is reflected in country-level data collected by the Child Functioning Module. In line with this approach, the expression 'children with disabilities' used in charts and tables throughout the report refers to 'children with functional difficulties'.

The regional and global estimates presented in Figures 2 and 3 rely on information about functional difficulties or limitations among children gathered through more than 100 data sources with some degree of international comparability. The selection of data sources involved an extensive process of data compilation and consultations with country-level experts to overcome limitations on data availability and comparability, and to ensure their views were reflected in the data selection, harmonization and estimation process. In the case of countries in the Middle East and North Africa, the regional estimates are based on data from 10 countries that used the Child Functioning Module (5 countries) and the Washington Group Short Set (5 countries). The 10 countries are home to 73 per cent of the population of children in this region. In order to use data obtained through different instruments, the estimation process was based on meta-analyses of proportions that were considered suitable to account for the variability of the data. Detailed technical information on the estimation work and data sources is provided in the technical annex at the end of the report.

The country data presented in this chapter are drawn from MICS conducted in Algeria, Iraq, State of Palestine and Tunisia between 2018 and 2020. Children with one or more functional difficulties include the following:

Children aged 2 to 4 years who reportedly kick, bite or hit other children or adults a lot more than other children of the same age and/or who have 'a lot of difficulty' or 'cannot do at all' certain functions. These include:

- Seeing, even if using glasses
- Hearing, even if using a hearing aid
- Walking, even if using equipment or assistance
- Understanding or being understood when speaking
- Picking up small objects with their hands
- Learning things
- Playing.

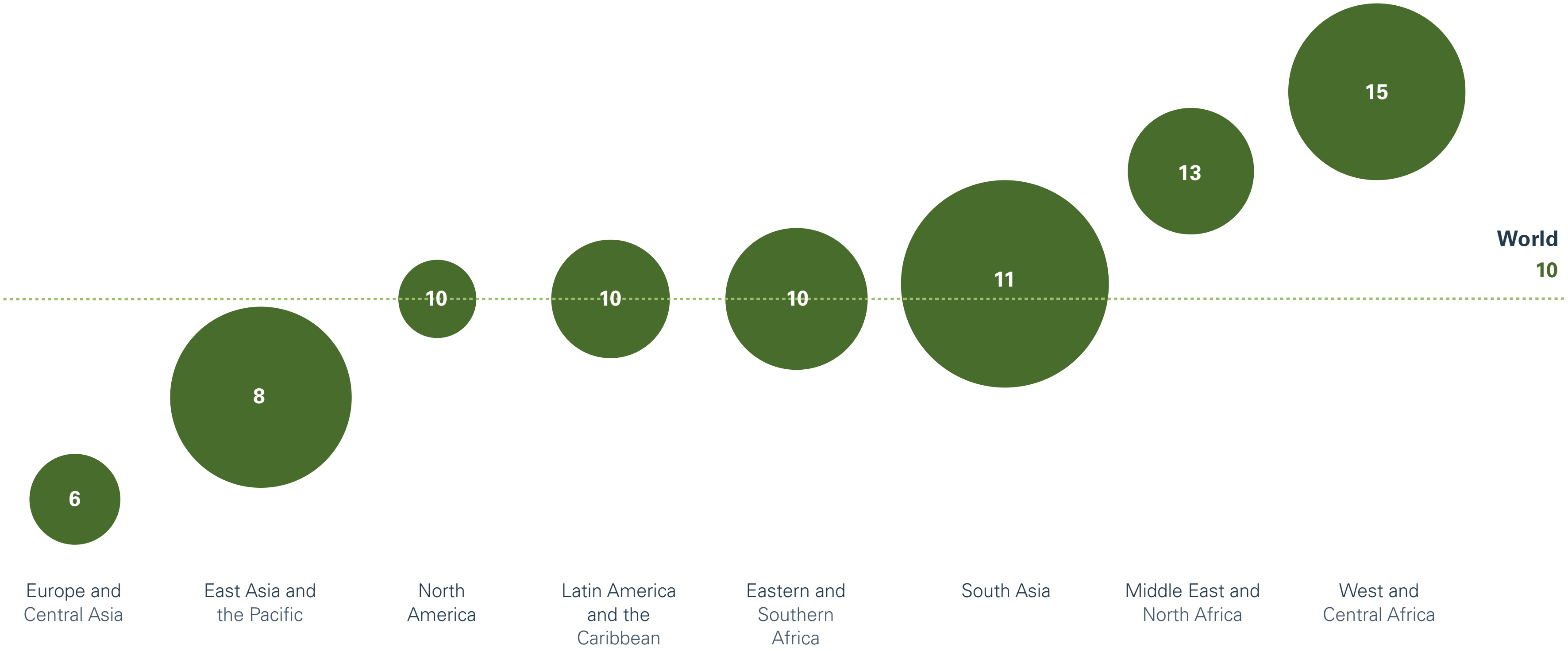
Children aged 5 to 17 years who reportedly seem very anxious, nervous or worried and/or very sad or depressed on a daily basis and/or who have 'a lot of difficulty' or 'cannot do at all' certain functions. These include:

- Seeing, even if using glasses or contact lenses
- Hearing, even if using a hearing aid
- Walking on level ground, even if using equipment or assistance
- Performing self-care activities, such as feeding or dressing themselves
- Being understood when speaking to people inside or outside their household
- Learning things
- Remembering things
- Concentrating on an activity they enjoy
- Accepting changes in their routine
- Controlling their behaviour
- Making friends.

Children with more than one functional difficulty include all children who have difficulties functioning in more than one of the domains listed above.

Thirteen per cent of children in the Middle East and North Africa have disabilities

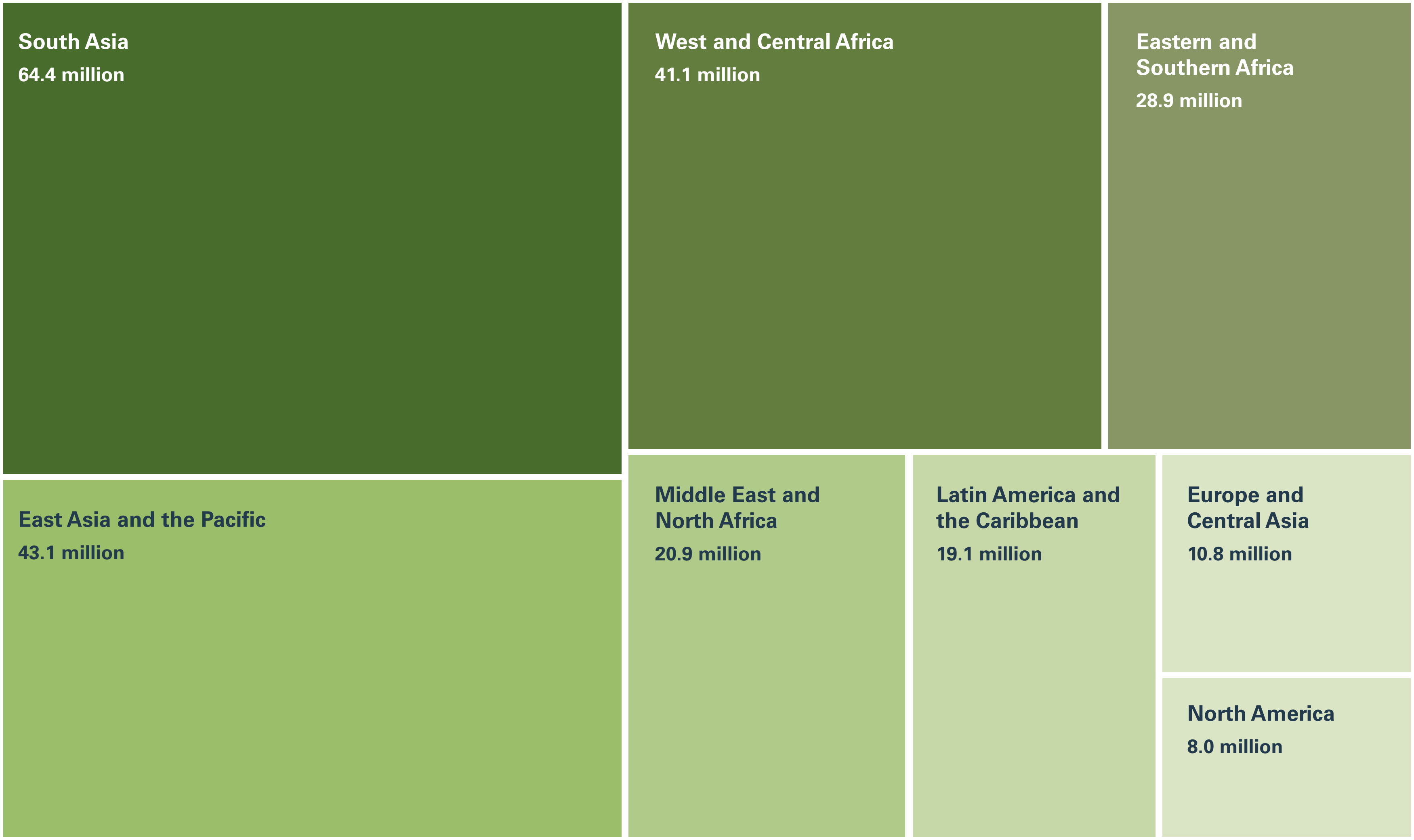
FIGURE 2 Percentage of children aged 0 to 17 years with disabilities



Note: The size of the circles reflects the number of children with disabilities in the respective regions.

Of the 240 million children globally with disabilities, 20.9 million live in the Middle East and North Africa

FIGURE 3 Number of children aged 0 to 17 years with disabilities



Notes: The global estimate is based on a subset of 103 countries and areas covering 84 per cent of the global population of children aged 0 to 17 years. Regional estimates represent data covering at least 50 per cent of the regional population of children.

The proportion of children with disabilities varies significantly across countries and is highest in Tunisia, for children of all ages

FIGURE 4 Percentage of children aged 2 to 4 years with one or more functional difficulties

FIGURE 5 Percentage of children aged 5 to 17 years with one or more functional difficulties

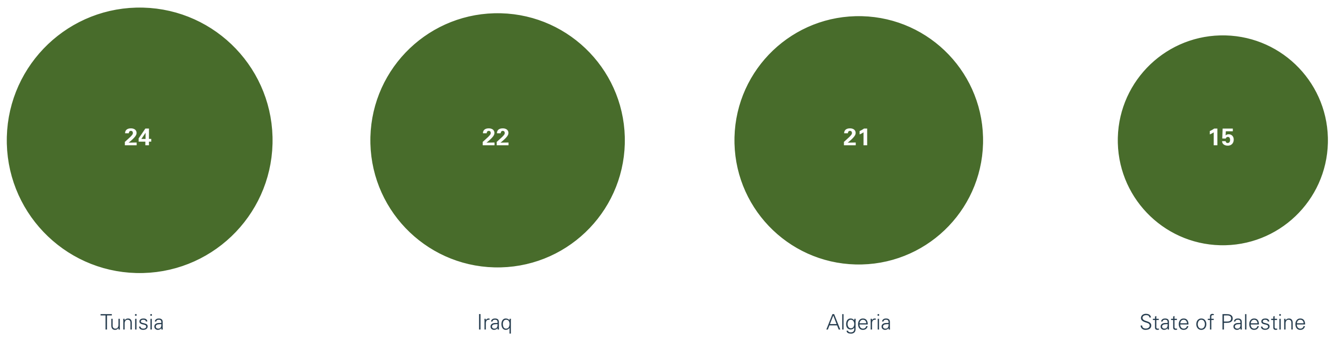
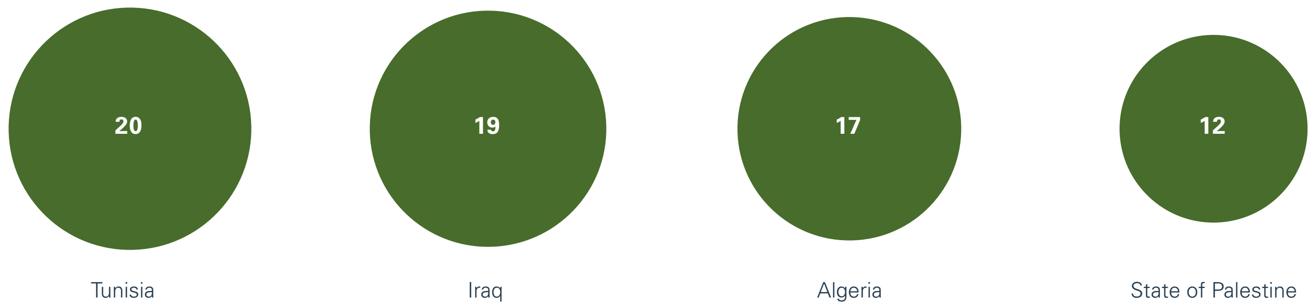
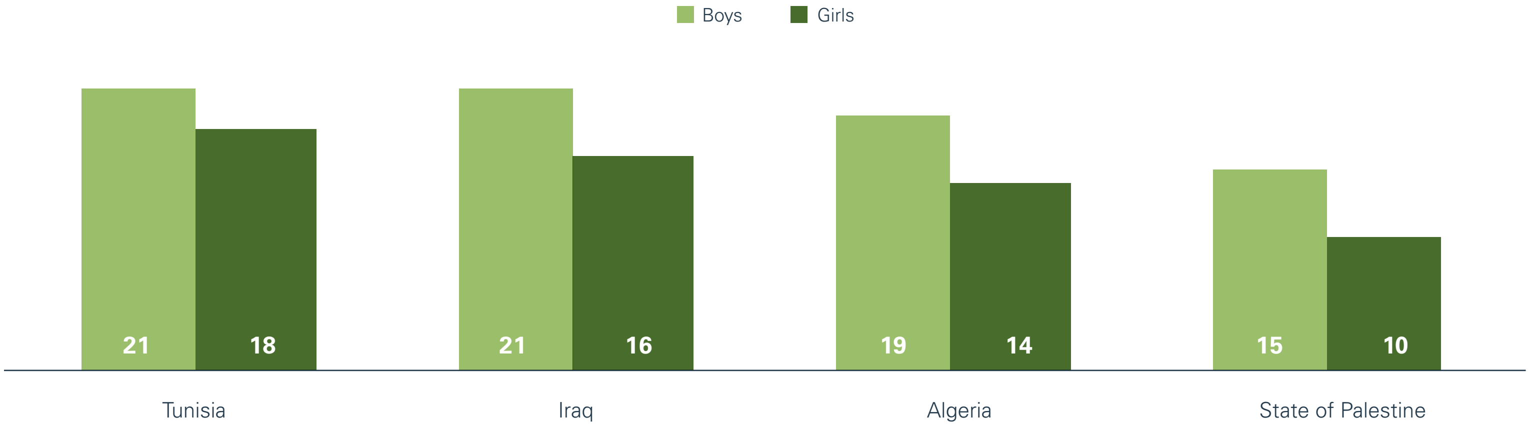


FIGURE 6 Percentage of children aged 2 to 17 years with one or more functional difficulties



In most countries, a significantly higher proportion of boys than girls have functional difficulties

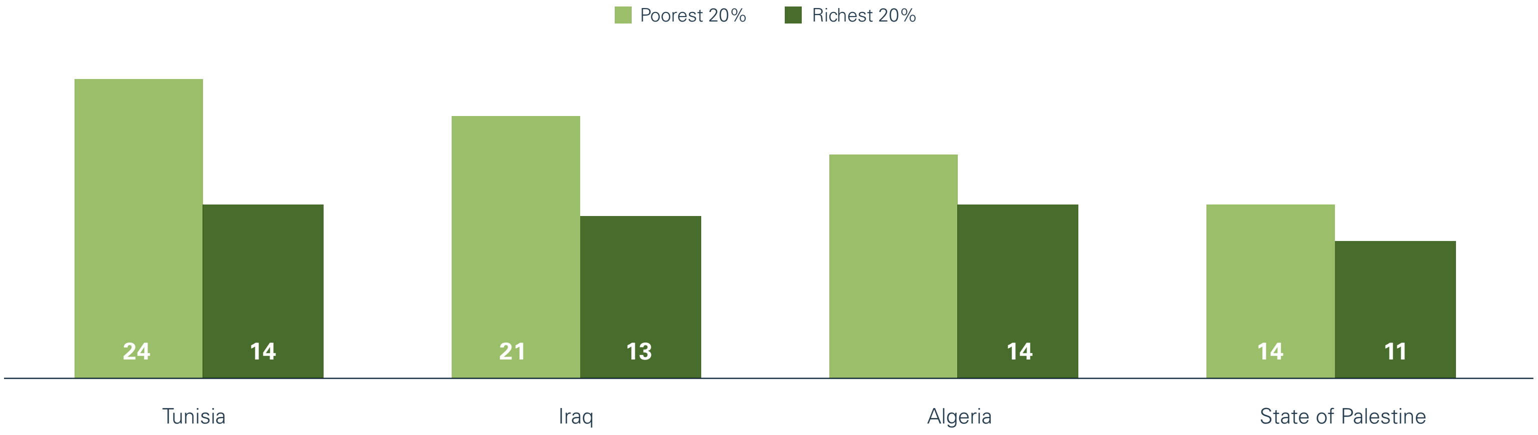
FIGURE 7 Percentage of children aged 2 to 17 years with one or more functional difficulties



Note: Differences for Tunisia are not statistically significant.

Children from the poorest households have a higher proportion of functional difficulties than their richest counterparts

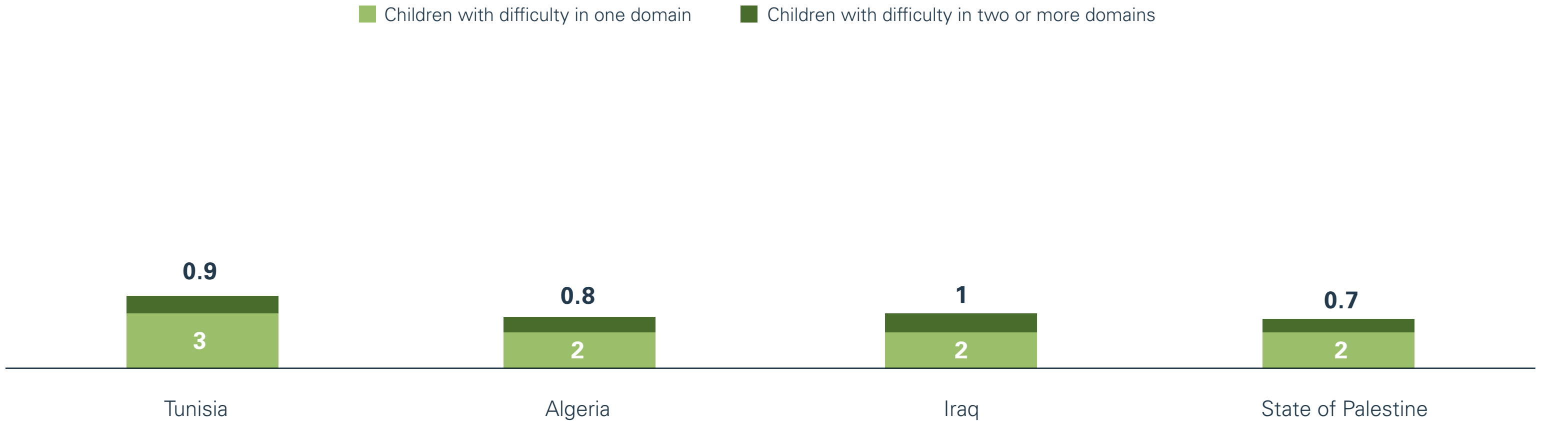
FIGURE 8 Percentage of children aged 2 to 17 years with one or more functional difficulties



Note: Differences for the State of Palestine are not statistically significant.

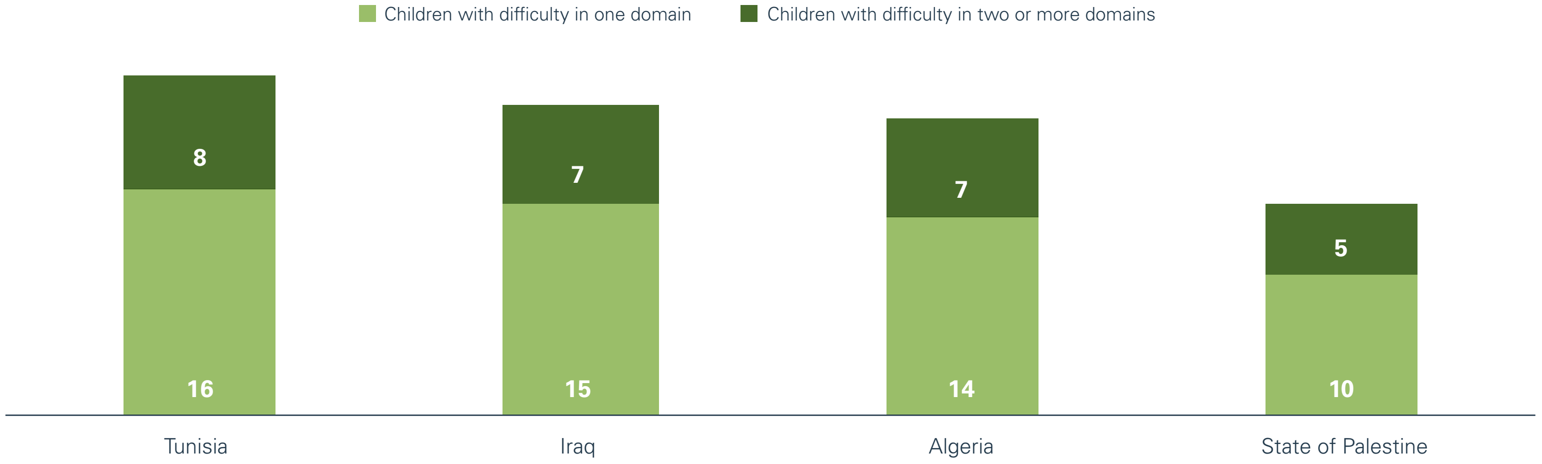
Most children with disabilities have functional difficulties in only one domain

FIGURE 9 Percentage of children aged 2 to 4 years with one or more functional difficulties



Note: Some of the values presented in this chart do not match those in Figure 4 due to rounding.

FIGURE 10 Percentage of children aged 5 to 17 years with one or more functional difficulties

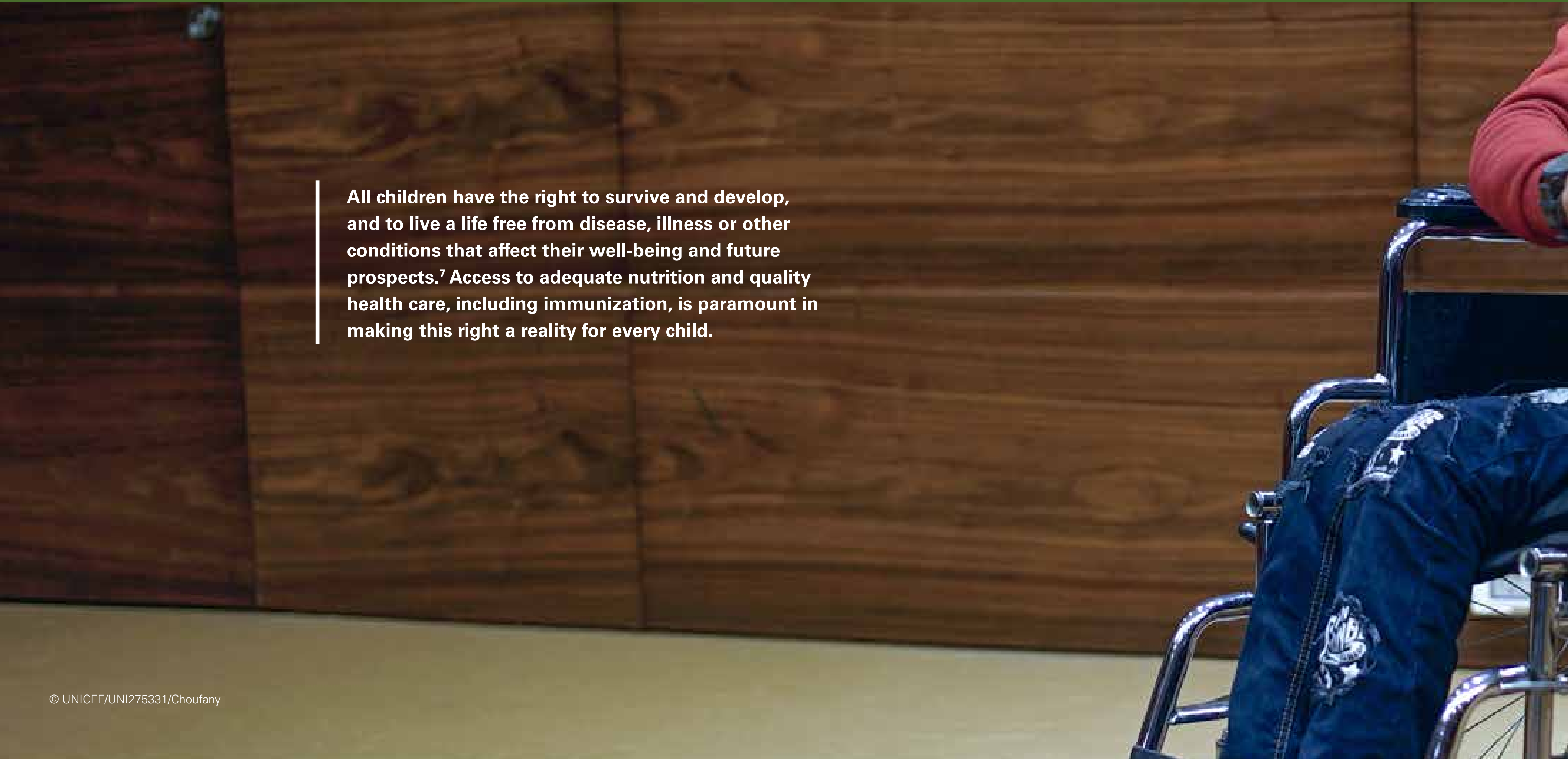


The proportion of children with functional difficulties varies significantly by domain; however, psychosocial difficulties predominate across all countries

TABLE 2 Percentage of children aged 2 to 17 years with one or more functional difficulties

		Algeria	Iraq	State of Palestine	Tunisia
2 to 17 years	Seeing	0.9	0.7	0.6	0.9
	Hearing	0.4	0.3	0.4	0.3
	Walking	1	2	1	1
	Communicating	1	0.9	0.6	0.9
	Learning	1	1	1	1
	Controlling behaviour	2	1	2	3
2 to 4 years	Fine motor skills	0.3	0.4	0.4	0.4
	Playing	0.5	0.7	0.4	0.6
5 to 17 years	Self-care	0.8	0.9	0.5	0.9
	Remembering	1	1	0.9	1
	Concentrating	1	0.8	0.6	2
	Accepting change	3	2	1	3
	Making friends	1	1	1	2
	Signs of anxiety	13	16	10	17
	Signs of depression	4	7	2	4

Every child has the right to survive and thrive



All children have the right to survive and develop, and to live a life free from disease, illness or other conditions that affect their well-being and future prospects.[7] Access to adequate nutrition and quality health care, including immunization, is paramount in making this right a reality for every child.

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Indicators and data sources used in this chapter

The country data presented in this chapter are drawn from MICS conducted in Algeria, Iraq, State of Palestine and Tunisia between 2018 and 2020.

Prevalence of acute respiratory infection (ARI) symptoms: Percentage of children aged 24 to 59 months for whom the mother reported symptoms of ARI in the last two weeks.

Prevalence of diarrhoea: Percentage of children aged 24 to 59 months for whom the mother reported an episode of diarrhoea in the last two weeks.

Prevalence of fever: Percentage of children aged 24 to 59 months for whom the mother reported an episode of fever in the last two weeks.

Moderate and severe underweight prevalence: Percentage of children aged 24 to 59 months who fall below minus two standard deviations of the median weight-for-age of the World Health Organization (WHO) Child Growth Standards.

Moderate and severe stunting prevalence: Percentage of children aged 24 to 59 months who fall below minus two standard deviations of the median height-for-age of the WHO Child Growth Standards.

Definitions and data interpretation issues

Some of the findings in this chapter present limitations. Since the Child Functioning Module only captures information on children 2 years of age and older, some health and nutrition outcomes that may affect children with disabilities before this age are not reflected in the data. This is significant since before age 2 vulnerability to infection remains high and challenges may arise in providing early nutrition (such as difficulties in breastfeeding).

Findings on disease symptoms and reported disease episodes also present limitations. Symptoms of ARI are collected to capture symptoms related to pneumonia, a leading cause of death in children under the age of 5. In the data analysed, a child was considered to have had symptoms of ARI if the mother reported that the child had, over the specified recall period (that is, two weeks prior to the survey), an illness with a cough and rapid or difficult breathing and whose symptoms were perceived to be due to a problem in the chest, or both a problem in the chest and a blocked or runny nose. While this approach is reasonable in the context of a multi-topic household survey, these simple case definitions must be kept in mind when interpreting the results and the potential for reporting and recall biases. Furthermore, diarrhoea, fever and ARI can be seasonal and characterized by the rapid spread of localized disease outbreaks from one area to another at different points in time. The timing of the survey and the location of the teams, therefore, might affect the results considerably. Thus, these data must be interpreted with caution and should not be used to assess the epidemiological characteristics of the underlying diseases; rather, they provide an indication of the prevalence of illnesses over a short period of time. Such data are generally used for defining the population in need of treatment and not as true prevalence measures. Finally, data on ARI symptoms and on episodes of diarrhoea and fever by disability status should not be interpreted as reflecting a causal relationship. Rather, they may indicate some level of association.

Findings on nutritional status should also be interpreted with caution. Anthropometric measurements are carried out by trained measurers and under uniform conditions, which include the use of standardized digital scales and measurement boards. Nevertheless, collecting data on the growth of children with disabilities presents additional challenges. Children with certain types of impairments may not grow in the same way as children who develop more typically. This may mean that their health and development cannot be properly measured by standard tools used in the context of household surveys. Moreover, measuring and weighing children with specific types of impairments may lead to larger measurement errors. Finally, it should be noted that the WHO Child Growth Standards were calculated based on children without physical impairments. Therefore, even when a child's height and weight can be collected, standard nutrition indicators (used to measure underweight and stunting) may be inappropriate to assess growth for certain children with disabilities, making findings more difficult to interpret.

Children with disabilities are overrepresented in the number of children with missing anthropometric data. The two main reasons for missing data are that the child was not measured or that the data were collected but were implausible within the WHO growth standards reference z-scores. While the findings presented in this chapter do not specify the reason for missing data, they do provide some insights into the challenges around height and weight measurement of children with disabilities. These include: (1) difficulty measuring a child with an impairment (for example, if limbs are deformed due to polio and proper use of the measurement equipment is not possible), which may mean the measurement was not carried out at all; (2) the quality of the measurement may be poor due to the child's inability to stand upright, leading to inaccuracies; and (3) the growth standard used to generate the z-score for each child may yield an implausible value. This may be due either to the way in which children with certain impairments grow or to errors in measurement exacerbated by the child's condition, meaning that these children would not be included in the estimates at all. For all these reasons, the results presented may not accurately describe the nutritional status of all children with disabilities.


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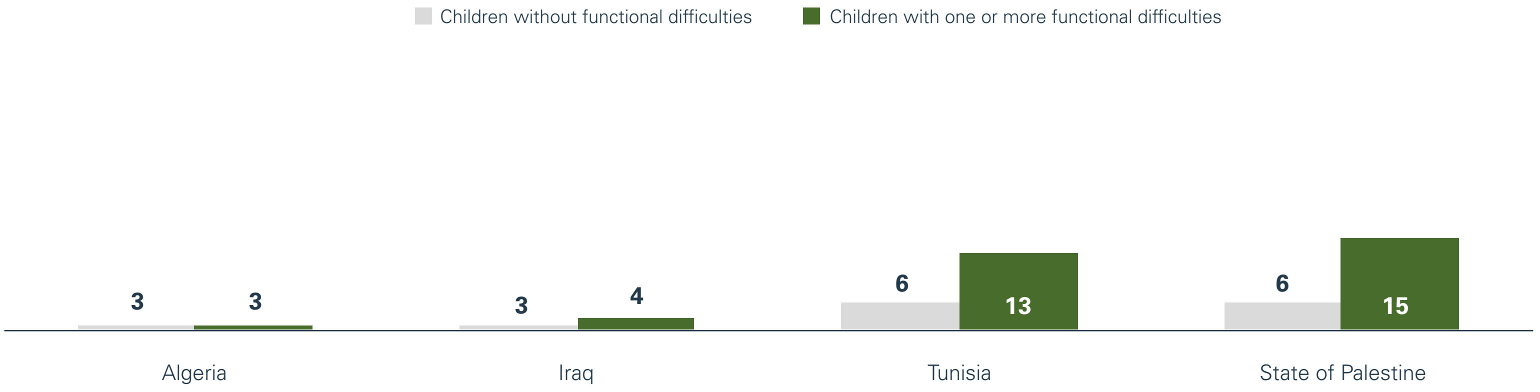
In the State of Palestine and Tunisia, children with disabilities are more than twice as likely to have reported symptoms of ARI than their peers without disabilities

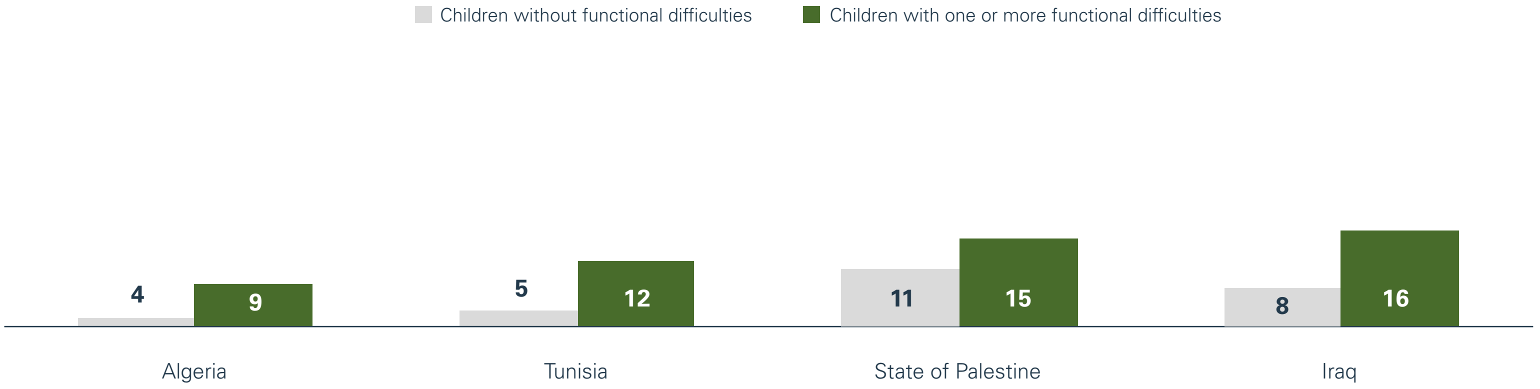
FIGURE 11 Percentage of children aged 24 to 59 months for whom the mother reported symptoms of acute respiratory infection in the last two weeks



Note: Differences for Algeria and Iraq are not statistically significant.

In all countries except the State of Palestine, children with disabilities are more likely to have a reported episode of diarrhoea than their peers without disabilities

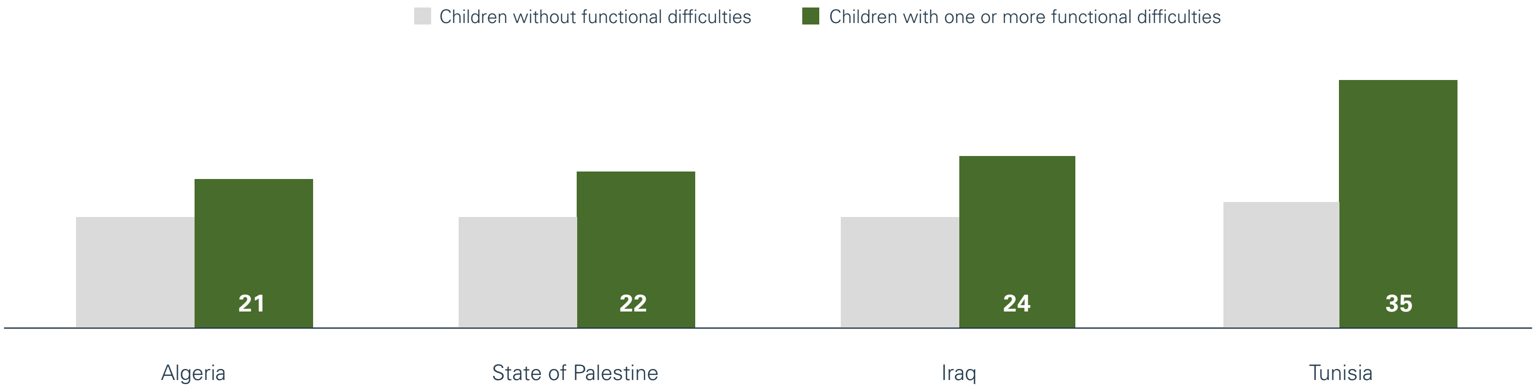
FIGURE 12 Percentage of children aged 24 to 59 months for whom the mother reported an episode of diarrhoea in the last two weeks



Note: Differences for the State of Palestine are not statistically significant.

In Tunisia, children with disabilities are almost twice as likely to have a reported episode of fever than their peers without disabilities

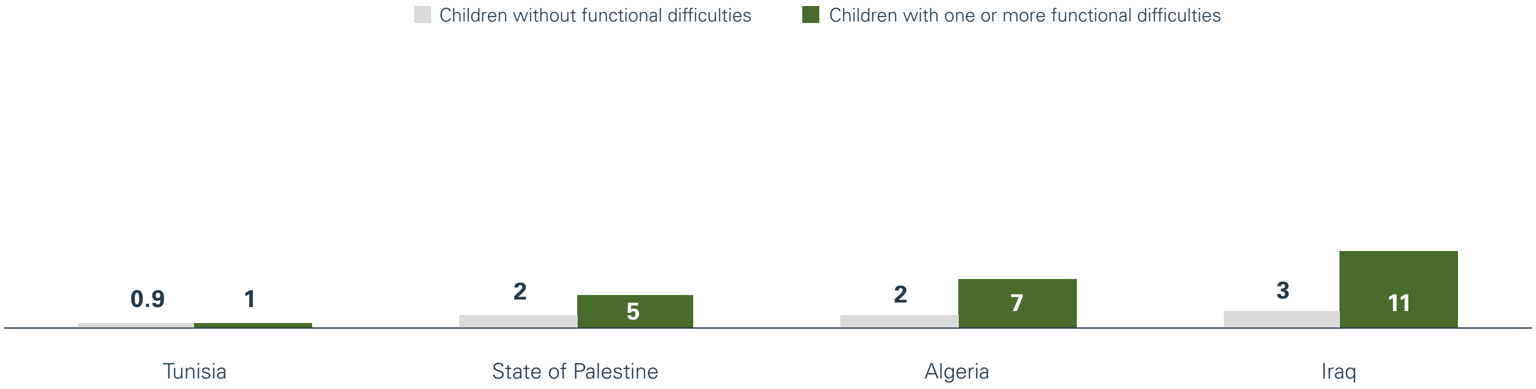
FIGURE 13 Percentage of children aged 24 to 59 months for whom the mother reported an episode of fever in the last two weeks



Note: Differences for Algeria and the State of Palestine are not statistically significant.

In Iraq and Algeria, children with disabilities are over three times more likely to be underweight than children without disabilities

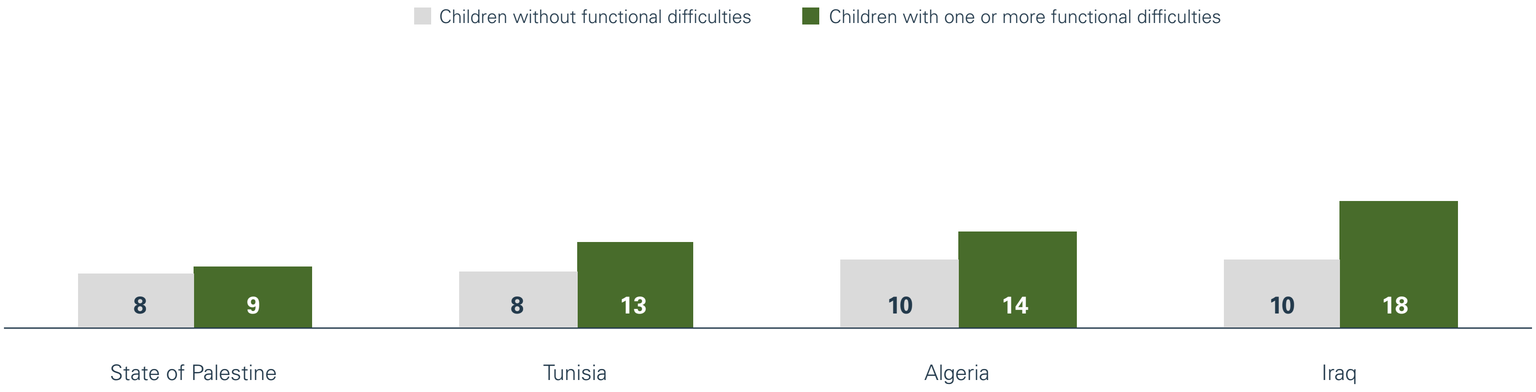
FIGURE 14 Percentage of children aged 24 to 59 months who are underweight



Note: Differences for the State of Palestine and Tunisia are not statistically significant.

In Iraq, children with disabilities are also significantly more likely to be stunted

FIGURE 15 Percentage of children aged 24 to 59 months who are stunted



Note: Differences for Algeria, State of Palestine and Tunisia are not statistically significant.

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Every child has the right to a nurturing family environment, free from violence

All children have the right to grow up in a family environment that provides them with the love, nutrition, protection from violence, opportunities for early learning and responsive care they require to survive, grow and thrive.[8]

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Indicators and data sources used in this chapter

The data presented in this chapter are drawn from MICS conducted in Algeria, Iraq, State of Palestine and Tunisia between 2018 and 2020.

Early stimulation and responsive care: Percentage of children aged 24 to 59 months who engaged in four or more activities to provide early stimulation and responsive care in the last three days with any adult household member. Activities include reading books or looking at picture books with the child; telling stories; singing songs to or with the child; taking the child outside the home; playing with the child; naming, counting or drawing things for or with the child.

Availability of children's books: Percentage of children aged 24 to 59 months who have three or more children's books.

Availability of playthings: Percentage of children aged 24 to 59 months who play with two or more types of playthings. Playthings include homemade toys, such as dolls, cars or other toys made at home; toys from a shop or manufactured toys; household objects, such as bowls or pots; or objects found outside, such as sticks, rocks, animal shells or leaves.

Severe physical punishment: Percentage of children aged 2 to 14 years who experienced severe physical punishment by caregivers in the past month.

Attitudes towards physical punishment: Percentage of mothers of children aged 2 to 14 years who believe physical punishment is needed to bring up, raise or educate a child properly.

Definitions and data interpretation issues

An overarching limitation that runs through some of the indicators regards the age of children measured. Early childhood development indicators that address early stimulation and responsive care, as well as the availability of children's books and playthings, all measure responses for children under the age of 5 years. However, since the Child Functioning Module only covers children who are at least 2 years old, children under age 2 are not represented in the data. The findings, therefore, do not reflect outcomes among younger children, for whom a lack of responsive care or playthings is crucial.

Findings regarding violent methods of discipline should be interpreted with caution since, for a significant percentage of children with functional difficulties, no disciplinary method was reported. For children with difficulties in some domains of functioning, the finding of 'no discipline method reported' is more than five times greater than it is for children without disabilities, suggesting issues within this indicator that may have numerous explanations. Data for this indicator are collected by the interviewer asking whether a child is subjected to different disciplinary methods – both positive and negative. It is therefore possible that the methods used on children with disabilities vary significantly from those used on children without disabilities. However, as these are not mentioned in the survey, they have gone unrecorded. Alternatively, it could be indicative of parents not engaging with their children with disabilities and putting time and energy into disciplining them, either positively or negatively.


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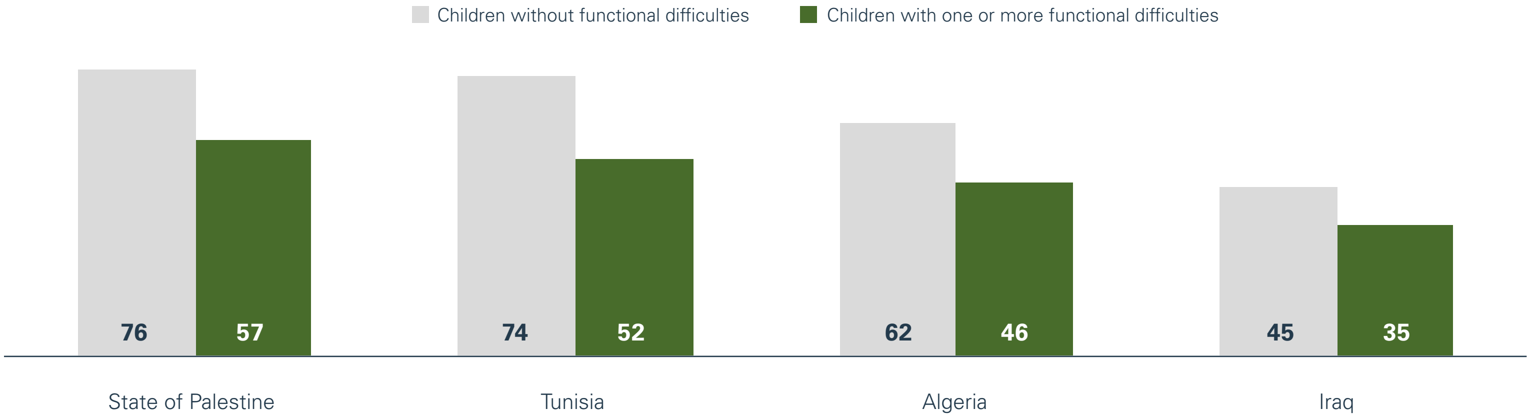
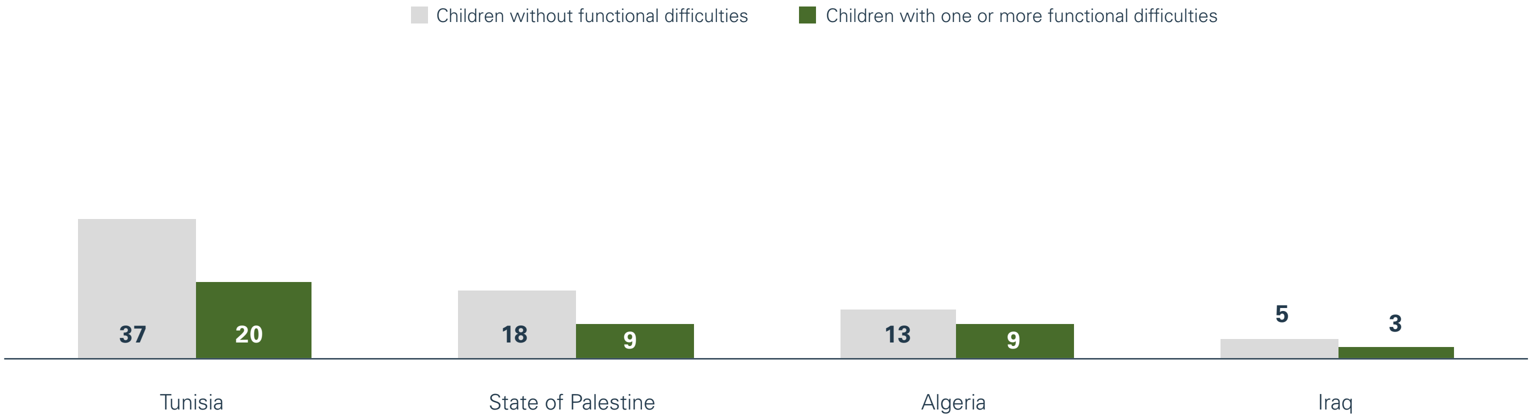
Children with disabilities are significantly less likely to receive early stimulation and responsive care than children without disabilities

FIGURE 16 Percentage of children aged 24 to 59 months who engaged in four or more activities to provide early stimulation and responsive care in the last three days with any adult household member



In Tunisia, children with disabilities are significantly less likely to have three or more children's books than their peers without disabilities

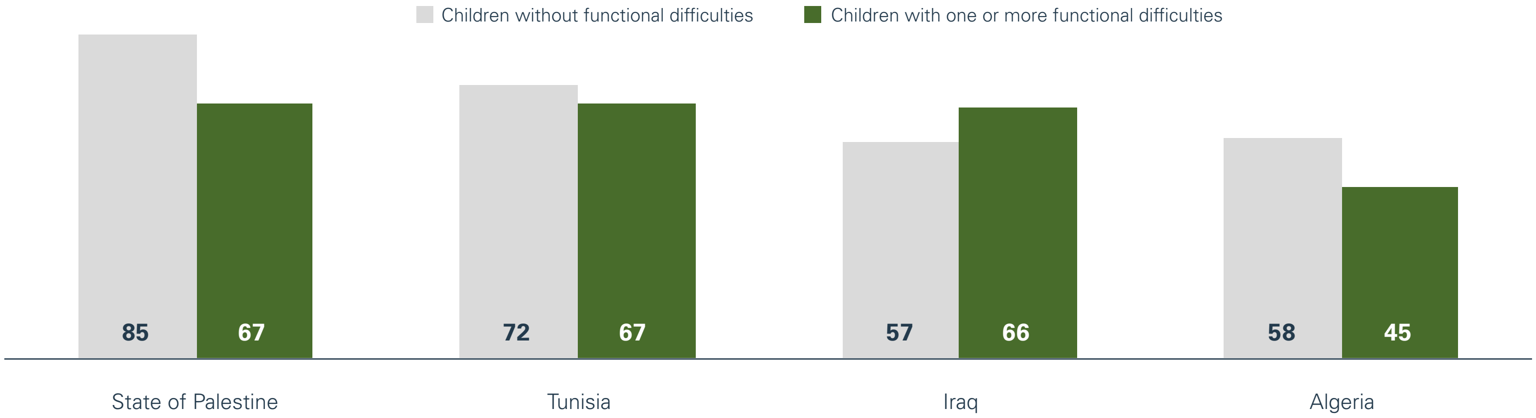
FIGURE 17 Percentage of children aged 24 to 59 months who have three or more children's books



Note: Differences for Algeria, Iraq and the State of Palestine are not statistically significant.

Children with disabilities in Algeria and the State of Palestine are less likely to have two or more types of playthings than children without disabilities

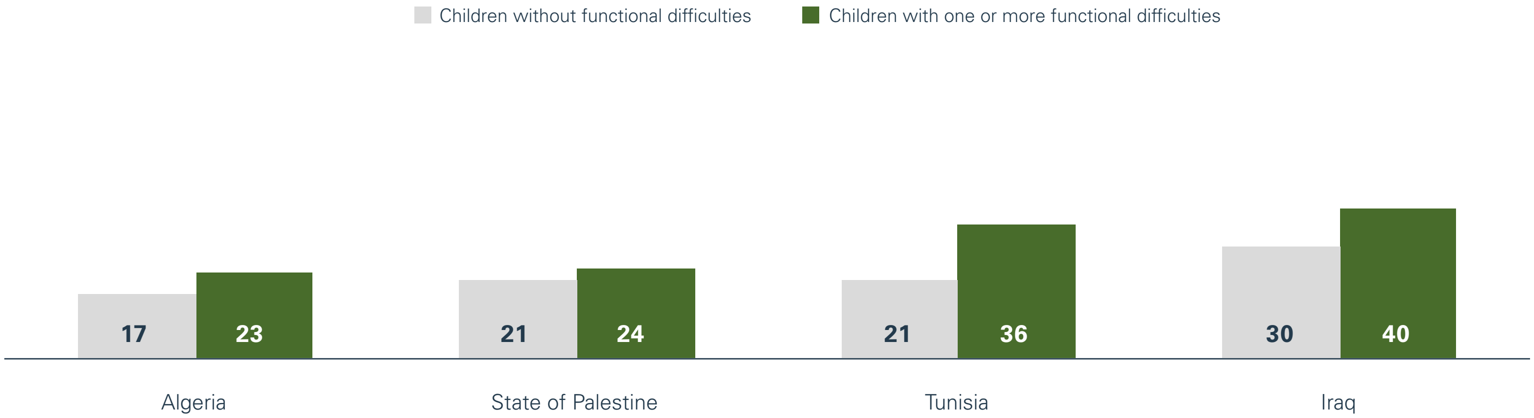
FIGURE 18 Percentage of children aged 24 to 59 months who play with two or more types of playthings



Note: Differences for Tunisia are not statistically significant.

In Iraq, Tunisia and Algeria, children with disabilities are more likely to experience severe physical punishment than children without disabilities

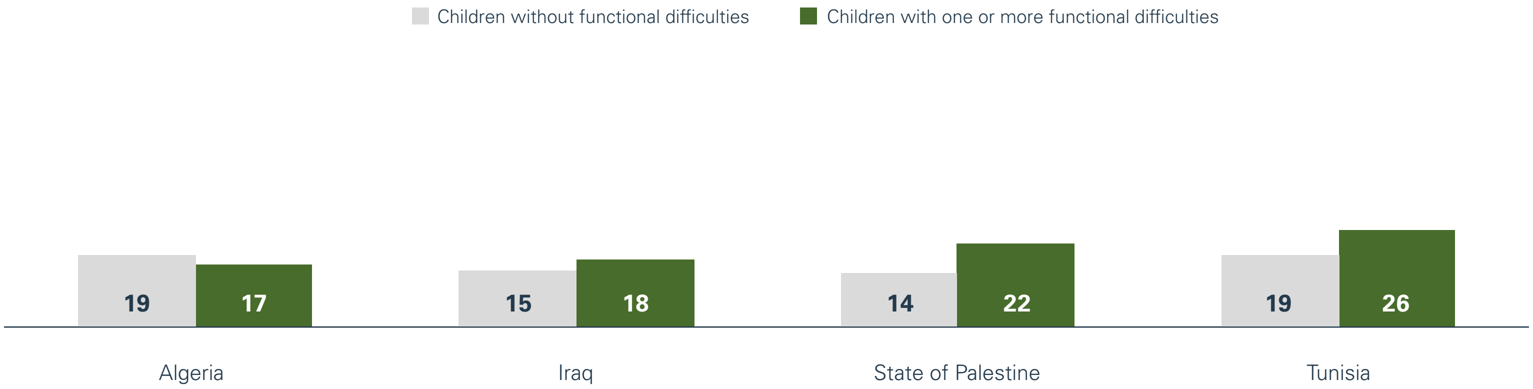
FIGURE 19 Percentage of children aged 2 to 14 years who experienced severe physical punishment by caregivers in the past month



Note: Differences for the State of Palestine are not statistically significant.

In most countries, mothers of children with disabilities are more likely to believe that physical punishment is needed to raise a child properly

FIGURE 20 Percentage of mothers of children aged 2 to 14 years who believe physical punishment is needed to bring up, raise or educate a child properly



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Every child has the right to learn

Education provides children with the knowledge and skills they need to grow and prosper, creating well-being, pathways to future opportunities and healthier lives. Ensuring opportunities for all children to succeed in school requires equity and inclusion that guarantees access, participation, progress and achievement of key learning outcomes. This means addressing all aspects of a child's educational path and eliminating the disparities and barriers that begin early in life, accumulate during childhood and generate further disadvantages for the most marginalized children, including children with disabilities.

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Indicators and data sources used in this chapter

The country data presented in this chapter are drawn from MICS conducted in Algeria, Iraq, State of Palestine and Tunisia between 2018 and 2020.

Attendance of early childhood education: Percentage of children aged 36 to 59 months who are attending an early childhood education programme.

Out-of-school rate: Percentage of children of:
- Primary-school age who are not attending early childhood education, primary school or higher
- Lower-secondary-school age who are not attending primary, lower- or upper-secondary school or higher
- Upper-secondary-school age who are not attending primary, lower- or upper-secondary school or higher.

Books and reading:
- Percentage of children aged 7 to 14 years who have three or more books to read at home
- Percentage of children aged 7 to 14 years who read books or are read to at home.

Definitions and data interpretation issues

Several methodological issues need to be addressed to accurately interpret the findings in this chapter.

A relevant consideration is the limitation of the data in providing a comprehensive account of all factors affecting a child's learning experience. While the indicators used here measure education uptake and outcomes, they fall short in fully capturing the experiences of children with disabilities in obtaining an education and the barriers they face. Additional information and data sources are needed to gain such understanding.

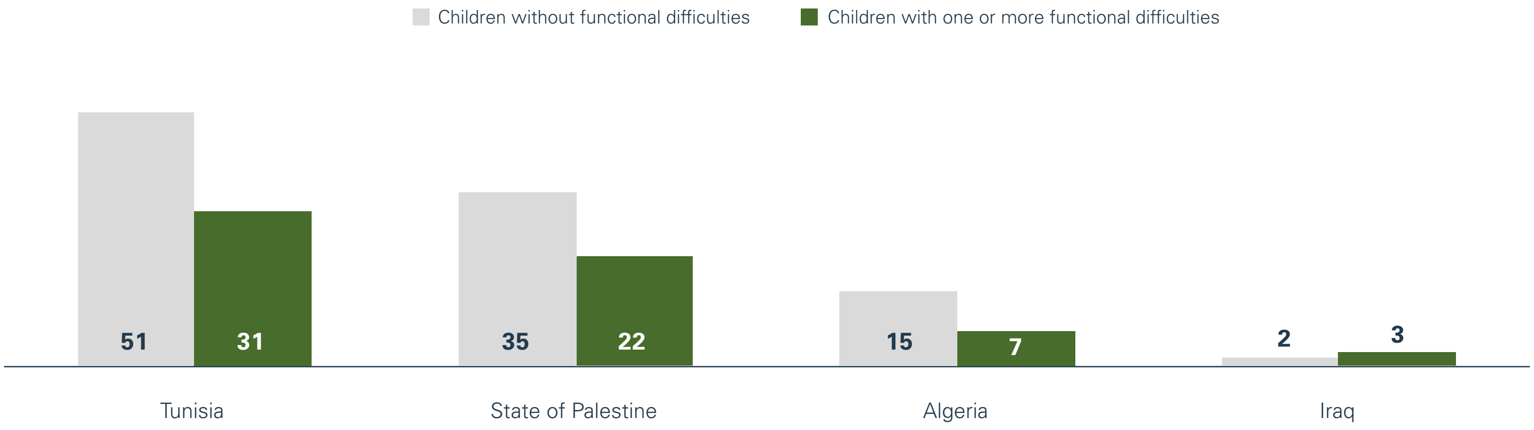
Another data limitation is the inability to distinguish between children who are in mainstream education and those who are in disability-specific educational settings. This is significant since many countries have highly segregated school systems for children with disabilities. For example, what is considered progression in a special education school may be significantly different from that in a mainstream school, fundamentally altering responses to what is considered 'at level' for the child. If this distinction could be captured, then the reported inequities between children with and without disabilities would likely be even greater.

Results related to upper-secondary-school attendance are based on children who were less than 18 years old at the time of the survey. These results should thus be interpreted carefully given that they do not include persons above the age of 18 who may still have been attending upper-secondary school.

A final consideration is the fact that the denominators used for some indicators do not capture the entire population of children represented by the sample. For example, out-of-school indicators only represent the situation of children who have ever attended school. It is well known that the most marginalized children in society, including those with disabilities, tend to be overrepresented among those who are out of school, either because they have never attended school or because they have dropped out. Therefore, the results that show disaggregated information on school progression for children with and without disabilities reflect the experiences of a subgroup of children that, in all likelihood, face lower barriers to education than those who have never been able to attend school.

In Algeria and Tunisia, children with disabilities have a significantly lower attendance rate in early childhood education than children without disabilities

FIGURE 21 Percentage of children aged 36 to 59 months who are attending an early childhood education programme



Notes: Differences for Iraq and the State of Palestine are not statistically significant. Values for children with one or more functional difficulties in Tunisia are based on 25 to 49 unweighted observations.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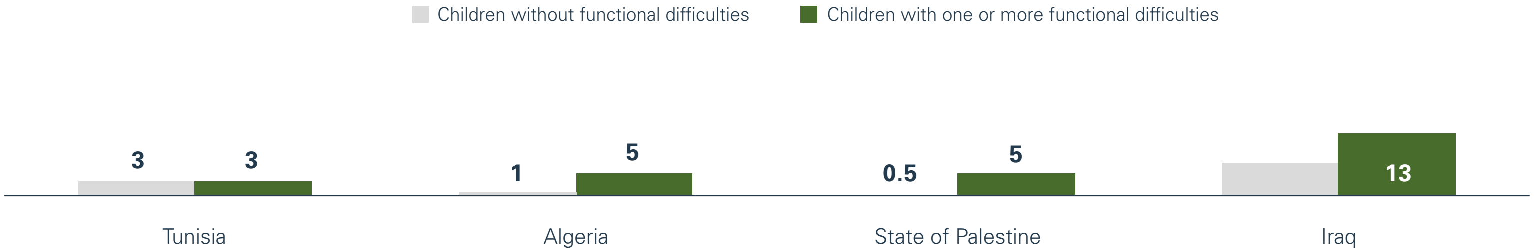
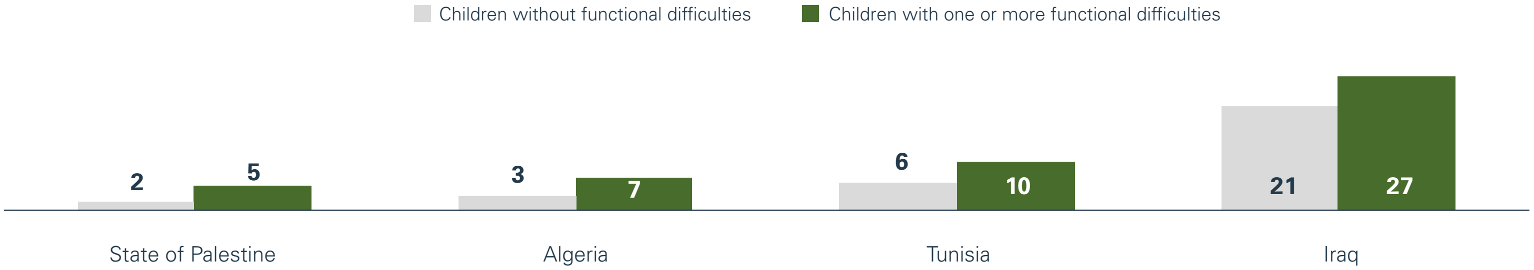
At every level of education, in most countries, children with disabilities are more likely to be out of school than children without disabilities

FIGURE 22 Percentage of children of primary-school age who are not attending primary school or higher



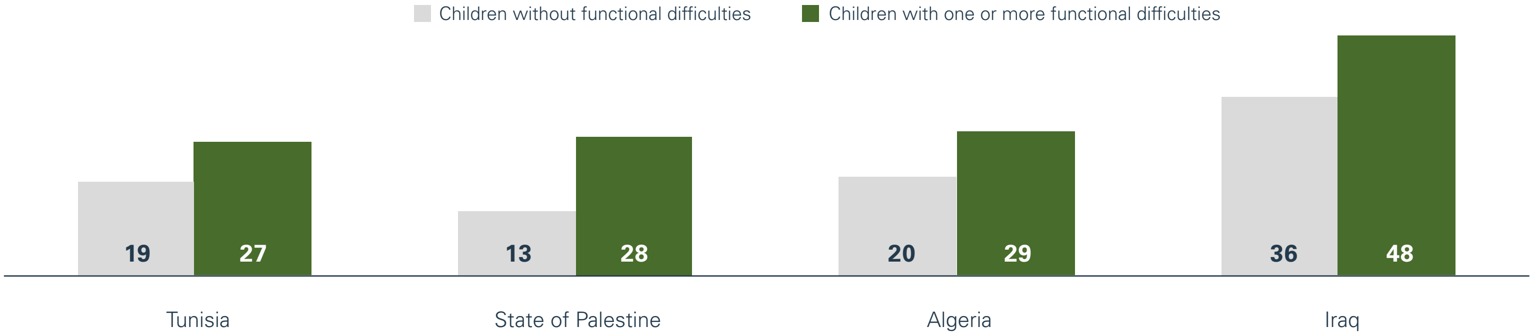
Note: Differences for Tunisia are not statistically significant.

FIGURE 23 Percentage of children of lower-secondary-school age who are not attending primary, lower- or upper-secondary school or higher



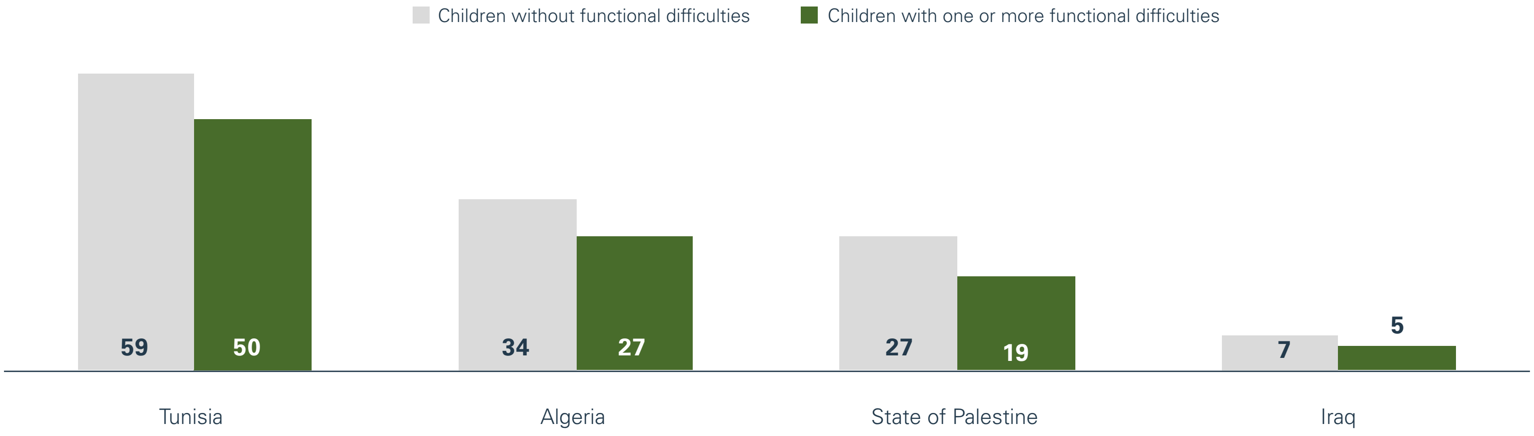
Note: Differences for Iraq and Tunisia are not statistically significant.

FIGURE 24 Percentage of children of upper-secondary-school age who are not attending primary, lower- or upper-secondary school or higher



In all countries except Iraq, children with disabilities are less likely to have three or more books to read at home

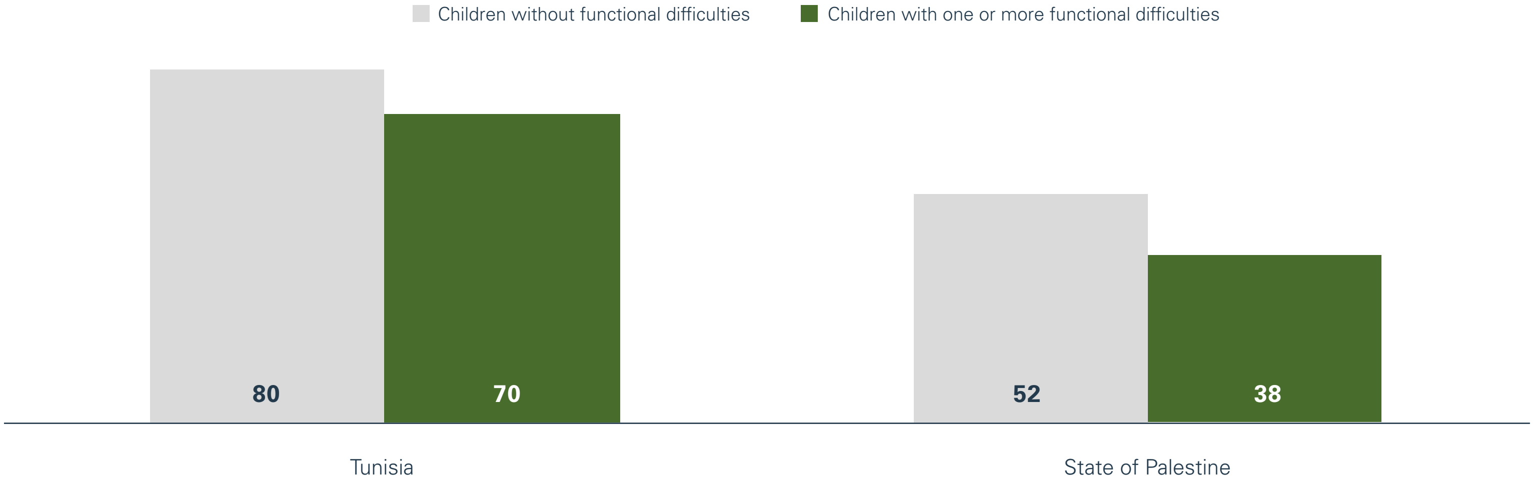
FIGURE 25 Percentage of children aged 7 to 14 years who have three or more books to read at home



Note: Differences for Iraq are not statistically significant.

In both the State of Palestine and Tunisia, children with disabilities are significantly less like to read books or be read to at home

FIGURE 26 Percentage of children aged 7 to 14 years who read books or are read to at home



Note: Data on this indicator are not available for Algeria and Iraq.

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Every child has the right to a happy life, free from discrimination

> **Inequalities and negative outcomes for children with disabilities often stem from discrimination, harassment, stigma and negative stereotypes.[9]**

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Indicators and data sources used in this chapter

The country data presented in this chapter are drawn from MICS conducted in Algeria, Iraq, State of Palestine and Tunisia between 2018 and 2020.

Discrimination: Percentage of adolescents aged 15 to 17 years who report having personally felt discriminated against or harassed within the previous 12 months on the basis of disability or on one of the other grounds for discrimination prohibited under international human rights law.

Happiness: Percentage of adolescents aged 15 to 17 years who are very or somewhat happy.

Definitions and data interpretation

One limitation regarding the results on discrimination and subjective well-being is the high proportion of missing information among children with difficulties in certain domains. Since these data are collected through a questionnaire that is directly administered to adolescents aged 15 to 17 years, those with certain difficulties could not be interviewed due to accommodation constraints during the survey implementation.

Another limitation regarding discrimination is the challenge inherent in a perception-based question. While results for discrimination can measure whether adolescents perceive that they have been discriminated against, either because of their disability or for another reason, these results cannot definitively show whether discrimination actually occurred. For this reason, results involving discrimination should be understood as being based on perception.

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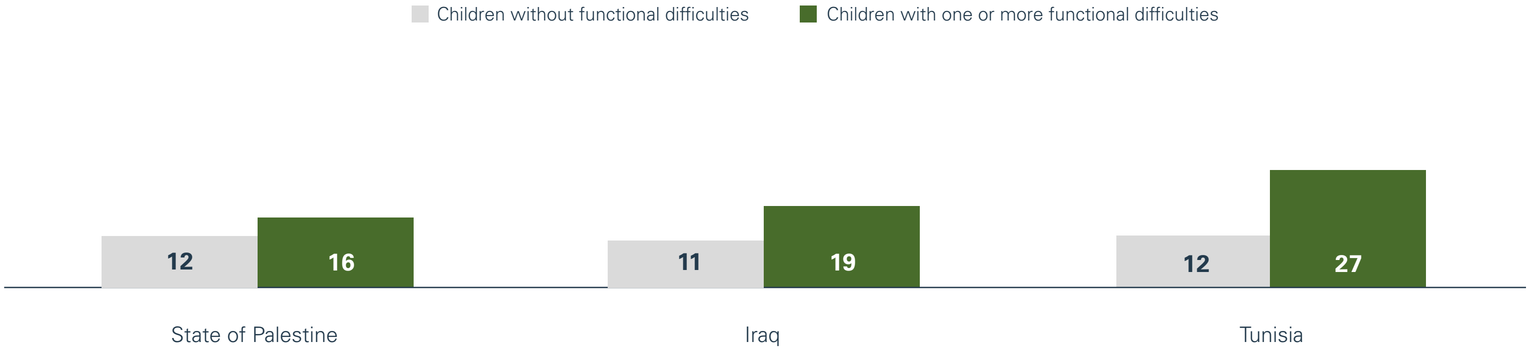
In Tunisia, children with disabilities are more likely to feel discriminated against than children without disabilities

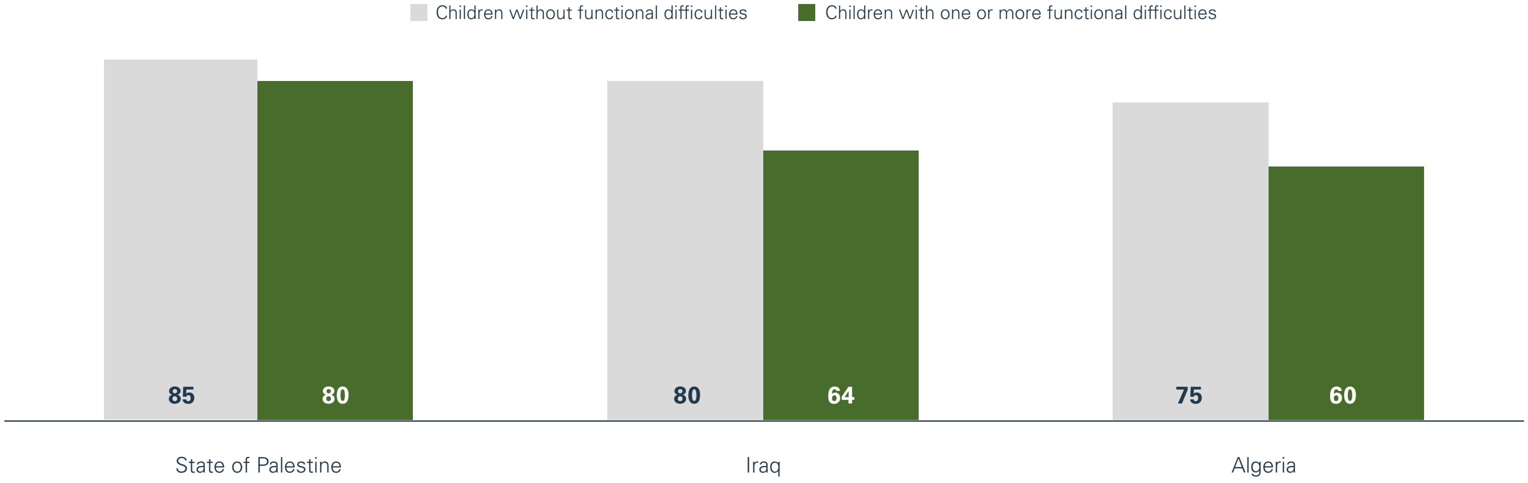
FIGURE 27 Percentage of adolescents aged 15 to 17 years who report having personally felt discriminated against or harassed within the previous 12 months on the basis of disability or on one of the other grounds for discrimination prohibited under international human rights law



Notes: Differences for Iraq and the State of Palestine are not statistically significant. Data on this indicator are not available for Algeria.

Children with disabilities in Algeria and Iraq are significantly less likely to describe themselves as very or somewhat happy compared with children without disabilities

FIGURE 28 Percentage of adolescents aged 15 to 17 years who are very or somewhat happy



Notes: Differences for the State of Palestine are not statistically significant. Data on this indicator are not available for Tunisia.

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Fulfilling the rights of every child in the Middle East and North Africa

Including children with disabilities in all aspects of life must be a priority – in the Middle East and North Africa as in the rest of the world. Every child, everywhere, has something to offer. His or her energy, talents and ideas can make a positive difference to families, communities and the world.

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Counting, documenting, understanding

Nearly 21 million children in the Middle East and North Africa have some form of disability.

Comparable data from four countries in the region provide insights into the characteristics and well-being of these children. While the proportion of children with disabilities varies – from 12 per cent in the State of Palestine to 20 per cent in Tunisia – most children in all four of these countries have difficulties in only one domain of functioning. Psychosocial difficulties, particularly signs of anxiety, affect the largest share of children.

In many countries, children with disabilities have a greater likelihood of experiencing adverse health and nutritional outcomes. In Tunisia, for example, children with disabilities are more likely to have had episodes of diarrhoea or fever, or symptoms of an acute respiratory infection, in the previous two weeks compared with children without disabilities. The proportion of children who experience malnutrition across the region is low. Children with disabilities in Iraq, however, are more likely to be underweight or stunted than their peers without disabilities.

Notable differences are found in the ways in which children with disabilities are parented. In all four of the countries examined, children with disabilities are less likely to receive adequate early stimulation and responsive care from adults in their households. In Algeria, Iraq and Tunisia, children with disabilities are significantly more likely to experience severe physical punishment from caregivers than children without disabilities. In Iraq, the State of Palestine and Tunisia, mothers of children with disabilities are more likely to believe that physical punishment is needed to raise a child properly.

Children with disabilities in Algeria and Tunisia are substantially less likely to be attending an early childhood education programme, and in all countries, children with disabilities are more likely to be out of school than their peers without disabilities. Children with disabilities in the State of Palestine and Tunisia are also less likely to have either three or more children's books, or to read or be read to at home.

Finally, significant differences are found in subjective well-being between children with and without disabilities. In Tunisia, children with disabilities are more than twice as likely to report feeling discriminated against compared with children without disabilities. Similarly, in Algeria and Iraq, children with disabilities are significantly less likely to report being very or somewhat happy compared with children without disabilities.

Taken altogether, these data illustrate the deprivations experienced across the Middle East and North Africa by children with disabilities. They also suggest that their lived experiences vary significantly. Findings can provide a starting point from which policies can be crafted to address inequities and ensure equal opportunities for all children.

From knowledge to action

All children with disabilities deserve the opportunity to thrive. For this to become a reality, governments must consider the full range of needs of these children and their families in providing programmes and services. They need to work together with persons or associations of persons with disabilities to ensure that:

- All social services and environments are inclusive and accessible, so that community-based care and assistance, critical information and opportunities to play and engage are available to every child, in times of stability as well as in humanitarian emergencies.
- Education is inclusive and accessible, so that children with disabilities can go to school in their communities and learn alongside their peers without disabilities.
- Children with disabilities are protected against violence, abuse, neglect and exploitation, are able to benefit from birth registration and family support, and can seek child-friendly, disability-inclusive support and justice when their rights are violated.
- Children with disabilities can access psychosocial support, so that they are able to maintain their well-being and receive care for mental health issues such as anxiety and depression.

- Stigma and discrimination against children with disabilities and their families are eradicated, and the voices of children with disabilities are heard.
- Children with disabilities and their families are covered by adequate social protection that supports their individual needs, links them with critical services, and helps break the cycle of poverty, deprivation and exclusion.
- Parents and caregivers of children with disabilities receive support to raise their children in the best way possible while maintaining their own mental health and well-being.
- Robust, relevant and inclusive data are generated at regular intervals.

For every child, inclusion

The extent to which children with disabilities are deprived, feel discriminated against and lack hope for the future makes it clear that societies are not doing enough to realize the most basic human rights of all children. As a result, the vicious cycle of exclusion and disadvantage that leaves children with disabilities behind continues. Knowing that the problem comes down to barriers that society creates – which are a matter of choice, not immutable realities – means that there is potential for change. Part of that change will involve celebrating children with disabilities and embracing diversity in all its forms.

It starts right here, right now. When children with disabilities are seen and counted, they are no longer invisible, and the promise of inclusion becomes a real possibility.

The steps in between depend upon every stakeholder. They involve shared responsibility, accountability and working together to ensure that all children, including children with disabilities, are able to achieve their inherent potential.

BOX 2

The Centre of Excellence on Data for Children with Disabilities

All countries should produce high-quality data on children with disabilities at regular intervals. An important first step is adopting data collection instruments that measure the breadth and depth of functional difficulties that children experience. Data should also capture the extent of the restrictions they face in becoming active members of society. This means collecting additional data about the context in which they live, the barriers in their environment, the extent of their participation in different spheres, and their access to core services and interventions. The collection of robust data on children and adults with disabilities needs to extend to humanitarian settings and also include children who are institutionalized or in street situations.

Counting all children requires the building of capacity so that quality standards are adopted worldwide for official disability statistics. Countries need support in their efforts to collect, analyse and disseminate data on children with disabilities. This should include the engagement – and empowerment – of all relevant stakeholders, including organizations of persons with disabilities.

To support these efforts, UNICEF has launched the Centre of Excellence on Data for Children with Disabilities. The Centre will help fill data gaps and meet the growing need for coordination, quality oversight and technical expertise in the field. It will support a broad range of activities to build the capacity of data producers and data users, facilitate the development of new methods and tools, and support data collection, data analysis, data interpretation and use, and knowledge generation.

The mission of the Centre is to enhance the ability of stakeholders to make timely and data-driven decisions affecting children with disabilities. To achieve this mission, it will engage in a wide variety of activities, drawing on the principles of partnership, innovation and inclusivity. The Centre is guided by a Strategic Advisory Group composed of key stakeholders, who advise on its activities and provide overall direction.

The Centre has been founded with a global focus and commitment to the above goals. This involves working with stakeholders across the globe, including in the Middle East and North Africa.

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Technical annex

This report is based on UNICEF's 2021 global report, *Seen, Counted, Included: Using data to shed light on the well-being of children with disabilities*. The technical work behind that report aimed to produce estimates of the number of children with disabilities aligned with the Convention on the Rights of Persons with Disabilities and a biopsychosocial concept of disability. The regional and global estimates presented here rely mainly on information about functional difficulties or limitations among children gathered through sources with some degree of international comparability. While most of the data sources included in the estimates refer to data collected from 2017 onwards, the data points used for some countries are not the most recent ones, but those most aligned with the concept of disability underlying the global estimate.

Until the 2021 report, no estimation of the global number of children with disabilities had been made that takes into account a broad range of functional difficulties along with behavioural and mental health issues.

The only estimate available for many years indicated that 10 per cent of the world's population had some form of disability.[10] In 2011, this was updated to 15 per cent, and an estimate was produced on the number of children aged 14 or younger with a moderate or severe disability: 93 million children, or 5 per cent of children in that age group.[11] Such global estimates are affected by well-known limitations surrounding disability measurement.

The concept of disability described in the *WHO's Global Burden of Disease 2004* (upon which the 2011 estimate for children is based) refers to the perceived short- or long-term loss of health associated with a condition and is not entirely aligned with the ICF definition of disability. This metric of disability has been criticized for its lack of consideration of core participatory and rights-based principles and for being discriminatory on the value of persons with disabilities.[12]

Another limitation to this approach is that the weights attributed to each impairment do not account for the differential impact that an impairment may have on various individuals as a result of environmental conditions.[13] Since the weights used by the *Global Burden of Disease* do not vary across geographic regions, they disregard the multiple contextual factors that can worsen functionality in persons with the same impairments.[14]

The use of medical concepts of disability also has implications for the quality of data. Reporting of these impairments usually depends on parents' awareness of symptoms and a pre-existing diagnosis. Therefore, under-identification remains a problem since diagnosis depends on the availability of health-care facilities where children can be screened.

More recent estimates have introduced improvements, such as increasing the internal consistency of different sources of data by using a meta-analytic approach and adjusting estimates for comorbidity.[15] That said, these latest estimates are still largely focused on the burden of different impairments and medical conditions, rather than on the functional difficulties or restrictions to participation experienced by children with disabilities.

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How data were selected

UNICEF maintains a global database of disability data sources from 194 countries. The database includes more than 1,000 data points together with information on methodological aspects that can impact the number of children who are identified as having a disability. The selection of data sources involved an extensive process of data compilation and consultations with country-level experts to overcome limitations on data availability and comparability, and to ensure their views were reflected in the data selection, harmonization and estimation process.

After screening the disability global database, sources of data collected prior to 2005, as well as those not derived from censuses or household surveys, were excluded. An additional selection criterion focused on identifying data aligned as closely as possible with the concept of disability described earlier. This meant selecting sources of data gathered through measurement tools that collect information on functional difficulties rather than specific impairments or health conditions. Another selection criterion was the use of a rating scale to capture the severity of functional difficulties, rather than the use of 'yes' or 'no' questions.

On the basis of these considerations, and in consultation with experts, 103 data sources (one per country) were selected, including 10 sources for countries in the Middle East and North Africa. Collectively, these data sources represent 84 per cent of the world's population of children and at least 50 per cent of the population of children within each region (Table 3).

Technical consultations

Heterogeneity across data sources is a common concern when generating global estimates. While this can be dealt with using a strictly statistical approach, incorporating country-level expertise into the data selection and harmonization process was considered important.

TABLE 3 Countries and areas, population coverage and data collection instruments

	Countries and areas		Percentage of child population	Type of instrument			
	Total number	Number included in the analysis		Child Functioning Module	Washington Group Short Set	Global Activity Limitation Indicator	Other
East Asia and the Pacific	33	16	80	10	5	0	1
Eastern and Southern Africa	25	13	74	5	7	0	1
Europe and Central Asia	55	31	59	9	1	20	1
Latin America and the Caribbean	37	14	74	10	3	0	1
Middle East and North Africa	19	10	73	5	5	0	0
North America	2	2	100	2	0	0	0
South Asia	8	5	96	3	1	0	1
West and Central Africa	24	12	74	9	3	0	0
Total	**203**	**103**	**84**	**53**	**25**	**20**	**5**

The estimation work was part of an iterative process that included three technical consultations with experts in the field of data on children with disabilities. They included professionals from national statistical offices, organizations of persons with disabilities and academia.

Following a standard protocol, the consultation sought to obtain the experts' views on the prevalence of children with functional difficulties in their countries. The initial part of the consultation was dedicated to building a common understanding of disability aligned with the ICF and the Convention on the Rights of Persons with Disabilities. This was followed by in-depth discussion of the available country-level information and the results of the data harmonization analyses and estimation work. For each consultation, UNICEF shared details on the process and methodology used for estimations as well as on the selected data sources for each region and country/area. Experts' inputs in relation to the data harmonization approach were incorporated and reflected in the regional and global estimates.

Data harmonization

Harmonization of age groups: Results by age group were harmonized to match the Child Functioning Module's age groups (children aged 2 to 4 years and 5 to 17 years). For some data sources, prevalence for the harmonized age groups was calculated directly from empirical results available at the country level. For the remaining sources, the harmonized results by age group were obtained using weighted averages of the data points available.

Adjustment of the Washington Group Short Set: Instruments that collect data based on a restricted number of functional domains tend to underestimate the proportion of children with disabilities. Results from several countries that used both the Child Functioning Module and the Washington Group Short Set show that the number of children aged 5 to 17 years who are identified as having functional difficulties by the six domains covered by the Short Set is substantially lower than the number identified by the 12 domains included in the Child Functioning Module (Table 4). While this underestimation is mostly due to the larger number of domains in the Child Functioning Module, other sources of underestimation should be considered, given that the two instruments are typically implemented under different conditions. For example, while the Child Functioning Module is intended to be administered to the child's mother (or if the mother is deceased or living in another household, to the child's primary caregiver), the Short Set is typically administered to the household head. Table 4 shows the differences in the estimates generated by the two instruments in seven countries.

To correct for the underestimation of the percentage of children with disabilities, the data points based on the Short Set were adjusted. The process was as follows. First, microdata from 36 countries that used the Child Functioning Module were processed to generate country-level results of the percentage of children aged 5 to 17 years identified as having one or more functional difficulties based on: (a) the full set of 12 functional domains, and (b) the subset of 6 functional domains that are common to the two measures. Second, linear regression models were used to predict country-level results for the 12 functional domains based on the country-level results of the 6 functional domains and the country's under-five mortality rate.

TABLE 4 Percentage of children aged 5 to 17 years with functional difficulties measured by the six domains covered by the Short Set, by the same six domains in the Child Functioning Module and by the 12 domains in the Child Functioning Module

	Washington Group Short Set (6 domains)	Child Functioning Module (6 domains only)	Child Functioning Module (12 domains)
Costa Rica	4.0	7.1	21.1
Guyana	2.2	5.6	17.5
Mexico	1.5	4.1	11.2
Pakistan	2.5	5.0	17.9
State of Palestine	1.5	3.0	14.9
Tonga	1.4	2.7	9.8
Zimbabwe	4.7	4.9	10.1

Imputation of the estimate for children under 2 years of age

Data on disability among children under the age of 2 are scarce. To date, no questions on functional difficulties have been validated that could be implemented to collect data about very young children in surveys and generate results that are reliable and comparable cross-nationally. While most severe impairments manifest early, sometimes even before children are born, many functional difficulties only become evident as children grow up. Measuring functional difficulties in children under the age of 2, in the context of surveys or censuses, is thus complicated since mothers or primary caregivers might not be aware of such difficulties, especially if these are not severe. Yet, excluding children under this age would lead to a systematic underestimation of the number of children with disabilities. Estimates of major and severe impairments at birth among surviving children, and neurodevelopmental and cognitive impairments among babies born pre-term and full-term, range between 2.4 per cent and 2.8 per cent.[16] Even though these estimates are restricted to more severe impairments and conditions, they provide evidence that functional difficulties are to be expected from birth at a prevalence of at least that magnitude. Finally, since some functional difficulties only become evident to mothers as children grow older, it is also reasonable to expect that, among those under 2 years, there is a higher proportion of children with functional difficulties than reported. Therefore, based on these considerations, it seemed reasonable to assume that the estimate for children under the age of 2 could be informed by the estimate for children aged 2 to 4 years in each country.

Estimation of the regional and global number of children with disabilities

The estimations use a meta-analytical approximation to calculate the regional and global number of children with disabilities. Meta-analysis of proportions was implemented using the prevalence rates of children with disabilities for each country, 95 per cent confidence intervals and the child population for all age groups. Country-level prevalence rates were transformed into the number of cases using the child population. Regional estimates were generated using random effects models considering that, despite harmonization efforts, the methods used to estimate the prevalence of disability were heterogeneous. This approach also assumed that prevalence estimates from countries that could not be included in the analysis were better informed by the random effects model. Random effects meta-analysis incorporates the heterogeneity of prevalence across countries rather than relying on the prevalence of larger countries, as assumed by the fixed effects model. The only exception was the North America region, where the two countries that constitute the region (Canada and the United States) used the same instrument and a fixed effects model was used. For all other regional estimates, random effects were utilized to incorporate the within- and between-country variability. The regional estimates were then used to generate the population-weighted global estimate (Table 5).

Analysis using country-level microdata

All data were obtained from publicly available MICS datasets. MICS survey design follows a probabilistic, clustered, stratified and multi-stage sampling approach to generate population-level indicators that are representative at the national level, urban-rural and other domains (usually regions), according to the country-specific stratification strategy.

As of September 2022, data were available across four countries in the Middle East and North Africa. Data processing was conducted to generate the child functioning variables, more than 40 standard indicators, and relevant disaggregation variables.

Results for country analyses that are based on 25 to 49 unweighted observations should be interpreted with caution. Within figures, all numbers except those valued under one were rounded to the nearest whole value.

TABLE 5 Regional and global estimates

	Children aged 0 to 4 years				Children aged 5 to 17 years				Children aged 0 to 17 years			
	%	Lower bound	Upper bound	Number of children with disabilities (in thousands)	%	Lower bound	Upper bound	Number of children with disabilities (in thousands)	%	Lower bound	Upper bound	Number of children with disabilities (in thousands)
East Asia and the Pacific	3.5	3.3	3.8	5,333	9.5	7.5	11.6	37,788	7.8	6.7	9.1	43,121
Eastern and Southern Africa	5.2	4.5	6.0	4,509	12.8	11.2	14.4	24,356	10.4	9.5	11.3	28,865
Europe and Central Asia	2.7	2.4	3.1	1,515	6.5	5.6	7.4	9,299	5.5	4.9	6.0	10,814
Latin America and the Caribbean	3.8	3.3	4.5	1,978	12.6	11.5	13.7	17,102	10.2	9.6	10.8	19,080
Middle East and North Africa	4.5	3.3	6.0	2,246	16.9	13.5	20.5	18,694	13.1	11.3	15.1	20,940
North America	4.4	3.9	4.9	943	12.0	11.3	12.7	7,073	9.9	9.5	10.4	8,016
South Asia	3.7	2.9	4.7	6,254	13.0	10.2	16.1	58,177	10.5	9.0	12.2	64,431
West and Central Africa	6.8	5.8	7.9	6,139	18.9	15.3	22.7	34,944	14.9	12.8	17.2	41,083
World	**4.3**	**4.1**	**4.6**	**28,917**	**12.5**	**11.7**	**13.3**	**207,433**	**10.1**	**9.7**	**10.6**	**236,350**

Countries in the Middle East and North Africa region include Algeria, Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen. For a complete list of countries and areas in the regions and subregions, see <data.unicef.org/regionalclassifications>. Demographic data are from: United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects 2019*, Rev. 1, online edition.

Endnotes

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