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THE CRISIS OF
CHILDREN'S
DIETS IN
EARLY LIFE

FAIL?

unicef 
for every child

2021 | Child Nutrition Report

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September 2021

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Foreword

Across the globe, millions of families are struggling to provide their children with nutritious food to support their growth and development.

The challenges they face are wide-ranging: parents living in poverty may not be able to afford quality food; those living in hard-to-reach communities or areas affected by conflict or climate change may not have access to fresh fruits and vegetables; meanwhile many markets are flooded with low-cost baby food that is high in sugar and over-processed. The drivers of poor diets for the world's youngest children – inequality, globalization, urbanization, conflict, the socioeconomic costs of the COVID-19 pandemic – lie beyond the control of individual families, yet families are largely left alone to bear the consequences.

We know that what and how children are fed before 2 years of age shapes their growth, development, and learning – all of which will set the course for the rest of their lives. But so many children do not have access to nutritious and safe foods during the time in their lives when good nutrition matters most.

The consequences of poor diets hit young children the hardest. That is because delays in growth and development occur mostly during the first two years of life, often because of inadequate nutrition. Without nutritious diets, supportive nutrition services and good feeding practices during this critical period, children under two are at heightened risk of all forms of malnutrition, including stunting, wasting, micronutrient deficiencies, being overweight and obesity.

This global report – *'Fed to Fail?'* – sounds the alarm on the crisis of children's diets during the critical developmental period between six months, when children begin eating their first solid foods, and 2 years of age. It presents the most recent UNICEF data and evidence that shows the alarming state of children's diets globally and the inequities affecting the youngest and most marginalized children. The report makes clear that the world has failed to truly improve the way that most young children are fed in early life.

The report draws on a range of evidence sources, including regional analyses and the lived experiences of mothers across different countries, to highlight the most prominent barriers to good diets for young children. It also charts a way forward to support governments in upholding the right to food and nutrition for every child. Several countries have made significant progress in improving the quality of children's diets in the previous decade. Through their examples, we learn that the crisis of children's diets must be solved through a systems-based approach – leveraging the power and potential of food, health and social protection systems – and driven by collective and decisive will and investment.

The crisis of children's diets and what this crisis means to children, families, and nations, calls for a new vision and response. We must build a world where food systems deliver the nutritious and safe foods that children need to grow, develop and learn to their full potential; where essential nutrition and social protection services are in reach; and where nutritious and safe foods and essential nutrition services are available and affordable for every child — no matter who they are or where they live.

Women and families everywhere play a critical role in ensuring that their children are fed nutritious diets, but they cannot do it alone. We must support them with the right policies, programmes, institutions, and resources. Governments, together with civil society organizations, development and humanitarian partners, and private sector actors, should step forward together to make healthy diets in early childhood a reality for all children, everywhere. Children, women, and families are counting on us. We must not fail them.



Henrietta H. Fore
Executive Director, UNICEF



Executive summary

Poor-quality diets are one of the greatest obstacles to the survival, growth, development and learning of children today. The stakes are highest in the first two years of life, when insufficient dietary intake of nutrients can irreversibly harm a child's rapidly growing body and brain. Meanwhile, foods high in sugar, fat or salt can set children on the path to unhealthy food preferences, overweight and diet-related diseases.

Children can carry the scars of poor diets for the rest of their lives. The Convention on the Rights of the Child states that governments have a legal obligation to protect and fulfil the right to food and nutrition for all children. This makes it vital to understand why we are failing to feed children well in early childhood and what it will take to address the barriers to nutritious, safe and age-appropriate diets in early life – when it matters most.

Our research: Why diets matter in early childhood

This global report examines the latest data and evidence on the status, trends and inequities in the diets of young children aged 6–23 months, and the barriers to nutritious, safe and age-appropriate diets.

The analyses used data from the UNICEF Global Database on Infant and Young Child Feeding, comprising data from 607 nationally representative surveys conducted in 135 countries and territories and representing more than 90 per cent of all children under 2 years of age globally. We also examined evidence obtained through focus group discussions with mothers in 18 low-, middle- and high-income countries, and through reviews of national policies and programmes across regions worldwide. In addition, the report shares UNICEF research on the impact of COVID-19 on young children's diets and access to nutrition services.

Our findings: The crisis of young children's diets

Our findings shed light on how children's diets are falling short of global recommendations, the inequities that impact the most marginalized children, and the multiple, interacting barriers that underlie the crisis of young children's diets.

Children are not fed enough of the right foods at the right time. Currently, 27 per cent of children aged 6–8 months are not fed solid food. Among children aged 6–23 months, 48 per cent are not fed with the minimum meal frequency, and 71 per cent do not have minimally diverse diets. The low consumption of nutritious foods is especially troubling: about half of children are missing the lifelong benefits of the most nutrient-rich foods, such as fruits and vegetables (41 per cent) and eggs, fish and meat (55 per cent).

Children's diets have seen little or no improvement in the last decade. In the 50 countries with trend data, the percentage of children consuming a minimally diverse diet has remained low: 21 per cent in 2010 and 24 per cent in 2020. Only 21 of these countries have seen statistically significant improvements in the diversity of children's diets. Further, millions of families have struggled to feed their children nutritious and diverse diets during the COVID-19 pandemic due to lost income and reduced household purchasing of nutritious foods.

Poor diets are not affecting children equally across and within regions. The child feeding crisis affects all regions, but young children in poorer countries and regions are in greater crisis than others. Almost two thirds (62 per cent) of children aged 6–23 months in Latin America and the Caribbean are fed a minimally diverse diet compared with less than one in four of young children in Eastern and Southern Africa (24 per cent), South Asia (19 per cent) and West and Central Africa (21 per cent).

Disparities in children's diets persist within countries and have not narrowed. Children living in rural areas, poorer households and disadvantaged regions within countries have the least diverse diets. For example, the percentage of children fed a minimally diverse diet is almost double in urban areas (39 per cent) than in rural areas (23 per cent). During the last decade, the equity gaps in meal frequency and dietary diversity between children living in poorer and wealthier households have not narrowed.

Families struggle to find and afford nutritious foods for their children. Shortages in national supplies, seasonal scarcities and poor road infrastructure constrain physical access to nutritious foods, particularly in rural

sub-Saharan Africa, and in remote settings and countries affected by fragility, conflict or climate shocks. Physical access is also problematic in poor urban communities where there are fewer shops selling nutritious foods and limited demand for these foods. In all settings, the relatively high cost of nutritious foods is one of the greatest obstacles, as reported by almost 80 per cent of mothers in the focus group discussions. When income is limited, families tend to prioritize the frequency of feeding and fuller stomachs over the quality of foods for young children.

Children's diets are constrained by social, cultural and gender barriers. Mothers remain primarily responsible for the feeding and care of young children. Yet, in some societies, patriarchal norms and unequal power relations within the family mean that mothers lack the autonomy to decide what foods are purchased or fed to their young children. Mounting time pressures on mothers influence their child feeding decisions: two in three mothers (62 per cent) in our focus group discussions were constrained by insufficient time. Working mothers often compromise their own health or self-care to save time, and many turn to the convenience of processed and fast foods to feed their children.

Unhealthy processed foods and drinks are widely accessible and heavily marketed. Our discussions with mothers found that about one in three young children in Australia, Ethiopia, Ghana, India, Mexico, Nigeria, Serbia and the Sudan were fed at least one processed or ultra-processed food or drink daily. These products are highly available, cheap and convenient, and some are marketed with misleading nutrition claims because legislation to prevent inappropriate marketing is missing, inadequate or poorly implemented.

Policies and programmes to improve young children's diets are not prioritized – and are being further eroded by the COVID-19 pandemic. No country has a comprehensive set of policies, legal measures and programmes to improve young children's diets. Countries are missing vital opportunities to leverage the food, health, and social protection systems to increase young children's access to affordable nutritious foods, deliver essential nutrition services, and improve child feeding practices.

The COVID-19 pandemic has put food, health and social protection systems under serious strain, and

caused severe disruptions to essential services for young children. Our data show that in April 2020, at the peak of the first wave of the pandemic, nearly 83 per cent of countries reported considerable disruptions in the coverage of services to promote nutritious and safe diets for young children.

Our analysis: Barriers to good diets for young children

Young children around the world are being fed to fail – deprived of the diets they need at the time in their life when it matters most. Children's diets are failing in timeliness, meal frequency and diet diversity. Indeed, there has been next to no improvement in the foods they eat and way they are fed in the last decade. Our analysis finds that the crisis of young children's diets is driven by multiple, interacting barriers that vary according to the contexts in which families live.

From rural villages to urban megacities, access to affordable nutritious foods is the most pressing concern, especially among poorer families. These nutritious foods are either simply not available or affordable. And they are increasingly crowded-out by unhealthy processed and ultra-processed foods that are cheap, convenient and aggressively marketed to children and their families.

Mothers continue to shoulder the responsibility for child feeding. Yet unequal divisions of household responsibilities, mounting time pressures and enduring social and cultural norms leave many mothers with insufficient time and autonomy to feed their young children well. Evidence consistently shows that when women have more decision-making power and control over the household income, they tend to choose healthier foods and feeding practices for their children.

For far too long, these barriers have been tackled with fragmented national policies and programmes that fail to reach most children and address the difficulties that caregivers face. The health system has the longest history of supporting young child feeding practices, but the coverage and quality of its nutrition services, including caregiver counselling on child feeding, remain inadequate. Missed opportunities within food and social protection systems mean that families are unable to access nutritious, affordable foods and act on the counselling they receive from health workers on how to feed their young children.

The state of young children's diets remains a persistent bottleneck to greater progress on nutrition and achievement of the 2030 Sustainable Development Goal nutrition targets for child stunting, wasting and overweight.

Yet change is possible, even in the poorest contexts. Ten countries – Bangladesh, Burkina Faso, Cambodia, Côte d'Ivoire, the Gambia, Kyrgyzstan, Maldives, Nepal, Sierra Leone and Timor-Leste – have increased the percentage of children receiving a minimally diverse diet by at least 10 percentage points in the last decade. And more countries will follow with investments that focus on the barriers that are holding back progress.

The case for prioritization and investments in young children's diets has never been more urgent. As the COVID-19 pandemic continues to exacerbate the difficulties that families face in feeding their young children and threatens to shrink government budgets, it is crucial that every possible action be taken to protect the diets of the most vulnerable children.

Our recommendations: Bolder action and greater accountability for children's diets

Governments must take the lead in upholding every child's right to food and nutrition. Together with national civil society, development partners and the private sector, governments must mobilize the food, health and social protection systems to deliver nutritious, safe and affordable diets, essential nutrition services and positive nutrition practices for every child. Ten key actions are needed across these three systems and to strengthen nutrition governance for young children's diets:

Food system

- Increase the availability and affordability of nutritious foods – including fruits, vegetables, eggs, fish, meat and fortified foods – by incentivizing their production, distribution, and retailing.
- Implement national standards and legislation to protect young children from unhealthy processed and ultra-processed foods and beverages and harmful marketing practices targeting children and families.
- Use multiple communication channels, including digital media, to reach caregivers with factual information and advice on young child feeding and increase the desirability of nutritious and safe foods.

Health system

- Expand caregiver access to quality counselling and support on young child feeding by investing in the recruitment, training, supervision and motivation of community-based counsellors and health workers.
- Deliver dietary supplements, home fortificants and fortified complementary foods to young children at risk of micronutrient deficiencies, anaemia and growth and development failure.

Social protection system

- Design social transfers – cash, food and/or vouchers – that support, and do not undermine, nutritious and safe diets in early childhood, including in fragile settings and in response to humanitarian crises.
- Use social protection programmes to improve caregivers' knowledge about young child feeding by providing education and counselling and by encouraging the use of health and nutrition services.

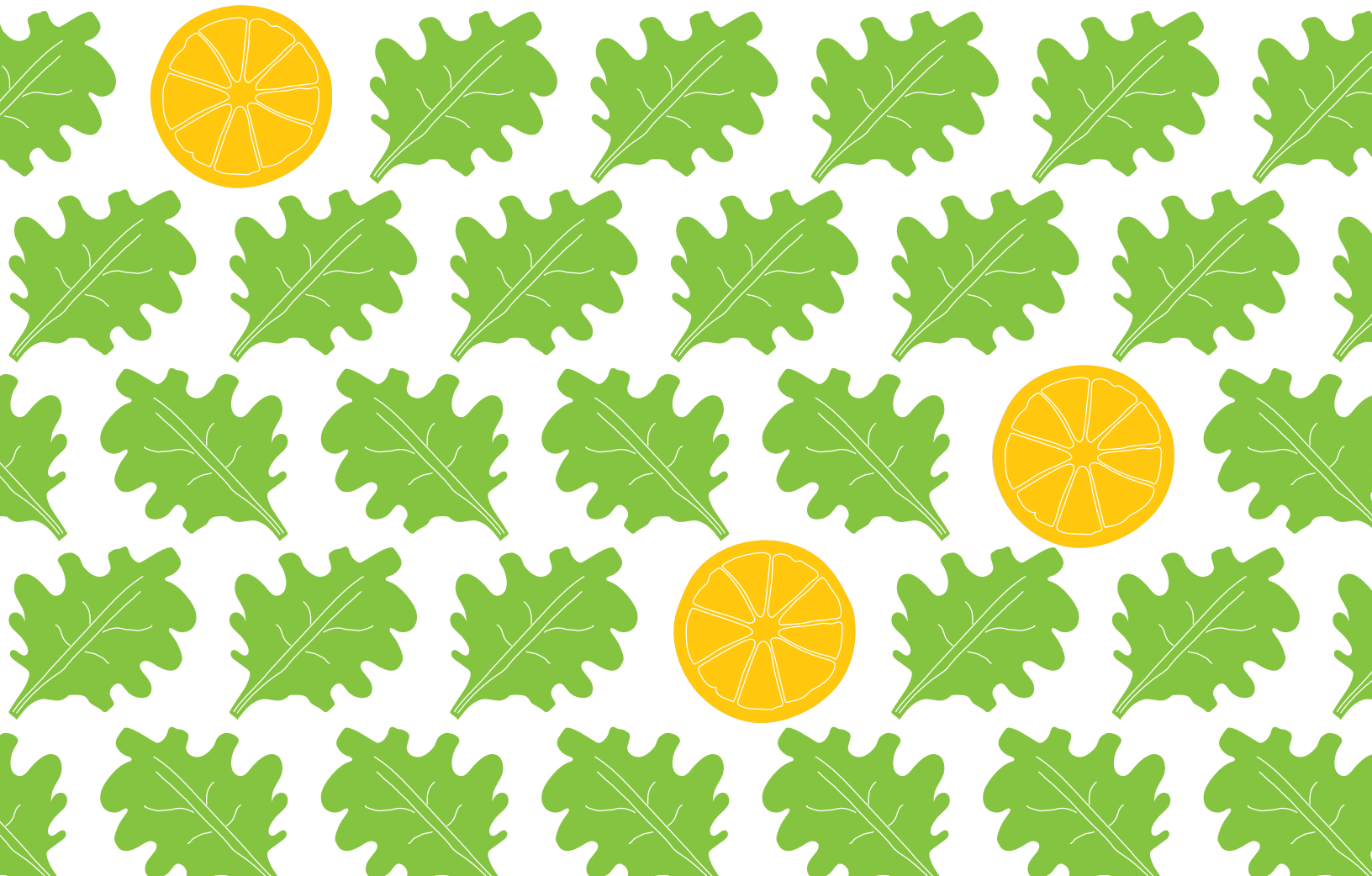
Multi-system governance

- Position young children's right to nutritious and safe diets as a priority in the national development agenda and ensure coherent policy support and legislation across sectors and systems.
- Strengthen public accountability for young children's diets by setting targets and tracking progress through sector-specific monitoring systems and household surveys.
- Conduct research to understand context-specific barriers, enablers and pathways to improving the quality of young children's diets including – but not limited to – their availability, affordability and desirability.

The need to transform how we tackle poor-quality diets in early childhood is urgent. If activated in the right way and held accountable, the food, health and social protection systems – and their public and private sector actors – can ensure that children benefit from the nutritious, safe and affordable diets and the essential nutrition services and practices they need to grow and develop to their full potential.

1 | OUR RESEARCH

WHY DIETS MATTER IN EARLY CHILDHOOD



This chapter describes how poor diets and feeding practices in early life are holding back progress to improve the survival, growth and development of children globally. We outline the research and analysis that UNICEF has undertaken to examine the status and drivers of young children's diets and inform transformative solutions.

A child's first bite of food is celebrated among families around the world. It marks a new phase of discovery – new tastes, textures and smells. It also marks the start of a crucial period from 6 months to 2 years of age, which defines how well a child will grow, develop and thrive in life.

Nutritious diets build strong immune systems, fuel growing bodies and nourish developing brains. Enriched with the benefits of good nutrition, children are better able to realize their rights – to enjoy healthy lives, to learn, to access opportunities and to embark on a path to lifelong well-being and prosperity.

Nutritious diets in early childhood have the power to shape a healthier future – yet today, millions of young children around the world are being fed to fail. Despite an abundance of evidence on how best to feed young children, caregivers lack the resources and support they desperately need.

This failure is exposed in the alarming numbers of children under 5 who are malnourished.

How many children are malnourished?

The world is experiencing a triple burden of child malnutrition.¹ The triple threats of undernutrition (stunting and wasting), micronutrient deficiencies, and overweight and obesity (see *Focus 1*) are occurring within the same country, city, community, household and child.

Since 2000, the prevalence of stunting in children under 5 has fallen by one third to 22 per cent, and the number of children with stunted growth fell by almost 55 million, to 149.2 million (see *Figure 1*).² This remarkable achievement proves that positive change for nutrition is possible on a considerable scale. But the progress is currently too slow to achieve the 2030 global nutrition target on stunting and is not shared equally among regions: the number of stunted children has decreased significantly in Asia, while it has barely changed in Eastern and Southern Africa; and in West and Central Africa, it has increased.

FOCUS 1

MALNUTRITION IN EARLY CHILDHOOD – FORMS, CAUSES AND CONSEQUENCES



Stunting refers to a child who is too short for her or his age. Stunting results from poor nutrition in utero, poor nutrient intake in early childhood and/or infection and disease. Children affected by stunting may never attain their full linear growth potential and their brains may never develop to their full cognitive capacity, with impacts on their school readiness, learning performance and life opportunities.



Wasting refers to a child who is too thin for her or his height. Children become wasted if they lose too much weight or fail to gain sufficient weight, often due to a recent period of inadequate dietary intake or disease. Children suffering from wasting have weak immune systems and face an increased risk of disease and death. If they survive, they are more susceptible to stunted growth and long-term developmental delays.



Micronutrient deficiencies occur when children lack adequate quantities of the essential vitamins and minerals – known as micronutrients – that their bodies need to grow and develop to their full potential. Also known as 'hidden hunger', micronutrient deficiencies have serious consequences for children's survival, growth, immunity and brain development.



Overweight refers to a child who is too heavy for her or his height. It occurs when children's caloric intake from food and drinks exceeds their energy requirements. Children affected by overweight and obesity have an increased risk of poor self-esteem, poor mental health, and diet-related non-communicable diseases such as cardiovascular disease later in life.

At least one in three children suffer from one or more of the most visible forms of malnutrition

Stunting

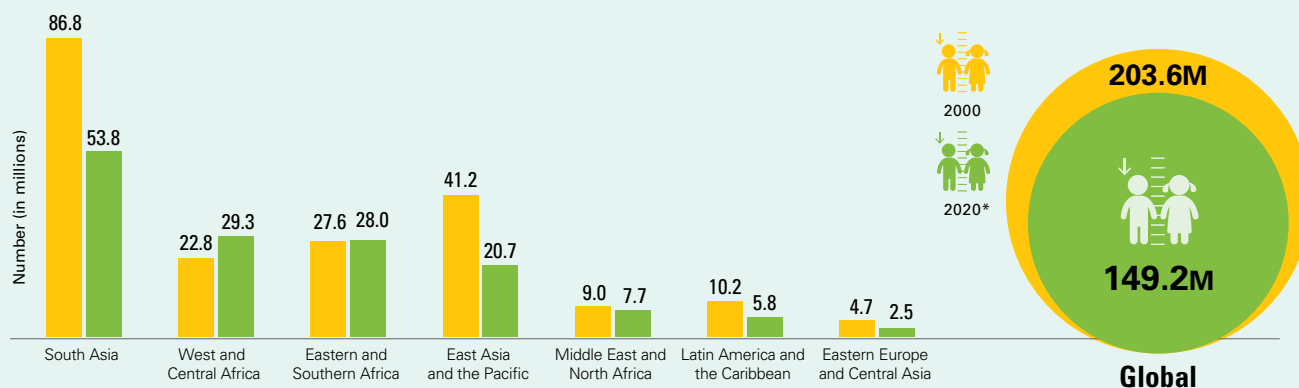


FIGURE 1

Trends in number (millions) of children under 5 with stunting, by UNICEF region and global, 2000 and 2020*

Note: *The collection of household survey data on child height and weight were limited in 2020 due to the physical distancing measures required to prevent the spread of COVID-19. Only four national surveys included in the database were carried out (at least partially) in 2020. The estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic.

Wasting

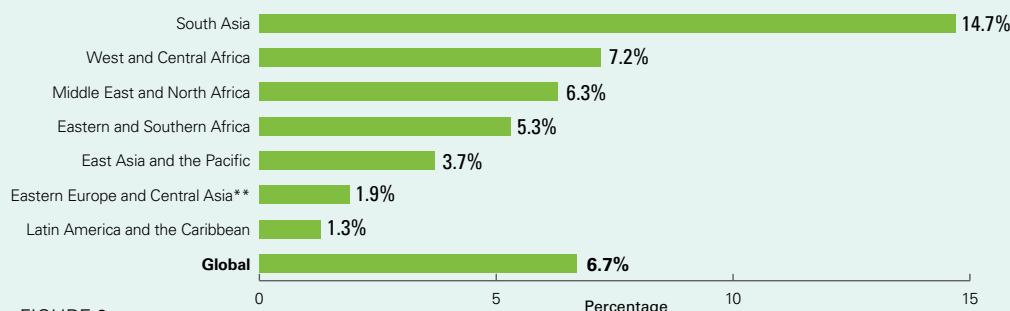


FIGURE 2

Percentage of children under 5 with wasting, by UNICEF region and global, 2020*

Note: *The collection of household survey data on child height and weight were limited in 2020 due to the physical distancing measures required to prevent the spread of COVID-19. Only four national surveys included in the database were carried out (at least partially) in 2020. The estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic. **Eastern Europe and Central Asia does not include the Russian Federation due to missing data; consecutive low population coverage for the 2020 estimate (interpret with caution).

Overweight

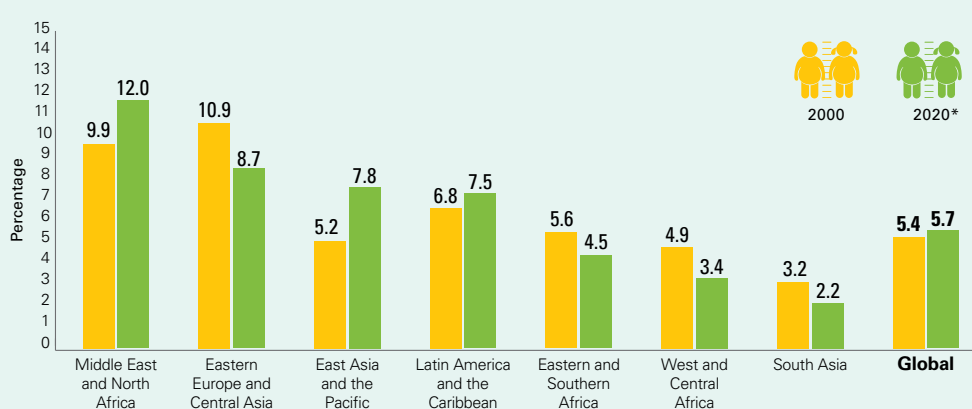


FIGURE 3

Trends in percentage of children under 5 with overweight, by UNICEF region and global, 2000 and 2020*

Note: *The collection of household survey data on child height and weight were limited in 2020 due to the physical distancing measures required to prevent the spread of COVID-19. Only four national surveys included in the database were carried out (at least partially) in 2020. The estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic.

Source: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates, 2021 Edition.

Wasting – the most life-threatening form of malnutrition – affects the youngest and most marginalized children. The prevalence and burden of wasting are unacceptably high, affecting 6.7 per cent of children under 5, or 45.4 million (see Figure 2).² More than half of these children live in South Asia, the global epicentre of child wasting. The prevalence of wasting often rises rapidly during conflict and other humanitarian crises; however, most children with wasting live in non-emergency settings where poverty is widespread and access to nutritious diets and essential nutrition services is constrained.

Deficiencies in essential vitamins and minerals can result in devastating consequences for children's survival, growth and development. UNICEF estimates that at least 340 million children under 5 – or at least one in two children – suffer from one or more micronutrient deficiencies, including deficiencies in vitamin A, iron, iodine and zinc.³

The burden of overweight in children has risen steadily, and there are now 38.9 million children under 5 affected by overweight globally, compared with 33.3 million in 2000.² During this period, the prevalence of overweight in children increased by 50 per cent in

East Asia and the Pacific (5.2 per cent in 2000 to 7.8 per cent in 2020) and by more than 20 per cent in the Middle East and North Africa (9.9 per cent in 2000 to 12.0 per cent in 2020) (see Figure 3).

These troubling numbers do not reflect the impact of the COVID-19 pandemic because national data for 2020 were available only for four countries when these estimates were developed. More children – particularly the most vulnerable – are becoming malnourished as the pandemic and its containment measures continue to disrupt access to nutritious diets and essential nutrition services. It is estimated that by 2022, the pandemic could increase the number of children with wasting by up to 13.6 million and result in productivity losses of up to US\$44.3 billion due to additional cases of child stunting and mortality – a threat to the futures of both children and nations.⁴

It is not too late to change course. As the world comes to grips with the impact of the COVID-19 pandemic, it has never been more urgent to re-commit to a future where the right to food and nutrition is a reality for every child. To do this, we need to tackle one of the greatest drivers of child malnutrition today: the poor quality of young children's diets.



How do poor diets drive malnutrition?

Enormous physiological changes take place between birth and 2 years of age. A child's brain grows to 75 per cent of adult size⁵ and more than 1 million new neural connections are formed every second.⁶ Body weight quadruples and height increases by 75 per cent during this time.⁷ These vast changes mean that the nutrient needs of children under 2 are extraordinarily high. In fact, children have greater nutrient needs per kilogram of body weight between 6 months and 2 years of age than at any other time in life.⁸

The recommended foods and feeding practices to best match these nutrient needs are evidence-based and clear (*see Focus 2*).⁹⁻¹¹ Exclusive breastfeeding – feeding only breastmilk – provides all the vital nutrients that infants need from birth to 6 months of age. Solid foods should be introduced at 6 months of age, as breastmilk alone is no longer sufficient to meet energy and nutrient requirements. In addition, breastfeeding remains an important source of nutrients for optimal growth and development and should continue until at least age 2.¹² Infants and young children have very small stomachs and so they need frequent meals comprising diverse and nutrient-dense foods. As infants and young children grow, the frequency of meals and the amount of nutritious food offered at each feeding should increase.

Caregivers and families everywhere want to feed their children well. But despite their best efforts, they are struggling to meet their children's dietary needs. In 2019, the State of the World's Children reported that

three in five children worldwide were not fed nutrient-rich eggs, fish or meat during the previous day, and two in five children were not fed any vegetables or fruit.³ At the same time, many young children were consuming unhealthy processed snacks and drinks that displace healthier alternatives¹³ and set children on a path to overweight.^{14, 15} The COVID-19 pandemic is intensifying these problems, as income losses mean that more and more families cannot afford a healthy diet and rely instead on less-expensive, nutrient-poor and heavily processed alternatives.¹⁶

The consequences of poor diets and feeding practices in early life are visible in the age distribution of stunting and wasting. The prevalence of stunting increases rapidly between 6 months and 2 years of age as children's diets fail to keep pace with their growing nutrient needs (*see Figure 4*). Recent evidence suggests that, globally, about 70 per cent of the shortfall in height accumulated by the age of 5 years is due to growth faltering that occurred before the age of 2 years.¹⁷ UNICEF estimates that about half of all children under 5 with wasting are younger than 2 years of age (*see Figure 5*). Although diarrhoea and other diseases also cause undernutrition in early life, there is clear evidence that poor diets and feeding practices play a major role. Studies have shown that children under 2 are more likely to be affected by stunting and wasting if they eat their first solid foods too late, if they consume too few meals, or if their diets are low in diversity or nutrient-rich foods such as eggs, fish or meat.^{18, 19}

Children carry the scars of poor diets and feeding practices for the rest of their lives. Children with undernutrition are more likely to die in early childhood than their well-nourished peers.²⁰ They start school later in life, spend less time in school and are more likely to repeat grades.²¹⁻²³ In adulthood, their overall work productivity and earning capacity may be impaired, constraining household incomes and hindering national economic development.²⁰ Meanwhile, overweight predisposes children to obesity and diet-related noncommunicable diseases later in life,²⁴ which place enormous strain on health systems. This epidemic of malnutrition is robbing children of their futures and draining US\$3.5 trillion from the global economy every year, according to 2013 estimates.²⁵



Poor-quality diets drive all forms of malnutrition in early childhood



Stunting increases rapidly between 6 and 23 months of age

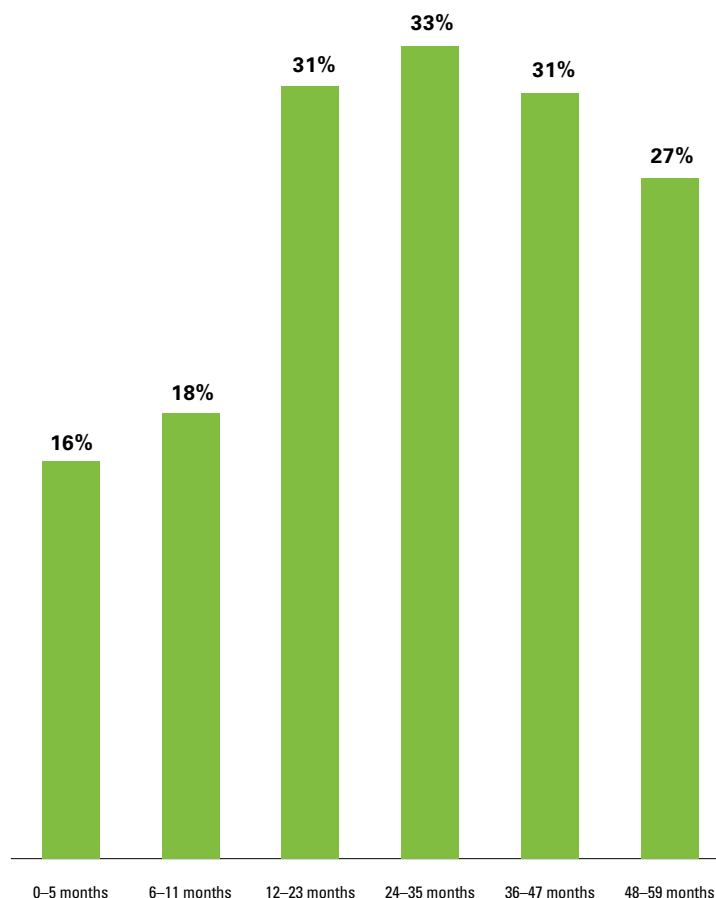


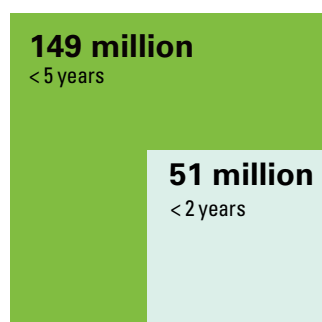
FIGURE 4
Percentage of children under 5 affected by stunting, by age in months, 2020*

Note: These estimates were generated using different methodology than the Joint Malnutrition Estimates (see Notes on the figures, page YY). The collection of household survey data on child height and weight was limited in 2020 due to the physical distancing measures required to prevent the spread of COVID-19. Only four national surveys included in the database were carried out (at least partially) in 2020. The estimates are therefore based almost entirely on data collected before 2020 and do not take into account the impact of the COVID-19 pandemic.

Source: UNICEF/WHO/World Bank Joint Child Malnutrition Estimates Expanded Database: Stunting (Survey Estimates), 2021, New York

More than half of all children with wasting are younger than 2 years of age

149 million children under 5 with stunting in 2020, *of which 51 million are under 2 years of age*



45 million children under 5 with wasting in 2020, *of which 23 million are under 2 years of age*

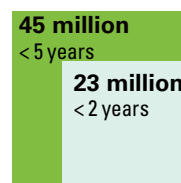


FIGURE 5
Estimated number of children under 2 affected by stunting and wasting out of all affected children under 5 years of age

Based on internal UNICEF estimates. For details on methodology, see Notes on the figures on page YY.

What and who influences children's diets?

Children's diets reflect the food available in their communities, the resources at their family's disposal, and the knowledge, beliefs and culture of the people who care for them.

Caregivers everywhere face economic, political, physical, social and cultural barriers to providing children with enough nutritious, safe and age-appropriate food. The barriers vary considerably across and within countries and are constantly evolving as the contexts in which families live change. For example, millions of families are moving to cities and shifting from traditional whole-food diets to processed foods that are higher in salt, sugar and fat and low in essential nutrients.³ Further, an increasing number of mothers now work outside the home – while continuing to shoulder the lion's share of caregiving duties – creating significant time constraints and contributing to a shift towards convenience foods.

The barriers to children's diets are even greater in settings gripped by conflict, climate-related disasters, economic shocks and public health crises. Today, as the fall-out of the COVID-19 pandemic continues, we are witnessing how the shocks to already-vulnerable systems are further eroding the poor quality of children's diets worldwide.²⁶

Although many of the driving factors behind children's poor diets lie outside the control of individual households, it is often families – and especially mothers – who are expected to bear sole responsibility for the quality of children's diets. Historically, efforts to improve young children's diets were narrowly focused on improving caregiver knowledge and practices, usually through information and counselling. These services are an important part of the solution, but they will not change diets and practices unless nutritious foods are locally available, accessible, affordable, and desirable to families.

The Convention on the Rights of the Child states that governments have a legal obligation to protect the right to food and nutrition for all children, beginning in early childhood. To improve young children's diets, governments and partners need to work together to identify and address the range of barriers – both within and outside of the household – that shape what, when and how young children are fed. Efforts to improve children's diets must focus on delivering adequate foods, services and practices¹¹ (see Figure 6):

- **Adequate foods:** Nutritious, safe and age-appropriate foods must be available, accessible, affordable and desirable to young children and their families.
- **Adequate services:** Quality nutrition services must be available, accessible and affordable to young children and their caregivers through facility- and community-based programmes.
- **Adequate practices:** The feeding, dietary and hygiene behaviours and norms of caregivers, families and communities should support good diets for young children.



FIGURE 6
Determinants of young children's diets

What does this report aim to contribute?

Governments and their partners need data, information and evidence to assess and monitor children's diets and take decisions on how to accelerate progress. Yet today, there are considerable gaps in what we know about the status of diets and feeding practices in early childhood, the progress being made and, crucially, the barriers that persist. In 2021, UNICEF set out to answer three questions to close these gaps:

1. What, when and how are children aged 6–23 months being fed globally, and have there been improvements over time?
2. What are the main barriers that prevent caregivers and families from feeding young children nutritious, safe and age-appropriate diets?
3. How can we transform systems – including the food, health and social protection systems – to remove these barriers and better support caregivers and families?

We used five sources of data, information and evidence to answer these questions:

1. Quantitative data on young children's diets:

UNICEF is the custodian of the Global Database on Infant and Young Child Feeding, which comprises data from 607 nationally representative surveys conducted in 135 countries and territories, representing more than 90 per cent of all children under 2 years of age globally.²⁷ These data were analysed in March 2021 to produce global and regional estimates for the year 2020 and examine the trends for a subset of countries with comparable estimates for two time periods: around 2010 (2005–2013) and around 2020 (2014–2020).

2. Regional analyses of national policies and programmes:

In 2019–2020, UNICEF regional offices, together with institutional and academic partners, conducted a series of regional analyses on the determinants and drivers of young children's diets.²⁸ These analyses examined the availability, accessibility and affordability of nutritious diets for young children and the status of national policies, legislation and programmes related to diets and feeding practices. Additional information on relevant policies and programmes was extracted from NutriDash²⁹ (UNICEF's online platform to track country progress on essential nutrition interventions), and UNICEF's internal Strategic Monitoring Questions

(which are used to annually track progress against the results and targets in UNICEF's Strategic Plan).

3. Focus group discussions with mothers of young children:

In 2018–2019, UNICEF supported a series of focus group discussions with mothers of children under the age of 2 in partnership with Western Sydney University.³⁰ The discussions were conducted in 18 countries across the world, including low-, middle- and high-income contexts and in countries affected by humanitarian crises. We listened to mothers' perceptions of what they feed their children, what influences their food and feeding choices, and the challenges they face in improving the quality of their children's diets.

4. Research on children's nutrition services and diets during the COVID-19 pandemic:

In 2020–2021, UNICEF introduced a COVID-19 monitoring system to track the situation of children during the COVID-19 pandemic, including the impact on child nutrition services.³¹ In addition, UNICEF investigated the impact of the pandemic and its containment measures on household food purchases and children's diets. This research was conducted using remote data collection methods, including phone surveys and online data collection platforms, such as the UNICEF U-Report.

5. Review of global literature:

In 2020, we conducted a literature review to fill gaps in the information and evidence from the analysis of quantitative data on feeding practices, the review of national policies and programmes, the focus group discussions with mothers, and the research on children's diets during the COVID-19 pandemic. Sources included peer-reviewed publications and major reports, such as the State of the World's Children and the State of Food and Nutrition Security in the World.^{3, 16}

The following chapters present the findings of the synthesis of data, information and evidence from these five sources. They describe what and how children are being fed and the key barriers that prevent caregivers and families from feeding nutritious, safe and age-appropriate foods to their young children. We situate the findings within the context of wider global, regional and country efforts to improve young children's diets and feeding practices. Finally, we conclude with a set of recommended actions to transform the agenda on children's diets in pursuit of the Sustainable Development Goals and an end to hunger and malnutrition.



FOCUS 2

WHAT DO GOOD DIETS FOR YOUNG CHILDREN LOOK LIKE AND HOW DO WE MEASURE THEM?

WHAT DO GOOD DIETS FOR YOUNG CHILDREN LOOK LIKE?

What, when and how young children are fed during the first two years of life lays the foundation for survival, growth and development. Children's diets must provide adequate quantities of energy, protein, vitamins, minerals and other nutrients to fuel their growing bodies and brains and keep them healthy, active and strong. UNICEF and WHO recommend the following diets and feeding practices for infants and young children up to 2 years of age.⁹⁻¹¹

When should young children be fed their first foods?

- **From birth to the age of 6 months**, infants should consume only breastmilk, which satisfies all their nutritional needs.
- **At 6 months of age**, children should begin eating their first solid foods while continuing to breastfeed until age 2 years or longer. Introducing food too early may increase an infant's exposure to pathogens and displace nutritious breastmilk. Introducing foods too late deprives children of the vital nutrients their bodies need to grow and develop.

What should young children be fed?

- **Diverse foods** from a variety of food groups help ensure young children consume all the nutrients, vitamins and minerals they need to grow, develop and thrive. These food groups include grains, roots and tubers; legumes, nuts and seeds; dairy; eggs; fish, poultry and meat; and colourful vegetables and fruits.
- **Animal-source foods** such as dairy, eggs, fish, poultry and meat are nutrient-dense and maximize the nutritional value of each bite. Non-breastfed children should be fed plain milk or yogurt from 6 months of age.
- **Vegetables and fruits** are a nutrient-rich source of vitamins, minerals, dietary fibre and antioxidants and should be introduced early and fed often.
- **Fortified foods and supplements** help fill vitamin and other micronutrient gaps in children's diets in settings where nutrient-dense and diverse foods are not regularly available or affordable.
- **Breastmilk** should continue to be part of children's diets until 2 years of age or longer. Continued breastfeeding safeguards children's survival, growth, development and provides essential fats, proteins and other nutrients that are important to lifelong health in all settings.

What should young children not eat?

- **Foods high in sugar, salt and trans and saturated fats** – such as confectionary, cookies, chips, sweet drinks and sweetened purees and juices – provide energy but lack nutrients. Inappropriate levels of sugar, salt and unhealthy fats can also be found in some commercially prepared foods targeted to young children. The consumption of these foods can displace more nutritious food, set lifelong taste preferences and contribute to overweight and obesity.

How should young children be fed?

- **Frequently:** Young children need to eat often because they can consume only small amounts of food at each feeding. Breastfed children should be fed at least two meals or snacks a day from the age of 6 months and at least three meals or snacks from the age of 9 months. Non-breastfed children should be fed at least four times a day.
- **Adequately:** Caregivers should gradually increase the quantity of food in each meal, from a few tablespoons at 6 months of age to a full cup by 2 years of age.
- **Appropriately:** Food consistency should transition from soft or mashed, to semi-solid, to solid foods consumed by the family, by the time children are aged 12 months. Children with disabilities that make eating and drinking difficult may need pureed food, but otherwise, the extended use of pureed foods can make babies less likely to accept foods of varied textures and consistencies.
- **Safely:** Meals should be prepared and fed with clean hands, dishes and utensils; served with safe drinking water; and stored safely away from animals and insects, at an appropriate temperature.
- **Responsively:** Caregivers should interact with the child and respond to her or his hunger and satiety cues; these interactions stimulate brain development and make food more likely to be accepted.
- **During and after illness:** Meals, snacks, breastmilk and other fluids should be offered more frequently during and after illness to help children recover.



HOW DO WE MEASURE WHETHER YOUNG CHILDREN ARE EATING WELL?

We need reliable data to assess whether young children are being fed according to global recommendations. These data are critical for identifying and targeting interventions to the populations at risk; evaluating the impact of these interventions; informing policy decisions and resource allocations; and monitoring progress over time.

In 2021, UNICEF and WHO published a set of updated indicators for assessing infant and young child feeding practices.³² Countries should aim to generate estimates for the full set of indicators every three to five years, using large-scale surveys.

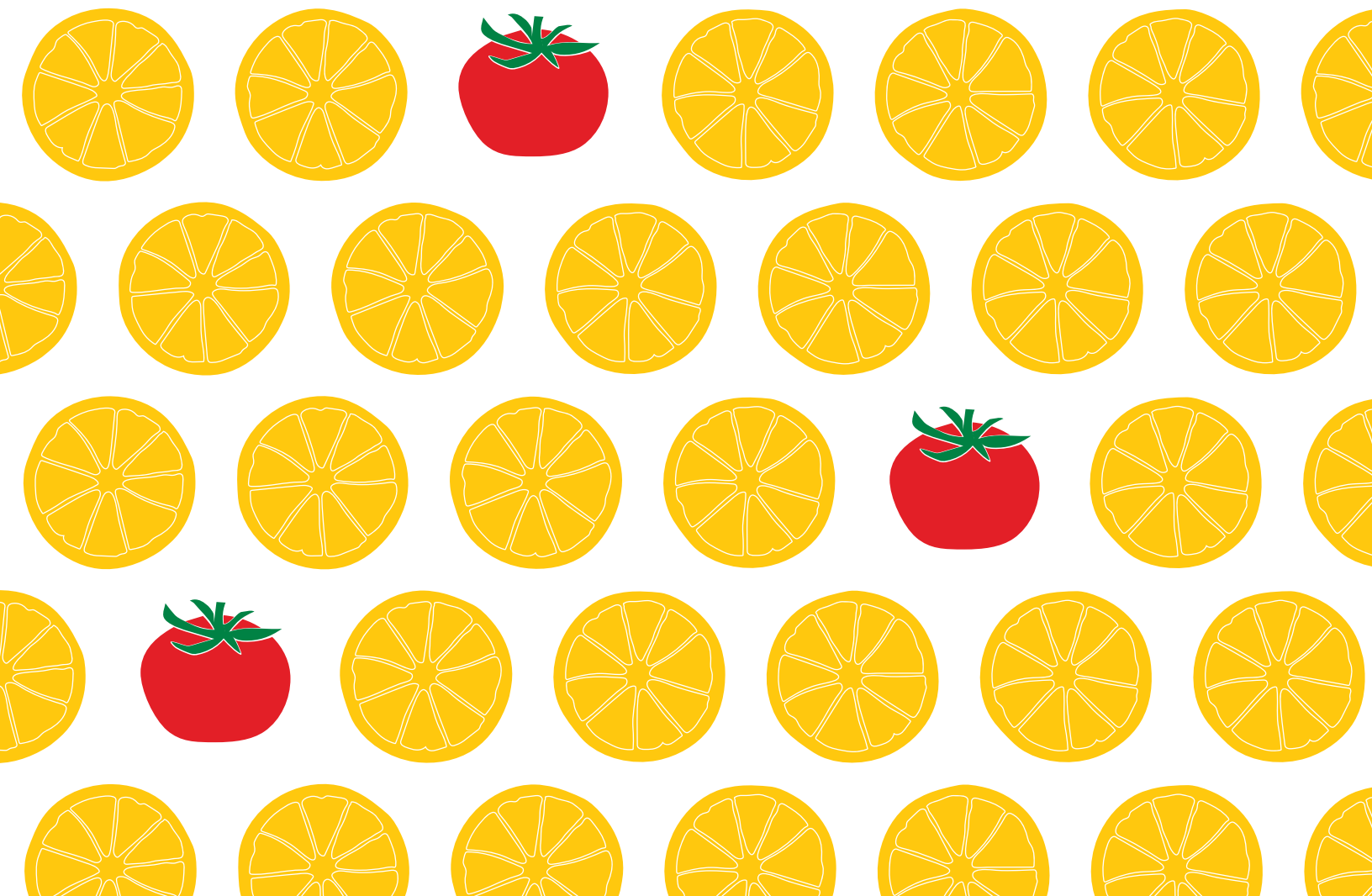
Ten indicators are aligned with global recommendations on the diets and feeding practices of children aged 6–23 months (*see full list in Annex 1*). Six of these indicators have been in use for more than a decade (introduction of solid, semi-solid or soft food; minimum dietary diversity; minimum meal frequency; minimum acceptable diet; minimum milk feeding frequency for

non-breastfed children; and continued breastfeeding). However, the definitions for some of these indicators have been revised over time. New indicators have also been introduced, including an indicator for egg and/or flesh food consumption and three indicators that examine how many children are exposed to unhealthy feeding practices: zero vegetable or fruit consumption; sweet beverage consumption; and consumption of unhealthy foods such as cookies, sweets, and fried or salty snacks. As these indicators are new, most countries do not have data, but this is expected to change in the coming years.

These indicators are not intended to meet all needs in programme monitoring and evaluation and cannot track some dimensions of good diets, such as responsive feeding and safe preparation of foods. These dimensions can be investigated using additional quantitative indicators or qualitative studies and research.

2 | OUR FINDINGS

THE CRISIS OF YOUNG CHILDREN'S DIETS



This chapter describes the findings of our analysis of quantitative data and qualitative evidence on the diets of young children. We find that globally, young children's diets are worryingly poor, and progress to improve diets and feeding practices has been slow and uneven over the past decade. The regions of South Asia and sub-Saharan Africa – as well as poorer children in all regions and countries – bear the brunt of poor diets. This chapter examines the evidence on some of the most pressing drivers of poor diets globally.

FINDING 1

Children are not fed enough of the right foods at the right time

Our analysis of diets and feeding practices, using data from UNICEF's Global Database on Infant and Young Child Feeding, shows that in 2020, worldwide, most children aged 6–23 months were not fed according to global recommendations. Far too many were not fed at the right time or with the right frequency and dietary diversity needed to grow and develop to their full potential.

Young children's diets are failing in timeliness, frequency and diversity

We found that most children aged 6–23 months were not given their first foods at the right age, were not offered sufficient meals or snacks each day, and were not fed a variety of foods to meet their nutritional needs in 2020 (see Figure 7). One in four children aged 6–8 months (27 per cent) were not fed any solid, semi-solid or soft food – the indicator referred to as *introduction of solid, semi-solid or soft foods*, hereafter abbreviated as *introduction of solid foods*. One in two children aged 6–23 months (48 per cent) were not fed the minimum number of meals or snacks recommended each day – the indicator referred to as *minimum meal frequency*. More than two in three children aged 6–23 months (71 per cent) were not fed foods from at least five of the eight recommended food groups – the indicator referred to as *minimum dietary diversity*.

Diets and feeding practices of infants and young children

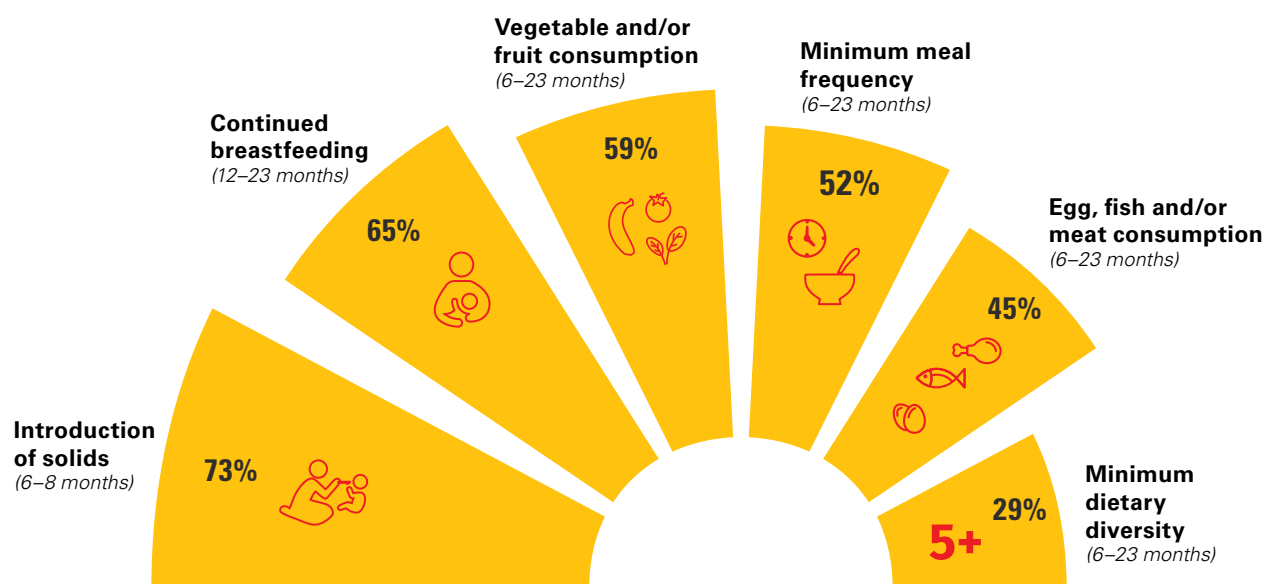


FIGURE 7
Percentage of children receiving: solid foods; continued breastfeeding; minimum meal frequency; minimum dietary diversity; eggs, fish and/or meat; and vegetables and/or fruits, 2020

Source: UNICEF global databases, 2021, based on Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS) and other nationally representative sources.

The youngest children were most exposed to poor-quality diets. Globally, one in five infants aged 6–11 months (20 per cent) had minimally diverse diets, compared with one in three children aged 20–23 months (35 per cent). Of concern, only 1 in 10 infants aged 6–11 months in South Asia was fed a minimally diverse diet (see Figure 8).

Too many children are missing the lifelong benefits of nutritious foods

Some of the most nourishing foods – such as vegetables and fruit; eggs, fish and meat; and breastmilk – were not part of young children’s diets. Despite the recommendation that children aged 6–23 months be fed eggs, fish or meat on a daily basis, more than half of children (55 per cent) did not consume any of these nutrient-rich foods during the previous day – the indicator referred to as *egg and/or flesh food consumption*.³³ These foods can provide a variety of micronutrients that are difficult to obtain in adequate quantities from plant-source diets alone. Vegetables and fruit were also severely lacking in children’s diets: almost half of children aged 6–23

months (41 per cent) did not consume these nutritious, vitamin-rich foods during the previous day. In the second year of life, breastmilk remains an important source of essential nutrients, yet our findings indicate that one in three children aged 12–23 months (35 per cent) were not breastfed during the previous day – the indicator referred to as *continued breastfeeding*.

UNICEF collaborated with the Global Alliance for Improved Nutrition (GAIN) to investigate micronutrient gaps in children’s diets in 14 countries across Eastern and Southern Africa and South Asia.^{34,35} Analysis of various data sources³⁶ found that young children’s diets in all countries do not supply adequate quantities of vitamins and minerals. The micronutrient gaps vary by country, but moderate- or high-burden gaps were consistently identified for iron (13 countries), zinc (11 countries), calcium (11 countries), vitamin A (10 countries), vitamin B12 (10 countries) and folate (9 countries).

Regional- and country-level estimates for all indicators can be found in the data tables available online.

The youngest children – those aged 6–11 months – have the least diverse diets

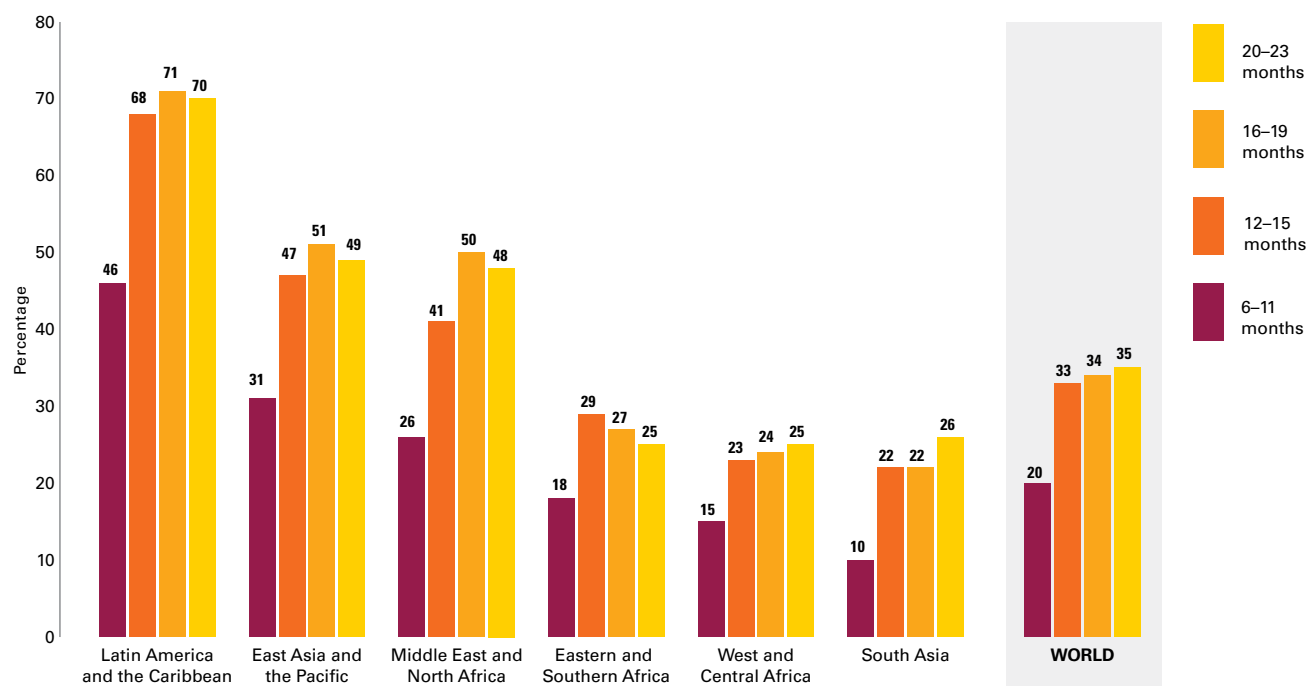


FIGURE 8
Percentage of children aged 6–23 months with minimum dietary diversity, by age group and UNICEF region, 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

FINDING 2

Children's diets have seen little or no improvement in the last decade

Our analysis of quantitative data about what, when and how young children are fed found almost no improvement over the last decade, with minimal changes in timeliness, feeding frequency, dietary diversity and continued breastfeeding. Only a few countries have made progress in improving young children's diets.

The quality of children's diets has remained persistently poor

Globally, the percentage of children aged 6–8 months introduced to solid foods increased from 66 per cent in 2010 to 72 per cent in 2020 (see Figure 9). However, the percentage of children aged 6–23 months fed the

minimum number of meals or snacks throughout the day has barely improved in the last decade: 51 per cent in 2010 and 54 per cent in 2020. Similarly, the percentage of children consuming a minimally diverse diet – a key indicator of diet quality – has remained low over the past decade: 21 per cent in 2010 and 24 per cent in 2020.

Children's consumption of nutritious foods has also increased only marginally over the past 10 years. The percentage of children aged 6–23 months consuming eggs, fish and/or meat during the previous day was 32 per cent in 2010 and 36 per cent in 2020, while the percentage consuming vegetables and/or fruit during the previous day was 48 per cent in 2010 and 53 per cent in 2020. Meanwhile, the percentage of children aged 12–23 months who were fed breastmilk has also stagnated (69 per cent in 2010 and 66 per cent in 2020).

How has the quality of children's diets changed in the last decade?

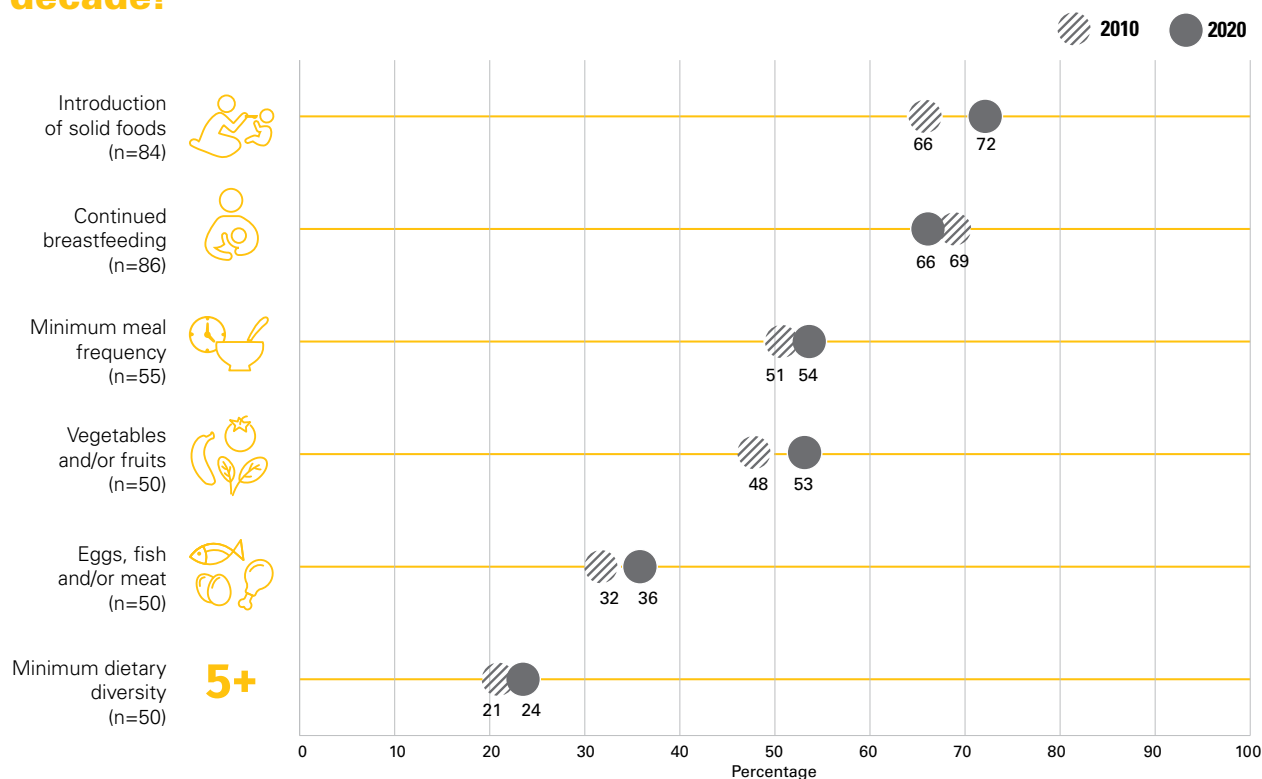


FIGURE 9

Trends in percentage of children receiving: solid foods (6–8 months); continued breastfeeding (12–23 months); minimum meal frequency, minimum dietary diversity, eggs, fish and/or meat, and vegetables and/or fruits (6–23 months), around 2010 and around 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

Only two in five countries have made any progress in improving the diversity of children's diets

An analysis of trends in minimum dietary diversity in individual countries shows just how few countries have made progress in diversifying children's diets over time. Of the 50 countries with trend data available, less than half (21 countries) made statistically significant improvements, 19 have seen no meaningful improvement at all, and 10 have experienced a statistically significant drop in the percentage of children consuming a minimally diverse diet (see Figure 10).

Even in the 21 countries reporting improvements in 2020, the percentage of children benefiting from a minimally diverse diet was still alarmingly low: in 10 of these 21 countries, less than 30 per cent of children were fed a minimally diverse diet. These figures make clear that even where there has been some progress, significant gaps remain in ensuring that young children receive enough of the diverse and nutritious foods they need during the most critical time in their development.

Where has the diversity of children's diets improved in the last decade?

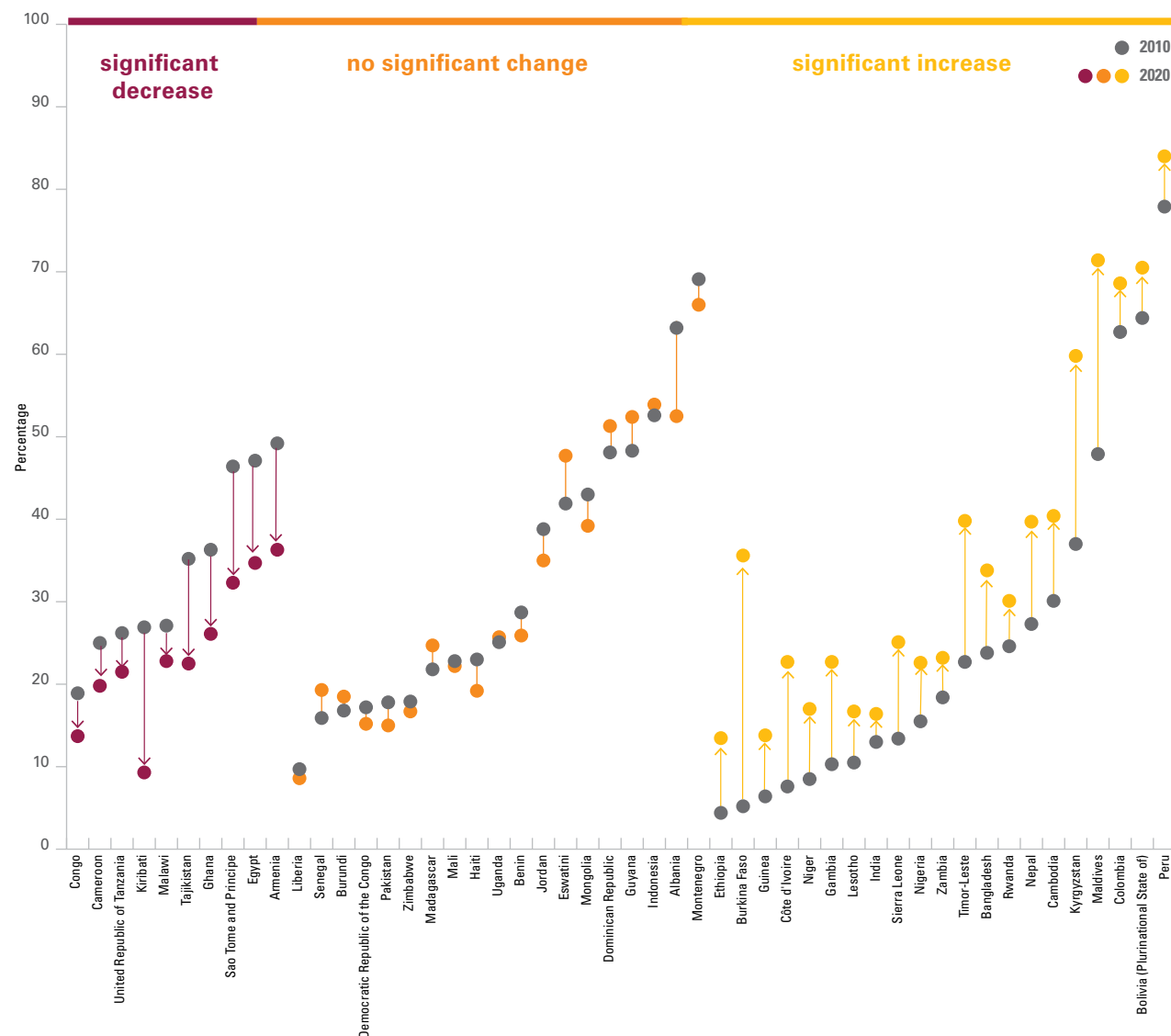


FIGURE 10

Trends in percentage of children aged 6–23 months with minimum dietary diversity, by country, around 2010 and around 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

The five countries with the largest absolute improvement in minimum dietary diversity between 2010 and 2020 were Burkina Faso, Côte d'Ivoire, Kyrgyzstan, Maldives and Timor-Leste.

These trends do not take into account the impact of the COVID-19 pandemic because the collection of nationally representative data on children's diets using standard tools was very limited in 2020.³⁷ However, several countries are tracking children's diets using remote methods, such as phone surveys, which have revealed worrying signs that diet quality has fallen during the pandemic. For example, a study in urban slums in Jakarta found that children aged 12–23 months were fed fewer meals and had less diverse diets in 2020 than in 2018: minimum meal frequency fell from 94 per cent to 79 per cent, and minimum dietary diversity fell from 81 per cent to 55 per cent.³⁸

Regional- and country-level estimates and trends for all indicators can be found in the data tables available online.

FINDING 3

Poor diets are not affecting all children equally across and within regions

Our analysis of quantitative data reveals wide inequalities in the quality of children's diets across regions and among countries within the same region. Young children in three regions – Eastern and Southern Africa, South Asia, and West and Central Africa – have the lowest meal frequency, dietary diversity and consumption of nutritious foods.

The quality of children's diets varies widely among regions

The percentage of children benefiting from the recommended foods and feeding practices varies by region, with some regions in greater crisis than others. For example, 62 per cent of children aged 6–23 months in Latin America and the Caribbean were fed a minimally diverse diet in 2020 compared with less than 25 per cent of young children in South Asia and the two sub-Saharan African regions (*Eastern and Southern Africa, and West and Central Africa*). Children's consumption of egg, fish and/or meat also differs by region: more than 70 per cent of children in Latin America and the Caribbean and East Asia and the Pacific consumed these nutritious foods during the previous day compared with less than 50 per cent of



children in the two sub-Saharan African regions and only 24 per cent of children in South Asia. Similarly, almost 80 per cent of children in Latin America and the Caribbean consumed vegetables and/or fruit during the previous day, compared with fewer than half of young children in South Asia (*see Figure 11*).

Three regions – East Asia and the Pacific, Latin America and the Caribbean, and the Middle East and North Africa – rank highest for the percentage of children benefiting from nearly all recommended child feeding practices. Another three regions – South Asia and the two sub-Saharan African regions – consistently rank lowest, with far fewer children benefiting. The one exception is the percentage of children who were breastfed in the second year of life, which was highest in South Asia and the two sub-Saharan African regions (>66 per cent) and lowest in the Middle East and North Africa (42 per cent).

Children's diets are poor across regions – but some regions face greater challenges than others

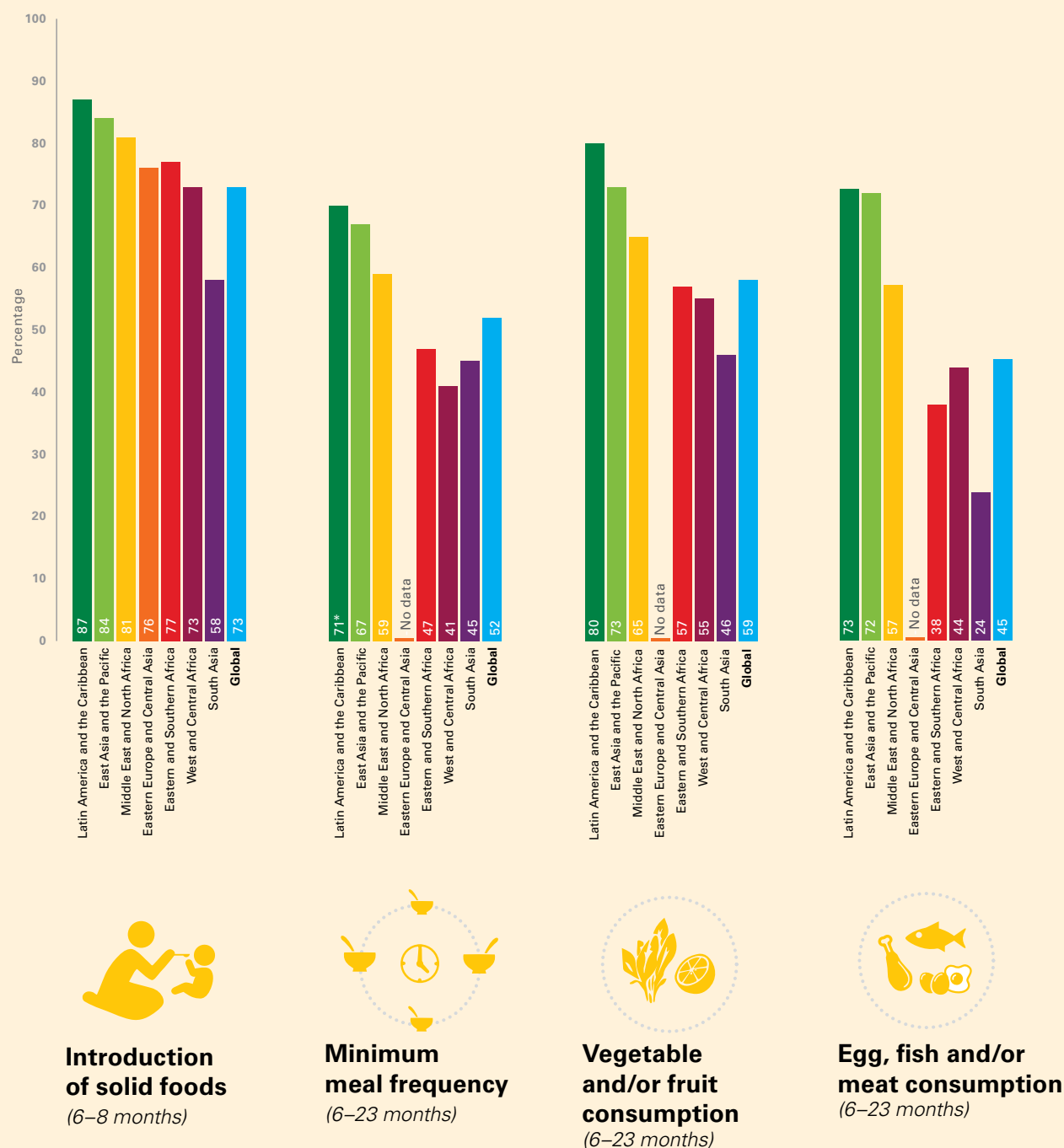
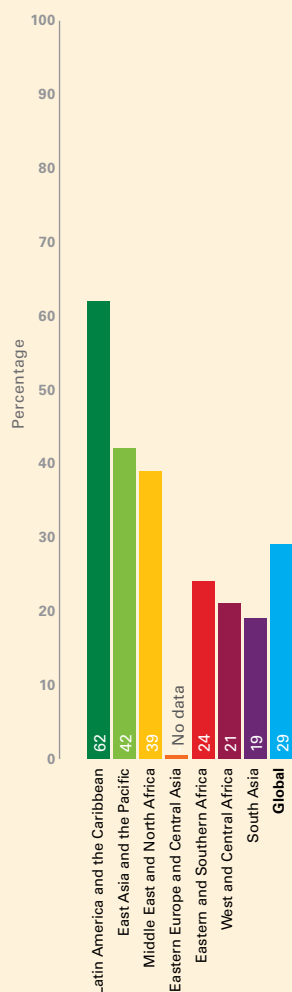


FIGURE 11

Percentage of children receiving: solid foods; minimum meal frequency; minimum dietary diversity; eggs, fish and/or meat; and vegetables and/or fruits; continued breastfeeding, by UNICEF region, 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources. *To meet adequate population coverage, East Asia and the Pacific excludes China and Latin America and the Caribbean excludes Brazil.



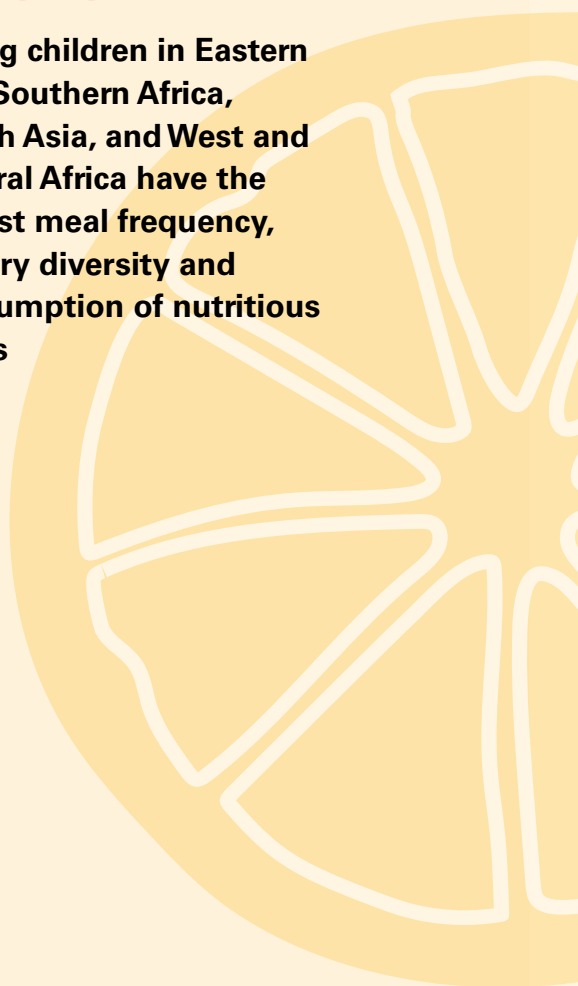
Minimum dietary diversity
(6–23 months)



Continued breastfeeding
(12–23 months)



Young children in Eastern and Southern Africa, South Asia, and West and Central Africa have the lowest meal frequency, dietary diversity and consumption of nutritious foods



Within the same region, the quality of children's diets differs significantly among countries

There is a considerable range in the percentage of children who were fed a minimally diverse diet among countries in the same region. For example, while nearly half (42 per cent) of children in East Asia and the Pacific consumed a minimally diverse diet in 2020, country estimates in the region vary widely – from 9 per cent in Kiribati to 69 per cent in Thailand.

Similarly, in West and Central Africa, where 21 per cent of children were fed a minimally diverse diet, country estimates range from 8 per cent in Guinea-Bissau to 36 per cent in Burkina Faso (*see Figures 12 and 13*). Even in Latin America and the Caribbean, the region with the highest percentage of children with minimum dietary diversity (62 per cent), country estimates range from as low as 19 per cent in Haiti to as high as 84 per cent in Peru.

Regional- and country-level estimates for all indicators can be found in the data tables available online.

How does the diversity of children's diets vary between countries within the same region?

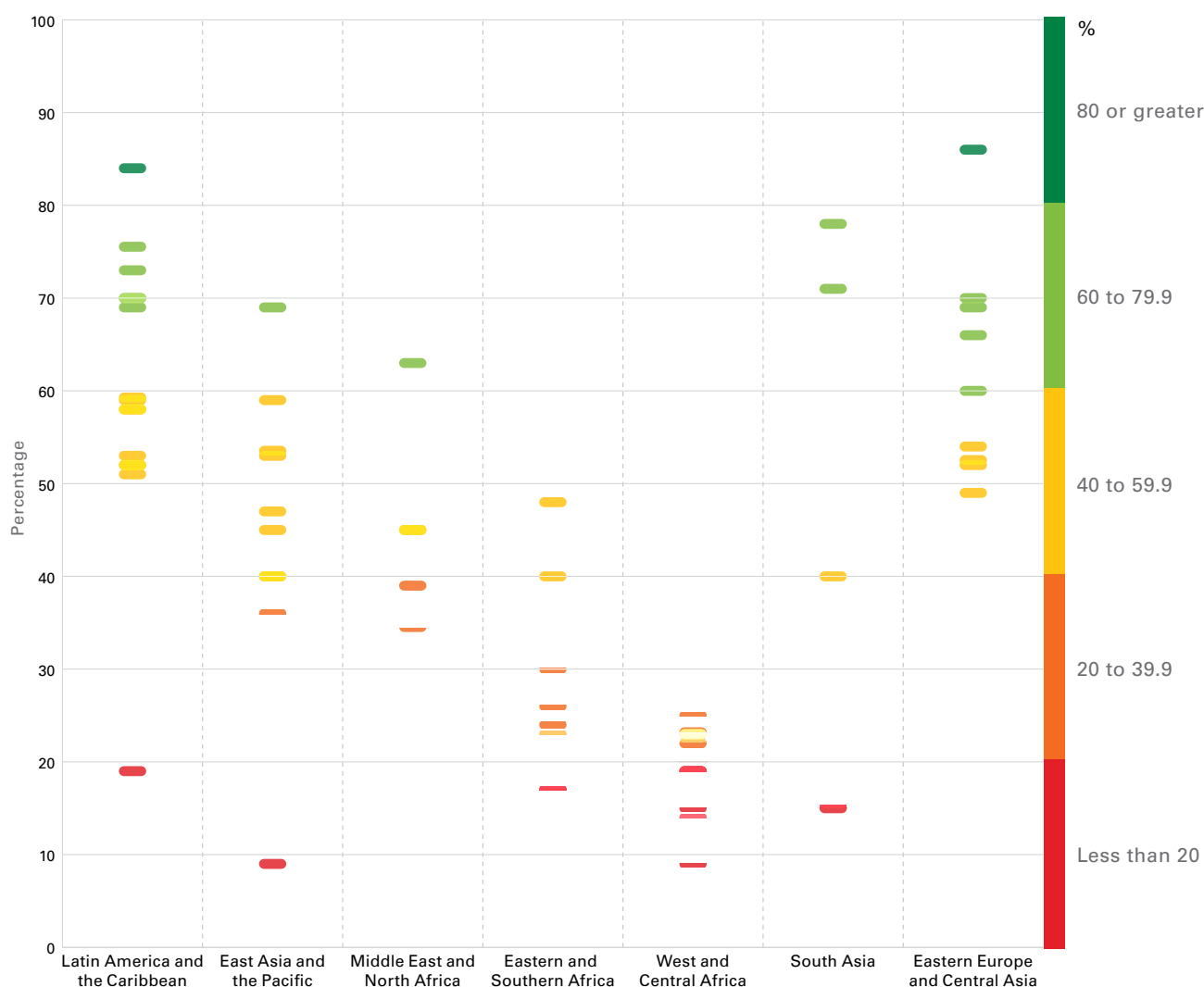


FIGURE 12
Percentage of children aged 6–23 months with minimum dietary diversity, by UNICEF region and country, 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

FINDING 4

Disparities in children's diets persist within countries and have not narrowed

Our analysis of national data reveals wide disparities in the quality of children's diets among subnational areas within countries. In addition, children living in poorer households and rural areas are least likely to consume sufficient meals and diverse diets but are more likely to be breastfed in the second year of life. Disparities in child feeding practices between poorer and wealthier households have not changed over the last decade.

Poor diets are not affecting all children equally

National-level estimates hide glaring disparities in young children's diets among areas within a country. These disparities are due to economic, environmental and social differences between geographic areas, such as household income, access to markets selling

nutritious foods, access to quality nutrition services and socio-cultural practices.

Figure 13 presents the gap in the percentage of children aged 6–23 months fed a minimally diverse diet in the best- and worst-performing areas in selected countries. In Peru, a country where a high percentage of children (84 per cent) received a minimally diverse diet, there is a nearly 30-percentage-point gap between the best and worst-performing areas of the country: 90 per cent in Ica versus 65 per cent in Loreto. Similarly in Ethiopia, where only 13 per cent of children were fed diets with the minimum dietary diversity, there is a 28-percentage-point gap between the best- and worst-performing areas of the country: 29 per cent in Addis Ababa versus 1 per cent in Somali.

National averages mask variations in children's diets within countries

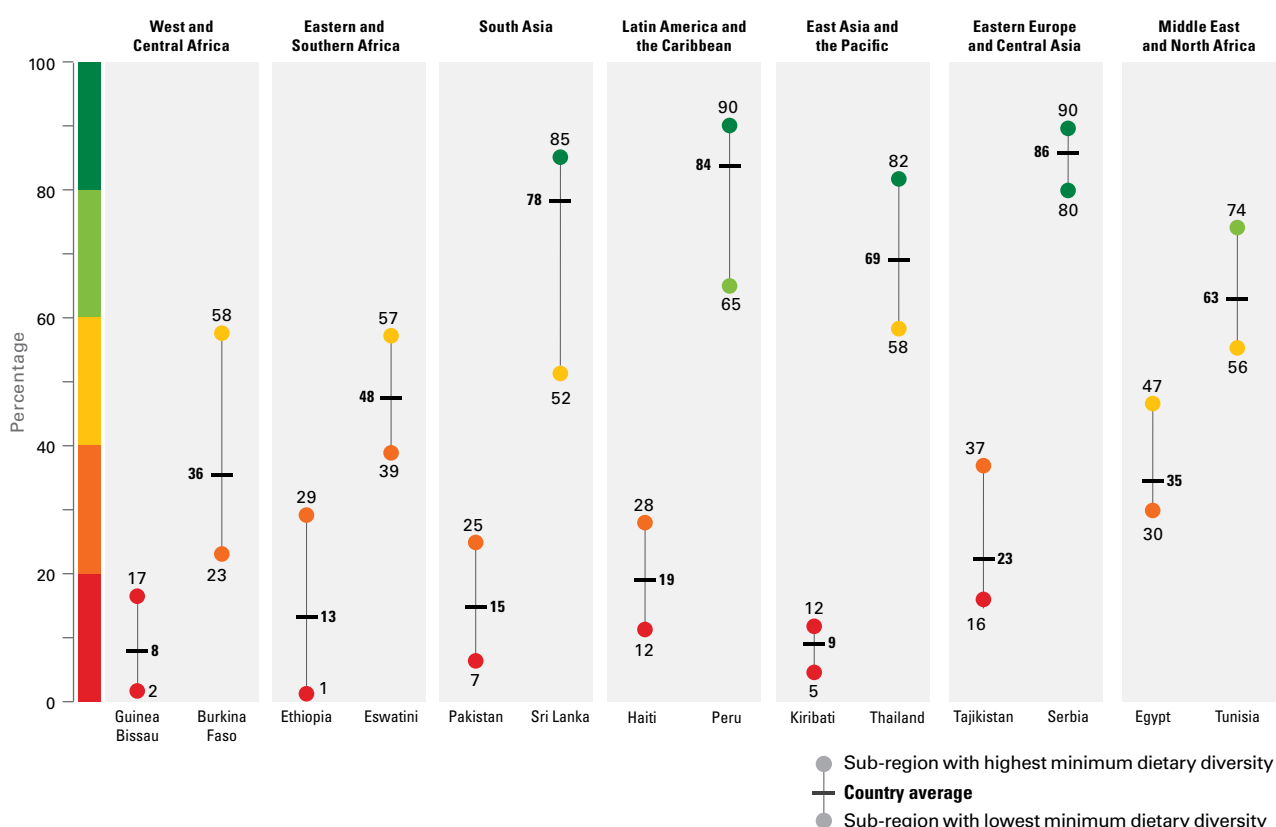


FIGURE 13

Percentage of children aged 6–23 months with minimum dietary diversity, by subnational region of a country, 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources. Note: This is an illustrative example showing subnational disparities among countries with the highest and lowest national prevalence of minimum dietary diversity in each UNICEF region.

Globally, the quality of children's diets also varies by urban or rural residence and household wealth (see *Figure 14*). Minimum meal frequency among children aged 6–23 months was higher in urban areas (57 per cent) than rural areas (48 per cent) and among wealthier households (57 per cent) than poorer households (45 per cent). The disparities in minimum dietary diversity are even greater: the percentage of children fed a minimally diverse diet was about twice as high in urban areas (39 per cent) than rural areas (23 per cent) and in wealthier households (40 per cent) compared with poorer households (19 per cent). In contrast, continued breastfeeding in children aged 12–23 months was higher in rural areas (73 per cent) and poorer households (75 per cent) compared with urban areas (57 per cent) and wealthier households (56 per cent). No disparities in diet quality are seen between girls and boys.

Household wealth influences the types of foods that children consume. Young children in wealthier households were more likely to consume nutritious foods than those in poor households. For example, the percentage of children who consumed dairy, eggs and flesh foods (fish, poultry or meat) during the previous day in wealthier households was almost double the percentage in poorer households (see *Figure 15*).

However, the diets of children in wealthier households were still far from optimal – less than 40 per cent consumed nutritious foods such as eggs or flesh foods during the previous day. Furthermore, only 40 per cent had minimally diverse diets, and continued breastfeeding was lower in wealthier households than in poorer households (see *Figure 14*).

Disparities in children's diets today are the same as they were a decade ago

Although economies have grown substantially during the last decade, the equity gaps between the diets of children living in poorer and wealthier households have not closed (see *Figure 16*). Disparities between poorer and wealthier households have remained the same with respect to minimum dietary diversity and widened for minimum meal frequency over the past decade. For continued breastfeeding, the gap between the poor and wealthier has narrowed slightly, but only because the percentage of children aged 12–23 months who were breastfed has fallen among children in poorer households.

Regional- and country-level estimates and trends for all indicators can be found in the data tables available online.

Children's diets vary significantly by area of residence and wealth quintile – but not between boys and girls

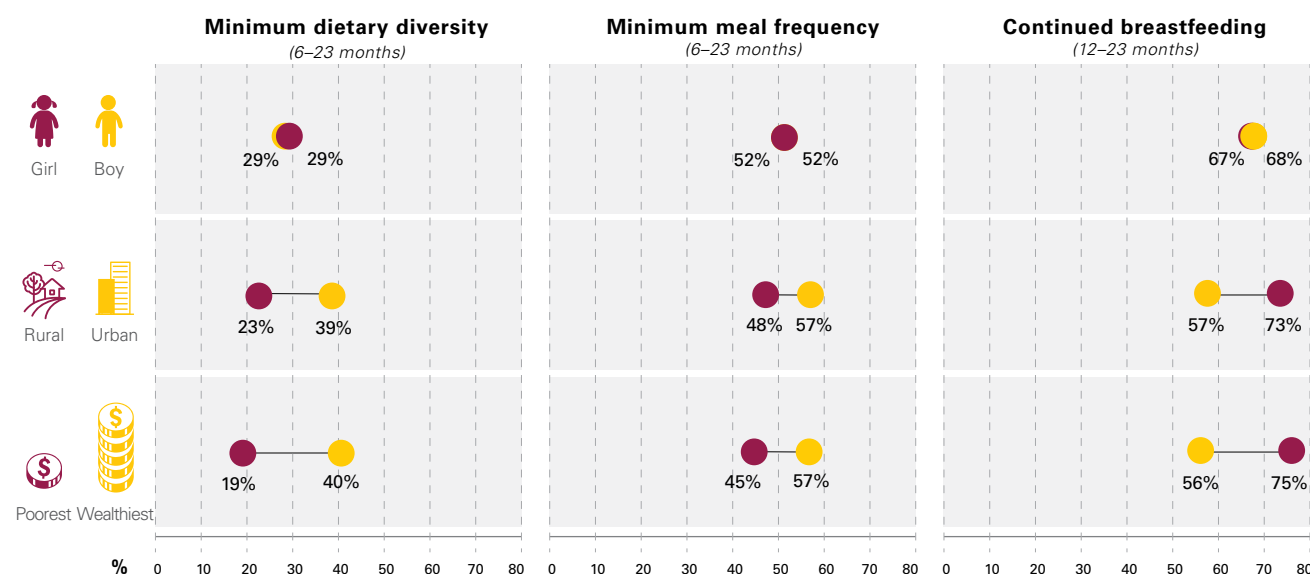


FIGURE 14
Percentage of children with minimum dietary diversity, minimum meal frequency, continued breastfeeding, by sex of child, rural and urban residence, and poorest and wealthiest wealth quintile, 2020

Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

Children from the wealthiest households have better diets than their peers from the poorest households

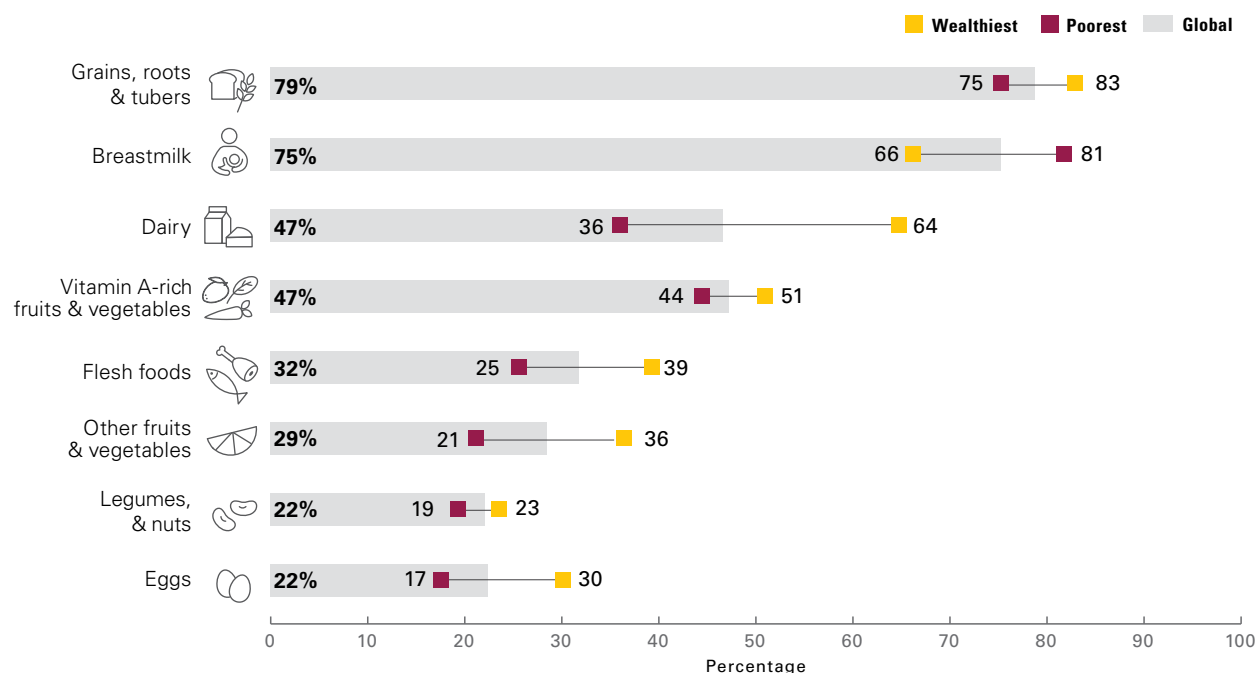


FIGURE 15
Percentage of children aged 6–23 months consuming food groups, by type and by poorest and wealthiest wealth quintile, 2020
 Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

Disparities in the quality of young children's diets between poorer and wealthier households have not closed over time

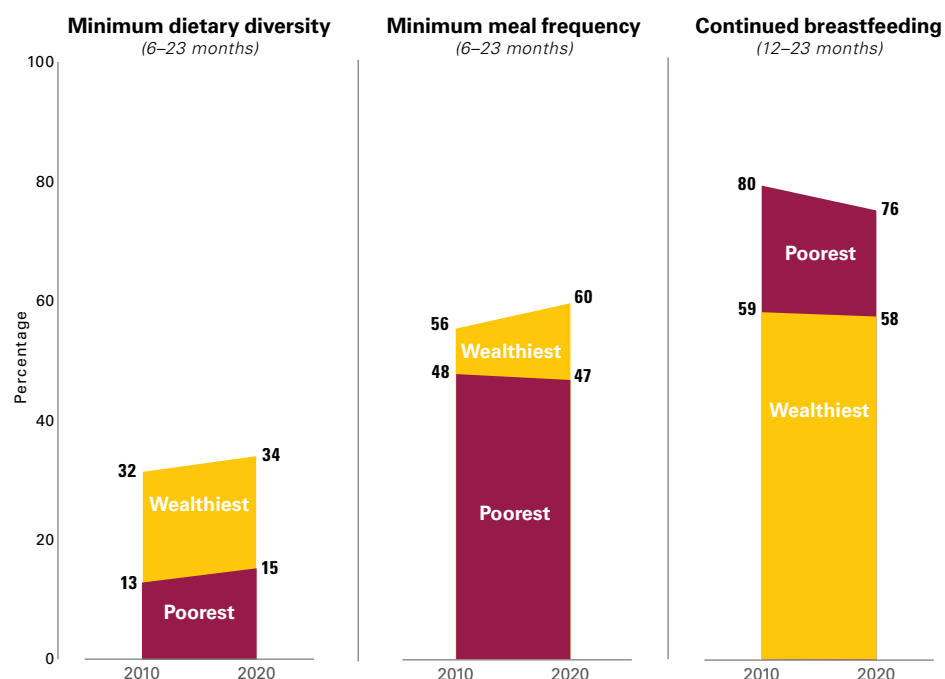


FIGURE 16
Trends in the percentage of children with minimum dietary diversity, minimum meal frequency and continued breastfeeding, by poorest and wealthiest wealth quintile, 2010 and 2020
 Source: UNICEF global databases, 2021, based on MICS, DHS and other nationally representative sources.

FINDING 5

Families struggle to find and afford nutritious foods for their young children

Families are becoming increasingly dependent on foods bought or traded in markets and shops, rather than those produced at home. Evidence from the voices of mothers and regional analyses shows that families, especially lower-income families, struggle to find, access and afford nutritious foods for their young children.

Supply and physical access constraints put nutritious foods out of reach for those who need them most

Young children cannot survive or thrive on calories alone; they need a range of nutritious foods to supply all essential nutrients for optimal growth and development.¹¹ Advances in agriculture and the livestock sector mean that national supplies of vegetables, fruits, eggs, fish, meat and other nutritious foods are greater than ever, but they still fall short of population nutrient requirements, particularly in low-income countries and in regions affected by climate shocks and conflict.¹⁶

The regional analyses found that families are increasingly purchasing their food in markets and shops rather than producing it in the home, even in rural areas.³⁹⁻⁴¹ This means that families are reliant on the foods that are available in these markets and shops.

We asked more than 570 mothers in 18 countries about the challenges they experience in finding nutritious foods for their young children.³⁰ Most mothers (88 per cent) reported that they purchase food from local markets or shops. Some mothers struggled to find any food at times, mainly in African countries, where seasonal gaps in the availability of vegetables and fruits are common.^{42,43} However, the more pressing challenge was finding the nutritious foods they wanted for their children: one in three mothers reported that nutritious foods were very limited in their local markets and shops. As a mother in rural Indonesia put it, *"Sometimes the market does not have enough healthy food, so I don't know what healthy food I can give to my child."*

Rural mothers also described how physical barriers and limited transport options prevented their families from travelling to find nutritious foods. In rural Ethiopia,

a mother explained that *"the roads are poor so we have no easy access to shops"* and in rural Ghana a mother told us, *"It is difficult to get a vehicle to go to other communities to buy foodstuff."* Adverse weather conditions can also seasonally cut road access to markets in countries, such as Kazakhstan and Tajikistan in Central Asia.⁴⁴

Poor families cannot afford nutritious foods for their young children

Families can include nutritious foods in their diets only if these foods are affordable. Many nutritious foods – including vegetables, fruits, dairy, eggs, fish and meat – are far more expensive than starchy staples because they cost more to produce, transport and store, especially in low-income countries.⁴⁵⁻⁴⁷ In fact, nutritious diets are five times more expensive than those that meet only energy needs, putting them beyond the financial reach of more than 3 billion people worldwide.¹⁶

Although the nutrient needs of young children are much higher per kilogram body weight than those of their family members, the quantities of nutritious foods they need are relatively small because of their small body size. This raises the question: are nutritious foods too expensive for families even in the quantities that young children need?

To answer this question, UNICEF collaborated with GAIN to assess the affordability of nutritious foods for young children in nine countries in Eastern and Southern Africa, and South Asia. The study identified locally available nutritious foods in each country and assessed how affordable they were in the quantities needed to meet 50 per cent of a young child's nutrient needs.^{48,49} The analysis found several affordable food sources of vitamin A in all countries, but few affordable food sources of iron and calcium and no affordable food sources of zinc in any country. For poorer households, there were very limited options for meeting any micronutrient needs other than vitamin A.

The regional analyses also found evidence that nutritious foods are beyond the financial reach of poor households in all seven regions examined.^{41-44, 50-52} For example, a recent study reported that the percentage of households unable to afford a nutritious diet was 21 per cent in Cambodia, 51 per cent in Ecuador and up to 56 per cent in Tajikistan.⁵³ Household wealth significantly predicted minimum dietary diversity in our

analysis of household survey data from sub-Saharan Africa (*Democratic Republic of the Congo, Ghana, Kenya, Malawi, the Niger, Nigeria, Rwanda, Senegal and United Republic of Tanzania*),^{42, 43} Middle East and North Africa (*Egypt, the State of Palestine and the Sudan*),^{51, 54} and South Asia (*Afghanistan, Bangladesh and Pakistan*).⁵⁵⁻⁵⁷

These findings were echoed in conversations with mothers of young children in low- and middle- income countries, who spoke of the constant struggle to afford nutritious foods.³⁰ A far greater percentage of mothers (79 per cent) reported affordability constraints to healthy diets than poor availability or physical access to nutritious food (<30 per cent) (see Figure 17). A mother in rural Guatemala told us, “If I had money, I would purchase and prepare food [like] the mother that I want to be,” while in rural Zimbabwe, another mother explained, “I cannot even afford to give my baby unhealthy foods as I do not have the money.” A mother in rural Ghana described how poor affordability and physical access can overlap: “There is not enough money in our house to buy different foods for my child, and even if I did have the money, the food is not available.”

Nutritious foods become even less affordable if they rise sharply in cost or if household income declines. Both these conditions can occur simultaneously when conflict, natural disasters or public health crises reduce the supply of nutritious foods and damage livelihoods.

UNICEF, together with its partners, is investigating the impact of the COVID-19 pandemic on household income, food purchasing patterns and diets: the findings are alarming. Phone-based surveys in Indonesia,³⁸ Kenya, Lesotho, Malawi and Nepal found that households suffered income losses, food shortages and drastically cut their purchases of nutritious foods due to the pandemic containment measures (see *Spotlights 1, 2 and 3*). As a result, young children were fed fewer meals, less diverse diets and/or smaller quantities of nutritious foods.

Our regional analyses also found that families coped with rising food costs by resorting to cheaper staples for their young children, such as rice in East Asia and the Pacific, and porridge in West and Central Africa.^{41, 42}

Families, especially lower-income families, struggle to find, access and afford nutritious foods for their young children.

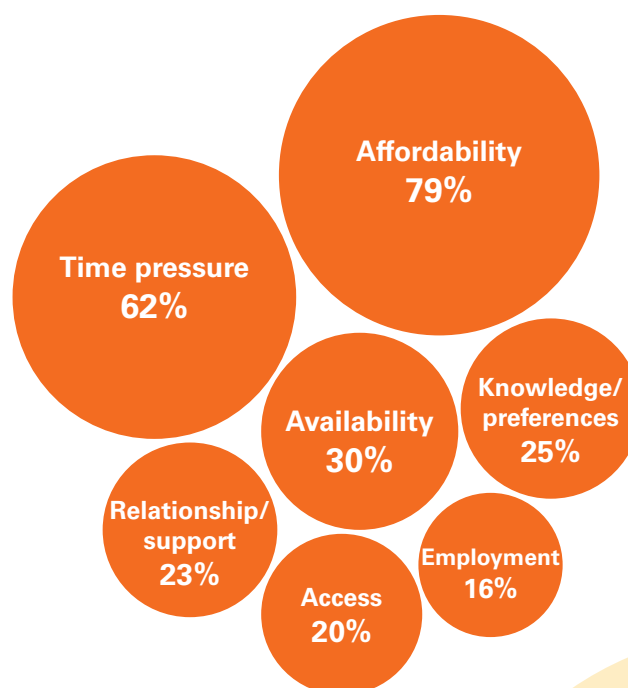


FIGURE 17

Percentage of mothers of young children reporting barriers to a healthy diet in 18 countries

Source: Schmied, V. et al. (2020). Food and nutrition: Mothers' perceptions and experiences. The State of the World's Children 2019 Companion Report. Western Sydney University and UNICEF, Sydney.

SPOTLIGHT 1

THE COVID-19 PANDEMIC – IMPACT ON HOUSEHOLD FOOD PURCHASES AND CHILDREN’S DIETS IN INDONESIA

The COVID-19 pandemic is having a dramatic impact on families throughout the world. The strategies to prevent virus transmission – including lockdowns, travel restrictions and physical distancing – have devastated livelihoods and disrupted access to affordable nutritious foods and essential nutrition services. Families are struggling to buy their usual range of foods, and young children’s diets and nutritional status are predicted to suffer.^{4, 26, 58}

UNICEF is monitoring the impact of the pandemic on households and young children. In September and October 2020, UNICEF, the United Nations Food and Agriculture Organization and the World Food Programme conducted a survey in urban slums in Jakarta, Indonesia, to examine the impact of the COVID-19 pandemic on household food security and children’s diets.³⁸

The data were collected remotely by phone and compared with survey data collected by UNICEF in the same location in 2018.

The survey found that 81 per cent of households experienced a fall in income after the onset of COVID-19 containment measures. The stress on these families was evident: 66 per cent of households were worried about food in the previous month – an increase of more than 50 per cent from 2018 (42 per cent).

Many households reported that they had reduced, stopped or replaced their purchases of nutritious foods because of financial difficulties. This included purchases of fish, poultry and/or meat (55 per cent of households); fruit (35 per cent); dairy (31 per cent); eggs (22 per cent); beans, pulses and/or tofu (15 per cent); and vegetables (11 per cent) (see Figure 18). A small percentage

of households (<5 per cent) reported purchasing less of a food item because of challenges in physically accessing markets or shops.

Young children’s diets suffered in response to these changes in purchasing patterns. In particular, the minimum dietary diversity in children aged 12–23 months fell by one-third from 81 per cent in 2018 to 55 per cent in 2020 (see Figure 19). Children aged 12–23 months were less likely to consume eggs, fish and/or meat in 2020 than in 2018 (62 per cent versus 83 per cent), dairy products (48 per cent versus 75 per cent), and pulses and/or nuts (22 per cent versus 51 per cent). The decline in minimum meal frequency (15 percentage points) was smaller than for minimum dietary diversity (26 percentage points), suggesting that households prioritized the frequency of feeding – and fuller stomachs – over the quality of food for their children.

FIGURE 18
Percentage of urban poor households reporting changes in food purchases due to affordability barriers, Jakarta, 2020

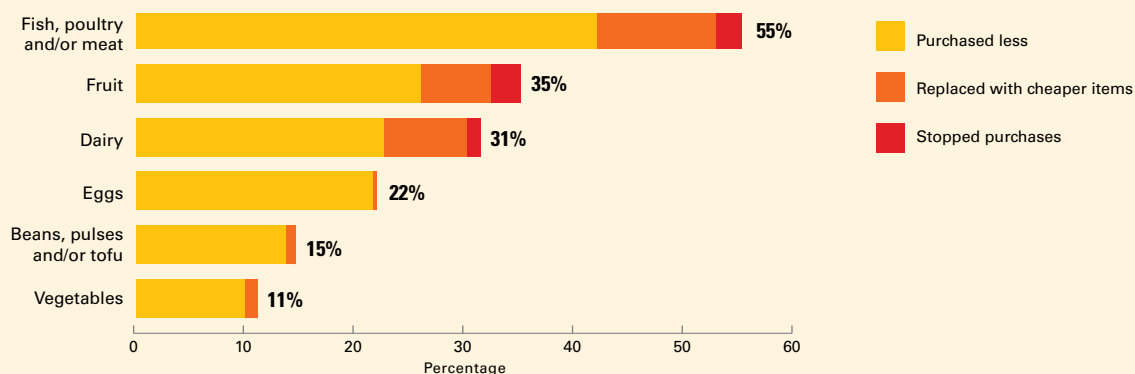
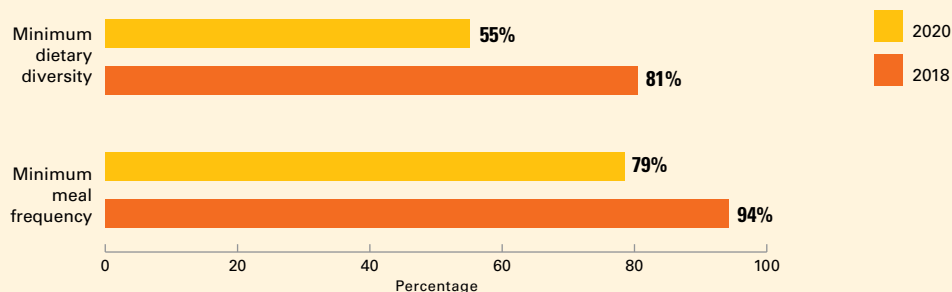


FIGURE 19
Percentage of children aged 12–23 months with minimum meal frequency and minimum dietary diversity in urban slums in Jakarta, 2018 and 2020



SPOTLIGHT 2

THE COVID-19 PANDEMIC – A FALL IN THE QUALITY OF CHILDREN’S DIETS IN EASTERN AND SOUTHERN AFRICA

The devastating health and socioeconomic impacts of the COVID-19 pandemic are being felt by economies, households and children across Eastern and Southern Africa. By the end of 2020, the region had recorded more than 1.1 million cases of COVID-19; however, the actual number was likely considerably higher due to low testing capacity. The pandemic has pushed millions more households into extreme poverty and exacerbated the impact of existing humanitarian crises in the region on child nutrition.

The UNICEF Eastern and Southern Africa Regional Office conducted research to examine the secondary impacts of the pandemic on the diets of young children, adolescents and women in the region. Between

June and August 2021, phone-based surveys were conducted in more than 1,300 households in Kenya, Lesotho and Malawi using computer assisted telephone interviewing. The survey module for caregivers of children aged less than 2 years included questions on household food insecurity and children’s recent consumption of food and beverages.

More than half of caregivers in Kenya (53 per cent), Lesotho (52 per cent) and Malawi (77 per cent) reported that their households had lower income at the time of the survey than in January 2020, before the pandemic. Only one in three children in Malawi (36 per cent) and Lesotho (39 per cent) were fed with the minimum meal frequency, and less than one in three children aged 6–23

months in Lesotho (29 per cent) and half in Kenya (47 per cent) were fed with the minimum dietary diversity (see Figure 20).

Caregivers were asked to report any changes to the frequency or type of foods fed to their children because of the COVID-19 pandemic. One in five children in Lesotho (20 per cent) and at least one in three children in Kenya (43 per cent) and Malawi (33 per cent) were fed fewer meals in the previous month due to the pandemic. In addition, at least 40 per cent of children in Lesotho and at least 20 per cent of children in Kenya and Lesotho were fed smaller quantities of nutritious foods, such as vitamin A-rich fruits and vegetables, pulses, dairy, eggs, meat, poultry and fish (see Figure 21).

FIGURE 20
Percentage of children aged 6–23 months fed with minimum meal frequency and minimum dietary diversity in Kenya (n=835), Lesotho (n=823) and Malawi (n=1178), June to August 2021

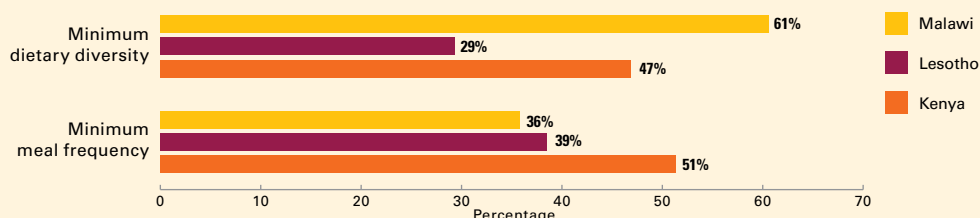
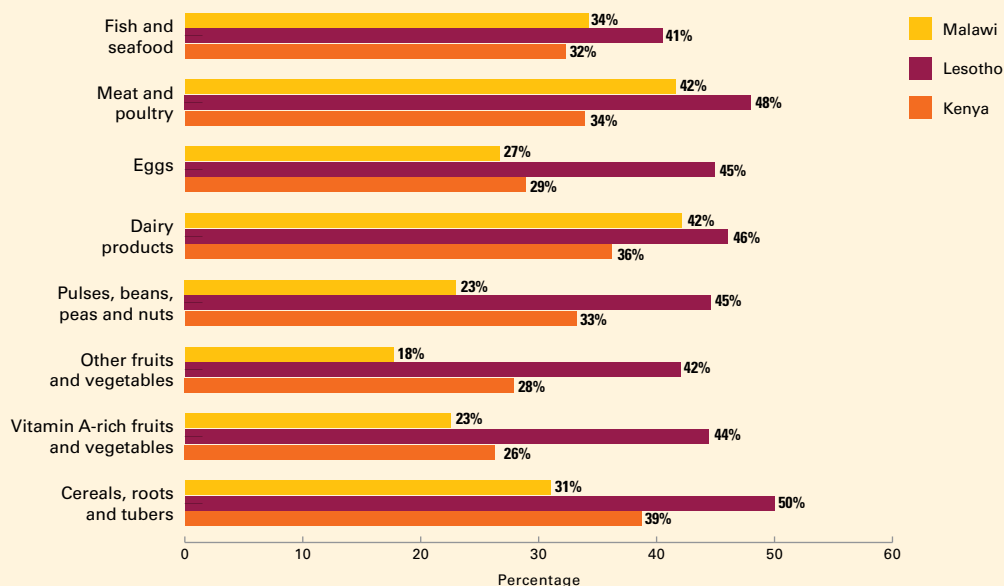


FIGURE 21
Percentage of children aged 6–23 months fed smaller quantities of nutritious foods due to the COVID-19 pandemic in Kenya (n=1321), Lesotho (n=1303) and Malawi (n=1563), June to August 2021



Source: Remote surveys on the potential impacts of COVID-19 on the diets of young children, adolescents, and pregnant and breastfeeding mothers in Eastern and Southern Africa region, UNICEF Eastern and Southern Africa Regional Office, unpublished data, August 2021.

SPOTLIGHT 3

THE COVID-19 PANDEMIC – TRACKING CHANGES IN YOUNG CHILDREN'S DIETS IN NEPAL

The COVID-19 pandemic brought many countries to a near standstill, as governments imposed tight restrictions on movement to halt the spread of the virus. The Government of Nepal announced a nationwide lockdown in March 2020, prohibiting non-essential movement, closing international borders, and suspending non-essential services. This posed unprecedented challenges for families throughout the country; many struggled to maintain livelihoods, earn a decent income and access essential health and nutrition services.

In response to concerns about the effect of the pandemic on Nepal's children and their families, UNICEF conducted a series of six nationally representative phone-based surveys between May 2020 and January 2021 to monitor the socioeconomic impacts, including on the diets of young children. In each survey, at least 900 caregivers of children aged 6–23 months

months were asked whether they were experiencing any difficulties in feeding their young children, and if so, the single most pressing problem.

The survey in May 2020 found that 55 per cent of households suffered income losses due to the lockdown, and 28 per cent experienced food shortages. One in five caregivers of young children (21 per cent) reported that children's meals were lower in diversity than before the onset of the pandemic, and 5 per cent reported that children were given less food or fewer meals (see Figure 22). Households with lower income were more likely to experience difficulties in feeding their children (see Figure 23).

More than one in five caregivers reported feeding their children fewer meals, less food or meals with lower diversity in July, August and October 2020. As lockdown measures were relaxed, the percentage of households

with income losses fell from 45 per cent in October 2020 to 19 per cent in January 2021, and the percentage that struggled to provide sufficient food for family members fell from 19 per cent to 8 per cent. During the same period, there was a sharp decline in the percentage of households experiencing challenges in feeding their children. Children's dietary diversity remained the most pressing concern throughout the eight-month period, and still affected 1 in 10 children in January 2021, despite the removal of lockdown measures.

A rapid assessment of young child feeding practices was conducted in June 2021 following another wave of COVID-19 and further lockdown measures. It found that only one in three children aged 6–23 months (38 per cent) were fed at least four out of seven food groups, indicating that caregivers continued to struggle to feed their children diverse diets.

FIGURE 22
Percentage of caregivers of children aged 6–23 months reporting changes in feeding practices in Nepal, May 2020 to January 2021

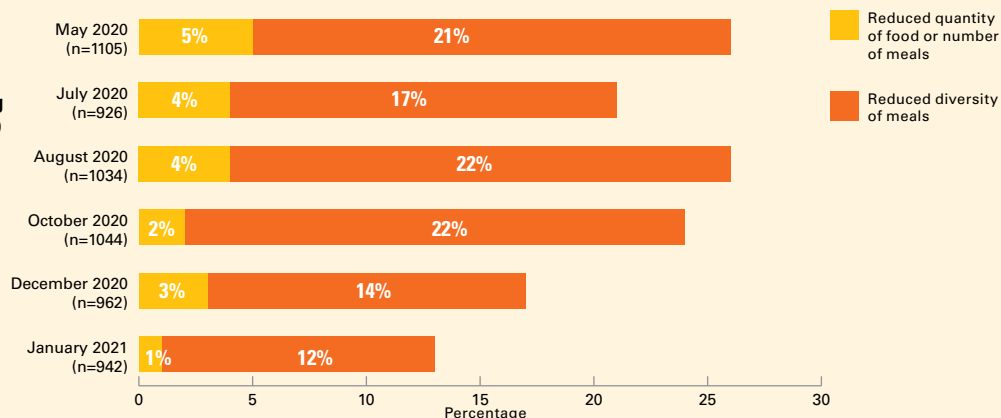
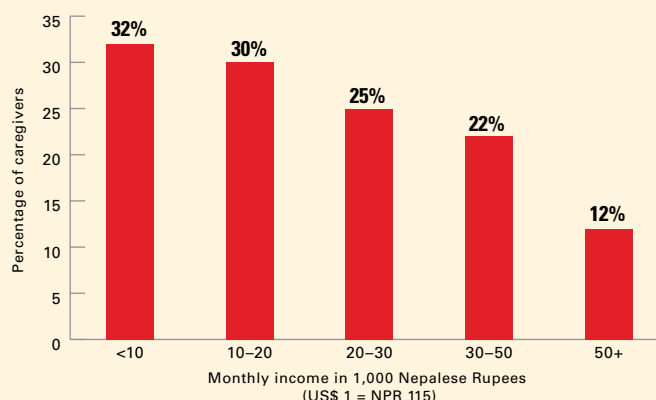


FIGURE 23
Percentage of caregivers whose children aged 6–23 months were fed fewer meals, less food or meals with lower diversity, by household income in Nepal, May 2020 (n=942)



Sources: United Nations Children's Fund, Child and Family Tracker Surveys, Nepal, May 2020 to January 2021. Infant and Young Child Feeding Technical Working Group, National Nutrition Cluster, Nepal. Infant and Young Child Feeding in COVID-19 Context. Rapid Assessment Report, June 2021.



FINDING 6

Children's diets are constrained by social, cultural and gender barriers

Even when food is available, accessible and affordable, social and cultural influences and gender norms can constrain the best intentions of caregivers to feed their young children nutritious diets. Our regional analyses and conversations with mothers and nutrition specialists expose the tension between mothers' desires to feed their children well and the lack of autonomy and time to do so.

Many mothers have the burden but not the autonomy to feed children well

In most settings, mothers are still primarily responsible for the feeding and care of young children. This remains a deeply embedded social norm, connected in part to the breastfeeding relationship between mother and child and entrenched gender roles that apportion domestic duties to women. As a nutrition specialist working in urban India explained, *"Mothers bear the burden of all efforts towards making their children's diets more nutritious. These mothers perceived it was their job to ensure that their child ate healthy food."*³⁰

But the responsibility for feeding children is not always accompanied by the autonomy to decide what foods their children eat. We asked mothers and nutrition specialists in 18 countries how decisions are made on what to feed young children.³⁰ We found that mothers in Afghanistan, Bangladesh and India experience powerful social norms that exclude them from food-purchase decisions. A nutrition specialist in rural India explained that *"some of the young mothers [are] not allowed to step out of the house at all."* In Afghanistan, a mother explained that *"in most instances, food for cooking [is] collected from the market by a male member of the family,"* and in rural Bangladesh, a nutrition specialist reported that food-related decisions are taken by the older generation of women; specifically, *"Mothers/mothers-in-law are usually in charge of daily food purchasing."*

Some mothers also lack control over which foods are fed to young children, including a mother in rural Bangladesh: *"My husband and mother-in-law make the decisions about what the baby will eat."* These family members sometimes impose restrictions based on enduring food taboos or gender biases. For example, a mother in urban Bangladesh explained: *"According to the mother-in-law ... fish will give [the child] worms."* Patriarchal norms were also reported by a mother in rural Guatemala: *"Husbands don't want to give us money [for healthy food]."* In contrast, mothers in high-income countries reported greater autonomy to take charge of decisions on what to purchase and feed to their young children.

The regional analyses found that mothers in other regions where patriarchal norms and multigenerational households prevail are also unable to make independent decisions on what their children are fed, including in sub-Saharan Africa (Burkina Faso, Mali, the Niger, Nigeria and Senegal),^{42, 43} the Middle East and North Africa (Egypt, the State of Palestine and the Sudan)⁵¹ and Central Asia (Tajikistan).⁴⁴ Young and first-time mothers often experience the least control over these decisions.

Child feeding decisions are influenced by time and work pressures on mothers

Across the world, the time pressures on mothers are mounting. Many mothers now work outside the home, while continuing to shoulder most of the childcare and household responsibilities.

Almost two in three mothers (62 per cent) we spoke with found themselves constrained by insufficient time.³⁰ These pressures were particularly common in urban areas, where mothers were more likely to have paid work and live in nuclear households, without the support of other family members. Similar frustrations were expressed by mothers in urban Indonesia (*"I have to hunt for time [to prepare food]"*), urban Ghana (*"You are late coming home from work and have to prepare the meal"*) and urban Australia (*"My husband works long hours, and my child has lots of needs, so I find I am the one juggling my own work and what my child needs. It's really hard some days"*).

But challenges also remain in rural settings. Caregivers report difficulty finding adequate time to feed their children the way they want to, often as a result of household and agricultural work. Mothers in diverse contexts from the Plurinational State of Bolivia to Uganda say that shouldering the heavy burden of household chores and farm work is a major barrier to feeding their children frequently and responsively.^{59, 60} These struggles are becoming more common in countries where increasing numbers of rural men are migrating to other countries for work, such as Tajikistan, leaving mothers behind to cope with the dual responsibilities of agriculture production and domestic duties.⁴⁴

Some mothers find strategies to manage the time crunch by selecting nutritious foods that require less preparation, preparing meals ahead of time, or relying on family members and paid caregivers for help.

However, many mothers struggle in the absence of adequate support and often compromise their own health or self-care for their children: *"I feel that I don't have time to shop and prepare healthy meals as much as I'd like. If limited on time, I provide a healthy meal for my children but not for myself,"* explained a mother in urban United States. Others turn to the convenience of processed and fast foods. Mothers know these foods are not ideal for children – but are worn down by time pressures. As a mother in urban Indonesia explained: *"Since I am a working mother, I do not have much time, and as a consequence, I often buy food which sometimes is not healthy but is quick."*



FINDING 7

Unhealthy processed foods are widely accessible and heavily marketed

The global consumption of unhealthy processed and ultra-processed foods and drinks is increasing. We examined evidence from our conversations with mothers, analyses of retail data, and published research to examine the extent of the problem in young children, and how gaps in legislation are failing to protect families and their children from inappropriate marketing.

Unhealthy processed foods and drinks are entering children's diets from a very young age

Diet patterns throughout the world are shifting towards processed and ultra-processed foods and drinks that are often energy-dense, nutrient-poor and high in salt, sugar and unhealthy fats. There are insufficient data to estimate how many young children are consuming these foods and drinks, globally or regionally. However, evidence gathered from our discussions with more

than 570 mothers in 18 countries³⁰ shows that they take a prominent place in young children's diets.

We found that processed and ultra-processed foods and drinks were provided to some infants at a very young age (*see Figure 24*). Between the ages of 4 and 6 months, before the recommended period of exclusive breastfeeding ends, 8 per cent of children were introduced to processed bread, 6 per cent to juice, and 3 per cent to breakfast cereals and sugar.

The consumption of processed and ultra-processed foods was considerably higher in children aged 6–23 months. One in three children in Australia and one in two children in Serbia consumed processed bread daily; one in three consumed biscuits or cake daily; and one in four consumed breakfast cereals daily (*see Figure 25*). These foods were also common in the diets of children in low and lower-middle income countries: one in three children in India were fed confectionary daily, one in four children in Nigeria were fed instant noodles daily, and two in five children in Ethiopia were fed processed bread daily.

Some children are fed processed foods and drinks before 6 months of age

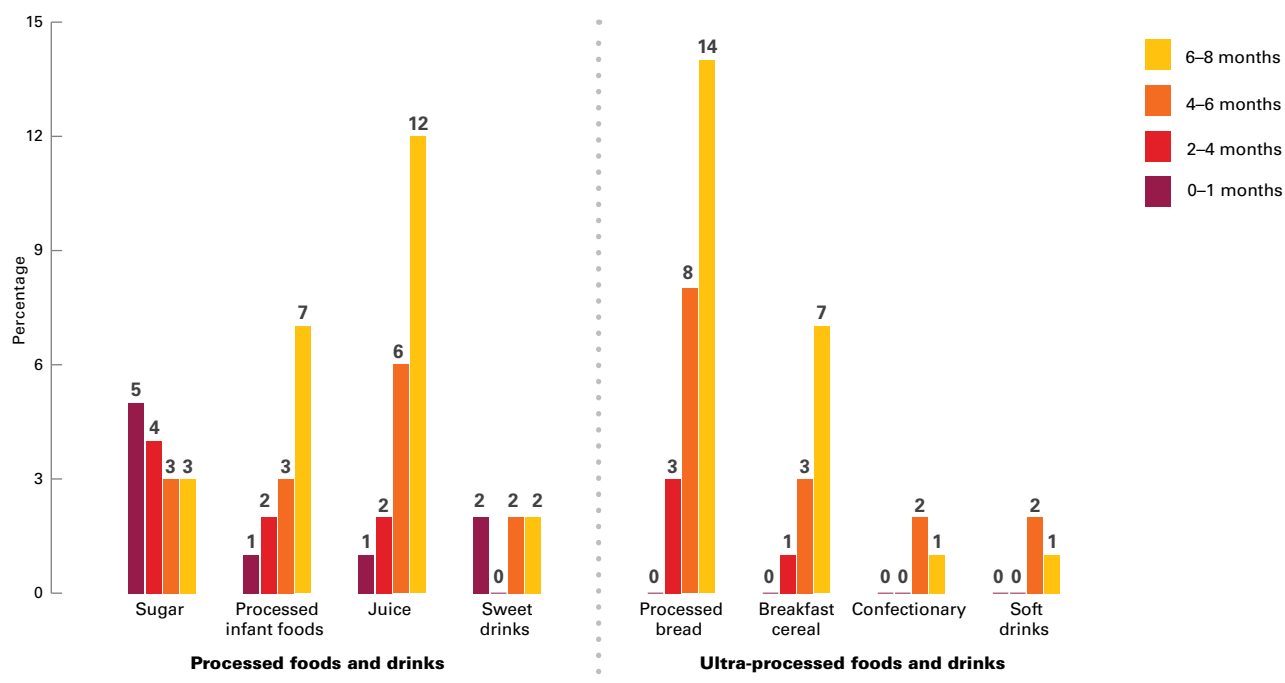


FIGURE 24

Percentage of children introduced to processed and ultra-processed foods and drinks by age

Source: Schmied, V. et al. (2020). Food and nutrition: Mothers' perceptions and experiences. *The State of the World's Children 2019 Companion Report*. Western Sydney University and UNICEF, Sydney.

Young children across high-, middle- and low-income countries are consuming ultra-processed foods and drinks on a daily basis

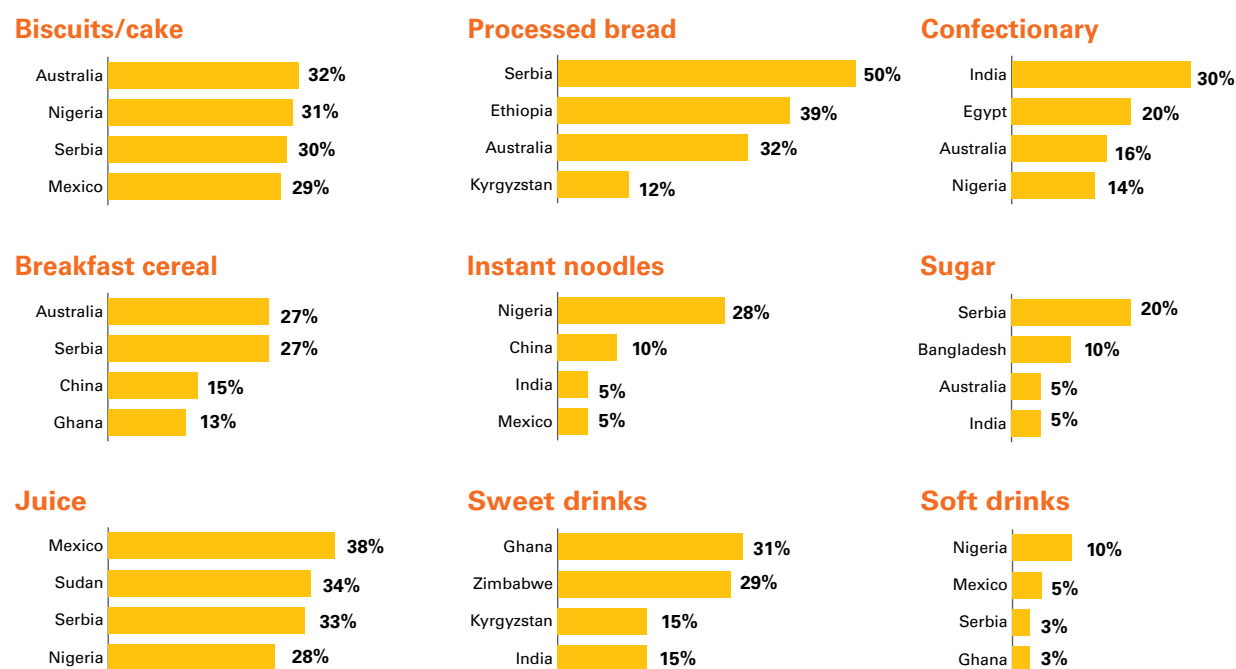


FIGURE 25
Percentage of children aged 6–23 months consuming processed and ultra-processed foods and unhealthy drinks daily in select countries
Source: Schmied, V. et al. (2020). Food and nutrition: Mothers' perceptions and experiences. The State of the World's Children 2019 Companion Report. Western Sydney University and UNICEF, Sydney

Sweetened drinks or juice were consumed daily by about one in three children in Ghana, Mexico, Serbia, the Sudan and Zimbabwe. Very few mothers reported daily consumption of carbonated soft drinks in young children, except in Mexico (5 per cent) and Nigeria (10 per cent).

These findings are troubling on four levels: first, infants should not consume anything other than breastmilk before 6 months of age; second, unhealthy foods and drinks can displace more nutritious foods from children's diets and increase the risk of micronutrient deficiencies; third, these foods can also set preferences for sweet tastes that persist into later life; and fourth, diets that are high in processed and ultra-processed foods can increase the risk of childhood obesity.^{13, 61, 62}

The regional analyses explored the reasons why caregivers feed these unhealthy processed foods and drinks to young children. Some caregivers in countries such as the Democratic Republic of Congo and Ghana perceive that processed foods are nutritious and aspire to feed them to their young children.⁴² Most caregivers find these foods are highly available, cheap,

quick to prepare, convenient and accepted by young children.^{41, 42, 44, 50, 52} As such, caregivers frequently offer them to children even if they know these foods are unhealthy.^{50, 52} As a key informant in a review of national policies and programmes in Mali explains: "Everywhere, it doesn't matter in which neighbourhood – [even] very removed, at two hours from the centre of Bamako – you are going to find chips and soda. And the second thing is that these items are not expensive."⁴² The growth of food distribution networks, and the relatively long shelf-life of these products, means that they can penetrate deep into rural communities.

Unregulated marketing of unhealthy foods and drinks is a threat to young children's diets

A thriving processed food and beverage industry lies behind the rising consumption of unhealthy foods and drinks. In the Philippines, for example, UNICEF's analysis of Euromonitor International marketing reports found that between 2014 and 2019, per capita sales of processed and ultra-processed foods increased by 12 per cent for formula, 20 per cent for salty snacks, and 8 per cent for carbonated drinks.⁶³



Some commercial ‘baby foods’, such as fortified infant cereals, are prepared and fortified to meet children’s high nutrient needs. But many other baby foods, as well as processed snacks and sweet drinks, are nutritionally inferior products that are sometimes marketed with inappropriate nutritional claims. For example, our regional analyses in Eastern Europe and Central Asia and in West and Central Africa found that the labels of some unhealthy processed foods confuse consumers by promoting the vitamin and mineral content.^{42, 44}

In 2016, the World Health Assembly (WHA) adopted resolution 69.9 urging Member States to implement the WHO *Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children*. The guidance covers commercial foods and drinks that are marketed as ‘suitable’ for children aged 6–36 months and calls for an end to advertising, promotions, labelling, packaging and claims designed to encourage purchase or consumption.^{64, 65} By 2020, 81 countries had included these foods in legislation to prevent inappropriate marketing of foods for infants and young children.⁶⁶ However, most countries have yet

to fully incorporate the provisions of WHA 69.9. For example, an in-depth analysis of national legislation by UNICEF and Helen Keller International for 20 countries in Eastern and Southern Africa found that none had fully integrated all WHO recommendations into national laws and policies.⁶⁷

These gaps leave children and their families exposed to persuasive, misleading and unethical marketing practices.⁶⁸ Recent research in Cambodia, Nepal and Senegal found that a high percentage of urban mothers of children aged 6–23 months had seen promotions for commercially produced snacks (>80 per cent) and complementary foods (20–29 per cent).¹³ Inappropriate marketing practices play to mothers’ concerns about the health and nutrition needs of their children and are a threat to young children’s diets: there is evidence that marketing encourages early introduction of solid foods and displaces suitable home-prepared foods.⁶⁸

FINDING 8

Policies and programmes to improve young children's diets are not prioritized – and are being further eroded by the COVID-19 pandemic

Despite the persistently poor quality of young children's diets, our analysis of UNICEF's programme monitoring data and the regional analyses show that actions to improve access to nutritious and affordable diets in early childhood have not been adequately prioritized in national policies and programmes. Since 2020, essential services to improve children's diets have been further derailed due to the COVID-19 pandemic.

No country has a comprehensive set of policies and programmes to improve young children's diets

To ensure children have access to nutritious and affordable diets, policy and programme actions that leverage the potential of multiple systems – particularly the food, health and social protection

systems – are needed. However, the regional analyses of young children's diets found that no country had a comprehensive set of policies, strategies or plans that fully incorporate all relevant global recommendations and guidance.^{41-44, 50-52}

The health system has historically led national efforts to improve young children's diets and has the strongest set of policies, strategies and plans, but missed opportunities within food and social protection systems may hinder multi-system action. For example, the regional analysis in South Asia found that six out of eight countries had comprehensively included actions to improve young children's diets in health system policies, strategies or plans, but only two countries had included such actions in food systems frameworks (*agriculture and food security*) and two countries for social protection.⁵² Meanwhile, the analysis in six countries in Eastern Europe and Central Asia identified no policies and strategies designed to improve young children's diets through agriculture or social protection.⁴⁴

Most countries are providing counselling to improve feeding practices – but too few have programmes to increase access to nutritious food

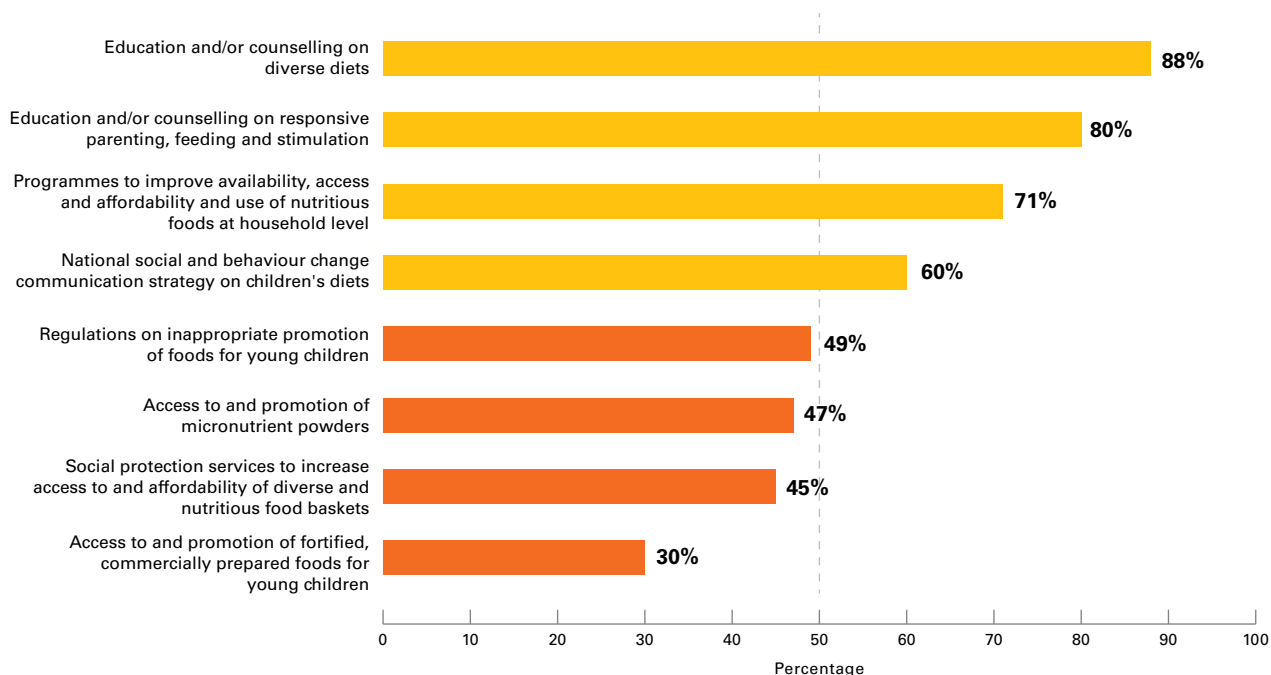


FIGURE 26

Percentage of countries implementing programmes to improve the quality of children's diets by type of programme in 2020

Source: UNICEF Strategic Monitoring Questions data, 119 countries.⁶⁹

The range of national programmes to improve young children's diets reflects the national policy environment, with health system-led programmes being dominant (see Figure 26). According to UNICEF's programme monitoring data, almost 90 per cent of countries provided education and counselling services to improve caregiver knowledge and practices through the health system in 2020.⁶⁹ Although counselling services have been delivered for longer than most other interventions to improve young child feeding, the coverage and quality of counselling remains suboptimal. The regional analyses reported constraints within the health workforce, including inadequate numbers, training, supervision, incentives and motivation of service providers at facility and community levels, and excessive workloads that limit the time to counsel caregivers.^{41-44, 50-52} These constraints reflect the failure to adequately prioritize and institutionalize counselling within primary health care services. For example, in East Asia and the Pacific, the accountability of service providers to deliver counselling is unclear in four out of six countries because counselling is not included in the package of basic services in health facilities.⁴¹

Fewer countries had programmes to improve access to nutritious and affordable diets for young children through the food and social protection systems in 2020: 71 per cent of countries promoted access to and use of affordable, diverse, local nutritious foods at the household level; 45 per cent provided social protection services that aim to improve access to affordable nutritious food; and 30 per cent promoted access to fortified foods for children.⁶⁹ There is insufficient evidence on the extent to which these programmes improve access to affordable diets for young children. However, various studies have highlighted important design considerations, including the coverage of nutritionally vulnerable households, the size and predictability of food and cash transfers within social protection programmes, and convergence with other essential health and nutrition services.^{16, 70}

Services to improve young children's diets are tracked only in the health system – and even then, only in half of countries. According to NutriDash data, 49 per cent of countries included an indicator to monitor the provision of counselling services on children's diets in their national health or nutrition information system in 2020.⁷¹ The absence of robust information systems compromises efforts to monitor progress and hold relevant authorities accountable for the delivery of services.

The COVID-19 pandemic has derailed essential services to improve children's diets

The COVID-19 pandemic has put countries' food, health and social protection systems under serious strain.⁵⁸ Closure of health facilities and services, gaps in service providers and supplies, lockdown restrictions on mobility, and/or fear of infection have meant that child nutrition services in many countries were suspended, curtailed or underutilized.

UNICEF has been monitoring the impact of the pandemic on nutrition services in countries throughout the world.³¹ In April 2020, at the peak of the first wave of the pandemic, nearly 83 per cent of countries reported considerable disruptions in the coverage of services to promote nutritious and safe diets for young children. Further analysis based on 39 countries with data collected every six months over a one year period found that the situation normalized in most countries by April 2021; however, 1 in 10 countries reported that coverage was at least 25 per cent lower than normal (see Spotlight 4).

Meanwhile, social protection systems have struggled to provide the lifeline needed by escalating numbers of impoverished families. Food assistance programmes in 8 countries provided unhealthy foods in September 2020, and this rose to 12 countries by April 2021, potentially causing more harm than good.³¹

Service disruptions related to COVID-19 should resolve as the pandemic dissipates. However, the pandemic's economic fall-out could have long-term repercussions for the financing of health and social protection systems, with lasting implications for the services that are so urgently needed to protect child nutrition. This will compound the difficulties that poor families continue to face in accessing nutritious and affordable diets for their young children.



SPOTLIGHT 4

THE COVID-19 PANDEMIC – DISRUPTIONS TO NUTRITION SERVICE DELIVERY

UNICEF has been monitoring the impact of the pandemic on children's services globally, including services to improve young children's diets. Data are drawn from the best available sources in each country, including administrative data or representative survey data collected in the previous three months; or extrapolations from reliable localized quantitative and/or qualitative reports. Given the challenges of traditional data collection efforts during the pandemic, these data offer an early indication of impacts on the disruption of essential services. As of mid-2021, three rounds of data were available, reflecting service coverage around April 2020, September 2020 and April 2021.

Data collected in September 2020 show considerable disruption to primary health care centres and outreach services, which are the main health delivery platforms for services to improve young

children's diets (see Figure 27). Almost half of countries (45 per cent) reported moderate or high levels of disruption to primary health care centres and almost two thirds (59 per cent) to outreach services delivered by community health workers at the community level. By April 2021, these percentages had fallen to 26 per cent for primary health care centres and 42 per cent for outreach services, but the level of disruption remained considerable.

In April 2020, at the peak of the first wave of the pandemic, 85 per cent of countries reported a fall in the coverage of services to promote nutritious and safe diets for young children, highlighting the massive scale of disruption (see Figure 28a). At that time, almost one in four countries (28 per cent) reported that the coverage of these services had declined by at least 25 per cent. By April 2021, these services had resumed in most countries, but one third of countries (36 per cent)

were still experiencing disruptions in coverage, and 1 in 10 countries (10 per cent) reported that coverage was at least 25 per cent lower than normal.

The coverage of services to protect and promote breastfeeding (see Figure 28b) and to distribute home fortificants (micronutrient powders) to children aged 6–59 months (see Figure 28c) followed a similar pattern. All these nutrition services share the same service delivery platforms, through primary health centres and outreach services, and therefore were similarly affected by the disruptions to these platforms.

This analysis is based on a small subset of countries with data available for all rounds and is not representative of service disruptions in all low- and middle-income countries.

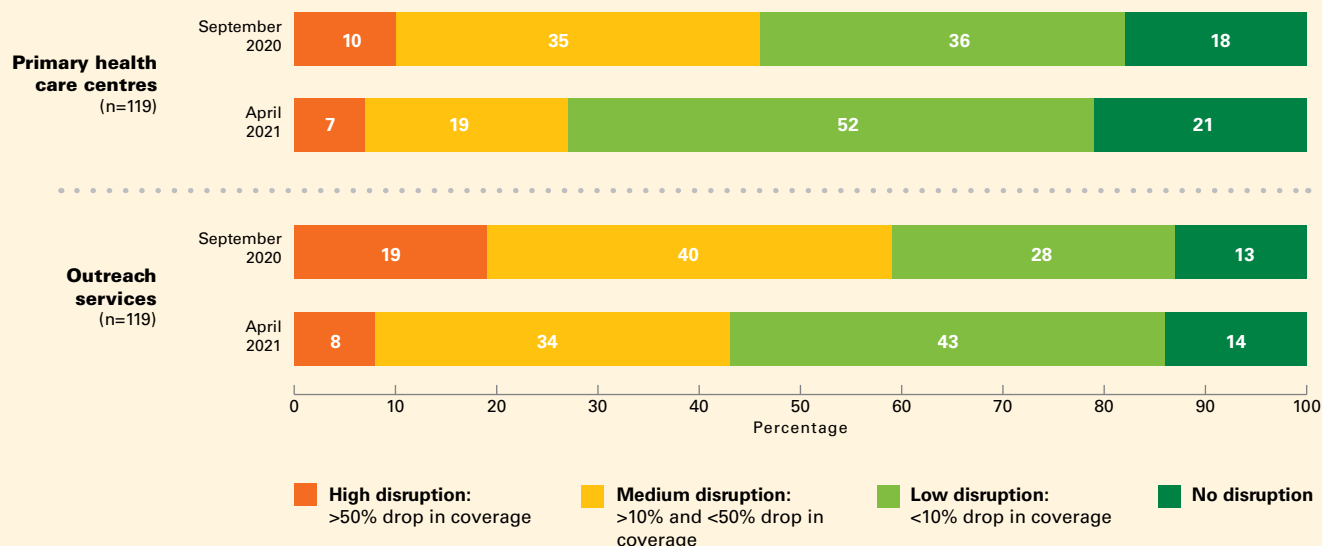
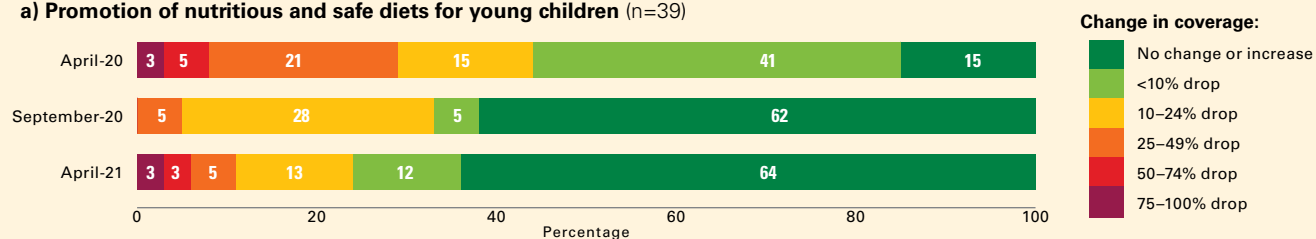


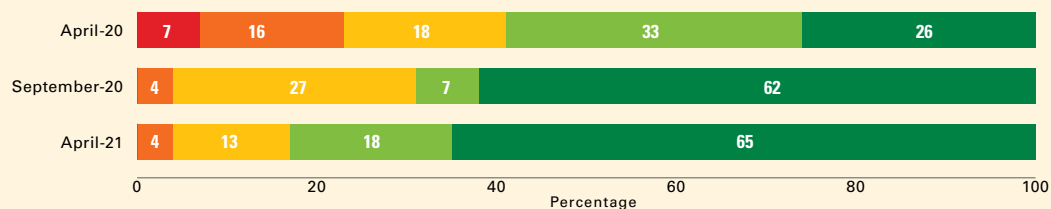
FIGURE 27
Percentages of countries experiencing disruptions to primary health care centres and outreach services during the COVID-19 pandemic, by level of disruption, in September 2020 and April 2021

Source: UNICEF COVID-19 monitoring system to track the situation of children during the COVID-19 pandemic³¹

a) Promotion of nutritious and safe diets for young children (n=39)



b) Protection and promotion of breastfeeding (n=45)



c) Home fortification with multiple micronutrient powders (n=33)

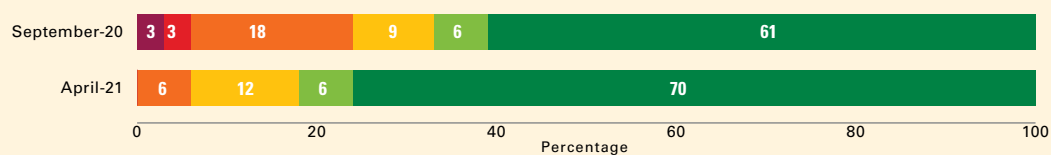


FIGURE 28

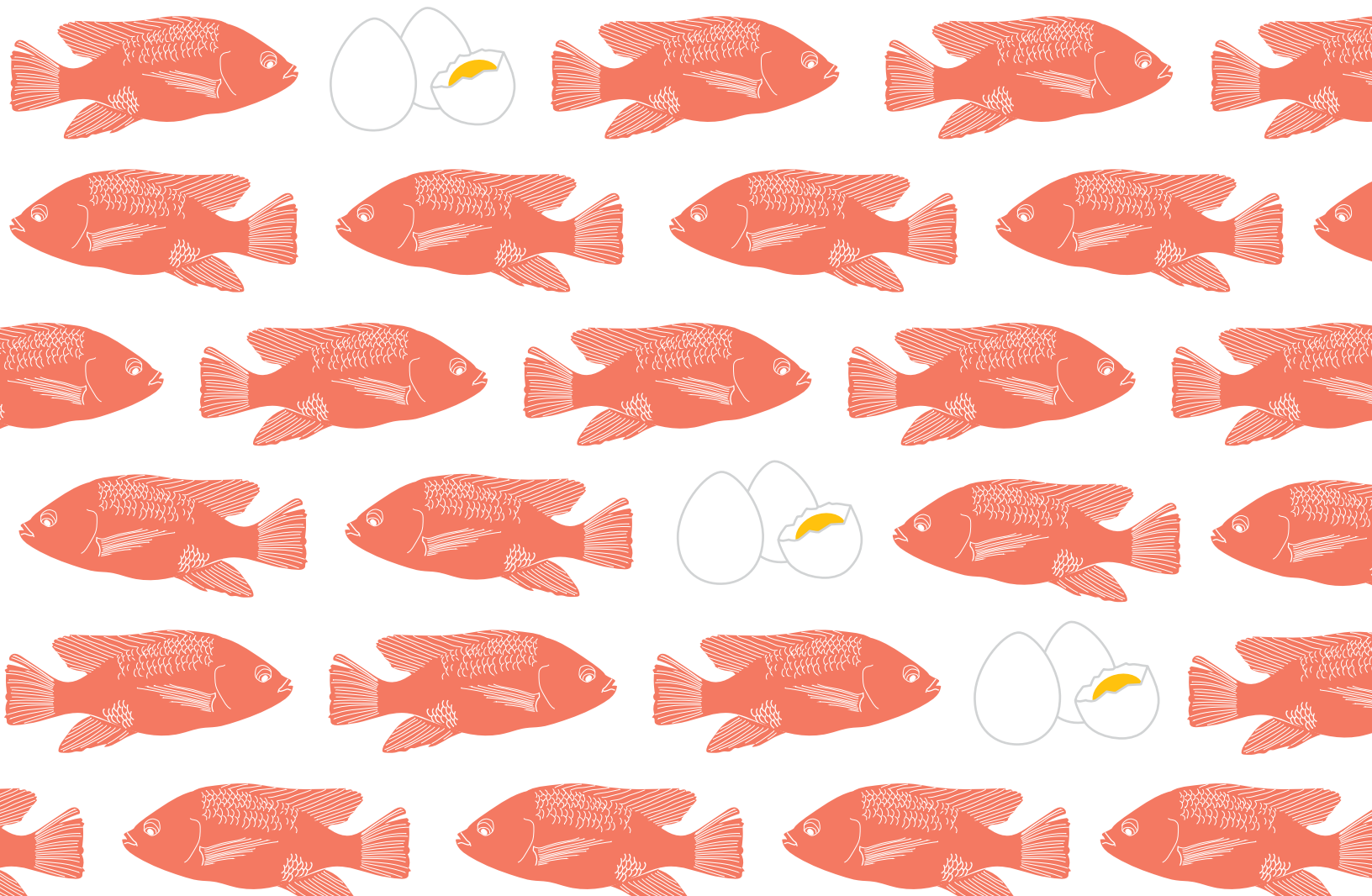
Percentage of countries reporting change in the coverage of essential nutrition services during the COVID-19 pandemic from April 2020 to April 2021

Source: UNICEF COVID-19 monitoring system to track the situation of children during the COVID-19 pandemic; n values indicate number of reporting countries.³¹



3 | OUR ANALYSIS

BARRIERS TO GOOD DIETS FOR YOUNG CHILDREN



The unacceptably high prevalence and burden of all forms of child malnutrition in the world demonstrate that there is an urgent need to transform how we tackle poor-quality diets in early childhood. Our analyses shed light on where children's diets are falling short of global recommendations and what roadblocks stand in the way of delivering nutritious, affordable and age-appropriate diets to every child.

We find that young children's diets are failing in timeliness, meal frequency and dietary diversity and have barely improved in the last decade. Too many young children are not fed their first foods at the right age, are not given sufficient meals and snacks to meet their needs, and are missing out on nutritious and diverse foods. This feeding crisis affects every region, but some young children – particularly those from poorer households – are in much greater crisis than others. The rapid rise in access to unhealthy processed foods and drinks, the immense time pressures on mothers, and enduring social, cultural and gender-related barriers further compound the difficulties that families face. National policies and programmes are falling far short on what is needed to address these challenges, leaving families with insufficient support to feed their children well.

Millions of children are fed to fail

Young children's diets are failing to meet their needs from their first day of transitioning to solid food to their second birthday. Our analysis of UNICEF's Global Database on Infant and Young Child Feeding found that the percentage of children aged 6–8 months who were fed any solids (73 per cent), the percentage of children aged 6–23 months fed with the minimum meal frequency (52 per cent) and those fed with the minimum dietary diversity (29 per cent) was abysmally low in 2020; as a result, more than two in three children aged 6–23 months were not fed the minimum diet they need to thrive.

Although all facets of young children's diets are problematic, the very low dietary diversity and consumption of nutritious foods are most troubling. Around half of all children aged 6–23 months were not fed any eggs, fish and/or meat (55 per cent) and vegetables or fruits (41 per cent) during the previous day, and 35 per cent of children aged 12–23 months were not breastfed. Without these concentrated sources of essential nutrients – including vitamins and





other micronutrients – children are less likely to grow and develop to their potential. At the same time, many children are fed unhealthy processed foods and drinks from an early age, which can displace more nutritious foods and set children on a path to unhealthy food preferences and overweight.^{61, 62}

There are no global targets to benchmark the status of young children's diets from 6 months of age. However, we can say with confidence that the slow progress in improving children's diets over the past decade is a key driver of the slow progress towards the Sustainable Development Goal targets, including an end to child malnutrition in all its forms by 2030.

Our analysis of trends found that the percentage of children aged 6–8 months who were fed solid foods and the percentage of children aged 6–23 months fed with the minimum meal frequency or minimum dietary diversity has barely improved in the last 10 years. In addition, there are signs that continued breastfeeding in the second year has stagnated. And this is before we factor in the effects of the COVID-19 pandemic on children's diets. Although the full extent of the pandemic's impact is yet to be understood, we found

evidence that urban poor households in Indonesia, Kenya, Lesotho, Malawi and Nepal have been unable to shield young children's diets from the devastating loss of household income. Several other studies have also reported harmful changes in food purchasing patterns, household diets and young children's diets in low- and middle-income countries.⁷²⁻⁷⁶

It comes as no surprise that the most vulnerable children have the poorest diets – namely, younger children, children living in poorer households and those residing in disadvantaged or rural areas. These children are known to suffer multiple deprivations and are most likely to be affected by stunting and/or wasting.² The inequities between children living in poorer and wealthier households have not narrowed over the last 10 years; in fact, the gaps in meal frequency between children from rich and poor households have widened, while the gaps in dietary diversity between the two groups have remained the same. Clearly, the marginal progress in improving children's diets has not preferentially benefited the most vulnerable children.

These findings are a damning indictment of the world's collective failure to protect the rights of all children to

nutritious diets. The consequences of this failure are felt by children today and will continue throughout the course of their lives. These are the children who fail to grow well – both physically and cognitively – and suffer from stunting and wasting in early childhood. Deprived of nutrients, they often start late at school, struggle academically and are likely to drop out early.²¹ As adults, they are destined for low-paid work,^{22, 23} which rotates the cycle of poverty and poor diets to the next generation. And then there are the children who follow a different but equally damaging course because they are fed diets that are high in calories and low in nutrients. These children gain too much weight and may carry the stigma and health consequences of overweight and obesity into adulthood.^{3, 24}

A different path is possible: one that prioritizes children's right to nutrition in the earliest years of life. The country examples of progress in young children's diets show we can make significant strides towards better diets for children, even in some of the poorest and most challenging contexts. For example, our analysis of trends found that 10 countries – Bangladesh, Burkina Faso, Cambodia, Côte d'Ivoire, the Gambia, Kyrgyzstan, Maldives, Nepal, Sierra Leone and Timor-Leste – have all increased minimum dietary diversity by at least 10 percentage points since 2010.

To do this, we need to better understand and respond to the barriers that hold back progress. Families and caregivers around the world strive to feed their young children to the best of their ability. This is not an innate skill, and so they learn what to do by receiving or seeking guidance from a variety of sources – relatives, friends, health workers, books, the Internet and social media. However, guidance will never be enough if not matched by the resources and support that they need to act on this knowledge. Our research has uncovered some of the major barriers these families and caregivers experience today.

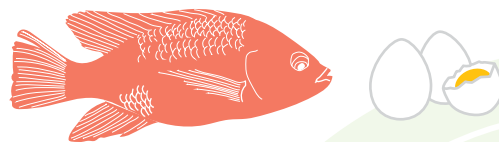
Good diets: unavailable, inaccessible, unaffordable

There is no greater anguish for a caregiver than knowing how best to feed a child but being unable to do so because the nutritious foods they seek are too expensive, out of reach or nowhere to be found. Our regional analyses and conversations with mothers in 18 countries show that these barriers persist, although the nature and extent of the challenges varies according to context.

Mothers living in sub-Saharan Africa, particularly in rural areas, were unable to find nutritious foods – and sometimes any food – in their local markets. This may reflect shortages in the national supply of nutritious foods,^{16, 77} seasonal scarcities in availability, or inadequate road infrastructure and transportation to bring supplies closer to homes. Proximity to food markets and shops matters for children's diets because most families, including farming families, are reliant on purchasing food rather than producing it in the home.^{40, 78} Nutritious foods such as vegetables, eggs and meat tend to be more perishable than staple cereals and tubers and are therefore more susceptible to distribution challenges and other supply chain disruptions.^{46, 47}

Poor families in middle-income countries, including families in Indonesia and Tajikistan, also experience physical access difficulties. These families often reside in areas where there is a scarcity of shops or supermarkets that sell nutritious foods.^{30, 44} Similar 'food deserts' are found among poor communities in high-income countries, including the United States, where only nutrient-poor, high-calorie, ultra-processed foods are readily accessible.⁷⁹ These countries have adequate national supplies of nutritious food, but poor communities do not attract or demand shops and supermarkets that sell these foods.

Even if nutritious foods are physically accessible, they are often too costly for poor families. Almost 80 per cent of mothers in our study reported affordability constraints, making it the most common barrier to nutritious diets.



The most vulnerable children have the poorest diets – namely younger children, children living in poorer households, and those residing in disadvantaged or rural areas

Our affordability analysis in Eastern and Southern Africa and South Asia found that nutritious foods are prohibitively expensive, despite the relatively small portion sizes that young children require.^{48, 49} The relative price of nutritious foods compared with staple foods is much higher in low-income countries than in high-income countries.⁴⁵ This means that poor families in lower-income countries experience the widest gap between the price of nutritious foods and their daily income.

Other studies have found that the high cost of dairy, eggs, fish and meat are associated with less frequent consumption among young children.^{19, 80} Most poor families favour fuller stomachs over nutritious foods when income is tight. Indeed, our research among urban poor communities in Indonesia during the COVID-19 pandemic found that the diversity of young children's diets fell as families made difficult decisions to cope with the loss of livelihoods and household income.³⁸

The addition of vitamins and minerals to staple foods during processing (fortified foods) or to children's meals before feeding (micronutrient powders and other food supplements) can help to fill gaps in children's dietary needs,⁸¹ but are not implemented at scale in the countries and populations that need them most. Fortified staple foods are usually produced for the general population and do not have sufficient concentrations of micronutrients to meet needs in early childhood. Meanwhile, fortified cereals that are formulated for young children remain variable in quality, poorly distributed and promoted, and too costly for the poorest families in lower-income countries.⁸²⁻⁸⁶ These fortified infant foods are 7 times more expensive in low-income countries than in high-income countries and are up to 30 times as expensive as unfortified staple cereals commonly fed to young children in low-income contexts.⁴⁵ According to NutriDash data, an estimated 16 million children aged 6-59 months were reached with micronutrient powders in 2019,⁷¹

a fraction of the 340 million children at risk of vitamin and mineral deficiencies.³ The number reached fell to 12 million in 2020, due to the impact of the COVID-19 pandemic on child nutrition services.

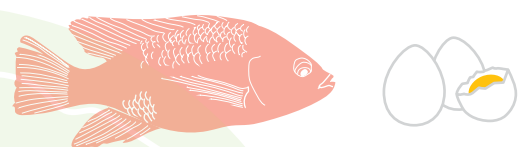
Traditional values and a changing world

Mothers are surrounded by competing pressures. In many countries, they remain primarily responsible for the feeding and care of infants and young children. Yet, in some societies, unequal power relations between mothers and other family members mean they are disempowered to take decisions that are in their children's best interests.

We found evidence in several countries in Africa, Asia, Latin America and the Middle East about restrictions on mothers' free movement outside the home, or their right to choose which foods were purchased and fed to their young children. Although gender differences in the quality of young children's diets are uncommon, even in South Asian countries,⁵⁵⁻⁵⁷ the gender inequalities and patriarchal norms that exclude mothers from food purchasing and feeding decisions can threaten the diets of girls and boys alike. Evidence consistently shows that when women have more decision-making power and control over the household's income, they tend to choose healthier foods and feeding practices for their children.³

In today's world, mothers are increasingly engaged in paid work outside the home but are still expected to shoulder the burden of domestic duties. Working mothers struggle to cope with these time pressures, especially in contexts where fathers have migrated for work or other family members are unable to provide support. Overwhelmed and overburdened, they resort to negative coping strategies to meet all the demands expected of them. Some working mothers in our study explained that they denied themselves healthy meals so they could use their limited time to prepare nutritious food for their young children. In other cases, the diets of young children are suffering as families are forced to opt for commercially produced foods and drinks to save time, and often money.

Modern food systems are changing the food-purchase behaviours of families. There has been enormous growth in sales of processed and ultra-processed foods and drinks that are high in sugar, fat and salt and low in essential vitamins and minerals.^{13, 50, 63} We found that many caregivers know these foods



Even if nutritious foods are physically accessible, they are often too costly for poor families

are unhealthy but feed them to children because they offer convenience and cheap calories, and are readily accepted by young children. Packaged, processed products usually have a long shelf-life and can reach almost everywhere, filling kiosks in the remotest villages, as well as shops and supermarkets in urban areas. We heard that these foods and drinks are also heavily marketed, often with misleading nutrition claims that confuse caregivers,^{13, 68} because regulations to prevent inappropriate marketing are either absent or poorly implemented.

Our discussions with mothers confirmed that unhealthy processed and ultra-processed foods and drinks are well-established in the diets of many infants and young children – in some cases before the recommended period of exclusive breastfeeding ends. Young children in high-income countries were most likely to consume ultra-processed foods regularly, but more than one in four children in Ethiopia, India, Mexico and Nigeria were also consuming these foods. Although there are no global or regional estimates with which to compare these findings, a recent systematic review of the literature reported that snack foods and

sugar-sweetened drinks account for 13 per cent to 38 per cent of the total energy intake of young children.⁸⁵

In contexts where commercial ‘baby foods’, such as infant cereals, may play a role in young children’s diets, they should be prepared and fortified to meet children’s high nutrient needs. But few affordable products are appropriately formulated in lower-income countries.^{84, 86} There are even quality issues in Europe: a review of such foods for children revealed high levels of sugars, with some being nutritionally similar to confectionary.⁸⁷

These unhealthy foods and drinks are undermining recommended feeding practices, including the use of traditional foods and food preparation skills.⁸⁶ Young children who consume these products at the expense of more nutritious foods are in triple trouble – at risk of stunting because the missing vitamins, minerals and protein are the building blocks for linear growth; at risk of micronutrient deficiencies, owing to the low vitamin and mineral content; and at risk of overweight and obesity because of the high-calorie content and propensity to develop long-lasting preferences for sweet foods.^{61, 62}

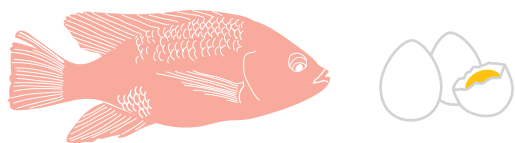


A response that is not fit for purpose

Governments have the responsibility to take adequate measures to combat all forms of child malnutrition as part of their obligation to respect, protect and fulfil children's rights.⁸⁸ These measures include the enactment and implementation of policies and legislation to enable young children to access and consume nutritious, safe, affordable and sustainable diets.¹¹

Our review of national policies, strategies and plans found that there are government commitments to improve young children's diets in all included countries. However, no country has fully incorporated all relevant global recommendations and guidance to leverage the potential of the food, health and social protection systems. Legislation to prevent inappropriate marketing of foods for infants and young children is enacted in 81 countries, but most countries have yet to integrate all provisions of WHA 69.9 to protect young children from commercial influence.

Young children's diets are most firmly grounded in the policies, strategies and plans of the health system, reflecting its longer history in supporting families to improve child nutrition. More than 80 per cent of countries have services to educate and counsel caregivers on young children's diets through primary health care platforms.⁶⁹ There are insufficient data to estimate the percentage of children reached with these counselling services because they are rarely tracked in health information systems. However, evidence from the regional analyses suggests that insufficient numbers, training, supportive supervision and motivation of frontline health workers impede the coverage and quality of counselling.



Many countries are missing vital opportunities to leverage the food and social protection systems to improve the availability, accessibility and affordability of nutritious foods in early childhood

These issues require greater prioritization and institutionalization of counselling on young children's diets within primary health care services, including greater investment in the community workforce. Counselling services to improve child feeding practices also need to be sensitive and responsive to women's social and cultural settings and the changing demands of modern life.

For too long, the health system has been largely left alone to take responsibility for young children's diets. But as this report has shown, caregiver knowledge and skills are insufficient to change feeding practices if families do not have access to affordable nutritious foods for their children to act on the advice and counselling they receive.

Countries throughout the world are missing vital opportunities to leverage the food and social protection systems to improve the availability, accessibility and affordability of nutritious foods in early childhood. For example, 3 in 10 countries are not promoting access to and use of affordable, diverse and local nutritious foods at the household level, and more than half do not have any social protection services that aim to improve the access of poor households to nutritious foods. Where these services do exist, we lack evidence on their coverage, quality and effectiveness in improving young children's diets. Nevertheless, the guidance on how to make food and social protection systems more responsive to dietary needs in early childhood is growing.^{11, 89, 90} What we now need is to build the accountability of key actors – including governments, civil society and the private sector – to strengthen the capacity of these systems to improve access to affordable and nutritious foods.

The case for prioritization and investments in young children's diets has never been more urgent. Measures taken to contain the COVID-19 pandemic have crushed livelihoods, disrupted food supply chains, suspended or curtailed services, and put caregivers under intense strain.⁵⁸ The resilience of food, health and social protection systems to function under these conditions has been severely tested. Our data show that programmes promoting nutritious and safe diets for children and breastfeeding and distributing home fortificants to children have been interrupted, while poor families continue to face immense difficulties in affording nutritious foods. As the financial fall-out of the pandemic threatens to shrink government budgets, it is crucial that every possible action be taken to protect the diets of the most vulnerable children.

Our analysis of the status, trends and inequities of young children's diets used data from the UNICEF Global Database on Infant and Young Child Feeding Database. The analysis used survey data on standard indicators of children's diets from over 90 countries for the 2020 estimates, and between 50 to 86 countries for the analysis of trends between 2010 and 2020. The year 2020 has been especially challenging for household surveys owing to the COVID-19 pandemic, and as such, our analysis does not account for the impact of the COVID-19 pandemic on young children's diets.

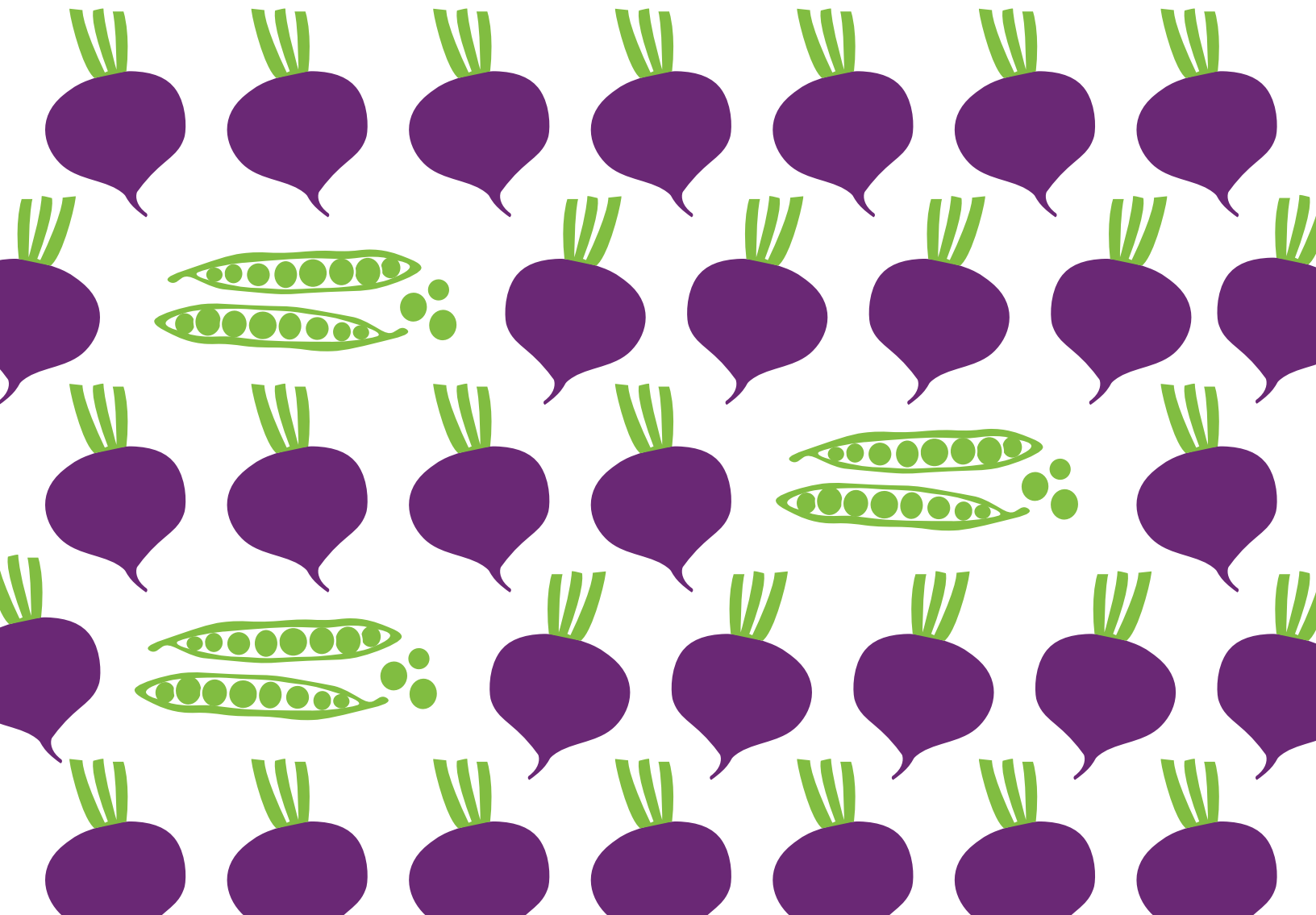
We combined evidence from the analysis of multiple qualitative and quantitative sources to identify barriers to quality diets in early childhood. These sources allowed for a broad range of influences on children's diets to be explored and triangulated, providing a comprehensive overview of the barriers facing families and caregivers today.

However, gaps remain in the body of evidence on drivers of quality diets in early childhood. In particular, we lack a sound understanding of how and why young children's diets improved in countries that have made impressive progress. A study in South Asia found that most evaluated interventions have been small in scale and narrow in scope, mainly involving educating or counselling caregivers on feeding practices by frontline health workers in the health system.⁹¹ As we take action to transform our approaches to improving young children's diets, it is crucial that we invest in research to identify the context-specific enablers and pathways to better-quality diets across all relevant systems.



4 | OUR RECOMMENDATIONS

BOLDER ACTION AND GREATER ACCOUNTABILITY FOR CHILDREN'S DIETS



The world has made little progress in improving the diets of its youngest citizens over the past decade. Infants and young children around the world are being fed to fail – deprived of the diets they need at the time in their life when it matters most. This situation stands to worsen as the devastating impacts of the COVID-19 pandemic reverberate globally, threatening livelihoods and the systems that contribute to good nutrition for young children.

The state of children's diets remains a persistent bottleneck to greater progress on nutrition, including achieving the 2030 Sustainable Development Goal targets for stunting, wasting and overweight. For far too long, young children's diets have been tackled with fragmented actions that fail to reach most children or to comprehensively address the challenges that caregivers face in feeding children well. Children are left paying the price for insufficient action, with consequences for their survival, growth, development and learning that endure across the trajectory of their

lives and threaten the future of families, communities, economies and nations.

But change is possible. As our analysis indicates, several countries have recorded significant improvements in the quality of young children's diets over the last decade, including 10 countries – Bangladesh, Burkina Faso, Cambodia, Côte d'Ivoire, the Gambia, Kyrgyzstan, Maldives, Nepal, Sierra Leone and Timor-Leste – where the percentage of children fed a minimally diverse diet has increased by at least 10 percentage points in the last decade. More will follow, with the right focus and investments. Knowledge on the barriers that are holding back progress can help to ensure that resources are targeted to actions that will have greatest impact on the quality of young children's diets.

The crisis of children's diets is driven by multiple, interacting barriers that vary according to the contexts in which families live. From rural villages to urban megacities, access to affordable nutritious foods is the





most pressing concern, especially among poorer families. These foods are either simply not available or not affordable. And nutritious and safe foods are increasingly crowded-out by processed and ultra-processed foods that are cheap, may be perceived as convenient substitutes and are often heavily marketed to children and families.

Mothers continue to shoulder the responsibility for child feeding. Yet unequal divisions of household responsibilities, paid work outside the home and enduring social and cultural norms leave many mothers without the time or autonomy to do what they know is best for their young children.

Women, caregivers, and families must not be left alone to deal with these challenges. Nor can we expect the health system to take sole responsibility for improving young children's diets or wait for the trickle-down effects of economic growth to increase household food budgets.



We must leverage the policies, resources and actors of the food, health and social protection systems to deliver better diets for young children

A SYSTEMS APPROACH TO IMPROVING CHILDREN'S DIETS

Governments must take the lead in upholding every child's right to food and nutrition. Together with national civil society, development partners and the private sector, they must mobilize the policies, resources and actors of three systems: food, health and social protection.¹¹

If activated in the right way and held accountable, these three systems can take complementary actions to (1) improve the quality of children's foods, through actions in public policy and food supply chains; (2) improve the quality of children's food environments, through actions in public policy and private sector practice; and (3) improve the quality of child feeding practices, through programmes that counsel and support families and promote positive child feeding practices and social norms.⁹²

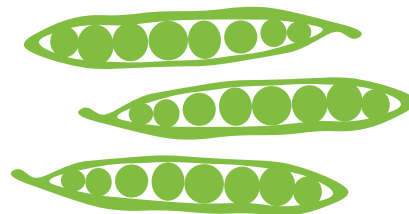
Food system

The food system comprises the policies, services and actors involved in the production, processing, distribution and marketing of food. It influences whether foods are available, accessible, affordable, nutritious, safe and sustainable, and can make it easier – or more difficult – for caregivers to make nutritious food choices for their young children. Three actions are crucial to transform the food system so that it better protects, promotes and supports young children's diets:

- **Increase the availability, accessibility and affordability of nutritious foods for young children:** Governments should identify locally available and lower-cost nutritious foods – including fruits, vegetables, legumes and animal-source foods – and make them the focus of national policies, programmes and guidelines to close nutrient gaps in young children's diets. To increase the accessibility and affordability of these nutritious foods, it is crucial to create incentives that encourage their production, distribution and retailing. Where nutrient-poor diets and micronutrient deficiencies are common, governments must also develop and implement national programmes to support the production and use of fortified foods for children aged 6–23 months.

- **Implement national standards and legislation to protect young children from unhealthy processed and ultra-processed foods and harmful marketing practices:** Governments must develop and enforce national standards for foods and beverages that are sold commercially or distributed through public programmes for young children. In addition, they must fully implement the International Code of Marketing of Breast-milk Substitutes and subsequent WHA Resolutions (the Code), the Guidance on Ending the Inappropriate Promotion of Foods for Infants and Young Children, and the WHO-led global recommendations on the marketing of foods and non-alcoholic beverages to children.^{65, 93, 94} The food industry must ensure that their policies, practices and products fully align with the Code, standards and legislation to protect young children from unhealthy products and harmful marketing practices.

- **Use multiple communication channels to reach caregivers with factual information and advice on young child feeding and increase the desirability of nutritious foods:** Governments, development partners and the food industry must increase the desirability of nutritious foods and ensure that caregivers are able to access accurate information and advice on child feeding. The use of multiple communication channels – including radio, television and digital media – increases the opportunities to reach caregivers. Given the rise in families' access to processed products, it is vital that public sector-led communication strategies discourage the consumption of unhealthy foods and beverages. Further, communication efforts should encourage and normalize the participation of fathers in food preparation and feeding of young children, to reduce time pressures on women and contribute to gender equality.



Health system

The health system provides multiple contact points at the facility and community levels to inform, counsel and support caregivers on child feeding and care practices, and to distribute dietary supplements and home fortificants, as appropriate, where poor diets and micronutrient deficiencies are common. Two actions are crucial to mobilize the full potential of the health system for young children's diets and make its contributions fit for purpose in today's world:

- › **Expand the access of caregivers to quality counselling and support on young child feeding:** Community-based platforms are essential to increase access to counselling and support services on child feeding and close equity gaps in the coverage of essential nutrition interventions. Governments and development partners must invest in the recruitment, training, supervision and motivation of community-based counsellors and health workers to deliver quality counselling and support on child feeding and care at scale. In contexts where mothers are excluded from food purchasing or child feeding decisions, counselling and support services should also engage other family members, while efforts to transform these discriminatory social norms are stepped up in parallel.
- › **Deliver dietary supplements, home fortificants and fortified complementary foods to children at risk of micronutrient deficiencies, anaemia and growth and development failure:** Lipid-based food supplements, multiple micronutrient powders for home-based fortification and fortified complementary foods for young children can help address micronutrient gaps in children's diets in settings where micronutrient deficiencies, anaemia and growth and development failure are prevalent. The health system must play a crucial role in making dietary supplements, home fortificants and fortified complementary foods available to all children who need them. The distribution of these supplements should always be accompanied by information on their use and counselling on child feeding practices.

Social protection system

The social protection system forms a crucial safety net to protect vulnerable children against poverty and social exclusion, including in emergencies. It can increase families' physical or financial access to nutritious diets by providing social transfers (food, cash and/or vouchers), and offers a platform for the delivery of essential nutrition services and the promotion of positive nutrition practices. Two actions by social protection systems are crucial to improve young children's diets:

- › **Design social transfers that support, and do not undermine, nutritious and safe diets in early childhood, including in fragile settings and in response to humanitarian crises:** Governments and development and humanitarian partners must ensure that social protection programmes provide food transfers that are nutritionally adequate for young children (i.e., those containing essential nutrients that are likely to be low in young children's diets) and do not include unhealthy foods and beverages. The same applies to vouchers: families should be able to exchange vouchers for nutritious and safe foods that are suitable for young children. Cash transfers should be large enough to allow families to purchase not just any foods, but nutritious and safe foods for young children.
- › **Use social protection programmes to improve caregivers' knowledge about young child feeding:** Governments and development and humanitarian partners must integrate information, education and counselling on child feeding into social protection programmes to increase the likelihood that social transfers are used by caregivers to improve young children's diets. This can be done in two ways: firstly, by directly providing these nutrition services to families who benefit from social protection programmes; or secondly, by encouraging families to make use of services that are delivered by the local health system.



Multi-system governance

Some essential actions do not fall within the responsibilities of a single system, and instead facilitate the overall agenda on young children's diets. These include actions to raise the policy prominence of young children's diets, to ensure that the food, health, and social protection systems work synergistically to address barriers to nutritious, safe and age-appropriate diets, and to make data and evidence available to track progress and inform the design of policies, legislation and programmes. Three actions under multi-system governance are crucial to improve young children's diets:

► **Position young children's right to nutritious and safe diets as a priority in the national development agenda and ensure coherent policy support and legislation across sectors and systems:** Governments, parliaments and development partners must position young children's diets as a national development priority, and include commensurate financial resources in their budgets and investments. Policies, legislation, and programmes across the food, health and social protection systems must be coherent, given the shared roles of these three systems in improving young children's diets. Coordination is essential to identify and implement mutually reinforcing policy and programme actions.

► **Strengthen public accountability for young children's diets by setting targets and tracking progress:**

Governments must set national targets on young children's feeding practices using the standard UNICEF and WHO indicators, including the new indicators on consumption of unhealthy foods and beverages.³² All countries must collect household data on these indicators every three to four years and include appropriate service coverage indicators in sector-specific monitoring systems to assess how well the food, health and social protection systems are delivering with respect to young children's diets.

► **Conduct research to understand how systems succeed or fail in improving young children's diets:**

Governments and development partners must support research to identify the context-specific barriers and enablers to adequate food, services and practices for young children's diets – including the experiences of mothers and other primary caregivers. They must also invest in research to identify the factors, processes and innovations that enable multi-system action to secure nutritious, safe, affordable, desirable and sustainable diets for young children. Learning from failed experiences is as important as learning from success.



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- Institutional and academic partners
included FHI 360, Global Alliance for
Improved Nutrition (GAIN), Institut de
Recherche pour le Développement (IRD),
Johns Hopkins University, Penn State
University, and United Nations Univer-
sity – Maastricht Economic and Social
Research Institute on Innovation and
Technology (UNU-MERIT). Regional anal-
yses were conducted in seven regions:
East Asia and Pacific, Eastern Europe
and Central Asia, Eastern and Southern
Africa, Latin America and the Caribbean,
Middle East and North Africa, South Asia,
and West and Central Africa.
- NutriDash is an online platform managed
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Annexes

Annex 1

Indicators of young children's diets and feeding practices

Annex 2

Notes on the figures



Annex 1

Indicators of young children's diets and feeding practices

Indicator	Age group	Definition
Introduction of solid, semi-solid or soft foods	Infants 6–8 months of age	Percentage of infants aged 6–8 months who consumed solid, semi-solid or soft foods during the previous day
Minimum dietary diversity	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed foods and beverages from at least five out of eight defined food groups during the previous day
Minimum meal frequency	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed solid, semi-solid or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more during the previous day
Minimum milk feeding frequency for non-breastfed children	Children 6–23 months of age	Percentage of non-breastfed children aged 6–23 months who consumed at least two milk feeds during the previous day
Minimum acceptable diet	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed the minimum acceptable diet during the previous day
Egg and/or flesh food consumption†	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed egg, fish, poultry and/or meat during the previous day
Sweet beverage consumption	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed a sweet beverage during the previous day
Unhealthy food consumption	Children 6–23 months of age	Percentage of children aged 6–23 months who consumed selected sentinel unhealthy foods during the previous day
Zero vegetable or fruit consumption‡	Children 6–23 months of age	Percentage of children aged 6–23 months who did not consume any vegetables or fruits during the previous day
Continued breastfeeding 12–23 months	Children 12–23 months of age	Percentage of children aged 12–23 months who were fed breastmilk during the previous day

†In this report, we refer to egg and/or flesh food as egg, fish and/or meat consumption.

‡ In this report, we present on vegetable or fruit consumption during the previous day.

Annex 2

Notes on the figures

A. General notes

Population weighted global and regional estimates

All regional and global population-weighted estimates were weighted using the annual population by age interpolated datasets from the United Nations Department of Economic and Social Affairs, Population Division, 2019 Revision of World Population Prospects.

Depending on the indicator, population-weighted averages for any given region were generated by (a) multiplying the estimates of an indicator for each country with available data in the required time period by the number of children in the age range associated with the indicator in that country; (b) summing all of the country specific products; and (c) dividing the sum of the products by the total population of children in the respective age range in all countries with data in the required time period.

Population coverage, or the share of the population for which an estimate is available in the UNICEF global database, was calculated by dividing the population of children in a given age range in countries with data by the total population of children in that age range in each respective region. The standard used for minimum population coverage (i.e., minimum population coverage required to display the regional estimate) is 50 per cent.

B. Notes on individual graphics

Figure 4: Percentage of children under 5 affected by stunting, by age in months, 2020

Estimates are population-weighted and based on the most recent national survey between 2013 and 2020 for a subset of 103 countries with disaggregated data by age group available in the UNICEF/WHO/World Bank Joint Child Malnutrition Estimates Expanded Database on Stunting, 2021 edition, covering 82 per cent of the global under-five population.

Figure 5: Estimated number of children under 2 affected by stunting and wasting out of all affected children under 5 years of age

While there are no official UNICEF/WHO/World Bank Joint Child Malnutrition Estimates for stunting or wasting among sub-age groups, rough estimates for the number of children under 2 years of age with stunting and the number of children under 2 years of age with wasting were generated using the steps outlined below for stunting (the same approach was applied for wasting).

- i. First a global population-weighted stunting prevalence estimate for children under 2 years of age and for children 2 to 4 years of age was calculated for each age group using survey-based data as per description of analysis for Figure 4.
- ii. Using the resulting stunting prevalence estimates for children under 2 years of age and children 2 to 4 years of age, the number of affected children in each sub-age group was calculated using the populations for each one-year age grouping. Next, the number of stunted children under 2 years of age was divided by the number of stunted children aged 0–4 years to obtain the proportion of children with stunting who were under 2 years of age. The resulting proportions (one-third of 0–1-year-olds with stunting and two-thirds of 2–4-year-olds with stunting) were multiplied by the UNICEF/WHO/World Bank Joint Child Malnutrition Estimates global estimate of 149.2 million stunted children under 5 years of age to generate the rough estimate of 51 million under-two-year-olds with stunting (and 98 million 2–4-year-olds with stunting).

Figure 8: Percentage of children aged 6–23 months with minimum dietary diversity, by age group and UNICEF region, 2020

Estimates are population-weighted and based on the most recent national survey between 2014 and 2020 for a subset of 90 countries with disaggregated data by age group available in the UNICEF Global Databases on Infant and Young Child Feeding (with the exception of China, where the latest data are from the year 2013), covering 78 per cent of the global under-two population.

Figure 9: Trends in percentage of children receiving: solid foods (6–8 months); continued breastfeeding (12–23 months); minimum meal frequency, minimum dietary diversity, eggs, fish and/or meat, and vegetables and/or fruits (6–23 months), around 2010 and around 2020

Trend analyses are population-weighted. Analysis for the indicator of introduction of solid, semi-solid or soft foods is based on a subset of 84 countries with comparable trend data covering 75 per cent of the global population of children aged under 1 year for around 2010 (2005–2012) and 76 per cent of the global population of children aged under 1 year for around 2020 (2014–2020).

Analysis for the indicator of continued breastfeeding is based on a subset of 86 countries with comparable trend data covering 65 per cent of the global population for children aged 1 year for around 2010 (2005–2012) and 66 per cent of the global population for children aged 1 year for around 2020 (2014–2020).

Analysis for the indicators of minimum dietary diversity; any fruit or vegetable consumption; and egg and/or flesh food consumption; are based on a subset of 50 countries with comparable trend data covering 51 per cent of the global population for children aged under 2 years for around 2010 (2005–2012) and 52 per cent of the global population for children aged under 2 years for around 2020 (2014–2020).

Analysis for the indicator of minimum meal frequency is based on a subset of 55 countries with comparable trend data covering 50 per cent of the global population (excluding Brazil, China, India and the Russian Federation) for children aged under 2 years for around 2010 (2005–2012) and 53 per cent of the global population (excluding Brazil, China, India and the Russian Federation) for children aged under 2 years for around 2020 (2014–2020).

Figure 10: Trends in percentage of children aged 6–23 months with minimum dietary diversity, by country, around 2010 and around 2020

Country-level trends for minimum dietary diversity are presented for a subset of 50 countries where a baseline estimate between 2005 and 2012 was available in addition to a recent data point between 2014 and 2020. The trend categories of ‘significant decrease’, ‘no significant change’ and ‘significant increase’ are based on standard errors.

Figure 14: Percentage of children with minimum dietary diversity, minimum meal frequency, continued breastfeeding, by sex of child, rural and urban residence, and poorest and wealthiest wealth quintile, 2020

In the case of minimum dietary diversity, estimates are population-weighted and based on the most recent national survey between 2014 and 2020 for a subset of 91 countries with disaggregated data by sex of the child, 88 countries with disaggregated data by place of residence and 85 countries with disaggregated data by wealth status available in the UNICEF Global Databases on Infant and Young Child Feeding (with the exception of China where the latest data are from the year 2013), covering 78 per cent of the global under-two population.

In the case of minimum meal frequency, estimates are population-weighted and based on the most recent national survey between 2014 and 2020 for a subset of 84 countries with disaggregated data by sex of the child, 81 countries with disaggregated data by place of residence and 79 countries with disaggregated data by wealth status available in the UNICEF Global Databases on Infant and Young Child Feeding (with the exception of China where the latest data are from the year 2013), covering 77 per cent of the global under-two population.

In the case of continued breastfeeding, estimates are population-weighted and based on the most recent national survey between 2014 and 2020 for a subset of 92 countries with disaggregated data by sex of the child, 88 countries with disaggregated data by place of residence and 86 countries with disaggregated data by wealth status available in the UNICEF Global Databases on Infant and Young Child Feeding, covering 72 per cent of the global population aged 1 year.



Figure 15: Percentage of children aged 6–23 months consuming food groups, by type and by poorest and wealthiest wealth quintile, 2020

Global estimates of the percentage of children consuming a food group are population-weighted and based on a subset of 89 countries available in the UNICEF Global Databases on Infant and Young Child Feeding, with recent data between 2014 and 2020, covering 66 per cent of the global under-two population.

Estimates of the percentage of children consuming a food group by wealth status are population-weighted and based on the most recent national survey between 2014 and 2020 for a subset of 86 countries with disaggregated data available in the UNICEF Global Databases on Infant and Young Child Feeding, covering 64 per cent of the global under-two population.

Figure 16: Trends in the percentage of children with minimum dietary diversity, minimum meal frequency and continued breastfeeding, by poorest and wealthiest wealth quintile, 2010 and 2020

Trend analyses are population-weighted. Trends in minimum dietary diversity by wealth status are based on a subset 47 countries with comparable data covering 51 per cent of the global population for children aged under 2 years for around 2010 (2005–2012) and 52 per cent of the global population for children aged under 2 years for around 2020 (2014–2020).

Trends in minimum meal frequency by wealth status are based on a subset of 51 countries with comparable data covering 48 per cent of the global population (excluding Brazil, China, India and the Russian Federation) for children aged under 2 years for around 2010 (2005–2012) and 51 per cent of the global population (excluding Brazil, China, India and the Russian Federation) for children aged under 2 years for around 2020 (2014–2020).

Trends in continued breastfeeding by wealth status are based on a subset of 73 countries with comparable data covering 58 per cent of the global population for children aged 1 year for around 2010 (2005–2012) and 60 per cent of the global population for children aged 1 year for around 2020 (2014–2020).



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