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This online first version has been peer-reviewed, accepted and edited,
but not formatted and finalized with corrections from authors and proofreaders

Geographic priorities in the global action plan for wasting: Burkina Faso, Ethiopia, Kenya and Malawi

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(Submitted: 18 November 2024 – Revised version received: February 2025 – Accepted: March 2026 –
Published online: 30 March 2026)

Abstract

Shifts in global aid funding threaten the sustainability of programmes addressing childhood wasting and population-based surveys used to inform their geographic targeting. Re-evaluating how priority regions are identified is essential to ensure constrained resources reach the greatest number of affected children. We examined how the Global Action Plan on Child Wasting prioritization strategies aligned with the geographic distribution of childhood wasting in four countries: Burkina Faso, Ethiopia, Kenya and Malawi. We used the two most recent Demographic and Health Surveys of each country to estimate the annual absolute burden of wasting in Global Action Plan priority and non-priority areas. Prioritized areas consistently captured the highest wasting prevalence and, except in Kenya, experienced larger reductions in wasting prevalence over time. However, in Burkina Faso, Kenya and Malawi, between 43.6% (142 631/327 349) and 69.8% (992 370/1 422 301) of children with wasting lived in non-priority areas, largely in more populous regions with a lower prevalence of wasting but a high absolute burden. These findings highlight a key limitation of prevalence-based prioritization: low-prevalence areas can contain numerous affected children if they are more densely populated. While prevalence-based targeting has successfully delivered nutritional services to millions of children, targets of the Global Action Plan and sustainable development goals are unlikely to be met without addressing the burden of wasting in non-priority areas. With global nutrition financing increasingly constrained, countries must adapt data systems to enable flexible prioritization that

balances prevalence and burden, while implementing context-adapted strategies to cost-effectively expand coverage where the largest numbers of affected children live.

Introduction

Childhood wasting is one of the leading contributors to child mortality worldwide. In 2024, an estimated 42.8 million children were affected by wasting at any given time, including 12.2 million with severe wasting.¹ Among children aged 6–59 months, wasting is diagnosed by a weight-for-height z-score (WHZ) < -2 or a mid-upper-arm circumference (MUAC) < 12.5 cm or the presence of bilateral pitting oedema. While interventions delivered through programmes within the Integrated Management of Acute Malnutrition have substantially reduced mortality,² their effectiveness depends on sustained financing³ and the availability and appropriate use of reliable data to guide resource allocation. Recent funding disruptions and limitations in current prioritization models threaten these gains, necessitating urgent policy reassessment.

Cuts to international aid are undermining both the delivery of wasting interventions and the data systems that inform evidence-based prioritization. Many low- and middle-income countries have relied heavily on previous programmes funded by the United States Agency for International Development (USAID), such as the Demographic and Health Surveys (DHS), as a main source of nutritional and health data; for example, only 3% of surveys in 26 low-income and 8% in 41 lower middle-income countries are reported to be domestically funded.⁴ The 2025 USAID funding withdrawal has disrupted ongoing surveys, threatened the future of DHS programmes⁵ and placed programmes within the Integrated Management of Acute Malnutrition at risk. Without data infrastructure, countries may default to replicating previous policy decisions or relying on outdated data sets, which could result in inaccurate and inefficient allocation of increasingly limited resources.

Prevalence-based prioritization models may compound this issue. The Global Action Plan on Child Wasting provides a roadmap for the implementation of interventions under the Integrated Management of Acute Malnutrition by prioritizing subnational areas based on wasting prevalence, food insecurity, internal displacement, and sanitation and clean water access.⁶ Priority areas are often arid or semi-arid places with low population density, while non-priority areas are typically less arid but more densely populated. Non-priority areas with lower wasting prevalence, but higher population density, may have a higher absolute number of children with wasting than priority areas.

To inform the necessary policy adjustments to optimize interventions to treat wasting, we analysed how priority areas within the Global Action Plan align with the geographic distribution of child wasting in four countries: Burkina Faso, Ethiopia, Kenya and Malawi.

Prioritization and wasting burden

As part of the implementation of the Global Action Plan, countries adopted national targets for treatment of wasting for 2025.⁶ Burkina Faso aimed to treat 87% of severe and 50% of moderate cases of wasting, while Kenya targeted 75% of severe and 50% of moderate cases annually. Malawi committed to treating 75% of total wasting cases yearly, whereas Ethiopia set absolute annual targets of treating 75 000 children with severe wasting and 1.5 million with moderate wasting.

To assess alignment between these national targets and the geographic distribution of child wasting, we estimated the absolute burden (number of affected children) of wasting at the subnational level and compared the burden with Global Action Plan designations for these localities as priority and non-priority areas.⁶ In Kenya, non-priority counties were further stratified into non-arid and semi-arid counties to align with the classifications of the National Drought Management Authority.⁷ We estimated the annual subnational wasting burden in three steps. First, we obtained the subnational prevalence of wasting and population totals from each country's two most recent DHSs,^{8–15} supplemented with national census data where subnational population totals were missing.^{16–19} Second, we derived the number of children younger than 5 years in each subnational territory by applying the national proportion of children younger than 5 years reported in the DHS to each subnational population total. Third, we estimated the annual burden of severe and total wasting by multiplying the population counts of children younger than 5 years by the prevalence of wasting adjusted using an incidence correction factor of 3.6 to account for incident cases arising over a year.²⁰ We then aggregated these subnational estimates by Global Action Plan designation to quantify the share of the national wasting burden within priority versus non-priority areas.

Because the DHS assesses nutritional status primarily using the WHZ score,²¹ these estimates of burden exclude children with kwashiorkor and children identified using MUAC. Given that children who are diagnosed as wasted by MUAC also have high mortality rates,²² their omission is a notable limitation.

Applying this analytic approach in the four countries revealed major differences in how geographic prioritization of the Global Action Plan aligns with the national wasting burden.

Burkina Faso

Burkina Faso illustrates the challenges of the current Global Action Plan prioritization most clearly. The country prioritizes three of its 13 regions,⁶ all located in the northern Sahelian ecological belt, covering 19.7% (3 602 861/18 250 971) of the national population (online repository).²³ These priority areas had the highest wasting prevalence among all the four countries and achieved the greatest progress, reducing the prevalence of severe wasting from 8.0% (48 747/608 895) in 2010 to 3.4%(18 963/554 841) in 2021.

However, priority regions accounted for only 33.0% (224 237/680 029) and 29.0% (87 230/300 321) of severe cases of wasting and 31.3% (564 630/1 804 883) and 30.2% (429 931/1 422 301) of total cases of wasting in 2010 and 2021, respectively (Table 1). Highly populated non-priority regions such as Centre and Centre-Est consistently reported higher numbers of children with wasting than all but one priority region. Notably, the Centre-Est region has experienced political unrest and insecurity since 2016, which may contribute to its high wasting burden. This situation underscores the need for continued focus on childhood wasting beyond formally prioritized regions, particularly in humanitarian settings.

Ethiopia

Ethiopia presents a contrasting approach. Six of its nine regional states were designated as priority areas,⁶ accounting for 94.1% (69 297 937/73 654 178) of the national population (online repository).²³ Within these priority regions, the prevalence of severe wasting declined from 3.1% (333 706/10 671 882) in 2011 to 1.2% (108 993/8 800 838) in 2019. As a result, priority areas had 96.5% (1 535 048/1 589 992) and 97.8% (501 367/512 731) of severe wasting cases, and 96.0% (5 072 586/5 285 668) and 96.5% (2 887 105/2 991 318) of total wasting cases in the 2011 and 2019 surveys, respectively, while all non-priority regional states had fewer cases than even the lowest burden priority region (Table 1). This broad prioritization recognizes that wasting is a nationwide challenge, exacerbated by a series of climate, health and security crises and further intensified today by the lingering effects of the coronavirus disease 2019 (COVID-19) pandemic.

Of the four countries, Ethiopia is the only one whose prioritization makes the goals of the Global Action Plan attainable. However, attempting to prioritize almost all of the country

has made the delivery of interventions within the Integrated Management of Acute Malnutrition difficult to sustain. This difficulty is evidenced by low compliance rates, with only 19.4 (14/72) and 11.1 (8/72) of facilities meeting minimum standards for treating severe and moderate wasting cases, respectively.²⁴

Kenya

Kenya prioritizes 12 of its 47 counties,⁶ which represents 24.9% (11 730 595/47 105 164) of the national population, including northern arid and semi-arid counties, as well as large southern urban centres such as Nairobi (online repository).²³ The inclusion of large cities acknowledges that wasting in urban areas is driven by factors beyond local ecology. Between 2014 and 2022, the prevalence of severe wasting in priority counties declined from 2.2% (29 304/1 349 257) to 1.3% (20 081/1 513 247), while reductions in non-priority counties were negligible (< 0.2%). Over the same period, the prevalence of total wasting increased nationwide, compounded by a major drought in 2022.

This prioritization strategy leaves a substantial share of the national burden of wasting outside designated priority areas with about half of all children with wasting living in non-priority counties: 48.8% (555 684/1 137 854) in 2014 and 51.5% (735 551/1 429 037) in 2022 (Fig. 1). Some non-priority counties (including Kiambu, Kilifi, Meru and Trans Nzoia) have a higher absolute burden of wasting than many priority counties. Non-arid, non-priority counties alone account for 29.8% (54 713/183 691) of severe wasting cases, leading to high rates of morbidity and mortality. For example, despite a low prevalence of wasting in Siaya (1.7%),¹³ wasting contributed to 44.1% of preventable child deaths.²⁵ During droughts, emergency resources are extended to semi-arid counties outside the priority list; however, non-priority non-arid counties remain largely overlooked.

Malawi

Malawi prioritizes 11 of its 28 districts,⁶ covering 55.4% (9 699 199/17 493 749) of the national population (online repository).²³ Priority districts had a higher prevalence of severe wasting than non-priority districts but experienced the lowest decline in severe wasting among the four countries, from 2.0% (24 540/1 244 952) to 0.7% (10 129/1 464 579). Priority districts accounted for 70.4% (112 885/160 351) and 72.8% (46 595/63 976) of cases of severe wasting and 59.3% (255 158/430 018) and 56.4% (184 718/327 349) of total wasting in 2010 and 2016, respectively. However, a sizeable proportion of the total wasting burden remains in non-priority

districts. For example, Mulanje and Ntcheu districts had a greater proportion of children with severe or total wasting than some priority districts.

Inferences of our findings

Taken together, these case studies show that the prevalence-based prioritization within the Global Action Plan has successfully concentrated resources in areas of high nutritional risk. These areas consistently showed a higher prevalence of wasting and (except in Kenya) experienced larger reductions in prevalence between surveys. At the same time, in three of the four countries (Burkina Faso, Kenya, and Malawi), between 43.6% (142 631/327 349) and 69.8% (992 370/1 422 301) of children with wasting live outside priority areas. These findings show a key limitation in prevalence-based prioritization: more densely populated regions with lower prevalence can contain large absolute numbers of affected children who remain underserved. As a result, sustainable development goal (SDG) 3.2.1,²⁶ that is by 2030, end preventable deaths of newborns and children younger than 5 years, with all countries aiming to reduce neonatal mortality and under-5 mortality, and Global Action Plan targets are unlikely to be achieved through prevalence-based prioritization alone.

Recommendations

In the context of increasingly constrained funding, our findings demonstrate that achieving Global Action Plan and SDG targets will require rethinking national wasting strategies. Health ministries need to find alternative data systems to inform decision-making, optimize geographic prioritization to reflect absolute burden and adapt programme delivery to reach children both within and beyond priority areas.

Capturing the absolute burden

Effective prioritization depends on robust data systems that identify where the greatest numbers of children affected by wasting are. Population-based surveys such as the DHS and Multiple Indicator Cluster Surveys (MICS) are the gold standard for estimating the prevalence of wasting while also providing essential context on maternal health, socioeconomic conditions and other determinants of child health. The international community and country governments should prioritize maintaining these surveys wherever possible, through a renewed commitment to the DHS and MICS programmes, increased domestic investment or shared financing.

Where sustaining full household surveys is not feasible, countries could use the established operational platforms of DHS and MICS to conduct nutrition-focused surveys.

These targeted surveys would use fewer resources and could be conducted more frequently, allowing data collection to better respond to programmatic needs. Furthermore, by focusing specifically on wasting, these surveys should incorporate measurement of MUAC and screening for bilateral pitting oedema alongside (or instead of) WHZ, which would reduce underestimation of the burden of wasting and shift the focus towards the children at the highest risk of death. Alternatively, governments could use World Health Organization (WHO) support, collecting data through the World Health Survey Plus and managing it through the world health data hub.²⁷

Routine health data systems are also an underused but vital source of information. Strengthening the ability to capture childhood wasting in electronic medical records and national health information systems, such as the District Health Information System (DHIS2),²⁸ could improve the estimation of subnational burdens of wasting over time. One strategy is the adoption of the United Nations Children's Fund (UNICEF) and WHO standard nutrition package into existing DHIS2 platforms.^{28,29} This package standardizes screening data across countries and helps local health systems align with global nutrition goals. However, the reliability of data from health information systems is constrained by staff shortages, limited internet connectivity and the inefficiencies of maintaining parallel paper and digital records.^{30,31} These challenges are compounded by socioeconomic barriers to health-care access and inadequate screening at health facilities. Consequently, current data within health information systems likely underestimate the national burden of wasting and introduce bias across subnational regions. Governments should therefore invest in training health workers and streamline reporting to ensure these data are both accurate and accessible.

Climate and food security monitoring systems, such as the Famine Early Warning Systems Network³² and regional meteorological agencies, offer complementary insights for wasting prevention by tracking short-term environmental and livelihood shocks that population surveys cannot. The risk of wasting is characterized by extreme within-year variability³³ and reliance on surveys that provide a single annual snapshot can obscure both the true wasting burden and its seasonal drivers.³⁴ As a result, multiple within-year observations are essential to identify periods of heightened risk and inform timely, preventive action. However, these data sources also share the limitations of prevalence-based strategies, as many children with wasting live in non-arid urban areas where malnutrition is less directly linked to local climate. Improved data systems should support flexible prioritization that is revisited regularly,

particularly in contexts of climate shocks, displacement or funding volatility. Given the inherent limitations of data sources, integrating population-based surveys, health-care use and food security data may yield more accurate geospatial models for policy planning.

Optimizing prioritization

Ensuring wasting services reach the most vulnerable children requires regular reassessment of geographic targeting strategies. Health ministries should assess whether current priority areas defined in the Global Action Plan accurately reflect where children with wasting live. This evaluation is timely as 2026 marks the end of a 3-year transition phase for the Global Action Plan on Child Wasting.³⁵ Through the Joint Action to Stop Wasting, countries such as Burkina Faso, Ethiopia and Kenya have incorporated new implementation models to accelerate their progress towards global nutrition targets, underscoring the need to assess whether existing prioritization models have driven substantial improvements and are still relevant.

Our case studies show that, while Global Action Plan prioritization has successfully targeted areas of high wasting prevalence, it fails to capture a substantial share of the national burden concentrated in more densely populated non-priority areas. Because non-priority areas have historically received little or no comparable investment, we do not know how much wasting could be reduced in non-priority settings if similar interventions were implemented there. Observed declines in priority areas therefore cannot be interpreted as evidence that prevalence-based targeting is superior to burden-based approaches. Together, these findings demonstrate that prevalence alone is an insufficient basis for geographic prioritization.

Shifting to prioritization based on burden does not mean abandoning investment in high-prevalence areas, which have consistently experienced large reductions in wasting with interventions. Rather, such a move highlights the need to complement these efforts with strategies that account for where the largest numbers of affected children live, including densely populated non-priority settings. We therefore reinforce the case for whole-country nutrition strategies that extend support beyond historically prioritized areas and align resources with the full national burden of wasting.

Reaching the most children

Optimizing geographic priorities must be accompanied by system-wide programmatic adaptations that make comprehensive coverage feasible under resource constraints. An approach based on the burden of wasting requires wasting treatment to be strengthened across

the entire health system. This approach does not mean simply replicating existing models in new locations, but tailoring strategies based on the specific opportunities and constraints of each context.

Health ministries should conduct programmatic evaluations in all settings, both within established priority areas and in regions with high case numbers that have received limited investment. These assessments should identify gaps in service delivery, missed opportunities for case detection and access barriers to inform context-specific strategies for improving outcomes. In priority areas, evaluations can show how to sustain gains while improving efficiency; in non-priority settings, such evaluations can uncover unused potential within existing infrastructure.

Expanding services that address wasting does not require creating parallel systems. In many settings, meaningful gains could be achieved by strengthening the detection and management of wasting within existing paediatric, maternal, inpatient and outpatient services where high-risk children are frequently seen but not routinely screened or treated.³⁶ Urban areas may be ideal for scaling up cost-effective interventions within the Integrated Management of Acute Malnutrition due to robust health infrastructure, staff availability and lower transportation costs for nutrition and health goods. In these contexts, the same level of investment may reach and treat more children than in harder-to-reach settings. Meanwhile, priority areas with a declining prevalence of wasting may benefit from transitioning towards simplified delivery models that maintain coverage while freeing resources for use elsewhere.

Several simplified approaches within the Integrated Management of Acute Malnutrition offer pathways to improve both efficiency and reach without compromising quality of care. MUAC screening by caregivers empowers families to monitor their children's nutritional status at home,³⁷ which allows community health workers to focus on diagnosis verification, training, case management and referrals. While programmes based on MUAC screening only streamline case detection, they can miss children with discordant MUAC and WHZ measurements.³⁸ MUAC-for-age protocols may address this issue,³⁹ but are difficult to implement in practice. Optimizing the dosage of ready-to-use therapeutic foods can also reduce programme costs without compromising effectiveness. For example, the OptiMA trial in Burkina Faso found that a simplified protocol based on MUAC measurement with gradually reduced dosing of ready-to-use therapeutic foods for both moderate and severe cases of wasting resulted in better recovery than the accepted standard while still lowering overall consumption of ready-to-use therapeutic

foods.⁴⁰ Additionally, encouraging local production of ready-to-use therapeutic foods and developing more affordable therapeutic foods could reduce costs while building sustainable supply chains.^{41,42} Finally, the provision of small-quantity lipid-based nutrient supplements as a preventive measure against wasting has been recommended in settings with high nutritional vulnerability or severe acute food insecurity, including humanitarian emergencies;⁴³ however, their high cost-per-case averted may limit widespread use.⁴⁴

Conclusion

As the nutrition funding landscape changes, existing nutrition programmes and policies must be re-evaluated, given the lasting impact of wasting on survival, development and human capital. Prevalence-based targeting under the Global Action Plan has successfully delivered nutritional services to millions of children with wasting, demonstrating the value of focused investment. However, many countries will not achieve their nutritional targets without tackling the substantial burden of wasting that remains beyond prioritized areas. Such action does not require abandoning effective investments in high-prevalence settings, but rather adopting a flexible, regularly updated prioritization that balances prevalence with absolute burden. Under increasing resource constraints, countries can optimize impact by using context-specific opportunities. By scaling up cost-effective services in densely populated areas with existing infrastructure, while sustaining gains in priority areas through simplified approaches, countries can move towards comprehensive coverage that aligns resources with the full national burden of wasting. This approach can ensure that no child is left behind, regardless of where they live. Lastly, improving wasting management requires reliable, timely data, making sustained investment in population-based survey systems essential for guiding prioritization and tracking progress.

Competing interests:

None declared.

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Publication: Bulletin of the World Health Organization; Type: Policy & practice

Article ID: BLT.25.293259

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Table 1. **Estimates of wasting in priority and non-priority areas of the Global Action Plan on Child Wasting, Burkina Faso, Ethiopia, Kenya and Malawi**

Country	Severe wasting ^a			Total wasting ^b		
	Prevalence, %	Estimated burden, no. of children	Proportion of national burden, %	Prevalence, %	Estimated burden, no. of children	Proportion of national burden, %
Burkina Faso						
Priority (2010)	8.0 (48 747/608 895)	224 237	33.0	20.2 (122 746/608 895)	564 630	31.3
Non-priority (2010)	5.2 (99 085/1 914 212)	455 792	67.0	14.1 (269 620/1 914 212)	1 240 253	68.7
Priority (2021)	3.4 (18 963/554 841)	87 230	29.0	16.8 (93 463/554 841)	429 931	30.2
Non-priority (2021)	2.1 (46 324/2 255 809)	213 091	71.0	9.6 (215 733/2 255 809)	992 370	69.8
Ethiopia						
Priority (2011)	3.1 (333 706/10 671 882)	1 535 048	96.5	10.3 (1 102 736/10 671 882)	5 072 586	96.0
Non-priority (2011)	1.8 (11 944/670 861)	54 944	3.5	6.9 (46 322/670 861)	213 082	4.0
Priority (2019)	1.2 (108 993/8 800 838)	501 367	97.8	7.1 (627 632/8 800 838)	2 887 105	96.5
Non-priority (2019)	0.4 (2 470/553 243)	11 364	2.2	4.1 (22 655/553 243)	104 213	3.5
Kenya^c						
Priority (2014)	2.2 (29 304/1 349 257)	105 494	47.5	9.4 (126 559/1 349 257)	582 170	51.2
Non-priority semi-arid (2014)	0.8 (9 775/1 283 322)	44 963	20.2	3.3 (42 335/1 283 322)	194 740	17.1
Non-priority non-arid (2014)	0.5 (15 605/2 928 446)	71 784	32.3	2.7 (78 466/2 928 446)	360 944	31.7
Priority (2022)	1.3 (20 081/1 513 247)	92 371	50.3	10.0 (150 758/1 513 247)	693 486	48.5
Non-priority semi-arid (2022)	0.6 (7 958/1 407 837)	36 607	19.9	5.1 (72 388/1 407 837)	332 986	23.3
Non-priority non-arid (2022)	0.4 (11 894/3 155 482)	54 713	29.8	2.8 (87 514/3 155 482)	402 565	28.2
Malawi						
Priority (2010)	2.0 (24 540/1 244 952)	112 885	70.4	4.5 (55 469/1 244 952)	255 158	59.3
Non-priority (2010)	1.0 (10 319/1 002 455)	47 466	29.6	3.8 (38 013/1 002 455)	174 860	40.7
Priority (2016)	0.7 (10 129/1 464 579)	46 595	72.8	2.7 (40 156/1 464 579)	184 718	56.4
Non-priority (2016)	0.3 (3 779/1 176 977)	17 381	27.2	2.6 (31 007/1 176 977)	142 631	43.6

^a Severe wasting corresponds to a weight-for-height z-score of < -3.

^b Total wasting corresponds to a weight-for-height z-score of < -2.

^c Kenyan non-priority regions are divided into semi-arid and non-arid because nutritional programme prioritization was extended to include non-priority semi-arid areas during droughts.

Fig. 1. Distribution of wasting priority counties, prevalence and cases, Kenya, 2022

