

Child Wasting and Severe Wasting, 2024

Global and regional evidence with an Experimental Daily-Equivalent USU Pilot Estimate
WSI-CW-JME-2024-01 | Release v1.1 | Time basis: daily-equivalent burden rate - one day

Summary

This WSI pilot applies the simplified Experimental USU Pilot Modeling Standard to the 2024 regional and global child-wasting estimates printed in the 2025 UNICEF/WHO/World Bank Joint Child Malnutrition Estimates key findings report. The analysis is regional, not country-level, and it uses a daily-equivalent model rather than extrapolating across a full year.

Global source evidence: 42.8 million children under 5 were affected by wasting in 2024, including 12.2 million affected by severe wasting. The pilot derives moderate wasting as total wasting minus severe wasting using aligned central printed counts only.

Central experimental estimate: approximately 55.9 million USU per day globally. Deterministic mapping range: 27.9-83.8 million USU per day. This range reflects low, central, and high P1 - illustrative pilot mapping scenarios, not a statistical confidence interval.

What the source reports

The JME source reports prevalence-based regional and global estimates for wasting and severe wasting among children under 5. Total wasting is below -2 standard deviations weight-for-height, while severe wasting is below -3 standard deviations. The printed regional table provides rounded central counts and uncertainty bounds. This pilot uses only central printed counts for the USU layer. Source precision note: the regional values are rounded as printed in the official report, so small-region estimates and derived moderate-wasting counts should be interpreted cautiously.

Geography	Scenario	B1 per day	U1 per day	Severe share
Global	low	55.0M intensity-days	27.9M USU	44.4%
Global	central	110.0M intensity-days	55.9M USU	44.4%
Global	high	165.0M intensity-days	83.8M USU	44.4%

Experimental USU pilot estimate

The pilot uses two mutually exclusive states: moderate wasting and severe wasting. The model uses $p=1$, no overlap adjustment, one-day daily-equivalent duration, and the renal-colic reference burden $R1=1.96875$ intensity-days. Mortality, future developmental loss, disease complications, and caregiver suffering are not converted into USU.

Geography	Scenario	B1 per day	U1 per day	Severe share
Africa	central	28.8M intensity-days	14.6M USU	37.5%
Asia	central	78.6M intensity-days	39.9M USU	47.3%
Latin America and Caribbean	central	1.4M intensity-days	0.7M USU	28.6%
Oceania excluding Australia and New Zealand	central	0.4M intensity-days	0.2M USU	100.0%

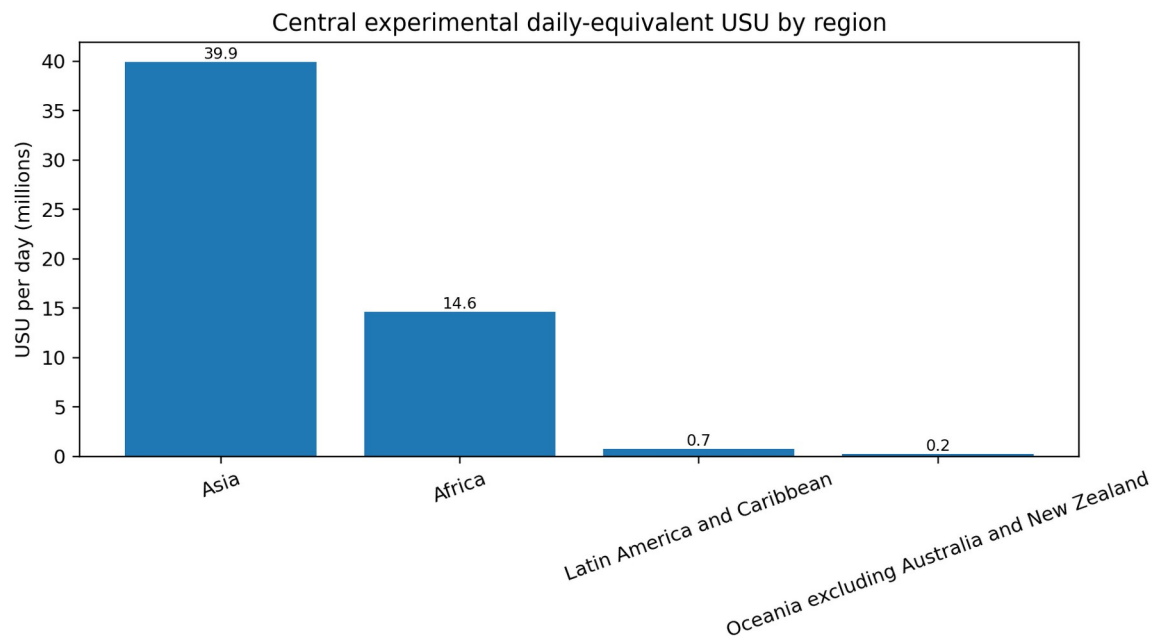


Figure 1. Central experimental daily-equivalent USU by region.

What the model adds

The USU layer converts the source evidence into a common daily-equivalent burden unit and separates the moderate and severe contributions. Under the central mapping, severe wasting contributes approximately 44.4% of modeled global daily burden despite representing 12.2 million of 42.8 million wasted children. However, the regional ordering remains the same as the ordering by total wasting count across all three mapping scenarios. The model changes magnitude and severity decomposition, but it does not change the ranking in this limited regional extract.

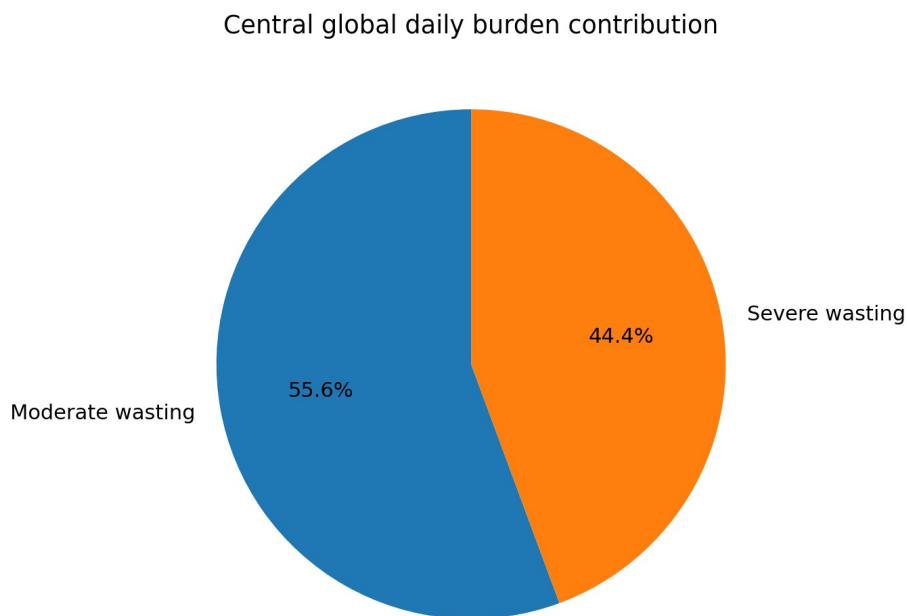


Figure 2. Global central daily burden contribution by state.

Interpretation boundaries

- The estimate is a daily-equivalent pilot result, not an annual cumulative burden.
- The deterministic mapping range reflects the approved low, central, and high P1 scenarios; it is not a confidence interval.
- Moderate-wasting confidence intervals are not derived by subtracting severe-wasting uncertainty bounds from total-wasting bounds.
- Oceania excluding Australia and New Zealand is sensitive to printed rounding because both total and severe wasting are shown as 0.1 million.
- The P1 - illustrative pilot mappings have not been validated through children, caregivers, clinicians, nutrition specialists, or affected communities.

Sources

UNICEF/WHO/World Bank JME key findings report, 2025 edition: <https://www.who.int/publications/i/item/9789240112308>

WHO JME latest estimates page: <https://www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates/latest-estimates>

WHO metadata for wasting: <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/3211>