# Proactive Targeting: A Predictive Strategy for Managing Acute Malnutrition Peaks and Hotspots in Sidama (2022-2025)

1. Executive Summary

Analysis of 3-year malnutrition data (2022-2025) confirms that the total Acute Malnutrition (AM) caseload in Sidama is defined by severe predictability and geographic concentration. Caseloads surge annually from June to September (peaking in August/September), coinciding with the lean season. Furthermore, five specific districts carry a disproportionate SAM burden. We recommend the Regional Health Bureau (RHB) shift to an analytical targeting strategy, mandating anticipatory pre-positioning of therapeutic supplies by May 1st and concentrating staff resources in the identified Top 5 Hotspot Districts year-round.

Analysis of 36 months of routine DHIS2 data (July 2022–June 2025) confirms that the Severe Acute Malnutrition (SAM) caseload in Sidama is defined by acute predictability in both time and geography, demanding an immediate transition from reactive crisis management to a targeted, proactive strategy. The SAM burden is consistently characterized by an annual, high-magnitude surge occurring between June and September, coinciding with the critical lean season. While this seasonal pattern is predictable, regional program quality remains sub-optimal, the caseload is heavily concentrated in a small number of chronic operational hotspots, where the Top 5 Hotspot Districts not only drive case volume but also demonstrate critical operational
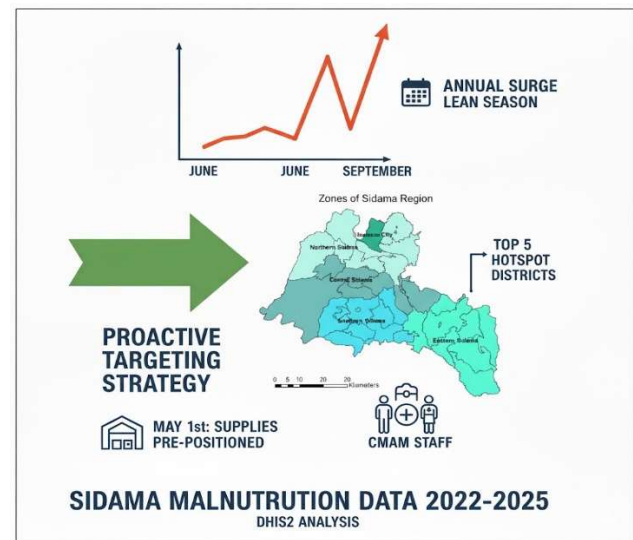
failures. To effectively stabilize regional performance, the Regional Health Bureau (RHB) must adopt a Proactive Targeting Strategy: mandating the anticipatory pre-positioning of therapeutic supplies to these Hotspot Districts by May 1st each year—one month ahead of the seasonal surge—and permanently concentrating specialized CMAM staff and dedicated Supportive Supervision teams in the Top 5 Hotspot Districts.

2. Problem

The current approach to managing Acute Malnutrition (AM) often remains reactive, responding to caseload surges after they have already begun. This reactive approach leads to predictable supply chain failures, including critical stock-outs of Ready-to-Use Therapeutic Food (RUTF) and overburdening of treatment centers during

the peak season. This inefficiency results in preventable treatment delays, higher defaulting rates, and increased mortality risk for Severely Acute Malnourished (SAM) children. The problem is compounded by a uniform resource distribution that fails to recognize the acute geographic concentration of the burden, wasting scarce resources in low-caseload areas while high-burden districts struggle to cope.

3. Context or Evidence Summary

The 36-month retrospective analysis of routine DHIS2 data has transformed AM management from a reactive challenge into a predictable public health issue, offering a clear intervention window.

- **Temporal Evidence ("The When"):** The analysis confirms the AM caseload is not static, but cycles severely. The peak season is consistent, surging sharply in June and peaking in August/September (reaching over 40,000 cases monthly), aligning with the annual lean season.

- **Spatial Evidence ("The Where"):** The AM burden is highly concentrated. The Top 5 Hotspot Districts (Bona Zuria, Dale, Dara Otilcho, Bensa, and Dara) account for a disproportionately high share of the total SAM burden. Furthermore, the Zonal context shows Eastern Sidama Zone has the highest overall cumulative caseload, followed by Southern Sidama Zone. This evidence demands a targeted, pre-emptive strategy.
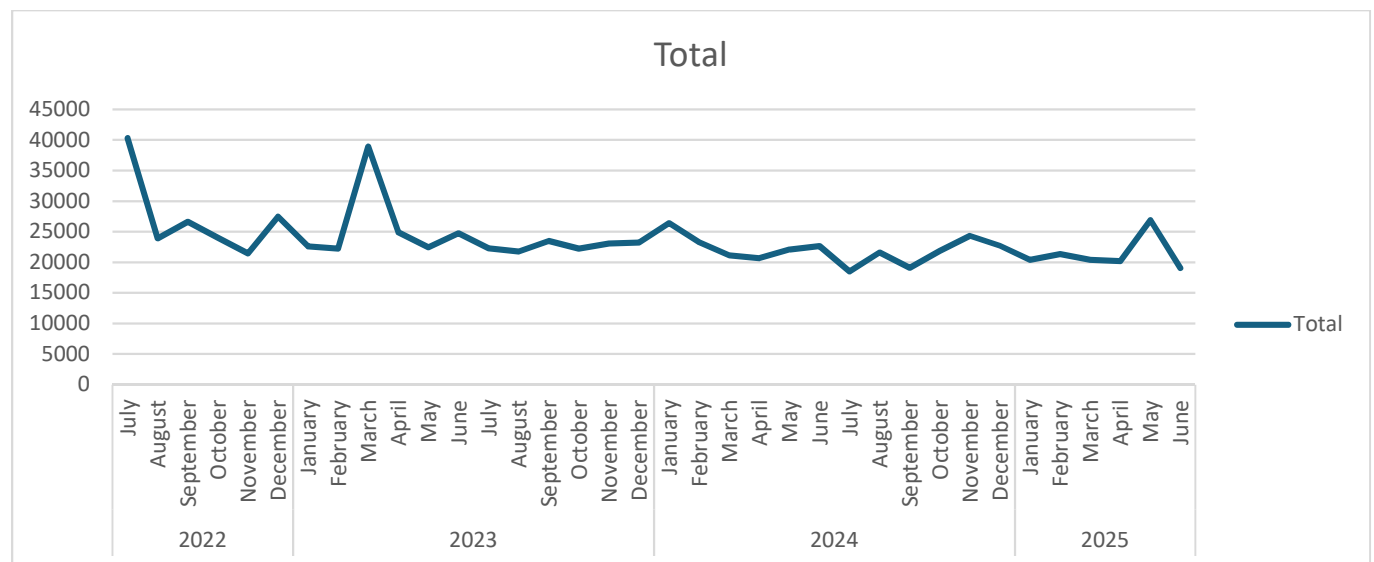

Fig 1. The monthly total Acute Malnutrition Caseload plotted the continuous 36-month timeline (2022-2025)
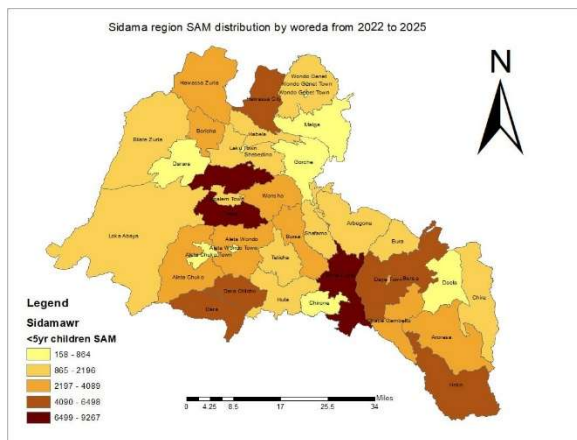
Fig 2: Map of total Severe Acute Malnutrition caseload aggregated over 36 months for 38 districts
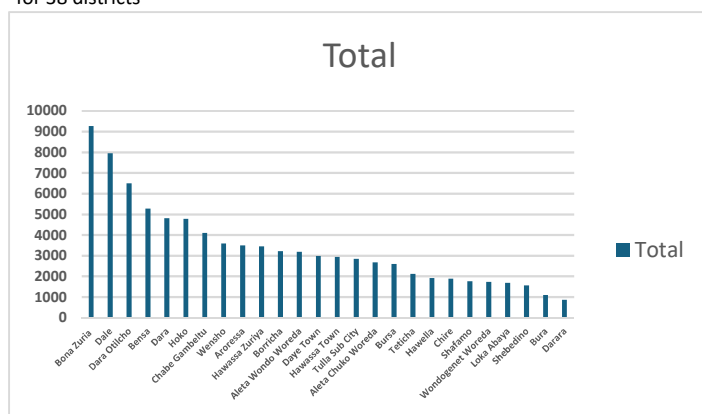

Fig 3. Screened SAM cases of Sidama Region, over three years (2022-2025)

Zonal Context: The 3-year cumulative burden reveals that the Eastern Sidama Zone has the highest total caseload, followed by the Southern Sidama Zone and then the Central Sidama Zone. This ranking dictates the primary allocation and distribution hubs for the regional supply chain.
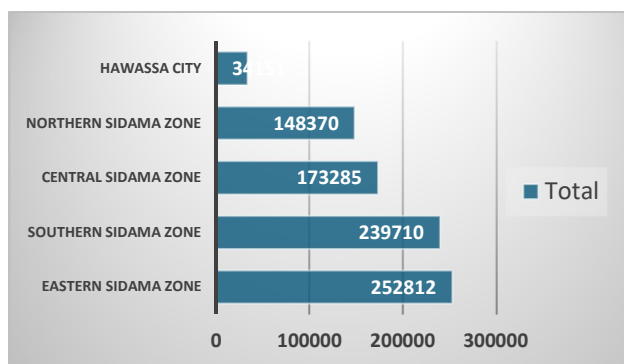

Fig 4: Screened MAM+SAM cases of Zones of the Sidama Region, over three years (2022-2025)

4. Policy Options

Policy makers can choose between different strategies to address the identified predictability and concentration of the AM caseload:

- **Option 1: Status Quo (Reactive Supply Chain):** Continue to place RUTF orders and distribute resources based on current facility demands, waiting for reported caseloads to rise. This maintains current supply chain stability but guarantees stock-outs and service disruption in hotspots during the critical August/September peak.
- **Option 2: Targeted Program Intensity (Recommended):** Use the predictive data to mandate a strategic, resource-saving shift. This involves pre-positioning supplies and concentrating human resources in the Top 5 Hotspot Districts, with intensity directly linked to the identified June-September surge window.
- **Option 3: Decentralized Funding for Hotspots:** Allocate a dedicated, flexible emergency fund directly to the Top 5 Hotspot Districts, empowering local administrators to purchase RUTF and hire temporary staff during the surge. This is highly agile but risks inconsistent resource management across districts.

5. Recommendation

The Regional Health Bureau (RHB) and the Public Health Emergency Management (PHEM) unit must immediately adopt

Option 2: Targeted Program Intensity. This involves two specific directives:

1) Timing is Crucial: RUTF and therapeutic supplies must be pre-positioned in the health facilities of the Top SAM Hotspot Districts by May 1st annually.

2) Focus SAM Resources: Outpatient Therapeutic Program (OTP) and Stabilization Center (SC) supervision, supply distribution, and active case finding must be disproportionately concentrated in the Top 5 SAM Hotspot Districts year-round, with maximum intensity during the August/September high-risk window.

Limitations of the Analysis

The findings are constrained by the use of routine DHIS2 data, which is susceptible to variable quality, incomplete facility-level reporting, and data entry errors.

5. References

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