

THE WEIGHT OF BOTH WORLDS: DUAL BURDEN OF MALNUTRITION

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Background

- Modern public health recognizes the **Dual Burden of Malnutrition (DBM)**, the **paradox** where food insecurity **coexists** with obesity and chronic disease within the same individual or community.^{1,2}
- Lacking **refrigeration, cooking facilities, or funds**, chronic deprivation forces reliance on **cheap, shelf-stable, ultra-processed foods** that are **calorie-dense yet nutrient-poor**.^{2,3}
- This drives a **"thrifty phenotype"** adaptation, **prioritizing** visceral fat storage, chronic inflammation, and elevated cardiometabolic risk among charitable meal patrons.^{1,4}
- In San Bernardino County, adult obesity reaches **38.1%** (with San Bernardino City Hardship Index peaking at **96.1**), showing patrons are not calorie-deficient, but **critically malnourished** in food quality.⁵

Problem

- Standard clinical nutrition guidelines emphasize whole foods and fresh produce, yet public health messaging **frequently ignores** that unstably housed adults lack refrigeration, storage, or cooking implements required to prepare them.^{3,6}
- Charitable feeding organizations face **severe resource** and cold-storage limitations, inadvertently defaulting meal offerings toward **shelf-stable starches and high-sodium canned goods**.^{2,7}
- Despite high rates of chronic disease among community meal recipients, standardized empirical data evaluating food insecurity severity has been **absent** in local feeding programs, leaving **service gaps** unquantified.^{4,8}
- This cycle **perpetuates** cardiometabolic illness rather than fostering restorative health, treating nutritional non-adherence as a **personal failing** rather than a **systemic resource deficit**.^{1,9}

Method

- **Theoretical Grounding:** Structured via the Socio-Ecological Model (SEM) to target multi-level organizational and environmental barriers rather than individual compliance alone.⁹⁻¹¹
- **Community Partner Setting:** Conducted on-site at Mary's Mercy Center (San Bernardino, CA) in collaboration with facility leadership.^{5,6}
- **Validated Instrument:** Employs the gold-standard USDA 10-Item Adult Food Security Survey Module (AFSSM) in official English and Spanish modules.^{8,12}
- **Encrypted Digital Capture:** Administered on portable tablets via Qualtrics.
- **Trauma-Informed Protocol:** Hosted in a semi-private space with voluntary verbatim reading assistance by a Registered Nurse to eliminate literacy or visual barriers and mitigate stigma.^{4,13}
- **Active Field Assessment:** Cross-sectional assessment ongoing evaluating categorical severity tiers (marginal, low, very low) and direct deprivation behaviors.^{12,14}

Innovation

- **Academic Street Medicine:** Deploys **mobile nursing** into meal lines to provide point-of-care vital sign monitoring and clinical triage.^{4,6}
- **Trauma-Informed Advocacy:** Reframes dietary "non-compliance" as a structural resource failure, establishing nurses as **environmental navigators**.^{2,9,13}
- **"Nutrition Nudging":** **Restructures pantry** displays by placing low-sodium items and shelf-stable proteins (tuna, chicken, beans) at eye level alongside zero-cook dignity recipe cards.^{3,15,16}
- **Cross-Sector Bridge:** Leverages clinical data to **support** partner grant acquisitions for fresh produce and lean protein procurement.^{7,17,18}

Implications

- **Direct Community Engagement:** Leverages street medicine presence to deliver **stigma-free** vital sign monitoring and disease triage alongside meal lines, **closing primary care accessibility gaps**.^{4,6,21}
- **Empowering Grassroots Infrastructure:** Equips host agencies like Mary's Mercy Center with **validated health and nutrition environment metrics** to substantiate external funding for **high-quality, shelf-stable proteins and fresh food procurement**.^{3,17-20}
- **Replicable Academic-Community Framework:** Establishes a **scalable blueprint** showing how street medicine **bridges nursing education**, acute chronic disease triage, and structural public health intervention.^{10,11,21}

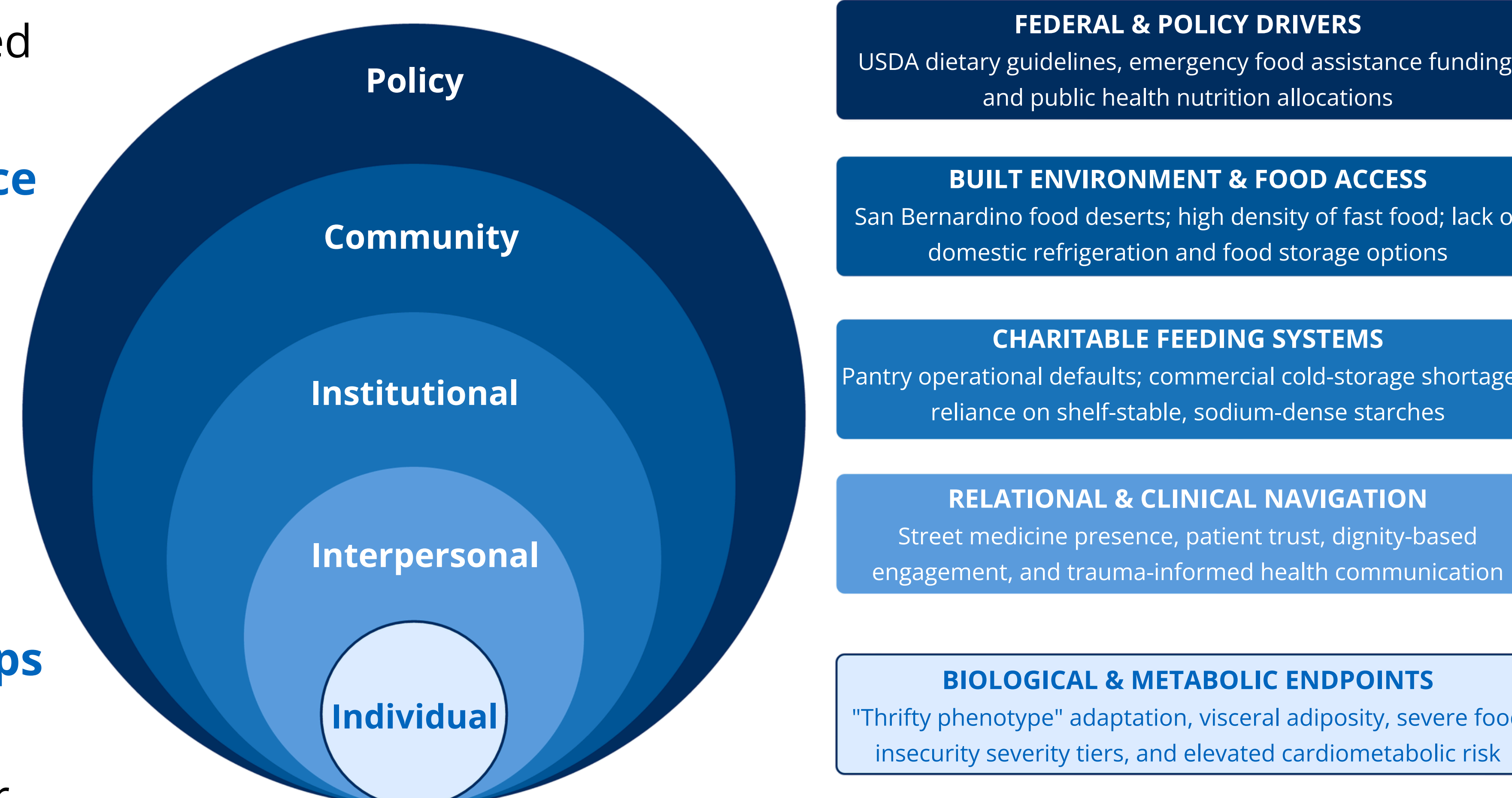


Figure 1. Operationalized Socio-Ecological Model of the Dual Burden of Malnutrition in Emergency Food Settings (Adapted from Robinson, 2008; Townsend & Foster, 2013; Kirk et al., 2021).

References

