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Assessing Health System Preparedness for Heat-Related Morbidity in Ghana: A North African Contextual Analysis for Climate Adaptation

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Abstract

Background: Rising temperatures and increasing heatwave frequency pose a significant public health threat. This study assesses the preparedness of Ghana's health system to manage heat-related morbidity within a North African regional context.

Purpose and objectives: The primary objective was to evaluate Ghana's health system preparedness for heat-related illnesses. Specific aims were to analyse existing policies, infrastructure, workforce training, and surveillance systems for heat-health risks.

Methodology: A mixed-methods, cross-sectional design was employed between 2023 and 2024. Data were collected via structured surveys with 42 health facility managers in three northern regions, 15 key informant interviews with health directors, and a documentary review of policy and strategy documents from 2021 onwards.

Findings/Key insights: Health system preparedness was limited. Only 19% of surveyed facilities had a specific heat-health action plan. A pronounced gap in clinical training was identified, with most healthcare workers reporting no formal instruction on managing heatstroke. Surveillance systems for heat-related morbidity were largely non-existent or fragmented.

Conclusion: Ghana's health system is inadequately prepared for the escalating burden of heat-related illnesses anticipated with climate change, revealing significant vulnerabilities.

Recommendations: Immediate priorities include developing national heat-health action plans, integrating heat-health modules into clinical training curricula, and establishing a standardised syndromic surveillance system for heat-related morbidity.

Key words: climate change, heatwaves, health systems strengthening, preparedness, Ghana, North Africa, morbidity, adaptation

Contribution statement: This research provides a first focused assessment of health system preparedness for heat-health impacts in Ghana, offering evidence to inform national climate adaptation and health policy within a North African context.

Keywords: *health system resilience, heat-related morbidity, climate adaptation, West Africa, vulnerability assessment, extreme heat, public health preparedness*