ProTect – Development of a Heat Action Plan for the University Hospital Augsburg

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Abstract:

Heat extremes are increasing in frequency, duration, and intensity, leading to a rise in heat-related morbidity and mortality. Hospitals, critical for resilient health systems, must prepare for these challenges by developing tailored Heat Action Plans (HAPs). The ProTect project aims to develop and evaluate a comprehensive HAP for the University Hospital Augsburg (UKA), addressing technical, structural and organizational adaptation needs. Between May 2024 and October 2025, indoor temperature and humidity were continuously monitored across multiple floors and orientations of the main hospital building using low-cost sensors. The analysis revealed frequent exceedances of occupational safety thresholds (26 °C and 30 °C), particularly during heatwaves, with pronounced spatial variations and persistent nocturnal heat in upper floors. Complementary to the measurements, an online survey among all employees and workshops with nursing staff and ward managers explored perceived heat stress, coping strategies, and feasible protective measures. Participants highlighted challenges such as inadequate ventilation, insufficient rest areas, heat-insulation, non-breathable scrubs, emphasizing the need for participatory, context-specific solutions. Based on quantitative modeling and qualitative insights, ProTect provides evidence-based recommendations for hospital heat resilience and contributes to strengthening health systems' adaptive capacity under progressing climate change. Organization Logo Author Photo Keywords: heat health, hospital resilience, climate adaptation, occupational health, heat action plan, thermal stress, healthcare workers, participatory research, indoor temperatures. Biography: Sophie Scheidl is a PhD candidate at the Chair of Regional Climate Change and Health at the University of Augsburg. Her dissertation project, ProTect, focuses on the development and evaluation of a hospital-specific heat action plan for the University Hospital Augsburg. Her research takes an interdisciplinary approach at the intersection of climate science, public health and hospital management. She holds a Master of Science in Global Health and a Bachelor of Science in Health Sciences. Her work aims to strengthen health system resilience and build adaptive capacity in the context of climate change.