Project Title: Characterization of potential heat-related illness risk factors and heat-associated injury risk in construction workers
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Abstract

Introduction: In addition to high injury rates from falls and other mechanisms, the construction industry, and roofers in particular, have the highest rate of heat-related illness (HRI) in Washington (WA). Although decrements in psychomotor performance, including balance, and increased injury rates have been reported to be associated with heat stress in laboratory settings and in certain workplaces, little work has been done to characterize heat stress, strain, and heat-related injury risk specifically in WA construction workers.

Approach: This work aims to identify potential HRI risk factors in construction workers, using an existing HRI risk factors survey adapted to the construction industry, and to assess the relationship between heat stress and injury risk through measurement of heat stress and psychomotor performance in a sample of construction workers in the greater Seattle area. Results will be disseminated, including to construction stakeholders at the
University of Washington (UW) Department of Construction Management's annual construction industry academic partnership conference.

Expected results, outcomes, and outputs: The results of this project are anticipated to provide valuable information about potential modifiable risk factors for HRI and its consequences that can ultimately be used to target prevention efforts. Project products will include an audiovisual HRI risk factors survey and protocols for measuring heat stress, heat strain, and psychomotor performance, optimized for construction settings, and presentations, publications, and summary documents describing project results.

Relevance to M/A mission: This project has direct application to the protection of WA worker health and safety by providing information about modifiable risk factors for HRI and its consequences that may ultimately lead to reduced rates of HRI and HRI-related injuries in construction workers. Without a comprehensive understanding of HRI risk factors, heat stress conditions, and psychomotor responses, interventions to reduce adverse heat health effects in construction workers may not be optimally effective.