Mitigation and Management Needs from Other Health And Regulatory Perspectives:

Workers at Risk

NASEM Workshop on Wildland Fires

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Photo credit: Amanda Walker

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Take home

Workers' health and productivity are being harmed by climate change and by wildfires

Need to study combined effects

Consider the kidney as one more important organ at risk

What hurts workers hurts us all, including families, communities, both locally and globally

Heat, humidity, air toxins and hard work

Schaeffer J et al. Int. J. Environ. Res. Public Health **2020**, *17*, 5708

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REVIEW ARTICLE

Julie R. Ingelfinger, M.D., *Editor*

Chronic Kidney Disease of Unknown Cause in Agricultural Communities

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In recent years, numerous cases of chronic kidney disease have emerged among agricultural workers, as well as among others performing manual labor, in various regions of the world. The disease does not appear to be due to the classic causes of kidney disease (e.g., diabetes, hypertension, and glomerular disease). In this review, we describe the clinical presentation and epidemiology of chronic kidney disease that is endemic in this workforce in these areas, as well as possible causes. The disease is strongly associated with working and living in a hot environment, but whether the cause is a toxin, an infectious agent, a heat-associated injury, or a combination of factors is not yet known. We also discuss some of the assumptions and limitations in our understanding of chronic kidney disease in agricultural communities.

Regional Chronic Kidney Disease among Agricultural Workers

Mesoamerican Nephropathy

During the 1990s, clinicians in Central America noted that a large number of young sugarcane workers were presenting with end-stage kidney disease. An early report on an upsurge in chronic kidney disease in Central America came from El Salvador in 2002.[1] One striking finding was that the patients, once evaluated, did not have any of the conditions known to cause end-stage kidney disease, such as diabetes, hypertension, or glomerular disease. Within a short time, multiple

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NATIONAL

'I Have To Work': Agricultural Workers In The West Harvest Crops Through Fire Smoke

September 17, 2020 · 4:01 PM ET

MARISA PEÑALOZA

Implications of Climate Change x Wildfire Toxicants for Worker and Community Health

- Climate Change
- Weather – Extremes, Events
- Heat Stress + Toxicants
- Damage workers' health
- Reduce productivity, and if agricultural workers are harmed…
- Contribute to food insecurity

Who is at greatest risk of health effects?

Where can we have the greatest impact?

What are the combinatorial effects of:

- Heat
- Exertion
- Particulate and *other* inhalational and contact exposures
- Respiratory hazards (e.g. SARS-CoV-2)
- Vulnerability of workers
- Working conditions
- Psychosocial factors