

Young sugarcane workers at high risk of kidney function decline

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Researchers from the Center for Health, Work and Environment (CHWE) at the Colorado School of Public Health have published a paper in *PLoS ONE*, studying the decline in kidney function for young,

first-time sugarcane workers in Guatemala. The study, led by University of Colorado Instructor Miranda Dally, is the first to examine kidney function decline in workers starting their first day on a job with a high risk of developing Chronic Kidney Disease of Unknown Origin (CKDu), a rising epidemic in rural workers in Central and South America.

The study found that workers who entered the sugarcane workforce with even slightly lower than average [kidney](#) function were at a greater risk for a rapid onset of kidney injury once they start work. 47% of all first-time workers entered the workforce with mild hypertension, another significant risk factor. Additionally, those workers who live in coastal communities were found to be a high risk compared to seasonal migrant workers from the mountainous highlands.

"Our work establishes that there is a subgroup of people for whom their occupation can make them more susceptible and more vulnerable to reduced [kidney function](#)," said Dally. "Previous research on CKDu has looked at this health crisis as an occupational [disease](#). While occupation plays a role in contributing to the disease, it does not tell the full story."

Until now, most research on this international epidemic has examined how working conditions contribute to the disease. The Center's research is one of the first studies to consider how community health risks factors may impact the health and safety of workers.

"Researchers have mostly focused on workers' exposures on the job in the search for the causes of this epidemic," said Dr. Newman, Professor and director of the Center's research program addressing the health of workers in Latin America. "This study provides the first direct evidence that we need to step back and consider what else is contributing to kidney disease in communities—even before people join the workforce."

Based on this study, the research team recommends that [blood pressure](#) and renal function screenings become a routine part of health monitoring for workers and community members at risk of CKDu, specifically those performing intense labor in hot environments. The Center for Health, Work & Environment is conducting additional research projects exploring other potential risk factors contributing to CKDu as part of its mission of promoting the [health](#), safety and well-being of all workers.

More information: Dally M, Butler-Dawson J, Cruz A, Krisher L, Johnson RJ, Asensio C, Pilloni WD, Asturias EJ, Newman LS. Longitudinal trends in renal function among first time sugarcane harvesters in Guatemala. *PLoS ONE* 2020 (In press).

Miranda Dally et al, Longitudinal trends in renal function among first time sugarcane harvesters in Guatemala, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0229413](#)

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