

Incarcerated Populations Need to be Prioritized in Wildfire Preparedness, Response, and Research

Kristen N. Cowan¹, Hanna Jardel¹
University of North Carolina Chapel Hill Gillings School of Global Public Health, Epidemiology Department

Contact information: Kcowan@unc.edu

CONCLUSIONS

- Incarcerated people **may be highly exposed to wildfire** smoke within prisons or when participating in wildland firefighting programs
- Incarcerated people have **higher prevalence of chronic health conditions and less access to high-quality healthcare** than the general population, and therefore **may experience worse health outcomes when exposed to wildfire smoke**
- **Future research** is needed that examines the risks of poor health outcomes from wildfire exposure, especially among those who participate in wildland firefighting programs while incarcerated
- **Wildfire preparedness plans** at all levels should include plans to protect this vulnerable population

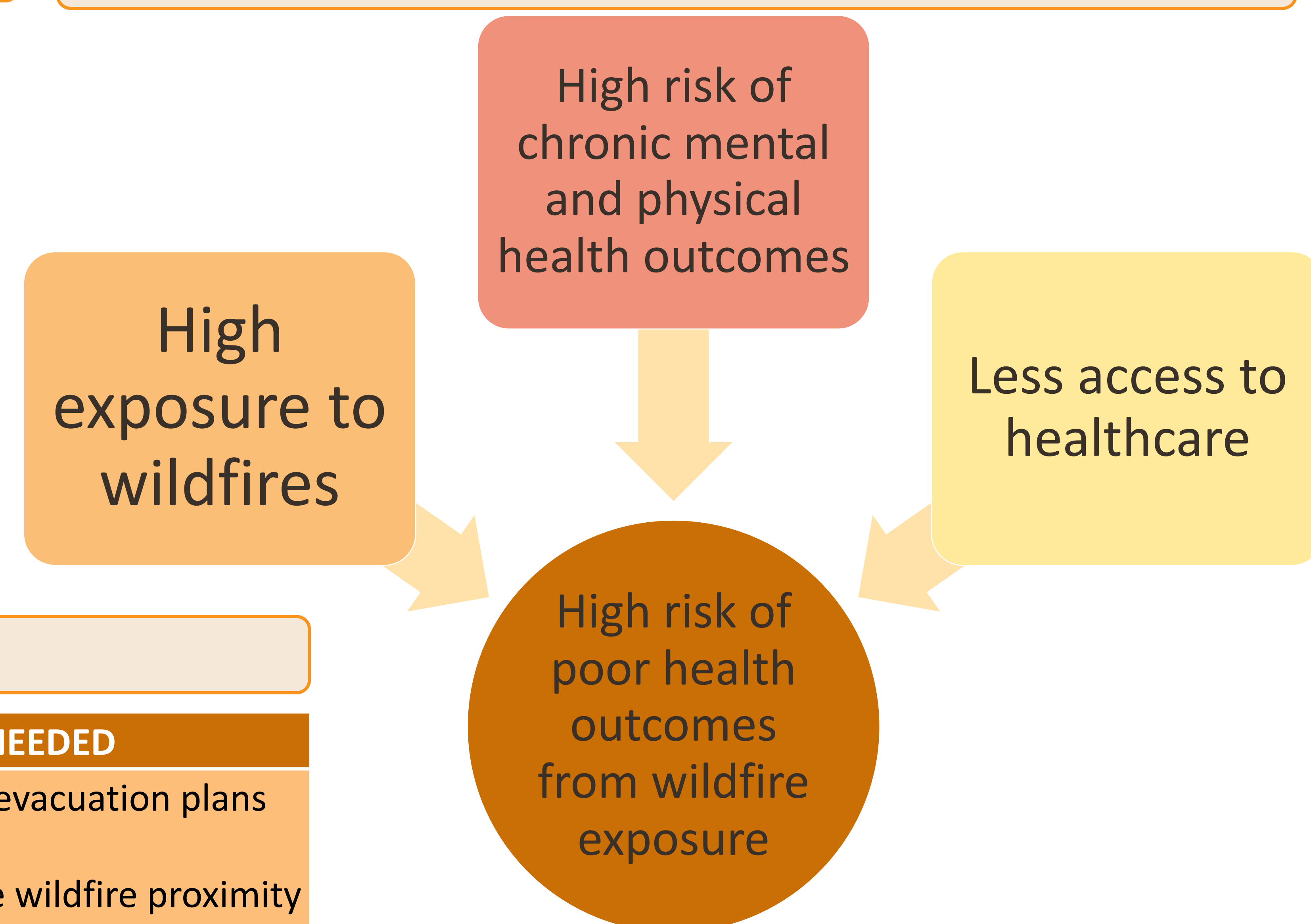
AIM

- To summarize existing literature on health outcomes among people who work at wildland firefighting camps while incarcerated
- To describe future research aims that are needed to understand disparities in health outcomes among people who are incarcerated and incarcerated wildland firefighters
- To describe policies needed to protect this vulnerable population from harm due to wildfires

BACKGROUND

- Lifetime risk of incarceration in the US**
- 1 in 3 black men
 - 1 in 6 Latino men
 - 1 in 17 white men
- Wildfires occur at unprecedented frequencies and across more locations.
 - In states at risk for wildfires the Department of Corrections is responsible for providing additional labor for emergency response by using incarcerated people.
 - Smoke is associated with respiratory infections, all-cause mortality, various cancers, and exacerbations of chronic conditions such as cardiovascular disease, asthma, and Chronic Obstructive Pulmonary Disease (COPD). Exposure to the fires themselves can increase risk of injuries, burns, and deaths.

CONCEPTUAL FRAMEWORK



WHAT IS KNOWN & FURTHER RESEARCH NEEDED

CONCEPT	Background knowledge	RESEARCH NEEDED
Increased Exposure to Wildfires	<ul style="list-style-type: none"> • Incarcerated people may be less likely to evacuate for a wildfire than those who are not incarcerated • Prisons may be built in areas more likely to experience climate-related hazards including wildfires than other areas • As seen during the Covid-19 Pandemic, prisons may have worse ventilation systems than other buildings and may not be able to filter out dangerous particulate matter • People who participate in wildland firefighting while incarcerated may be provided fewer protections than others wildland firefighters 	<ul style="list-style-type: none"> • Evaluation of prison evacuation plans for disasters • Studies that measure wildfire proximity to prisons • Studies that measure exposure to wildfire PM2.5 inside prisons • Quantitative and qualitative evaluations of protections provided to wildland firefighters
Higher risk of chronic mental and physical health issues	<ul style="list-style-type: none"> • Incarceration disproportionately impacts people of color, particularly Black men • People who are incarcerated have higher rates of ED visits for traumatic injuries, infectious and psychiatric diseases • People with chronic conditions are more likely to experience exacerbations of their chronic conditions when exposed to wildfire smoke 	<ul style="list-style-type: none"> • Studies that measure the risk of poor health outcomes due to wildfire associated exposures among people who are in prison (wildland firefighters and others) • Studies that follow wildland firefighters to examine long-term health effects
Less access to healthcare during a wildfire	<ul style="list-style-type: none"> • There is minimal disaster preparedness planning for prisons • Quality of healthcare provided to people who are in prison for chronic or new conditions may be lower quality than that provided to others due to limited resources within prisons and bias in hospital settings 	<ul style="list-style-type: none"> • Evaluations of healthcare access among people in prison during wildfires • Evaluations of preparedness plans for correctional systems

POLICY IMPLICATIONS

- Preparedness plans from state and federal planning agencies need to consider people who are incarcerated. Uniform protections including training and personal protective equipment need to be provided to wildland firefighters regardless of carceral status
- Data on hospitalizations and health outcomes among people in prisons, especially those participating in wildland firefighting programs, should be made available to researchers to determine health risks of wildfire exposure
- Plans should be written and publicized on providing healthcare to those who are participating in wildland firefighting programs while in prison
- Incarcerated people who participate in wildland firefighting programs should be monitored for long-term health effects of exposure to wildfire smoke