

# Potential Impacts Of Climate Change On Kidney Disease, Mental Health, & Underserved Populations

## The Year 2023 Was Recognized As:<sup>1</sup>

Climate change with its extreme weather, heat exposures, and air pollution can increase morbidity and mortality rates for patients with chronic medical conditions.<sup>2</sup>



The **warmest** year in recorded history



Record high for **greenhouse gas emissions**



Record high **sea level rise**



Record low **Antarctic ice**



A year with more **severe weather** and resulting destruction to some communities



### CLIMATE CHANGE & KIDNEY DISEASE



Climate change and increased heat wave exposures have affected increased numbers of individuals globally.<sup>3</sup>



#### Heat Waves And Heatstroke Can Cause:<sup>3,4</sup>

- Acute kidney injuries (AKI)<sup>3</sup>
- Electrolyte abnormalities such as hyponatremia and hypokalemia due to urinary electrolyte excretion and/or loss through sweat<sup>3</sup>
- Recurring AKIs which may increase the risk of developing chronic kidney disease<sup>3</sup>
- Nephrolithiasis and urinary tract infections due to underhydration and low urine volumes<sup>3</sup>
- Increased emergency department visits and hospitalizations for kidney disease<sup>4</sup>

### CLIMATE CHANGE & MENTAL HEALTH



#### Potential Mental Health Effects Due To Climate Change:<sup>5</sup>

- Greater stress including stress-related disorders
- Anxiety
- Despair
- Depression
- Suicidal Ideation



#### Environmentally Forced Migration:

- May disrupt social ties that normally buffer stressors related to prolonged and acute climate events.<sup>6</sup>
- “Eco-Anxiety” coined by Glenn Albrecht, describes chronic fear of environmental doom and feelings of anxiety, or grief related to climate change and worry about the future and expected negative changes.<sup>6,7</sup>



#### Environmental Disasters:

Primary impact of environmental disasters and associated trauma and grief can lead to:<sup>6</sup>

- Impaired sleep
- Decreased psychological health
- Interference in cognitive functioning including decreased memory, executive function, and the ability to concentrate
- Increased high-risk behaviors including domestic violence, alcoholism, and substance-abuse

Secondary effects on mental health may be due to environmental and ecological disruptions such as:<sup>6</sup>

- Physical and social infrastructure damage
- Food/water shortage
- Conflict
- Displacement
- Decreased physical health

### UNDERSERVED POPULATIONS

#### How Does Climate Change Impact Underserved Populations & Health Equity?

Marginalized and underserved communities are vulnerable to health risks secondary to climate change such as poor air quality, increased temperatures, and extreme weather.<sup>8</sup>

Image Source: The Fourth National Climate Assessment<sup>9</sup>

#### Communities Of Color

Some communities in risk-prone areas face cumulative exposure to multiple pollutants. Adaptation plans can improve healthcare access and help to address social inequities.

#### Children

Heat stroke and illness are a greater threat to children than adults. Monitoring their exertion and hydration can lessen this risk.

#### Older Adults

Extreme events that cause power outages or require evacuation can place older adults in danger. Proper emergency communication and checking in on seniors can save lives.

#### Low Income Communities

Flooding and crowded shelter conditions can lead to physical and mental illness. Disaster management plans can help those with limited resources to be resilient.



#### References:

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