Climate Change Key Factor In Rise Of Tick-, Mosquito-Borne Diseases

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Giving Compass' Take:

• Scientific American examines the rise of diseases transmitted by ticks and mosquitos each summer, and finds that climate change could be making things worse.

• This is where cross-sector partnerships between disease specialists and climate researchers could make a difference. How can we make sure we have the best data to address this growing public health issue?

•Here's more on how climate change is already damaging the health of millions.

People celebrate the arrival of summer every year, but it comes with a downside: an annual population explosion of disease-carrying ticks and mosquitoes. Recent findings from theCenters for Disease Control and Prevention reveal a staggering threefold increase in reported cases of what we broadly term "vector-borne diseases" — or illnesses transmitted to humans by mosquitoes, lice, ticks and the like — between 2004 and 2016 in the United States. Making matters worse, nine new pathogens emerged for the first time in the U.S. during this same period.

What has spurred such a dramatic uptick (no pun intended)? While multiple factors are involved, the influence of climate change cannot be overlooked.

Since vectors are cold-blooded, changes in temperature alter both the biology and population dynamics of mosquitos and ticks, which in turn impacts their development rates, feeding patterns and reproductive cycles. When temperatures rise, the time between generations of mosquitoes shortens.What's more, earlier and extended periods of warm weather may prolong the time during which vector populations are able to thrive.(On the flip side, extremely hot temperatures coupled with drier conditions in some areas can have a negative impact on vector populations.)

Disease pathogens are also influenced by weather patterns. For example, the virus that causes dengue fevergoes through the developmental stages in the mosquito more rapidly when temperatures are warmer. That means the time it takes from when a mosquito bites an infected person and can pass on the virus is much quicker.

Read the full article about climate change and tick-, and mosquito-borne diseases by Kacey C. Ernst at Scientific American.

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