## A Threat That Can be Neglected No Longer: Neglected Tropical Diseases in the United States

Neglected Tropical Diseases (NTDs) encompass a range of over 20 chronic, disabling, disfiguring, and deadly conditions resulting from parasitic, viral, bacterial, and fungal infections. Each year NTDs impact 1.65 billion people and result in more than 200,000 deaths worldwide.

The devastating toll these diseases exert on humankind cannot be measured by deaths alone NTDs are responsible for incalculable levels of life-long health problems, disabilities, and physical disfigurements such as heart conditions, blindness, and deformed limbs. Lost productivity because of NTDs results in billions in economic losses each year. Mothers and children are disproportionally affected by NTDs. Infections are common in children, and, in addition to immediate health burdens, can cause cognitive impairment, stunted growth, and the inability to attend school for long periods of time.

Historically predominant in developing nations, the presence of NTDs in the United States is rising, but a lack of regular surveillance limits our ability to respond to and eliminate these threats. Recent studies suggest that up to 12 million Americans live with at least one NTD. The Gulf Coast states of Texas, Louisiana, Mississippi, Alabama, and Florida are particularly vulnerable to NTDs due to their climate, where insects that transmit these diseases thrive, and high rates of poverty. NTDs are intimately linked to poverty, spreading readily in areas that lack clean water and proper sanitation. Recent estimates posit that 3-4 million Gulf Coast residents are affected by at least 1 NTD.

States along the Gulf Coast are crucial to both our nation's economy and defense. Texas and Florida have the $2^{\text {nd }}$ and $3^{\text {rd }}$ highest number of military bases by state, respectively, and are among the top 10 for number of residents that are active-duty military personnel. Our nation also boasts the largest active troop presence overseas of any country, where NTDs pose a continuous risk to servicemen and women and their families.

It is paramount that our nation act now against NTDs before they become an even more significant burden to local healthcare systems and our national security. Fighting NTDs requires better data on their incidence, prevalence, and geographic spread together with a robust effort to ramp up R\&D. As Congress works to complete the Fiscal Year 2024 Appropriations process the question is: will there be resources to ensure surveillance efforts for and to fight against the spread of NTDs to protect lives here and abroad?

What gets measured, gets done. Effective action against the growing burden of NTDs in the US has been hindered by a lack of surveillance and inadequate data regarding incidence, prevalence, and geographic spread. Knowledge of where NTDs are present and what populations are at greatest risk will allow for faster and more efficient diagnosis and treatment and can inform health care delivery strategies and campaigns to educate the American public about these threats.

Defining the gaps in NTD research is fundamental to closing them. Concretely defining and carefully prioritizing gaps in NTD R\&D sets the stage for efficient and effective action to address NTDs.

On our doorstep: the unchecked danger of Chagas disease. The desperate need to bolster surveillance and fill R\&D gaps for NTDs is exemplified by Chagas disease. Called "the most neglected of neglected tropical diseases", more than $90 \%$ of Chagas cases go undetected as a result of poor surveillance and lack of funding to improve outdated diagnostics and treatments.

Already prevalent in Gulf Coast states, domestically acquired cases of Chagas have been recorded, and the disease is spreading within the continental US. Chagas causes severe and chronic health problems in approximately a quarter of those infected. In an estimated $30 \%$ of Chagas patients, their disease progresses to heart failure. Severe outcomes are largely preventable with early detection and treatment, however fewer than 1\% of those infected receive care due to lack of awareness and limited access to resources. Chagas disease, presently unmonitored, unmitigated, and untreated in the US, represents a looming public health crisis if it remains ignored.

Efforts to combat NTDs have far-reaching benefits. Similar to NTDs, diseases like Valley fever, resulting from a fungal infection, and Lyme disease, resulting from a bacterial infection spread by ticks, are spreading rapidly across the US due to warming temperatures. These diseases can also lead to permanent disability and are critically in need of better diagnostics and treatments. Filling R\&D gaps that exist for NTDs will help to fill those that exist for other infectious and vector-borne threats.

NTDs interventions are also a boon for American agriculture and food production. Vector control methods, an important tool in combatting NTD transmission, reap advantages for agricultural productivity. Novel antimicrobials developed to treat NTDs may help address the growing problem of antimicrobial resistance in livestock production.

The fight against NTDs is one that can be won. Worldwide, efforts led by the US to combat NTDs have delivered several success stories, remarkable return on investment, economic

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development for lower- and- middle- income countries, and numerous lives from needless suffering. US investment in NTDs has been considered a "best buy" in global health.

As NTDs and other related diseases become more prevalent in the US, it is time for our nation to continue this legacy by increasing surveillance of these diseases and spearheading desperately needed R\&D. The COVID-19 pandemic cost our nation over a million lives, trillions of dollars, and immeasurable strain to our healthcare system. The presence of NTDs within our borders is a growing, and presently unaddressed, threat to American lives and livelihoods. The time to act is now.

