Congress of the United States
Washington, DC 20515

May 23, 2025

The Honorable Ken Calvert
Chairman
Subcommittee on Defense
House Committee on Appropriations
Washington, DC 20515

The Honorable Betty McCollum
Ranking Member
Subcommittee on Defense
House Committee on Appropriations
Washington, DC 20515

Dear Chairman Calvert and Ranking Member McCollum:

We write to respectfully request that you provide $9 million in the Congressionally Directed Medical Research Program (CDMRP) for research on Lyme and other tick-borne diseases (TBD) in the Fiscal Year (FY) 2026 Defense Appropriations bill with priority of funds used to address the greatest burden of TBD disease, which is Lyme disease.

According to the *HHS Tick-Borne Disease Working Group 2022 Report to Congress* (TBD WG 2022 Report to Congress), diseases such as Lyme disease, ehrlichiosis, and anaplasmosis cause significant morbidity, and each year deaths are officially reported. Reported cases of tick-borne diseases are increasing in the United States.

We are grateful that the Committee has been consistently supportive of this important TBD research program at CDMRP since its 2016 inception. We are looking to enhance this work and meet the demand of an increasing number of TBD cases, in particular Lyme. According to *vaclaimsinsider.com, (https://vaclaimsinsider.com/lyme-disease-va-disability-rating-and-veteran-suicide/),* an education-based coaching/consulting company:

"Veterans who have served in the Army, Navy, Marines, or Air Force may be at increased risk for tick bites. Troops are often stationed in or around tick-infested areas, such as woods or brush…. Military risk assessments have found high Lyme disease rates at installations all around the country, so there have been many cases of Lyme disease service connection…. Lyme disease profoundly affects both the mind and body. The disabling physical symptoms are often made worse by the negative impacts on mental health. Depression, anxiety, irritability, insomnia, and forgetfulness are just ways Lyme disease can take a toll on veterans' mental health. Lyme disease is one of the few infections that can cause changes in the brain that resemble those seen in neurodegenerative diseases like Alzheimer's and Parkinson's. If left untreated, Lyme disease can lead to suicidal ideation and attempts. There is a well-documented connection between Lyme disease and mental health problems."

According to *Neuropsychiatric Disease Treatment* journal's, "Suicide and Lyme and Associated Diseases" [LAD] (Bransfield, 2017), "multiple case reports and other references demonstrate a causal association between suicidal risk and LAD. "This risk is greater in outdoor workers and veterans, both have greater exposure. "LAD contributed to suicidality, and sometimes homicidality, in individuals who were not suicidal before infection. " … Negative attitudes about LAD from family, friends, doctors, and the health care system may also contribute to suicide risk. …Suicidality seen in LAD contributes to causing a significant number of previously unexplained suicides and is associated with immune-mediated and metabolic changes resulting in psychiatric and other symptoms which are possibly intensified by negative attitudes about LAD from others. Some LAD suicides are associated with being overwhelmed by multiple debilitating symptoms, and others are impulsive, bizarre, and unpredictable. Greater understanding and a direct method of acquiring LAD suicide statistics is needed." Article suggests CDC and other entities evaluate the association between LAD and suicide.

In 2019, most recent national surveillance data, more than 50,000 total cases were reported for the five highest incidence tick-borne diseases (CDC, 2021g) (Figure1). Furthermore, reported cases significantly under-represent the total numbers of infections. With Lyme disease, recent studies based on insurance claims data estimate that more than 476,000 cases are diagnosed and treated each year in the U.S. (Kugeler et al., 2021), compared to a previous similarly derived estimate of ~300,000 cases (Hinckley et al., 2014; Nelson et al., 2015).

The *Tick-Borne Disease Working Group 2020 Report to Congress* (TBD WG 2020 Report to Congress) suggests that direct Lyme disease medical costs could represent $1.3B each year, with marked increases when therapy fails to return patients to their pre-Lyme health.

Contributing to the rise in TBD case numbers during the past 25 years, the number of counties where the key vector species—blacklegged tick, *Ixodes scapularis*—is now established has also more than doubled (Beard et al., 2019)….As tick populations expand and expose greater numbers of people to the bites of infected ticks, new tick-borne pathogens are being recognized as the cause of illness in humans. These causes include a range of bacterial and viral pathogens, such as Heartland virus, which has resulted in severe human infections including death across the central region of the United States (Brault et al., 2018). A death from Heartland was just confirmed in Maryland/Virginia area, although none had been known to be present in that region (Liu, S. Emerging infectious Diseases Vol. 29, 5.23 early release)

According to the TBD WG 2022 Report to Congress, "When diagnosed early and given appropriate treatment, most Lyme disease patients make a full recovery. However, studies show that anywhere from between 10 percent and 20 percent (Marques, 2008), and up to 35 percent, of patients experience chronic, often debilitating, symptoms (Aucott, Rebman, Crowder, & Kortte, 2013). One NIH Lyme treatment trial researcher has described the quality of life for patients with posttreatment chronic Lyme disease (PTLD) as being equivalent to that of patients with congestive heart failure or osteoarthritis; another described some patient pain similar to that of post surgery patients and fatigue similar to MS patients. Therefore, It Is important that research on a gold standard diagnostic test be expedited and that treatment protocols be explored to provide early diagnosis and effective treatment protocols for Lyme disease."

In the February 2021 *Medical Surveillance Monthly Report (MSMR),* a report on vector-borne diseases in the military during the period 2016−2020, including all reportable medical events (RME) of active and reserve component service members Army, Navy, Air Force, and Marine Corps who served any time during that period, disclosed the following information: "Lyme disease accounted for 43.8% of all confirmed RME cases and was the most common of the vector-borne diseases reported."

A February 2021 *Joint Force Quarterly* publication written by a US Naval War College professor describes the high risks of Lyme to the military−some 75% of all US military installations are located in states where 99% of the ~500,000 TBD cases reported to CDC from 2004-2016 occurred. Veterans often retire to rural counties where Lyme incidence rates are higher. According to a study published in *Journal of Veteran Studies* (McDaniel, Summer 2018), Lyme disease incidence rates were higher in counties with greater veteran population density in the U.S. in 2015.

Based on TBD's disproportionate burden on military personnel, their families, and civilians alike, we are requesting that you provide $9 million in the CDMRP for research on TBD for FY2025. Due to the overwhelming comparative burden of Lyme disease, 82% of all TBD, we ask that DOD ensures that 70% of such funding is dedicated to Lyme disease research.

As such, continued funding is needed for CDMRP research on Lyme and other TBD. Especially important is including development of more sensitive and accurate diagnostic tests for Lyme and increasing understanding of the full range of Lyme disease processes, as well as the numerous mechanisms that may allow organisms to persist post treatment. Using the currently available diagnostic tests, almost half of those with Lyme—especially and including our service personnel—remain untreated, permitting the disease to disseminate. Those Lyme victims may become severely disabled and may be unable to return to military service.

We respectfully request that the Committee also include the following language in its report language:

"The Committee is concerned about the pace of progress in making more effective tools available to health care practitioners to diagnose and treat Lyme and other TBD. As an example, the Committee is aware that the current two-tiered diagnostic test was promulgated 29 years ago, and that there has only been one minor modification – in 2019, or 25 years later. The Committee directs the CDMRP to consider opportunities to fund translational research that will capitalize on advanced technologies to quickly make improved diagnostics available on the market for Lyme disease and for other TBD."

A published case report in *Mil Med,* 2019, spotlights a recent West Point graduate with Lyme history who developed a knee problem and was misdiagnosed with another condition and then found instead to have Lyme disease. He was treated with antibiotics and other medicines but his condition had already deteriorated, and consequently, he was declared unfit for duty and discharged from active military service. "This case illustrates the profound effect that latent Lyme disease can have on the quality of life and the career of an active duty military member. It highlights the need for increased surveillance for *Borrelia burgdorferi*… in military training

areas and for the early and aggressive diagnosis and treatment of military personnel who present with the symptoms of acute Lyme disease."

The discovery of *Borrelia mayonii* in 2016*,* the only species besides *B.burgdorferi* shown to cause Lyme disease in North America, and of other recently discovered emerging TBD within the past decade, greatly underscores the need for increased funding. Additionally, a recent CDC study shows that ticks that transmit Lyme disease are now found in half of all US counties, putting our service members at great risk.

In a 12-year surveillance period (2000-2011), Lyme disease accounted for 70% of all reported vector-borne or zoonotic diseases in the Air Force Events Surveillance System, and 39% of all such diseases at Navy and Army health facilities (*Medical Surveillance Monthly Report* (*MSMR*) October 2012). In a 7-year surveillance period (2010-2016), including all active and reserve component service members in the Army, Navy, Air Force, or Marine Corps who accessed care paid for by the Military Health System, Lyme accounted for 50% of confirmed VBD cases.

The *MSMR* has cautioned about the dangers of tick-borne diseases, of which Lyme is the most common, to military readiness. The May 2014 *MSMR* recognizes that "Military service members may be at increased risk for acquiring Lyme disease, compared to the general population, because their training activities often require that they spend substantial time outdoors, often in or near wooded or grassy areas where infected ticks are endemic." Similarly, an article in the April 2019 *MSMR* states, "Lyme disease poses both a challenge to healthcare providers in the Military Health System and a threat to military readiness."

Specifically addressing Lyme disease and its impact on military readiness, the *AF Aerospace Medicine Waiver Guide* (Sep. 16, 2019), states that, "if untreated, then aeromedical concerns of this disease are its debilitating effects in regard to the neurologic, cardiovascular, and arthritides that may result. Neurocognitive impairment, cardiac arrhythmias and arthritic pain are all manifestations that could impact the safety of the individual and the mission." The *Navy Aeromedical Reference and Waiver Guide* (Sep. 4, 2019), states, "The condition or its sequelae can adversely affect the flight performance, mission, or safety. This condition is disqualifying for aviation."

The *Tick-Borne Disease Working Group 2018 Report to Congress* contains the story of retired US Air Force Colonel and F-15 fighter pilot, Nicole Malachowski, who eventually was found to have neurological tick-borne diseases:

> "One day while leading a formation of F-15E fighter aircraft back from a training mission, I was overcome by an overwhelming sense that my aircraft was turning left, though it was not; and I could not get my hands to activate the switch that I had activated thousands of times. After I finally managed to activate the switch, I realized that I could not speak. Fortunately, my experienced wingman led us home, and the instructor pilot in my jet performed backseat landing. However, that day marked the beginning of my medical odyssey. In the following four years, I saw more than twenty doctors across eight specialties. My neurological symptoms

> continued to worsen, but none of the doctors knew why and some suggested it was all in my head. I was suffering from intensifying fatigue, joint and muscle pain, vestibular issues, ocular manifestations, sensory problems, cognitive dysfunction, and the list goes on. I was misdiagnosed with everything from possible multiple sclerosis, to autoimmune disease, to fibromyalgia. Eventually I could no longer work in the military as a fighter pilot, and the military began steps to medically retire me. At the age of 43, I was permanently, medically retired from the career I loved, after having served in the military for more than 21 years."

While a threat to US military personnel worldwide, the highest incidence of Lyme disease among active duty service members in the US is in the Northeast (*MSMR* May 2014). The unit locations with the highest absolute incident cases during 2004-2013 were Naval Submarine Base New London, CT; Marine Corps Air Station Cherry Point, NC; Andrews Air Force Base, MD; and Fort Drum, NY.

In 2016, the Southern New York area—which includes the U.S. Military Academy (USMA) at West Point—had the highest burden of Lyme disease in the US, with reported infection rates of ticks with *Borrelia burgdorferi* as high as 55%. As reported in the *MSMR* April 2019, in recent years, Lyme has resulted in the removal of at least two cadets from the USMA because of medical ineligibility for commissioning. In addition, two recently commissioned Second Lieutenants were discharged from the Army because of medical issues as a result of "chronic Lyme."

Many critical research gaps need to be closed for the effective management—prevention, diagnosis, and treatment—of tick-borne diseases, most prevalently Lyme disease, which have such a devastating impact on both U.S. military, their families, and civilian populations.

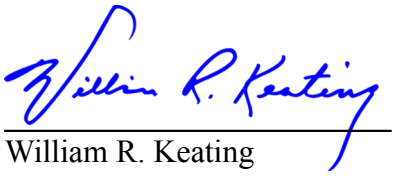
Thank you for your time and consideration of this important request and we look forward to working with you to ensure we are safeguarding the operational capabilities of our Armed Forces and protecting the health of U.S. service members and their dependents.

Sincerely,

Christopher H. Smith
Member of Congress

Lloyd Doggett
Member of Congress

Brian K. Fitzpatrick
Member of Congress



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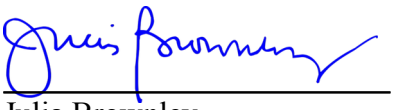

Julia Brownley
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