NIH Releases Strategic Plan for Tick-Borne Disease Research

The NIH Strategic Plan for Tickborne Disease Research, October 9, 2019, is good news for everyone in the Lyme and tick-borne diseases community! The plan builds on the activities of the Department of Health and Human Services Tick-Borne Disease Working Group (TBDWG), which issued a 2018 report to Congress outlining research recommendations. Through inventories sent to government agencies to determine gaps in their research on tick-borne diseases (TBD), the Working Group uncovered the fact that NIH did not have a national strategy for TBD. The HHS TBDWG Report made the recommendation below in the November 2018 report:

Recommendation 8.1: NIH: Create an NIH tick-borne disease strategic plan, with public input during creation and implementation, to address tick-borne diseases, including all stages of Lyme disease. Include in the strategic plan the coordination of research funding across NIAID, NINDS, NIAMS, and NIMH to increase knowledge of pathogenesis, improve
diagnosis, and develop and test new therapeutics for tick-borne diseases. Update every five years.

The LDA President, Pat Smith, served as a TBDWG member that wrote the 2018 report. She was reappointed this year for a second term as it develops the next report to Congress due December of 2020.

In developing this strategic plan, as recommended by the TBDWG Report, NIH sought input from the research and medical communities, patient advocacy groups, pharmaceutical industry, and the general public.

The Lyme Disease Association submitted input to the NIH on a strategy:


The newly released NIH plan focuses on five scientific priorities important for advancing research and development over the next five years.

1. Improving fundamental knowledge of tickborne diseases, including the biology of tickborne pathogens; how they are transmitted to humans, evade the immune system, and spread within the body. Including determining the cause of persistent symptoms in some people infected with tickborne diseases, such as Lyme disease, and furthering the understanding of how tick-derived factors contribute to the establishment and severity of disease.

2. Advance research to improve detection and diagnosis of TBDs. Improving detection and diagnosis of tickborne diseases by developing rapid diagnostic tests that can detect a pathogen both early and late in infection and distinguish between active and past infections. NIH will support the development of diagnostics capable of predicting treatment success and identifying human biomarkers of infection and persistent symptoms.
3. Accelerate research to improve prevention of TBDs. The new plan also prioritizes the acceleration of research designed to prevent tickborne disease infection, including vaccines, and immune-based treatments, as well as strategies to reduce the transmission of tickborne pathogens to animal populations that serve as hosts.

4. Focusing on research to develop new treatments for tickborne diseases and techniques to reduce disease complications.

5. Prioritizing the development of tools and resources to advance tickborne disease research by improving scientists’ access to biological samples, tickborne disease genetic data, and supporting preclinical development of promising products.

NIH intends to expand collaborations across its institutes and centers to promote a multidisciplinary approach to tickborne disease research, answer complex biological questions and encourage the application of state-of-the-art technologies used successfully in a range of scientific disciplines.

NIH Strategic Plan for Tickborne Disease Research

NIH Strategic Plan News Release

Congressman Smith praises NIH announcement (TAPinto.net)

Congressman Smith press release on NIH Strategy

Note from LDA: tick-borne disease is generally spelled with a hyphen. NIH has chosen to leave out the hyphen in its report.
LDA Celebrates 50!

In 2018, Lyme Disease Association Inc. (LDA) reached a milestone in its Lyme research support—the 50th journal article with LDA supported research was published. Articles found in 39 different journals begin in 1996 with the ground-breaking, Borrelia burgdorferi DNA in the Urine of Treated Patients with Chronic Lyme Disease Symptoms: A PCR Study of 97 Cases, by the late Manfred Bayer in the journal Infection.

Journals range from The Proceedings of the National Academy of Science, Neurology, Genetics, Gene, Emerging Infectious Diseases, Journal of the American Medical Association, Biochemistry, Veterinary Sciences, Clinical Infectious Disease, Journal of International Neuropsychological Society to the most recent, Ticks and Tick-Borne Diseases.

Researchers funded include, Drs. Ying Zhang, Brian Fallon, Ed Breitschwerdt, Steven Schutzer, Travis Taylor, Eva Sapi, Kerry Clark, Ben Luft and many more from across the U.S.

Other ground-breaking studies include:

- **The Underdiagnosis of Neuropsychiatric Lyme Disease in Children and Adults.**
- **A randomized, placebo-controlled trial of repeated IV antibiotic therapy for Lyme encephalopathy.**
- **Whole-Genome Sequences of Thirteen Isolates of Borrelia burgdorferi.**
- **Absence of Borrelia Burgdorferi-specific immune complexes in chronic fatigue syndrome.**
- **A Drug Combination Screen Identifies Drugs Active against Amoxicillin-Induced Round Bodies of in Vitro Borrelia burgdorferi Persisters from an FDA Drug Library,**
• Characterization of Biofilm Formation by Borrelia burgdorferi In Vitro.
• Borrelia Burgdorferi–Specific Immune Complexes in Acute Lyme Disease.
• A Controlled Study of Cognitive Deficits in Children with Chronic Lyme Disease.
• Severity of Lyme disease with persistent symptoms: Insights from a double-blind placebo-controlled clinical trial.
• Distinct Cerebrospinal Fluid Proteomes Differentiate Post-Treatment Lyme Disease from Chronic Fatigue Syndrome.
• Regional prevalences of Borrelia burgdorferi, Borrelia bissettiae, and Bartonella henselae in Ixodes affinis, Ixodes pacificus and Ixodes scapularis in the USA.

Click here to link to all 50!

Other

They are many articles published by people outside the field such as reporters and patients that may be of interest to those researching Lyme disease. Experiences with OCD

Professional Articles

Professional Articles

There are articles that are published on Lyme disease which are not published in journals which are subject to peer review process but which, nonetheless, are valuable tools for anyone
interested in the disease. They may be written by doctors, scientists, government officials, advocates, others considered experts in the field.

**The Effects of Lyme Disease on Students, Schools & School Policy**

**You Can Make a Difference to a Child by Reducing Risk of Lyme Disease**

by: Network to Reduce Lyme Disease in School-Aged Children (includes the EPA, CDC, LDA)

*NASN School Nurse.* 2010; 25: 110-113

[nas.sagepub.com/cgi/reprint/25/3/110](http://nas.sagepub.com/cgi/reprint/25/3/110) (leaving the LDA website)

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**Peer Reviewed Science**

**Peer Reviewed Medical & Scientific Articles**

These articles carry the most scientific weight as they are reviewed by a committee of doctors and scientists before they are accepted for publication.

*The following links are provided for you to other sites which have lists of scientific publications on Lyme disease where you can search for particular aspects of the disease. Sorry, but LDA does not have staff to help you search. You are leaving the LDA website by clicking on these links.*

**PubMed/Medline Search**

PubMed was developed by the [National Center for Biotechnology Information (NCBI)](http://www.ncbi.nlm.nih.gov) at the [National Library of Medicine (NLM)](http://www.nlm.nih.gov), located at the [National Institutes of Health (NIH)](http://www.nih.gov). The PubMed database was developed in conjunction with publishers of biomedical literature as a
search tool for accessing literature citations and linking to full-text journal articles at web sites of participating publishers. For more information please refer to the PubMed overview.

The Lyme Disease Network Medical/Scientific Literature Database

This database was developed by the Lyme Disease Network of New Jersey (Lymenet), an LDA affiliate.

http://search.lymenet.org/

Complete Peer Reviewed Articles – Printed with Permission

Genomes unblock borrelia’s secrets – New Lyme Disease Findings!

Mixed Strains Improve Lyme WB Sensitivity

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Bransfield Article on Neuropsychiatric Lyme Published
Robert C. Bransfield, MD, Department of Psychiatry, Rutgers-RWJ Medical School, published an article on 8-25-18, which demonstrates an association between Lyme borreliosis and neuropsychiatric impairments — considered a major advance in psychiatry. Entitled *Neuropsychiatric Lyme Borreliosis: An Overview with a Focus on a Specialty Psychiatrist’s Clinical Practice*, the article was published in a special issue of *Healthcare – Lyme Disease: The Role of Big Data, Companion Diagnostics and Precision Medicine*, with guest editor, Raphael B. Stricker, MD.

According to Dr. Bransfield, “Lyme borreliosis, possibly with other interactive infections in the body can evade and suppress the immune system and cause immune effects and biochemical changes in the brain causing neuropsychiatric symptoms.” The results can include developmental disorders, autism spectrum disorders, schizoaffective disorders, bipolar disorder, depression, anxiety disorders (panic disorder,
social anxiety disorder, generalized anxiety disorder, post-traumatic stress disorder, intrusive symptoms), eating disorders, sleep disorders, decreased libido, addiction, opioid addiction, cognitive impairments, dementia, seizure disorders, suicide, violence, anhedonia, depersonalization, dissociative episodes, derealization and other impairments.

Dr. Bransfield is a member of the Lyme Disease Association’s Scientific & Professional Advisory Board.

Abstract:

There is increasing evidence and recognition that Lyme borreliosis (LB) causes mental symptoms. This article draws from databases, search engines and clinical experience to review current information on LB. LB causes immune and metabolic effects that result in a gradually developing spectrum of neuropsychiatric symptoms, usually presenting with significant comorbidity which may include developmental disorders, autism spectrum disorders, schizoaffective disorders, bipolar disorder, depression, anxiety disorders (panic disorder, social anxiety disorder, generalized anxiety disorder, posttraumatic stress disorder, intrusive symptoms), eating disorders, decreased libido, sleep disorders, addiction, opioid addiction, cognitive impairments, dementia, seizure disorders, suicide, violence, anhedonia, depersonalization, dissociative episodes, derealization and other impairments. Screening assessment followed by a thorough history, comprehensive psychiatric clinical exam, review of systems, mental status exam, neurological exam and physical exam relevant to the patient’s complaints and findings with clinical judgment, pattern recognition and knowledgeable interpretation of laboratory findings facilitates diagnosis. Psychotropics and antibiotics may help improve functioning and prevent further disease progression. Awareness of the association between LB and neuropsychiatric impairments and studies of their prevalence in neuropsychiatric conditions can improve understanding of the causes of mental illness and
violence and result in more effective prevention, diagnosis and treatment.

Click here for full journal article