Maternal-Fetal Lyme Transmission: Federal $$ & Research Support / Webinar

BACKGROUND

Congress recently increased annual funding for research on Lyme and related tickborne diseases at NIH by $29 million to a total of $63 million. Most of this is discretionary, although $10 million of it is mandatory for research specific to Lyme disease. In addition to this historic increase, there are opportunities for funding and research support for studies on maternal-fetal transmission of Lyme disease and the impact of pregnancy on immune response.

To stimulate researcher interest, NIH has issued a series of notices to encourage investigators to apply for grants and has asked stakeholder organizations for help getting the word out. This is an extraordinary opportunity for established investigators to build a new foundation of research for a long-overlooked problem. This is also an excellent opportunity for early-stage investigators to learn more about this field of research and receive guidance from NIH research program officers.

While it is widely accepted that Lyme disease is spread by a tick bite, it is less well known that the agent of Lyme disease, Borrelia burgdorferi, can cross the placenta, both infecting, and causing harm to, unborn children. CDC and NIH have recently acknowledged this crucial fact. Despite this, the dearth of published research on this topic has left

patients, healthcare providers and caregivers to navigate a vast field of unknowns related to diagnosis, treatment and prevention, with virtually no current science to guide them.

In December 2020, a recently formed advocacy group, Mothers Against Lyme, met with officials and program officers at NIH to discuss the need for this research. The message from NIH was that plenty of funding is available, but the amount is dependent on investigator-initiated applications.

CURRENT OPPORTUNITIES

Following is a list of related notices of special interest and funding opportunity announcements. In addition to tickborne diseases, these notices cover a broad range of research related to maternal-fetal medicine, obstetrics, and perinatal infectious diseases.

- **National Institutes of Health (NIH)**
    - NOT-OD-17-101 Policy Supporting the Next Generation Researchers Initiative https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-101.html
    - The Next Generation Researchers policy requires institutes and centers to prioritize awards that will fund Early-Stage Investigators and Early Established Investigators.
    - NOT-AI-20-005: Advancing Research for Tickborne Diseases https://grants.nih.gov/grants/guide/notice-files/NOT-AI-20-005.html
    - The purpose of this notice is encourage new applications to advance research activities relevant to the five strategic priorities identified in the NIH Strategic Plan for Tickborne Disease   Research:

www.niaid.nih.gov/sites/default/files/NIH-Strategic-Plan-Tickborne-Disease-Research-2019.pdf

- **National Institute of Allergy and Infectious Diseases (NIAID)**
  - NOT-EB-21-001: Small Business Initiatives for Innovative Diagnostic Technology for Improving Outcomes for Maternal Health https://grants.nih.gov/grants/guide/notice-files/NOT-EB-21-001.html
  - This multi-center notice includes a section from NIAID that calls for:
    - Development and validation of diagnostics for gestational Lyme disease, which can adversely impact maternal health and pregnancy outcome.
    - The development of technologies that detect and monitor normal dynamics of the maternal immune system during pregnancy as well as identifying clinically relevant immune dysfunction metrics for the prediction of pregnancy complications (e.g., infections, preeclampsia, sepsis) that lead to maternal morbidity and mortality.

- **National Institute of Child Health and Human Development (NICHD)**
  - NOT-HD-19-021: Advancing the Understanding, Prevention, and Management of Infections Transmitted from Women to their Infants https://grants.nih.gov/grants/guide/notice-files/NOT-HD-19-021.html
    - The purpose of this funding opportunity announcement is to stimulate investigations, including translational, epidemiologic and clinical studies and trials that improve the understanding, prevention and clinical

outcomes of non-HIV infections transmitted from women to their offspring during pregnancy, labor and delivery, and breastfeeding

- PAR-20-298: Development of the Fetal Immune System https://grants.nih.gov/grants/guide/pa-files/PAR-20-298.html
  - The purpose of this funding opportunity announcement is to understand the contribution of specific elements of maternal molecular and cellular factors that can control and effect the development of the fetal immune system.

- **Department of Defense (DOD)**
  - Funding for research on maternal-fetal transmission of Lyme disease is available through the DOD Congressionally Directed Medical Research Program for Tickborne Diseases, which is currently funded at $7 million annually.
  - DOD Tick-Borne Disease Research Program Funding Opportunities for FY 2021https://cdmrp.army.mil/pubs/press/2021/21tbdrppreann
    - This notice includes a call for research on understanding the potential role of maternal-fetal transmission and the ability to prevent TBDs by this mode of transmission.

WEBINAR FOR RESEARCHERS

If you are interested in learning more, please consider attending the webinar: **Lyme Disease and Pregnancy: State of the Science and Opportunities for Research Support**

Thursday, April 29 from 5:00 – 6:30 pm EST. There is no charge to attend. This webinar is hosted by Mothers Against Lyme & Project Lyme. You will learn about the urgent need for this research, the state of the science and research gaps, and opportunities for funding and research support. You will also be able to interact directly with research program officers from NIAID and NICHD.

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