Examples of NIAMS Commitment to Enhancing Child Health and Human Development

September 12, 2022

Lindsey A. Criswell, M.D., M.P.H., D.Sc.
Director, NIAMS

The Eunice Kennedy Shriver National Institute of Child Health and Human Development Advisory Council Meeting
Introduction to NIAMS

• Established in 1986
  ▪ Previously part of the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases (now the National Institute of Diabetes and Digestive and Kidney Diseases)

• Mission
  ▪ Research
  ▪ Training
  ▪ Information Dissemination

• FY 2022 Budget = $656 Million

• Intramural and Extramural Research Programs
FY 2021 NIH and NIAMS Spending

NIH Total Budget: $42.812 Billion

- Extramural 80.4%
- Intramural 10.7%
- All Other 4.1%
- RMS 4.8%

NIAMS Total Budget: $632 Million

- Extramural 84.1%
- Intramural 10.4%
- RMS 5.5%
Five Disease- and Tissue-Specific Sections of the NIAMS Strategic Plan

NIAMS MISSION
The NIAMS mission is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; training of basic and clinical scientists to carry out this research; and dissemination of information on research progress in these diseases.

STRATEGIC PLAN GOAL
The goal of the plan is to advance and accelerate research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases. The ultimate goal of these efforts is to develop patient-centered, personalized ways to improve outcomes and thereby “turn discovery into health.”
Shared mechanisms in health and among diseases

Patient-centric approaches to health and disease

Precision medicine for arthritis and musculoskeletal and skin diseases

Health and disease in diverse populations
Help Create the NIAMS 2025-2029 Strategic Plan

• Request for Information (NOT-AR-22-023)
  ▪ Cross-cutting thematic research opportunities
  ▪ Bold aspirations

• Responses accepted through November 30, 2022

https://rfi.grants.nih.gov/?s=62acc588887e00004c006a82
The National Institutes of Health has funded the Validation of Pediatric Patient-Reported Outcomes in Chronic Diseases (PEPR) Consortium. Investigators will capitalize on recent advances in the science of patient-reported outcomes (PROs) to improve pediatric health and well-being by capturing the voice and experience of children and their families living with a variety of chronic diseases and conditions.
Pediatric Research Focus in the NIAMS IRP

Robert A. Colbert, M.D., Ph.D.
Hanna Kim, M.S., M.D.
Michael Ombrello, M.D.
Laura Lewandowski, M.S., M.D.
Leslie Castelo-Soccio, M.D., Ph.D.
Melorheostosis

- Collaborative effort between the NIAMS and NICHD intramural programs.
- 8/15 patients have somatic mutations in the negative regulatory domain of MAP2K1—a gene in a crucial pathway for skeletal development.
- The mutation caused bone cells to display increased growth and hardening in affected bones.
Spotlight on Research

Study Suggests Most Women With Mild to Moderate Lupus Can Expect to Have Healthy Pregnancies

By Colleen Labbe, M.S. | April 21, 2016

A large, long-term study among women with lupus has yielded important insights into how to predict who may develop pregnancy complications associated with the disease, and who is most likely to have a healthy pregnancy. A related study identified key factors that may put a woman at risk for problems, allowing for early detection and monitoring. Results of the studies, which were funded in part by the NIH's National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), were published in the American Journal of Obstetrics and Gynecology, and the Annals of Internal Medicine.

Systemic lupus erythematosus (SLE), or lupus, is a chronic, autoimmune disease in which the immune system mistakenly attacks its own tissues and organs, causing inflammation. In lupus, periods of remission alternate with relapses or flares. Lupus is more common in women than in men, and often strikes during childbearing years, complicating family planning. Pregnancy loss is more common in women with lupus than in women without the disease, especially when antiphospholipid antibody syndrome (APS)—a condition that frequently co-occurs with lupus—is present. APS causes clots inside the blood vessels (thrombosis).
FOA: Maternal Health Research Centers of Excellence

• Notice Number: RFA-HD-23-035
• Open Date: November 02, 2022
• Expiration Date: December 06, 2022
• Focus:
  ▪ Generating innovative approaches to address preventable maternal mortality, decrease severe maternal morbidity, and promote maternal health equity in partnership with one or more populations that experience maternal health disparities

Wellstone Centers Program

• The Centers of Excellence program in muscular dystrophy research was established by NIH in 2003, in honor of the late Senator Paul D. Wellstone of Minnesota.

• NIAMS, NICHD, NINDS, and NHLBI participate in the program.
  ▪ NIAMS and NICHD support two Centers each

• Program evaluation completed in 2019 to help inform how the program might be adjusted to further advance muscular dystrophy research.
Brittle Bone Disorders Consortium

• The Brittle Bone Disorders Consortium is part of the Rare Diseases Clinical Research Network.

• Co-funded by NIAMS, NICHD, NCATS, and NIDCR.

• Focusing on understanding and providing better treatment options for all types of osteogenesis imperfecta (OI).
IMPACCT: Infrastructure for Musculoskeletal Pediatric Acute Care Clinical Trials

• Pediatric medial epicondyle fractures and displaced distal radius fractures
  - Common
  - Little consensus and evidence to guide clinical decision making
  - Unnecessary costly procedures with added risks vs. risk of undertreatment and disability

• IMPACCT
  - **Purpose:** Develop the infrastructure and experience necessary for multicenter randomized clinical trials
  - **Goal:** Guide clinical decision-making
Back Pain Consortium (BACPAC) Research Program

• Problem
  ▪ Chronic low back pain (cLBP) is one of the most common forms of chronic pain among adults worldwide

• Need
  ▪ Effective and personalized therapies for cLBP

• Goals
  ▪ Develop a state-of-the-art model for cLBP
  ▪ Identify factors that are predictive of treatment effectiveness for well-defined patient subpopulations
  ▪ Develop an algorithm for multi-modal interventions for individuals with different phenotypes of cLBP
QUESTIONS