

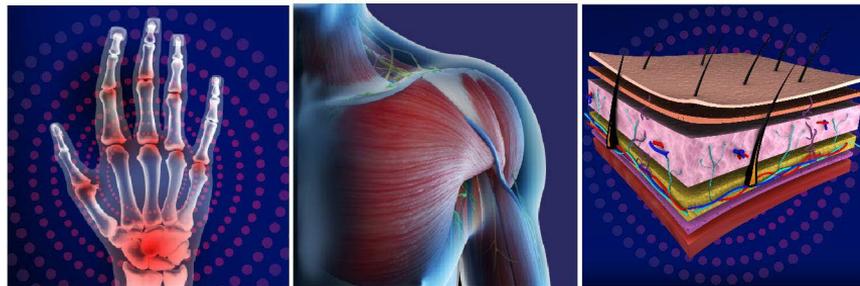
Examples of NIAMS Commitment to Enhancing Child Health and Human Development

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



National Institute of
Arthritis and Musculoskeletal
and Skin Diseases

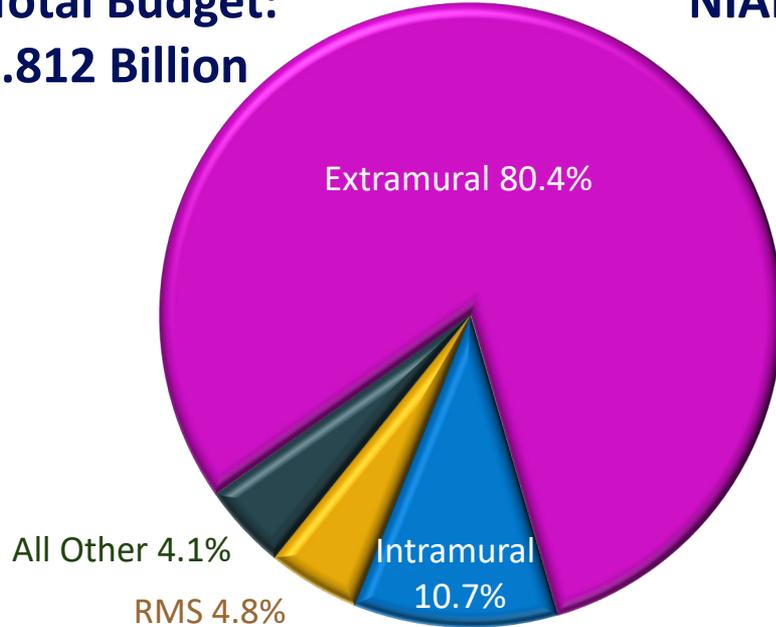
Introduction to NIAMS

- **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**

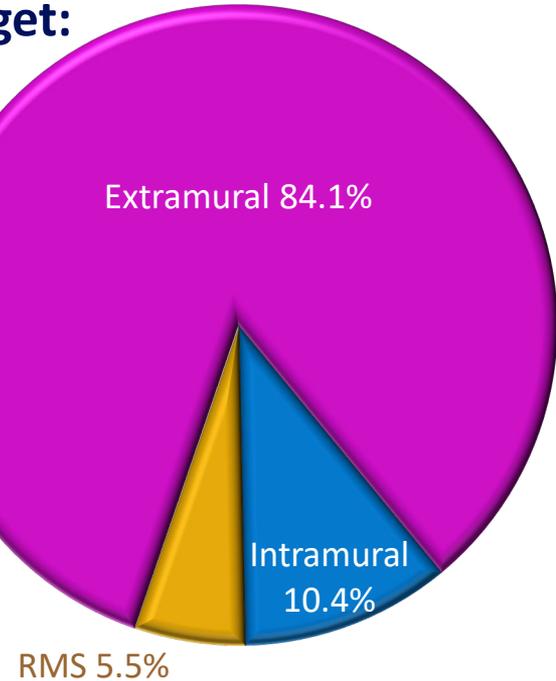


FY 2021 NIH and NIAMS Spending

**NIH Total Budget:
\$42.812 Billion**



**NIAMS Total Budget:
\$632 Million**



Five Disease- and Tissue-Specific Sections of the NIAMS Strategic Plan

About Our Strategic Plan

NIAMS

National Institute of Arthritis and Musculoskeletal and Skin Diseases



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."

SYSTEMIC RHEUMATIC AND AUTOIMMUNE DISEASES RESEARCH

SKIN BIOLOGY AND DISEASES RESEARCH

BONE BIOLOGY AND DISEASES RESEARCH

MUSCLE BIOLOGY AND DISEASES RESEARCH

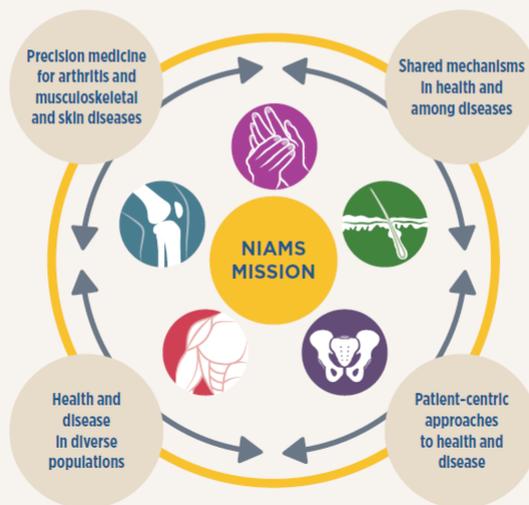
JOINT BIOLOGY, DISEASES, AND ORTHOPAEDICS RESEARCH

CROSS-CUTTING SCIENTIFIC THEMES

The Strategic Plan includes research objectives related to the Institute's five disease- or tissue-specific areas. However, modern biomedical and behavioral research increasingly crosses those traditional disease- and tissue-specific boundaries. Many scientific challenges and opportunities within the NIAMS mission are not unique to any one field, disease, or scientific or clinical discipline. Therefore, the FYs 2020-2024 plan includes cross-cutting scientific themes relevant to many areas of the NIAMS mission. These themes provide a framework for understanding the convergence of ideas, knowledge, and approaches across fields.

Emerging technologies have yielded a wealth of data that can be integrated with clinical information to build sophisticated new models of health and disease. In the coming years, these approaches are expected to advance knowledge in many NIAMS mission areas and yield more personalized treatments for patients.

Different demographic groups often have distinct health concerns and disparities exist among groups regarding health outcomes for diseases within the NIAMS mission. To achieve the goal of improving public health, NIAMS-funded research must be applicable to health and disease in many populations.



Increasingly, researchers are discovering commonalities among seemingly disparate diseases and revealing how basic processes, such as immunity, inflammation, regeneration, and metabolism, play a role in maintaining health or causing disease. The discovery of shared molecular, physiological, and behavioral components across different diseases is blurring the traditional boundaries of biomedical science.

Efforts to integrate the patient perspective into research have progressed significantly in recent years. New tools are available to capture patient-reported data for use in clinical trials and patient care. This integration offers promise for more holistic therapies to improve health and enhance the patient experience.

- **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

10th PeDRA Annual Conference

BETHESDA, MARYLAND

JOIN US:
NOVEMBER 3-5
2022



REIMAGINING
COMMUNITY



NIAMS



Pediatric Patient Reported Outcomes in Chronic Diseases (PEPR) Consortium

Announcement

NIH funds pediatric patient-reported outcomes consortium

Initiative is part of larger effort to study environmental influences on children's health



ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH

September 28, 2015

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.



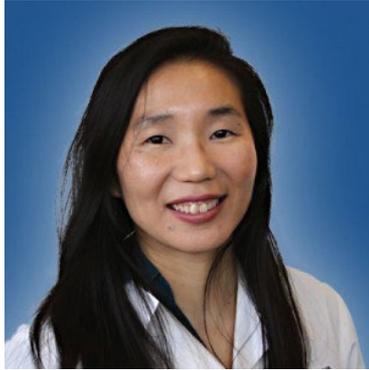
NIAMS



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 Castello-
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).



Women with mild to moderate lupus can expect to have a healthy pregnancy, provided certain risk factors are absent. Stock image.

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.

 The Wellstone Muscular Dystrophy Research Network

NIAMS



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

Research Spotlights



Using Virtual Reality to
Treat Real Pain



Piecing Together the
Puzzle of Chronic Low Back
Pain



Can Treating Pain and
Mood Together Improve
Outcomes for People With
Chronic Low Back Pain?

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<https://www.youtube.com/user/NIAMSNIH>



QUESTIONS
