NICHD Director’s Report

Diana W. Bianchi, M.D.
February 2, 2021
Talk Outline

• NIH Budget, New Congress, and New Administration
• 2020 NICHD Research Advances
• COVID-19 Research Updates
• NICHD Strategic Plan Implementation
• STrategies to EnRich Inclusion and AchieVe Equity (STRIVE) Initiative
• NICHD Staff Updates
NIH Budget, New Congress, and New Administration
NIH Budget and COVID-19-related Funding

FY21 Omnibus Appropriations

• NIH will receive $42.9 billion, an increase of $1.25 billion or 3%
  • $12.6 million for Gabriella Miller Kids First
  • Additional $5 million for INCLUDE, bringing it to $65 million
• NICHD will receive $1.59 billion for FY 21 (~$36M increase)
  • Includes $10 million increase for preterm birth research

COVID-19 research

• NICHD’s approach has been to compete for NIH OD funds to support COVID-19 research
A New Congress and a New Administration

Congressional leaders with history of strong NIH support

- Rosa DeLauro (D-CT) – chair of House Appropriations Committee
- Cathy McMorris-Rogers (R-WA) – ranking member of House Energy and Commerce Committee

Administration members and nominees with interests overlapping NICHD’s mission areas

- Vice President Kamala Harris has long advocated for maternal health; proposed legislation in the Senate to address high rate of maternal mortality
- Assistant Secretary for Health – Rachel Levine, pediatrician with expertise in adolescent medicine
- Presidential Science Advisor and head of OSTP – Eric Lander, geneticist
- New head of Operation Warp Speed – David Kessler, pediatrician and former FDA head
Women’s Health Research Advances

- Researchers developed a non-invasive way to potentially shrink uterine fibroids. Mouse studies used nanoparticles to deliver a tumor-killing drug to the fibroids, setting the stage for possible studies in humans.

- Links between endometriosis and a type of DNA modification called DNA methylation raise the possibility that differences in DNA methylation patterns could be used to diagnose endometriosis.

- Developing non-hormonal contraception options, as well as contraceptives that offer protection against STIs.
Pregnancy and Postpartum Research Advances

• In New York City hospitals, Black and Hispanic women were more likely to deliver in “poor” quality hospitals (analysis based on their treatment and outcomes for pregnant women and very preterm newborns).

• Risk of death during pregnancy and up to 1 year after delivery was significantly higher for women who lived in maternity healthcare “deserts” - counties which lack hospitals with obstetric care.

• Postpartum depression may persist up to three years after birth.

• Researchers created two new fetal growth calculators to estimate the size of the fetus.
Pediatric Research Advances

• **Screen time** before bed may affect kids differently, depending on whether they have a particular personality trait.

• The benefits of **fetal surgery** to treat myelomeningocele persisted through school age.

• **Drug labels** for doxycycline, clindamycin, and caffeine citrate now include better information for healthcare providers on recommended usage and dosage in pediatric populations.

• Insights into the decision-making processes of adolescents may be useful for developing interventions to **encourage positive risk taking**.
Intellectual and Developmental Disabilities Research Advances

• NICHD-funded researchers adapted a tool commonly used in neuroscience research to ensure that people with intellectual disabilities can still participate. The tool, called the NIH Toolbox Cognitive Battery, helps researchers assess cognitive functioning of adults and children.

• A telehealth approach to improve clinical trial access for infants with tuberous sclerosis complex

• A plant compound called apigenin improved the cognitive and memory deficits usually seen in a mouse model of Down syndrome
Rehabilitation Research Advances

• A study team identified a way to use neuroimaging results, specifically low-frequency oscillations, as a biomarker for a person’s degree of injury and their potential to regain the ability to move after experiencing a stroke.

• Researchers developed “morphing electronics” - a flexible material that can potentially transform surgical implants for neurological devices. This material can adapt to a patient’s growth, a major challenge in pediatric medical devices.

• Use of machine learning to decrease daily “retraining” time for brain-controlled prosthetics.
COVID-19 Research
Summary of Ongoing NICHD Activities on COVID-19

- **Gestational research assessments for covid-19 (GRAVID)** - Analysis of medical records of up to 24,500 women within NICHD’s Maternal-Fetal Medicine Units Networks to examine maternal and neonatal outcomes for pregnant women with and without SARS-CoV-2 infection.

- **Global Research Network: COVID-19 Infection Prevalence During Pregnancy and Impact on Pregnancy Outcomes** - Enrolling 2,000 pregnant women at 8 active international sites to compare maternal, fetal, and neonatal outcomes of women infected and not infected with SARS-CoV-2.

- **SARS-CoV-2 and Breast Milk**: Studies of breast milk as a potential source of viral transmission as well as protective antibodies.

- **CARING for Children with COVID** (Collaboration to Assess Risk and Identify IoNG-term outcomes for Children with COVID) - Studies on Multisystem Inflammatory Syndrome – Children (MIS-C) and other complications of SARS-CoV-2 related illness coordinated with NHLBI and NIAID; NICHD focuses on therapeutics through the Pediatric Trials Network.

- **Intramural research**: Studies of specific tissues (e.g., placenta) to understand the mechanisms of infection.

[https://www.nichd.nih.gov/research/supported/COVID](https://www.nichd.nih.gov/research/supported/COVID)
Predicting Viral-Associated Inflammatory Disease Severity in children with Laboratory Diagnostics and Artificial Intelligence (PreVAIL kIds)

• Develop novel, nontraditional approaches, testing strategies and technologies to understand the spectrum of pediatric SARS-CoV-2 illness, rapidly diagnose and characterize MIS-C associated with SARS-CoV-2, and predict the longitudinal risk of disease severity after exposure to and/or infection by SARS-CoV-2 to tailor management and optimize health outcome

• Studies must include: Genetics, Omics & Other Biomarkers; Viral Dynamics & Immune Profiling Studies; Digital Health Platforms Leveraged for Children; Artificial Intelligence (AI) & Machine Learning

• Milestone-driven award transition to advance only approaches, strategies and technologies with promise to lead to an accurate and reliable MIS-C prognostic algorithm to enhance the treatment of children

• 8 awards were made in December 2020

https://www.nichd.nih.gov/newsroom/news/122120-prevail-kids
RADx-UP Supplements to NICHD Awards

• IDDRC Supplement - Supporting the Health and Well-being of Children with Intellectual and Developmental Disability during COVID-19 Pandemic
  • Goal: Provide 50,000 saliva-based tests for SARS-CoV-2 students, teachers, and staff in 6 special education schools in St. Louis area and assess national perspectives among parents of children with IDD and school staff regarding its impact
  • Determine the best implementation strategies to maximize the use of an FDA-approved diagnostic test for vulnerable children with IDD in a school setting

• Safety, Testing/Transmission, and Outcomes in Pregnancy with COVID-19 (STOP-COVID-19 study)
  • Antibody testing to determine how asymptomatic COVID-19 infection in pregnancy increases risk of adverse pregnancy outcomes

https://www.nih.gov/research-training/medical-research-initiatives/radx/funding#radx-up
Post Acute Sequelae of COVID-19 (PASC)

- COVID-19 relief bill: $900 billion total
  - $1.25 billion for NIH
  - $1.15 billion to support research and clinical trials related to the long-term effects of COVID-19
- Developing a trans-NIH approach to study PASC
- Children will be considered separately from adults
NICHD Strategic Plan Implementation
NICHD Strategic Plan Implementation

- Investing resources based on the Plan’s goals
- Prioritizing based on scientific opportunity, resource availability, national health priorities, etc.
- Implementation will remain flexible to accommodate evolving research needs
- Transparency – Report progress to Council and through our website

https://www.nichd.nih.gov/about/org/strategicplan/checkourprogress
Strategic Plan Progress

• For each Scientific Research Theme, the website includes
  
  • **Highlighted Programs and Activities**
    
    • Current funding opportunities, collaborations, or other programs that are responsive to the Strategic Plan goal
    
    • Not a comprehensive list!
  
  • **Selected Research Advances**
    
    • Published NICHD-supported research that is responsive to the Strategic Plan goal
    
    • Not a comprehensive list!
  
  • Updated regularly during the year

https://www.nichd.nih.gov/about/org/strategicplan/checkourprogress
Next Steps

• Continue refining implementation plans for Scientific Stewardship and Management & Accountability portions of the plan, for example:
  • Data science
  • Clinical trials management and policy
  • Staff recruitment, retention, and career development activities

• Engage in new activities (and continue ongoing activities) to achieve the Goals and Objectives outlined in each focus area

• Develop metrics and track progress toward meeting Objectives
STrategies to EnRich Inclusion and AchieVe Equity (STRIVE) Initiative
STRIVE Initiative Overview

NICHD must do more to address underlying causes of health disparities, including tackling structural racism. We are also committed to diversifying the scientific workforce, both within our institute and in the broader extramural community.

• Effort led by NICHD’s Office of Health Equity (OHE)
• Bold, new course forward
• Establish 3 committees to address different aspects of these issues
Committees and Goals

I. **Equity, Diversity and Inclusion in NICHD’s Workforce:** Recruit and retain the best talent across all career paths to more fully accomplish our mission

II. **Scientific Workforce:** Train and support the scientific careers of diverse scientists in the extramural community

III. **Health Disparities Research:** Encompasses research across intramural and extramural divisions
Committee Interactions

• More than 50 committee members in total
• Staff participation from various career paths, scientific and administrative, with diverse skills sets and viewpoints
• Extensive coordination with trans-NIH effort and other NIH groups
• Consultation with external stakeholders

“Encouraged to think boldly and make an impact”
Scientific Workforce: Train and Support Diverse Scientists

New Partnership with Howard University

• Overarching partnership between the NIH Clinical Center and Intramural Research Program and Howard University (March 2019)

• New collaboration between NICHD and Howard University Department of Gynecology & Obstetrics

• First symposium held last week

• Potential collaborative activities:
  • Shared scientific research interests and collaborations
  • Mentorship, training, and professional development/career exploration opportunities for Howard students and trainees
  • Scientific exchange through educational activities and seminars
  • Howard provides access to patient populations that cannot be cared for at the NIH CC
Workplan and Next Steps for STRIVE

• Workplan: The Committees will
  • Develop three 5-year comprehensive Action Plans
  • Integrate Action Plans into NICHD’s 2020 Strategic Plan
  • Evaluate baseline data and collect new data
    • Staff “pulse-check” survey currently active
  • Engage internal and external stakeholders
  • Monitor Action Plan progress and recommend course corrections as needed
• Full presentation to NACHHD Council in June 2021
Retirements

• Cynthia Brown, Acquisitions
• Bryan Clark, GMB
• George Giacoia, OPPTB
• Lisa Kaeser, OLPP
• Louis Quatrano, NCMRR
• Clarence Shine, GMB
• Liz Wehr, OSPRA
• Piotr Zelazowski, SRB
Welcome to New NICHD Extramural Staff!

Tessie October
Physician/Medical Officer
PTCIB

Cinnamon Dixon
Physician/Medical Officer
PTCIB

Monica Longo
Physician; MFM sub-specialist; Project Scientist, MFMU

Guillermina Girardi
Program Officer
PPB
Welcome to New NICHD Extramural Staff!

Alicia Ross  
Health Specialist  
NCMRR  

Toyin Ajisafe  
Program Officer  
NCMRR  

Amanda Price  
Program Officer  
CDBB  

Chris Belter  
Program Analyst  
DER
Welcome to New NICHD Extramural Staff!

Chantell Stevenson-Brown
Grants Management Specialist
GMB

Barbara Hodgkins
Grants Management Specialist
GMB

Yvonne Talley
Grants Management Specialist
GMB

Bettina Buhring
Project Officer
Starting mid-February
IDDB
Welcome to New NICHD OD Staff!

Sybil Philip  
Deputy Executive Officer

Jacob Balenson

Lisa Schaupp

Office of Acquisitions

Gannon White

Justin Borden

Edwin Osorio
We’re Continuing to Hire!

Check https://www.nichd.nih.gov/about/jobs to find out more!
Thank You!

Questions?