Talk Outline

• NIH Budget
• COVID-19 Research Updates
• Maternal Morbidity and Mortality
• STrategies to EnRich Inclusion and AchieVe Equity (STRIVE) Initiative
• NICHD Staff Updates
FY 2022 Appropriations

• **President’s Budget** released May 28, 2021
  - NIH - $51 billion
  - NICHD – $1.94 billion, which includes:
    - $30 M for the IMPROVE initiative (Implementing a Maternal health and PRegnancy Outcomes Vision for Everyone)
    - $15 M for research on SARS-CoV-2 infection in children
    - Proposed moving INCLUDE and ECHO (and their budgets) to NICHD

• **House Appropriations** bill released in July
  - NIH -$49 billion
  - NICHD - $1.69 billion
    - Includes $30 M for IMPROVE
    - $15 M for SARS-CoV-2 research in children
  - $3 billion - Advanced Research Projects Agency for Health
    - NIH listening sessions
FY 2022 Appropriations – Next Steps

• Senate Appropriations bill and report language – timing TBD

• Reconcile House and Senate bills; pass into law

• NIH funding increases include set aside funds for many initiatives, including cybersecurity enhancements; Gabriella Miller Kids First Research Program
  ◦ The increases (if passed) will support these initiatives in addition to investigator-initiated projects

• NICHD funds are allocated to intramural research and across extramural research branches to support investigator-initiated applications and targeted funding announcements
Keeping up with NICHD and COVID

- [https://www.nichd.nih.gov/research/supported/COVID](https://www.nichd.nih.gov/research/supported/COVID)

Since the beginning of the COVID-19 pandemic, NICHD has worked to understand the effects of the virus among populations central to the NICHD mission, including pregnant and postpartum women, children and adolescents, and people with disabilities.

The Institute has generated research proposals and projects; collaborated with other NIH institutes, centers, and offices (ICOs) and federal agencies; and initiated studies to help build a research base on the SARS-CoV-2 virus.
AAP/CHA State-Level Case Counts in Children

- Data from 49 states, DC, NYC, PR, GU
- Cases at the highest point of the pandemic
- 10% increase in cases over the past two weeks
- Children represented 26.8% of the weekly reported cases
- **Caveat:** Number of cases in children is an underestimate; geographic variability is significant and metrics such as definition of age vary at the state level*
Children and COVID-19 – Hot Topics

- Delta variant severity
- Masking
  - Effects on transmission and child development
- Vaccination
- Return to School

At Least 1 Dose Among Children 12-17 Years---3 Week Improvement

%State children having received at least 1 dose

NIH Rapid Acceleration of Diagnostics℠-Underserved Populations Return to School Diagnostic Testing Initiative

- **Goals:** Provide evidence to aid efforts to keep students in in-person learning environments, with special focus on underserved and vulnerable populations
  - Demonstrate effectiveness, sustainability, and scalability of COVID-19 testing approaches and mitigation strategies (e.g., masking, physical distancing, vaccination as applicable) in school settings
  - Provide information to understand the social, behavioral, and ethical implications of implementation of COVID-19 testing within identified communities
- **$58 M program plans to enroll 600,000 students and at least 75,000 supporting staff/adults at sites across 13 states**

Sonia Lee, Ph.D.
DAILY Multisystem Inflammatory Syndrome in Children (MIS-C) AND COVID-19 CASES

4,404 confirmed cases
37 total deaths
Toward Predictive Biomarkers for MIS-C

- Autoimmune signature of MIS-C
  - Autoantibodies targeted to both ubiquitously expressed and tissue-specific antigens
  - Suggests autoantigen release and excessive antigenic drive resulting from systemic tissue damage

- Identified a cluster of patients with enhanced neutrophil responses and high anti-spike IgG and autoantibody titers

- Potential pathogenic pathways

Porritt et al. J Clin Invest. https://doi.org/10.1172/JCI151520
Predicting Viral-Associated Inflammatory disease severity in children with Laboratory diagnostics and artificial Intelligence

- Severity predictors integrating salivary transcriptomics and proteomics with neural network intelligence in SARS-CoV-2 infection in children
  - Usha Sethuraman

- Diagnosing and predicting risk in children with SARS-CoV-2 related illness
  - Jane Burns

- Data science approach to MIS-C identification and management associated with SARS-CoV-2 infection and Kawasaki Disease in children
  - Cedric Manlhiot

- Diagnosis of MIS-C in febrile children
  - Audrey R. Odom John

- Identifying biomarker signatures of prognostic value for MIS-C
  - Juan Salazar

- Discovery and clinical validation of host biomarkers of disease severity and MIS-C in children with COVID-19
  - Charles Chiu

- Artificial Intelligence COVID-19 Risk Assessment for kids
  - Ananth V. Annapragada

- COVID-19 Network of networks expanding clinical and translational approaches to predict severe illness in children
  - Lawrence Kleinman

- 8 Teams w/ multi-disciplinary expertise to address Program aims

- Access to diverse patient populations in > 75 sites across 30 US States

- International collaborations in UK, Canada, Asia, & S. America

- Enrolling >16,000 children with substantial racial and ethnic diversity

- Leveraging established biorepositories

- The studies include both prospective and retrospective enrollments
Progress on PreVAIL kids Enrollment as of [6/24]

Prospective Enrollment Summ

Prospective Enrollment Clinical Phenotypes

Retrospective Enrollment

5 awards enrolled 21,651 patients retrospectively across all clinical phenotypes
Researching COVID to Enhance Recovery (RECOVER): Cores & Cohorts

- Clinical Science Core
- NIH SARS-CoV-2 Recovery Cohort
- Data Resource Core
- TBD Biorepository Core
- NIH
- National Institutes of Health
- NYU Langone Health
- Administrative Coordinating Center
- MGH 1811

- Acute & Post-Acute SARS-CoV-2 Infection Cohorts
- EHR / Real-World Data Cohort
- Autopsy Cohort

https://recovercovid.org/
COVID-19 Pandemic’s Impact on Fertility Writ Large

• Newly supported research areas:
  ◦ COVID-19 effects on population fertility
  ◦ Roles of pandemic-related stress on fertility plans
  ◦ COVID-19 birth outcomes and differential impact across population subgroups
    • Families with low income, families of color, families in rural and urban areas

• Future research may include studies of COVID-19 vaccines and fertility
  ◦ No evidence to date of an association
  ◦ More evidence needed to address vaccine hesitancy in people of reproductive age
COVID-19 Vaccination and Menstruation

- NICHD awarded $1.6 million in one-year supplemental grants to five institutions to explore links between COVID-19 vaccination and menstrual changes

- The new awards will help to provide evidence as to whether menstrual changes are linked to vaccination, how long the changes last and determine underlying mechanisms

- One grant focused exclusively on adolescents
Standardized definition of placental SARS-CoV-2 infection

• A panel of experts convened by the National Institutes of Health has recommended standardized criteria to define infection of the placenta with SARS-CoV-2: https://doi.org/10.1016/j.ajog.2021.07.029
  ◦ Includes best methods to evaluate placental SARS-CoV-2 infection for research and clinical applications

• Recommendations include:
  ◦ Techniques to detect SARS-CoV-2 replication, viral transcripts, or proteins in placental tissue
  ◦ Methods to classify SARS-CoV-2 infection
  ◦ Reporting guidelines for publication, including standards for reporting methodology
  ◦ Guidance for handling, processing, and examining placental tissue
Maternal Morbidity and Mortality
Congressional Interaction

• Meeting with the Black Maternal Health Caucus on July 20, 2021
  ◦ NIH Director Francis Collins, NICHD Director Bianchi, NINR Director Shannon Zenk, and ORWH Director Janine Clayton

• Six Members of Congress participated in the meeting
  ◦ Representatives Lauren Underwood (D-IL) and Alma Adams (D-NC) (caucus co-chairs); and Caucus Members Representatives Lisa Blunt Rochester (D-DE), Billy Long (R-MO), Ayanna Pressley (D-MA), and David Trone (D-MD)

• Conversation focused on addressing health disparities in maternal mortality and the IMRPOVE Initiative
New Maternal Health Activities

- New NIH-wide Maternal Morbidity and Mortality reporting category for FY 2020

- White House Interagency Policy Committee on Maternal Health

- IMPROVE initiative supplements for research focused on the intersection of maternal health, structural racism, and discrimination, and how these were affected by the pandemic

- Decoding Maternal Morbidity Data Challenge
  - Submissions due October 15

- Interdisciplinary community-engaged research to reduce/eliminate infections/sepsis as MMM causes

[https://www.nichd.nih.gov/health/topics/maternal-mortality/accelerating-research](https://www.nichd.nih.gov/health/topics/maternal-mortality/accelerating-research)
STrategies to EnRich Inclusion and AchieVe Equity (STRIVE) Initiative
STRIVE: Health Disparities Workshop and IdeaScale


- **July 14, 2021**, STRIVE for Change: Establishing a New Frontier in Health Disparities Research Across the Lifecourse (videocast available)


- **August 25, 2021**, Societal Influences on Health and Health Disparities During Childhood

- **September 15, 2021**, Community-Engaged Research Strategies to Mitigate Health Disparities in NICHD Populations

- **October 6, 2021**, STRIVE for Change: Weaving Translation and Implementation Science into the Fabric of Health Disparities Research

Visit the STRIVE website for more information https://www.nichd.nih.gov/strive; send comments or ideas to NICHD_STRIVE@nih.gov.
Chris McBain, PhD
Acting Scientific Director

- Previously Deputy Scientific Director for NICHD Intramural Research
- Joined NICHD in 1993 as an investigator within the Laboratory of Cellular and Molecular Neurophysiology; now Chief of that lab
- BSc from the University of Aberdeen, Scotland
- PhD from the University of Cambridge, England
- Postdoctoral fellowship at the University of North Carolina at Chapel Hill and Duke University
- Dr. McBain will give the annual update from the Intramural Research Program
Welcome to New NICHD Staff!

Rebecca Rosen, PhD  
*Director*  
Office of Data Science and Sharing

Helena Ahn, PhD  
*Program Officer*  
GHDB/DER

New Team Lead for Grants Management: Teri Pailen
Welcome to New NICHD Fellows!

Emma Carpenter, PhD
Presidential Management Fellow
OD

Dave Gutekunst, PhD
AAAS Fellow
NCMRR

Karen Mulak, PhD
AAAS Fellow
OD/OSPRA
Leadership Positions: Searches Underway

- **NICHD Scientific Director**
  - Readvertised the position
  - Deadline was August 1; robust group of applications
  - Search Committee reviewed applications and interviews are being scheduled

- We are hiring for multiple other positions
  - Tenure track investigators in basic and translational science
  - Opportunities in Division of Extramural Research
  - More info at https://www.nichd.nih.gov/about/jobs
Thank You!

Questions?