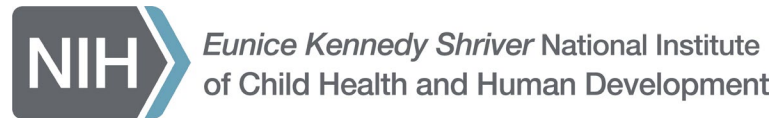


NICHD Director's Report ***NACHHD Meeting***

Diana W. Bianchi, M.D.

June 7, 2023



Talk Outline

- FY 2024 Budget, NIH Director nominee and Congressional interactions
- NIH and NICHD Research
- NICHD Career Trajectory Analysis
- NICHD Staff Updates

FY24 President's Budget Request

- FY24 President's Budget request released on March 13
- NIH budget request was \$48.6B (an increase of \$0.9B)
- NICHD's budget request remained flat at \$1.7B
- Items of interest in the NIH Congressional Justification:
 - NIH Director's Overview highlighted Early-Stage Investigators, including HEAL Investigators that demonstrated benefits of a non-pharmacological treatment option for NOWS
 - Research on COVID in kids/pregnant people: same level as FY23
 - IMPROVE: \$30M (same as FY23)
 - Increase of \$25M for climate change research



White House Nominates Monica Bertagnolli, M.D. as the Next NIH Director

- NIH congratulates Monica M. Bertagnolli, M.D. on her nomination by President Biden as the next NIH Director, which is a Senate-confirmed position.
- Dr. Bertagnolli is a surgeon-oncologist who currently serves as Director of NIH's National Cancer Institute, joining on October 3, 2022. The NCI Director position is Presidentially appointed but not Senate confirmed.
- Until the NIH Director nomination is confirmed by the U.S. Senate, Lawrence A. Tabak, D.D.S., Ph.D., continues to serve as the Acting Director of NIH and Dr. Bertagnolli remains the NCI Director.



Next Steps for Dr. Bertagnolli

- Dr. Bertagnolli will meet with individual members of Congress, a process that will be managed by the Department of Health and Human Services
- Barring concerns raised by Congressional members during these meetings, the Senate Health, Education, Labor, and Pension (HELP) Committee will hold a confirmation hearing
- After a hearing is held, the Senate deliberates and votes, which generally occurs a few days after the hearing
- Once confirmed, the nominee can begin in the role as NIH Director
- NICHD staff have been hard at work preparing transition documents on a variety of topics



Congressional Briefings

- Coalition to Advance Maternal Therapeutics Congressional Briefing on PRGLAC implementation
- Healthy Women Briefing on including women in clinical trials
- Helping to End Addiction Long-term (HEAL)
 - Investigator meeting and Congressional Briefing with NICHD-supported investigators conducting the ESC study
- Climate Change and Health briefings
 - House Ways and Means staff
 - White House Domestic Policy Council



National Advisory Child Health and Human Development (NACHHD) Council Working Groups

- **Task Force for Research Specific to Pregnant Women and Lactating Women (PRGLAC) Implementation Working Group**
 - Creating a working group to monitor and report on implementing PRGLAC recommendations regarding inclusion of pregnant and lactating people in clinical trials
 - Co-chairs Drs. Christina Bucci-Rechtweg and Susan Abdel-Rahman
 - First meeting will be held later in 2023
- **Stillbirth Working Group**
 - Co-chairs Drs. Lucky Jain and Uma Reddy
 - Presented to NACHHD in January 2023 and final report issued March 2023
 - Working group extended; will focus on implementing recommendations and continuing to identify current knowledge on stillbirth and prevention, areas of improvement for data collection, current resources for families, and next steps to gather data and lower U.S. stillbirth rates





NIH and NICHD Research

Meeting with HHS Deputy Secretary Andrea Palm on May 16, 2023



Pediatric Pain Research

- N-PeRC subgroup on pediatric pain developed a concept for NIH's Helping to End Addiction Long-term (HEAL) initiative
- NOITPs recently released:
 - HEAL KIDS Acute Pain Clinical Trials Program (U01 Clinical Trial Required)
 - Research to improve assessment, management, and treatment of acute pain in pediatric patients in various health care settings through innovative multi-site clinical trials
 - Across continuum of care, including pre-hospital settings, outpatient clinic or urgent care, dental clinics, emergency departments, NICUs and PICUs, and acute care/hospital facilities
 - <https://grants.nih.gov/grants/guide/notice-files/NOT-HD-23-015.html>
 - HEAL KIDS Pain Program Resource and Data Center
 - Data curation and data harmonization; leveraging relevant data standards; administrative and logistical support; coordination of shared research-related resources
 - <https://grants.nih.gov/grants/guide/notice-files/NOT-HD-23-016.html>
- Estimated timeline: NOFO published July 2023; applications due Nov. 2023



Tackling Acquisition of Language in Kids (TALK)



- Late talking, also known as late language emergence, is diagnosed when a child, usually over the age of 18 months, is not meeting expressive language milestones.
- \$10M appropriation in FY23 for this research
- TALK is a cooperative initiative (NIDCD, NICHD, NCATS, NIMH, NINDS) supporting activities to better understand early language learning.
- Currently the program is funding supplements to existing awards to enrich our ability to understand developmental precursors and outcomes for late talking children
- <https://grants.nih.gov/grants/guide/notice-files/NOT-DC-23-005.html>



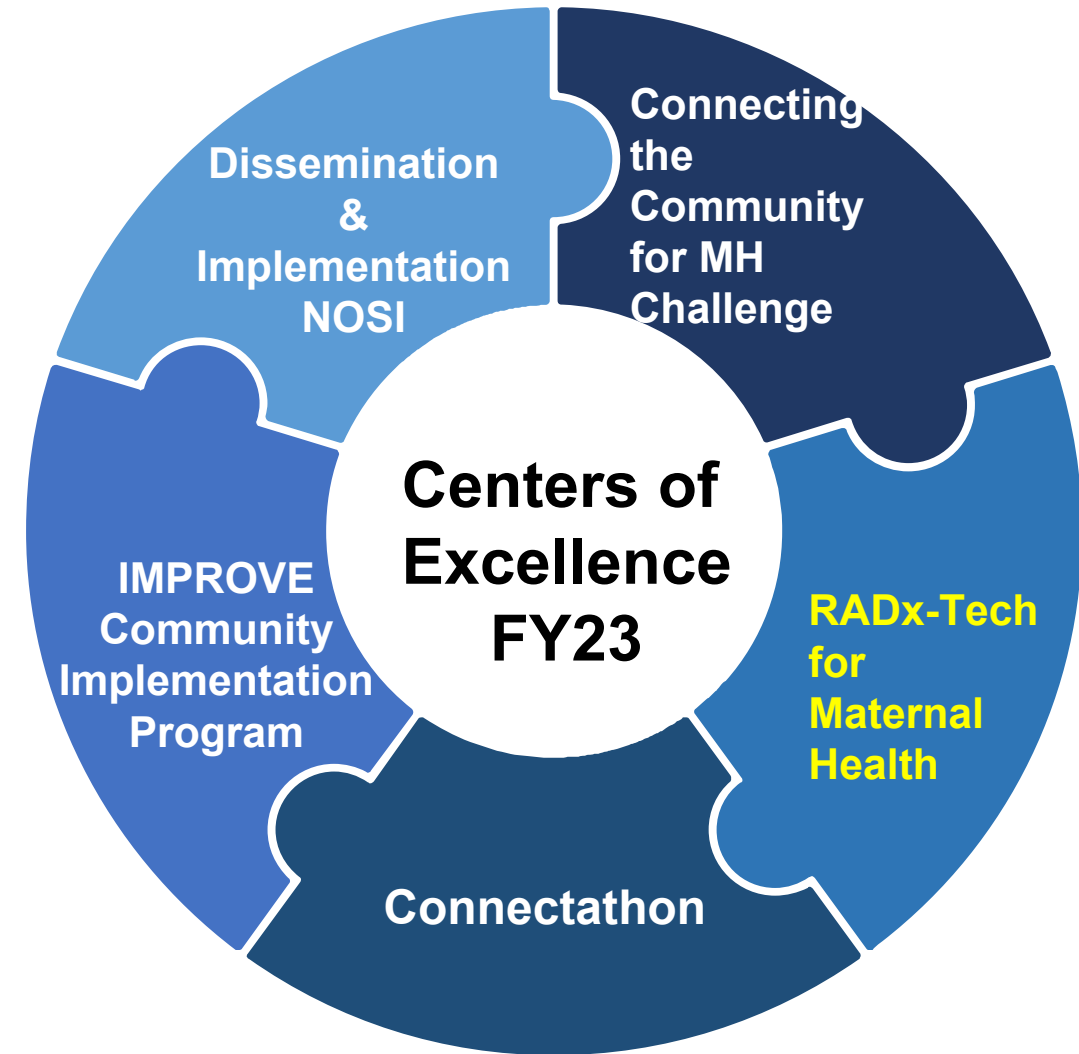
Understanding How Digital Media Affects Child Development

- FY23 budget sets aside \$15 million to investigate the effects of technology use and media consumption on infant, child, and adolescent development
- 3 new awards focus on:
 - Using a novel technology to objectively monitor preschool-age children's digital media use (parent reports tend to underestimate screen time)
 - Aims include identifying short- and long-term influences of technology and digital media use on children's executive functioning, sleep patterns, and weight
 - Characterizing the context, content, and use of digital media among children ages 1 to 8 years and to examine associations with the development of emotional regulation and social competence
 - Characterizing the complex relationships between social media content, behaviors, brain activity, health, and well-being during adolescence

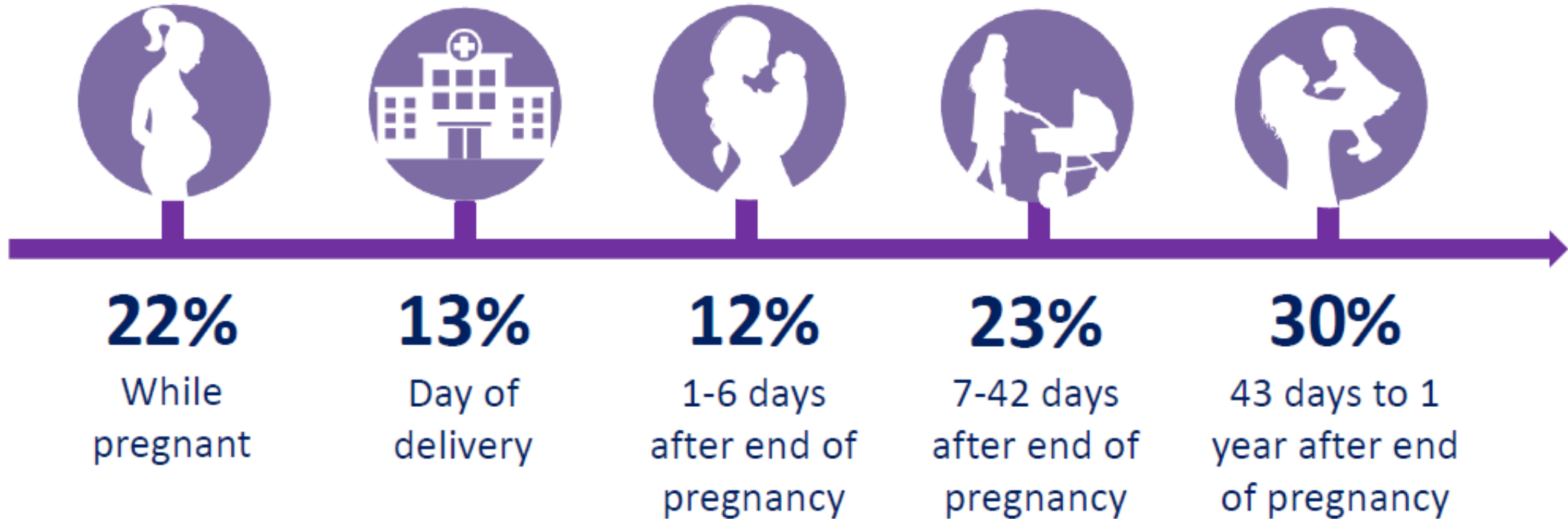


FY22 and FY23 IMPROVE Initiatives

- Dissemination and Implementation NOSI
 - D&I research built on evidence-based findings
- Connecting the Community for Maternal Health Challenge
- RADx-Tech for Maternal Health
- Connectathon
 - Longitudinal health record for pregnant person and child; linkages across pregnancy
- IMPROVE Community Implementation Program
- Maternal Health Research Centers of Excellence



Timing of pregnancy-related death

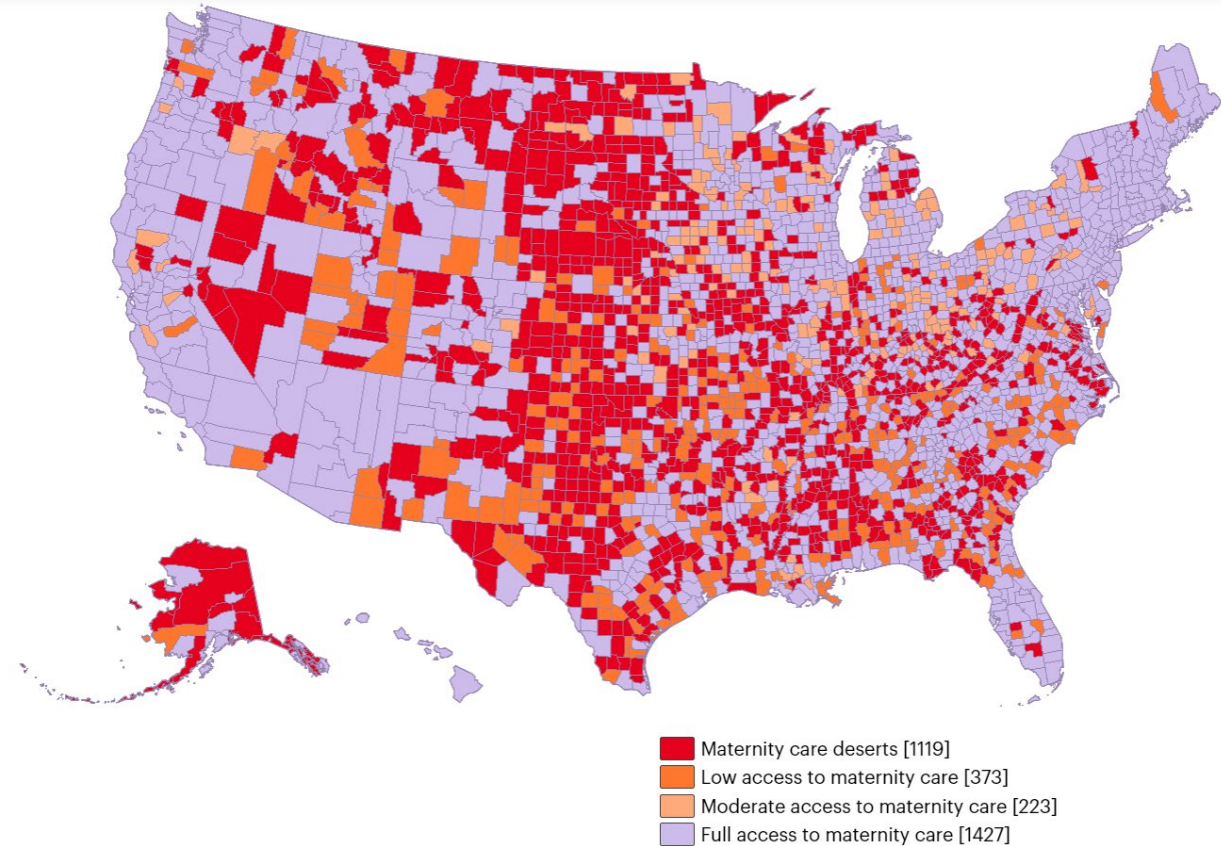


Timing was missing (n=2) or unknown (n=14) for 16 (1.6%) pregnancy-related deaths



IMPROVE- Strategic Focus on Maternal Care Deserts

- **RADx® Tech for Maternal Health Challenge**
 - Prioritizes home-based or point-of-care diagnostic devices, wearables, and other remote sensing technologies to extend postpartum care in regions lacking access to maternity care
 - Up to \$8M in prizes awarded through several phases



<https://www.marchofdimes.org/maternity-care-deserts-report>



RADx Deep Dive Winners

Entity/Team Name	Submission
Sibel Health	Comprehensive Postpartum Vital Sign Monitoring with Novel, Bio-integrated Wearable Technologies
MyLUA Health	An Artificially Intelligent Care Coordination Software System for Pregnancy and Postpartum Care Management
Sanguina, Inc	AnemoCheck MyMobile for Maternal Health Anemia Management
PyrAmes Inc	Non-invasive, continuous blood pressure monitoring for postpartum maternal health
HemoSonics, LLC	Rapid Point-Of-Care Diagnostic Device to Aid in the Management of Postpartum Hemorrhage
CardieX	Expand care and reduce cardiovascular morbidity for post-partum women through non-invasive monitoring of central blood pressure using a novel dual blood pressure home monitor and wearable.
Caretaker Medical LLC	Maternal Health Monitoring with the Vitalstream
Dionysus Digital Health Inc	Prognosis PPD: Navigation of Maternal Mental Health Risk in the Postpartum Period using a Modular Antenatal Passive Digital Screening Tool and Combined Epigenetic Blood Test
Washington University	Maternal aRMOR: protection through early hemorrhage detection
Mologic Inc/GADx	At home urinary tract infection diagnostic



Selected NICHD Research Advances of 2022

- Annual collection of highlights from NICHD-supported research in:
 - Understanding the Effects of the Pandemic
 - Advancing Health Outcomes During COVID-19
 - Encouraging COVID-19 Vaccination
 - Promoting Women's Health
 - Understanding Pregnancy Loss, Fertility, and Contraception
 - Improving Newborn Outcomes
 - Optimizing Child and Adolescent Nutrition and Health
 - Advancing Research on Intellectual and Developmental Disabilities
 - Protecting Families from Bullying or Violence
 - Addressing Health Disparities
 - Improving Treatments
 - Boosting Basic Science

<https://www.nichd.nih.gov/newsroom/news/2022-2-year-in-review-showcase>



A-PLUS (Azithromycin-Prevention in Labor Use Study) Trial

- Research supported by NICHD's Global Network for Women's and Children's Health Research and Bill and Melinda Gates Foundation
- Tested whether single oral 2-gram dose of the inexpensive antibiotic azithromycin could reduce postpartum sepsis and death
- Enrolled more than 29,000 women in seven low- and middle-income countries
- Study stopped early due to clear maternal benefit
- **Results: Single dose azithromycin can reduce by one-third the risk of postpartum sepsis and death**
 - Did not reduce the risk of stillbirth, newborn sepsis or newborn death



Tita ATN, Carlo WA, et al. NEJM. (2023)



NIH HEAL Initiative

Eat, Sleep, Console (ESC) Study Results

- ESC approach developed about 8 years ago, but not previously tested rigorously in a large population
 - Approach keeps mother and baby together
- Collaboration combined two NIH pediatric clinical trial networks (NRN and ECHO)
- Stepped wedge cluster randomized trial
- Whole of practice change
 - Trained ~5000 care providers
- Results: Reduced hospital stay and need for medication among opioid-exposed infants





NICHD Career Trajectory Analysis

Research Questions

- Of those applicants who received *any* NIH support (individual or institutional), at what career stage did they receive their first dollar of direct NIH funding as a PI or a trainee?
- Data are unavailable to identify support received on grants in which individual was neither an institutional trainee nor a PI (e.g., post-doc on mentor's R01)
- At each career stage, how many individuals who received support also received support at the next career stage?
- What pathways of NIH funding support were most common?
- How do each of these results differ among racial and ethnic groups?



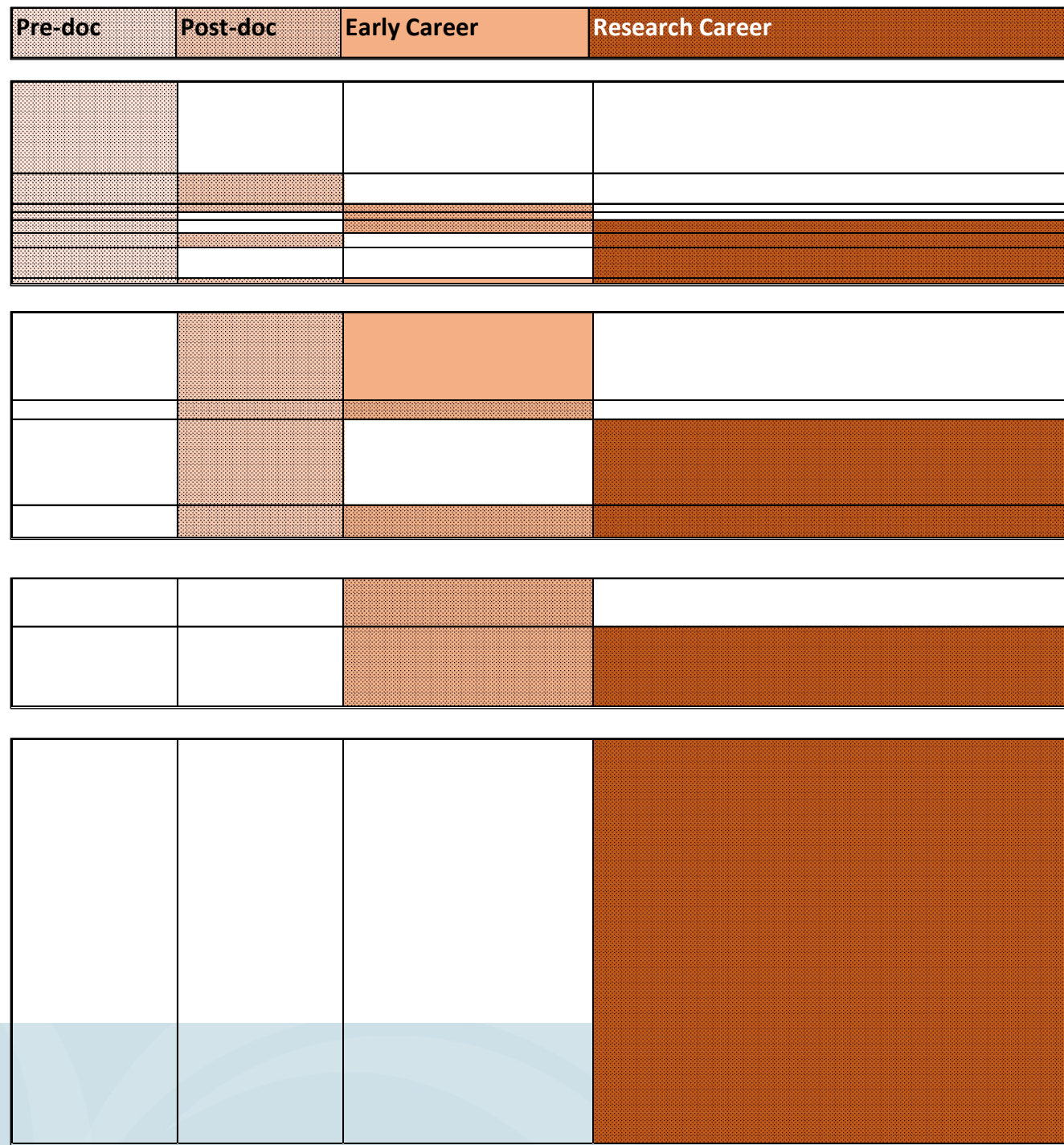
Data, Methods, Limitations

- Study cohort includes all distinct individuals with at least one individual grant application to NICHD, or any NIH funded grant, from **FY 1989 to FY 2010** (n=31,857)
 - **Cohort included only through 2010 to obtain longitudinal career view; future cohorts may show different results**
- For each individual, all NIH funding (individual awards, institutional training and career development support (e.g., T32, K12)), were analyzed
 - Multi-year support on single grant was counted once
- Key limitations:
 - Due to small size, racial groups limited to White, Black, Asian, AI/AN
 - Data on race or ethnicity were missing for about 26 percent of individuals



Career Trajectory: Black (Funded)

- < 1% receive support at all stages
- At every stage, compared with white, lower % of Blacks receive support at any subsequent stage
- Lower % enter at post-doc stage compared with white group
- Those entering at early career are likely to receive research grants, *even without previous career support*
- Most common pathway is to enter at research
- **Compared with Whites, higher % of Blacks enter at research stage (42 to 33%)**



21% enter at pre-doc

24 % enter at post-doc

14 % enter at early career

42 % enter at research



Current Conclusions and Future Questions

Conclusions

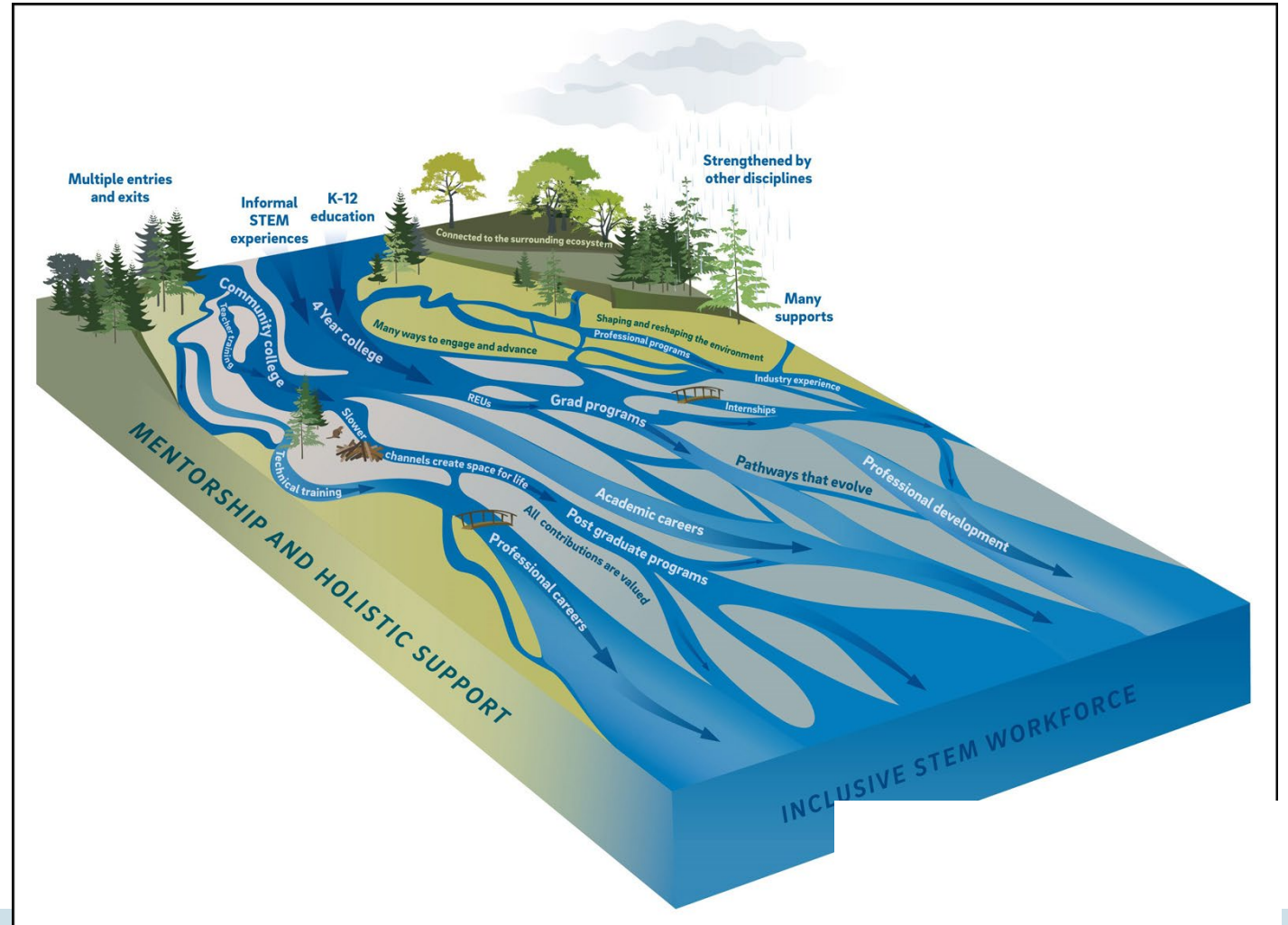
- Many pathways through the NIH funding ecosystem are non-linear
- Very few funded individuals, in all groups, receive funding at multiple stages
 - Especially true for minority groups
- About half of those who receive any NIH support receive their first direct NIH dollar at the research stage of their career
- No single key point in the career trajectory that can be prioritized for efforts to improve diversity

Future Questions

- What can we learn from success of applicants receiving their first award at a later career stage?
- How to best support a diverse array of applicants given the varied entrance points and array of career trajectories?
- Future analysis – How has the picture changed for the applicant cohort from 2010-2020?



Rethinking the “Pipeline” Metaphor



Braided river STEM workforce model. Illustration credit: Jennife (2021), <https://doi.org/10.1029/2021EO157277>. Published on 19

Acknowledgement of NICHD Staff Who Performed This Analysis

- Taisa Coleman
 - Sarah Glavin
- Jennifer Guimond
 - Issel Anne Lim
 - Hien Nguyen
 - Luan Pham
- Stephane Philogene
- Niteace Whittington





NICHD Staff Updates

New NICHD Chief Diversity Officer and Director of the Office of Health Equity (OHE)

Amanda Alise Price, Ph.D.

- Formerly directing the preventative medicine portfolio and lead of the Division of Extramural Science Programs at the National Institute of Nursing Research
- Prior to NIH, Dr. Price was a tenured associate professor at Winston-Salem State University, where she taught, trained, and mentored underrepresented scholars in research and the biomedical sciences
- Ph.D. and Based in exercise physiology with a doctoral concentration in statistics from the University of Miami



Selected NICHD Clinical Director

Catherine Gordon, M.D.

- Researcher, adolescent medicine specialist, pediatric endocrinologist
- Previously Professor and Chair of Pediatrics at Baylor College of Medicine
- Research focus on adolescent bone health and reproductive endocrinology
- M.D. from UNC Chapel Hill; residency at Boston Children's Hospital; M.Sc. from Harvard Medical School
- Served on NICHD's Advisory Council



Congratulations to NACHHD Council Member Dr. Bonnie Maldonado!

- Dr. Maldonado was honored with the American Pediatric Society's highest honor, the 2023 John Howland Award.
- The award recognized her significant contributions to advancing child health and the profession of pediatrics.



We're Hiring!

- Extramural
 - Branch Chiefs
 - Fertility and Infertility
 - Gynecologic Health and Disease
 - Scientific Review
 - Scientific Review Officer
 - Program Officers
 - Child Development and Behavior
 - Developmental Biology and Congenital Abnormalities
 - Fertility and Infertility
 - Intellectual and Developmental Disabilities
 - Maternal and Pediatric Infectious Disease
 - Population Dynamics
- Intramural
 - Pediatric endocrinologist staff clinician
 - Staff Scientist, Division of Population Health Research
 - Chief and Senior Investigator, Epidemiology
 - Tenure-Track investigator, Social and Behavioral Sciences
 - Fellows and Trainees

<https://www.nichd.nih.gov/about/jobs>





Thank You!
Questions?