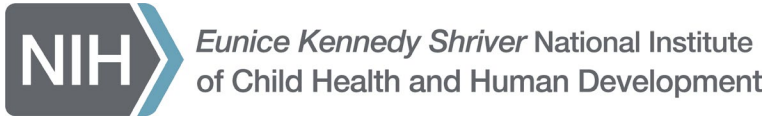
The National Institutes of Health Overview

Diana W. Bianchi, M.D.

Director, NICHD



December 12, 1988

Diana W. Bianchi, M.D.
Assistant in Medicine
The Children's Hospital
300 Longwood Avenue
Boston, MA 02115

Dear Dr. Bianchi:

Thank you for your interest in the Joseph P. Kennedy, Jr. Foundation Biomedical Research Grants Program for 1989. We received a large number of letters of intent, and from these several were selected to complete the formal proposal process. Although your proposal has a great deal of merit, unfortunately it was not among those chosen for final consideration for funding.

The Foundation uses a number of criteria in deciding which projects to fund: the excellence of the science, the uniqueness of the proposal, its "high risk" nature, and its alignment with the objectives of the Foundation.

We hope you will be successful in finding support for your project elsewhere.

Sincerely yours,

The Joseph P. Kennedy, Jr. Foundation

1350 NEW YORK AVENUE, N.W., SUITE 500
WASHINGTON, D.C. 20005-4709
(202) 393-1250

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Sincerely yours,

Eunice Kennedy Shriver

Eunice Kennedy Shriver

Moral of the story: Don't let your self-worth or career choices be influenced by failure to get grant funding!

Talk Outline

- Overview of the National Institutes of Health
- NICHD Investment in Training
- NICHD Overview and Strategic Plan
- Getting Started: Shared Data and Resources
- Select Programmatic Highlights

National Institutes of Health

November 8, 2016

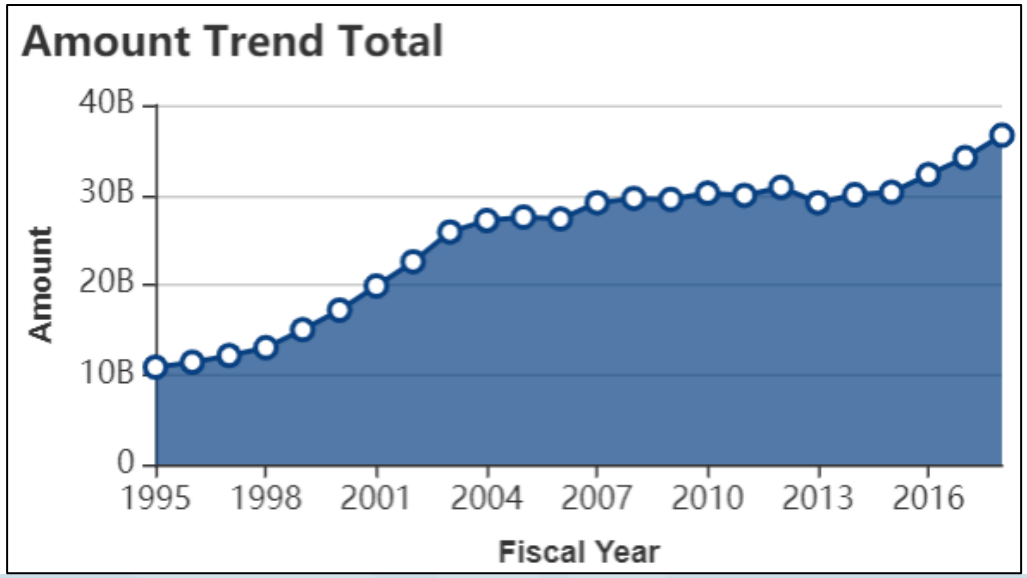
- Largest funder of biomedical research in the world
- Consists of 27 separate institutes and centers (ICs)
- Each IC has an individual budget that is appropriated by Congress
- ICs support both extramural research at universities and institutions across the country (~83% of the budget) and intramural research programs (~11% of the budget)

NIH Clinical Center

- World's largest research hospital
- Admits patients only on clinical research protocols
- More than 9,100 new patients in 2019
- Currently ~ 1,600 clinical studies in progress
- Patients referred by providers or self via www.clinicaltrials.gov
- Career and funding opportunities exist for bench to bedside research

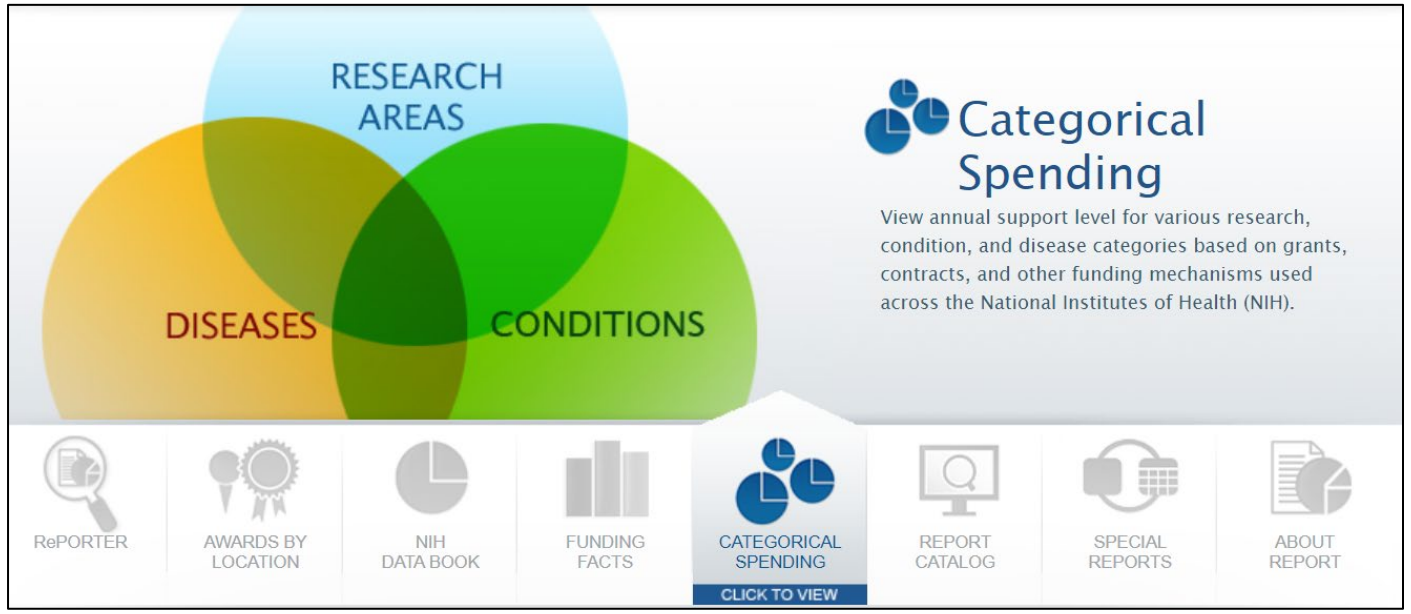
NIH Budget

- NIH FY 2020 budget was $41.68 billion
- NICHD's FY 2020 budget was ~$1.5 billion
- Additional funds come from special projects
  - HEAL (Helping to End Addiction Long-term)
  - INCLUDE (INvestigation of Co-occurring conditions across the Lifespan to Understand Down syndrome)
  - COVID-19 supplements



Where Does the NIH Money Go?

- RCDC stands for “Research, Condition and Disease Categorization”
- NIH keeps the public informed as to how tax dollars are spent
- RCDC is a computerized process NIH has used since 2009 to categorize and report amount of funding in 265 categories
- No categories for “pregnancy” or “breastfeeding” until 2017



report.nih.gov

Research, Condition, and Disease Categories

Summary Table

SEARCH RESEARCH/ DISEASE AREAS

PRINT EXPORT

Research/Disease Areas (Dollars in millions and rounded)	FY 2016 Actual	FY 2017 Actual	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimated	FY 2021 Estimated	2017 US Mortality 19/	2017 US Prevalence (Standard Error) 19/
Acquired Cognitive Impairment	$1,132	$1,560	$1,978	$2,423	$2,505	$2,315	-	-
Acute Respiratory Distress Syndrome	$103	$107	$123	$126	$132	$121	10,584	-
Adolescent Sexual Activity	$91	$99	$96	$102	$106	$98	-	-
Agent Orange & Dioxin	$9	$11	$10	$8	$8	$8	-	-
Aging	$3,150	$3,572	$4,084	$4,653	$5,195	$4,724	-	-
Alcoholism, Alcohol Use and Health 1/	$486	$500	$534	$556	$577	$528	72,371	-
Allergic Rhinitis (Hay Fever)	$7	$6	$5	$7	$7	$7	81	8.1% (0.22%)
ALS	$52	$78	$83	$105	$111	$102	-	-
Alzheimer's Disease	$929	$1,361	$1,789	$2,240	$2,644	$2,406	146,894	-
Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD) 2/	$986	$1,423	$1,911	$2,398	$2,818	$2,564	-	-
Alzheimer's Disease Related Dementias (ADRD) 2/	$175	$249	$387	$515	$595	$549	-	-
American Indian or Alaska Native 22/	$180	$181	$175	$214	$226	$207	-	-
Anorexia	$8	$10	$11	$11	$12	$11	126	-
Anthrax	$51	$50	$43	$29	$31	$28	-	-
Antimicrobial Resistance	$420	$470	$522	$577	$631	$583	-	-

Pregnancy	+	$319	$419	$487	$515	$473	-	-
Prescription Drug Abuse	$51	$69	$123	$223	$178	$174	-	-
Preterm, Low Birth Weight and Health of the Newborn 21/	$240	$291	$295	$374	$424	$474	5,200	-
Prevention	$7,566	$8,052	$8,757	$9,485	$9,884	$9,061	-	-

All Appropriations are Personal

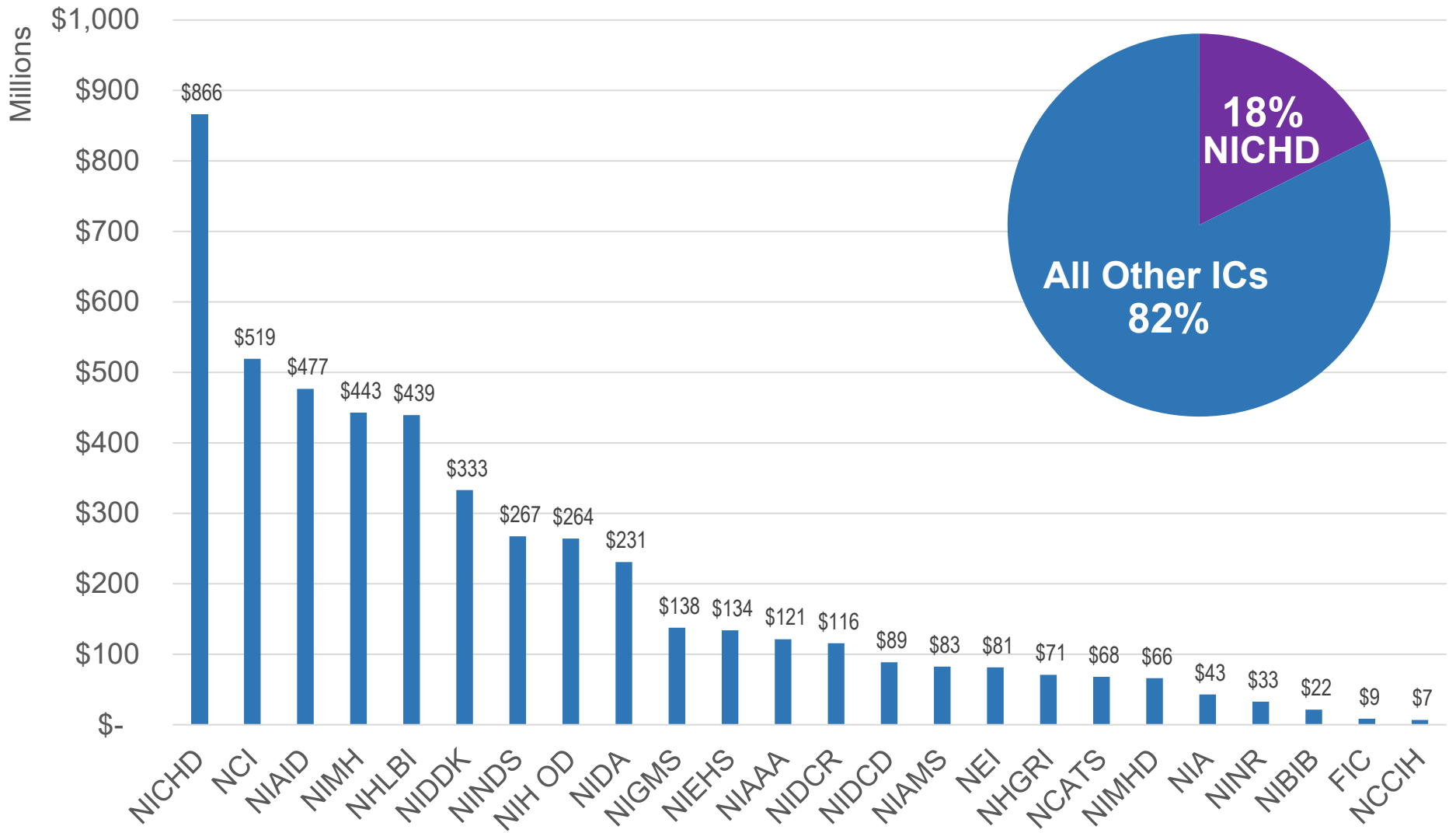
Rep. Herrera-Beutler

Rep. DeLauro

Rep. Lee

8 out of 13 Members of the House Labor-HHS Appropriations Subcommittee are women

NIH Pediatrics Research Spending by IC, FY 2019



Total: $4.92 B

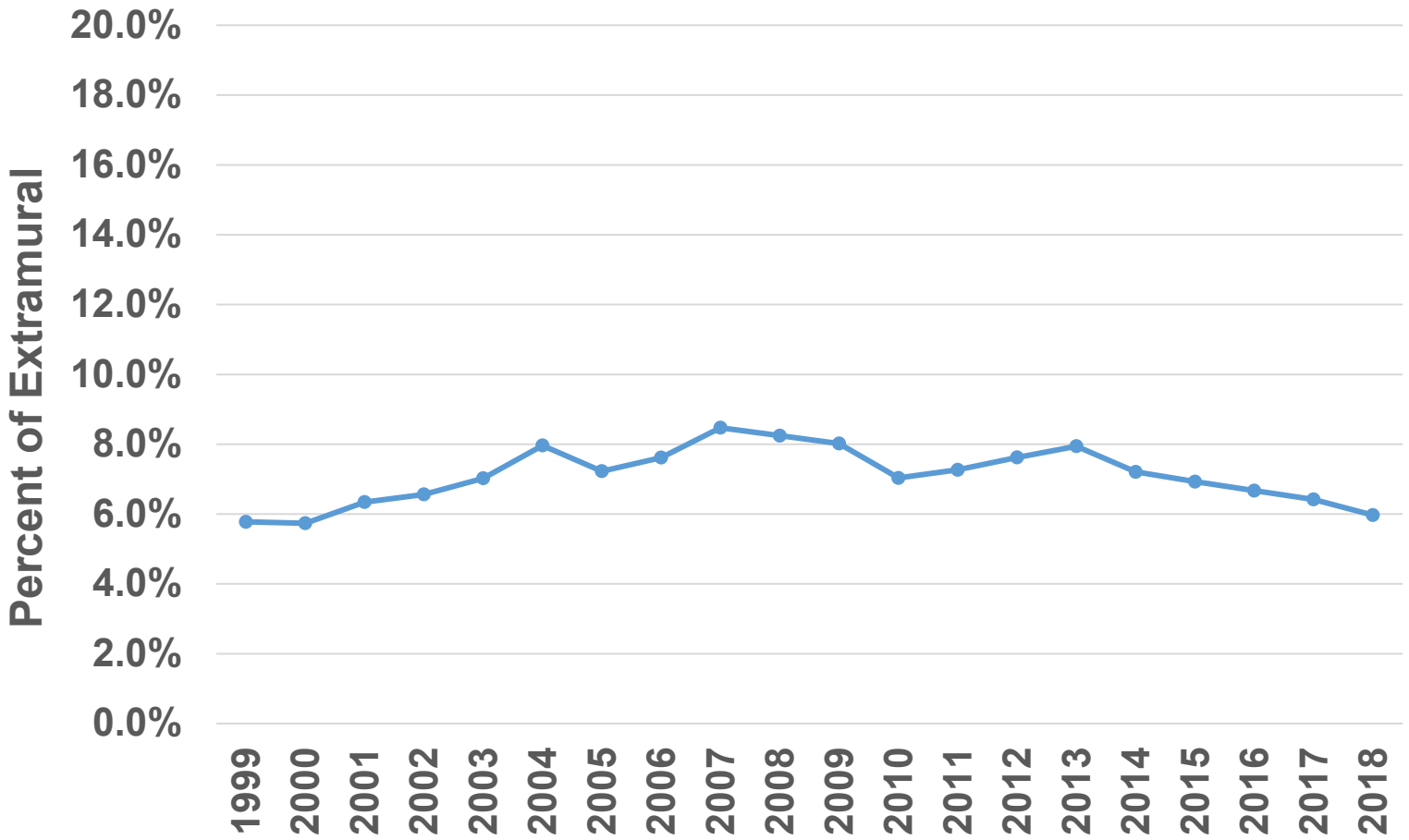
Note: NICHD funds over 18% of pediatrics research at NIH.

Trans-NIH Pediatric Research Consortium (N-PeRC)

- Harmonize efforts in child health research across NIH Institutes and Centers
- Meetings held bi-monthly since June 2018
- Identify gaps and opportunities for collaboration
  - *Pediatric research workforce*
  - Transition from adolescence to adulthood
    - Workshop on transition to adult healthcare for children with chronic conditions (September 2020)
  - COVID-19
  - Pediatric drugs and devices (BPCA)

https://www.nichd.nih.gov/research/supported/nperc

NICHD Training Budget History

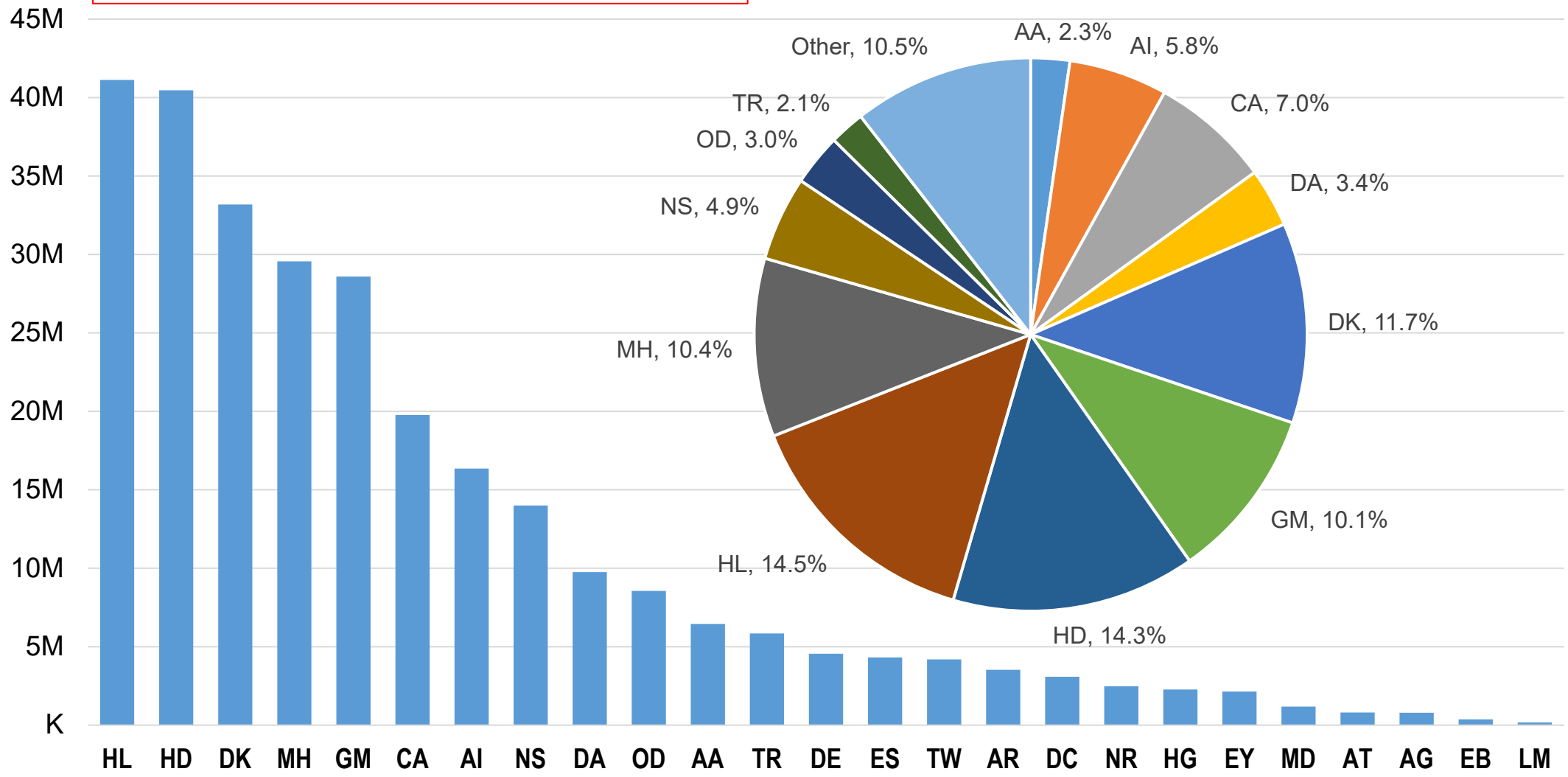


Intent to maintain overall training budget at ~6%

NICHD expenditures on training as a percentage of the annual NICHD Extramural Budget

FY 2018 Pediatric Training/Career Development by IC

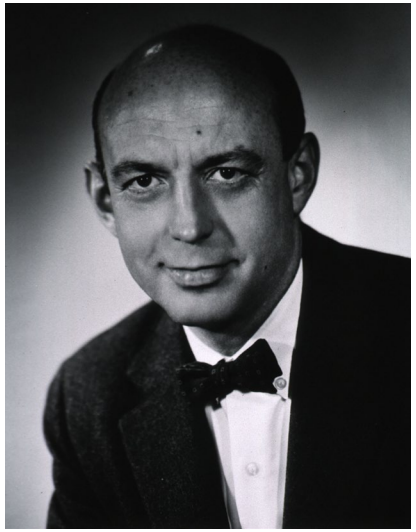
Total awarded: $283,551,759



NICHD Overview

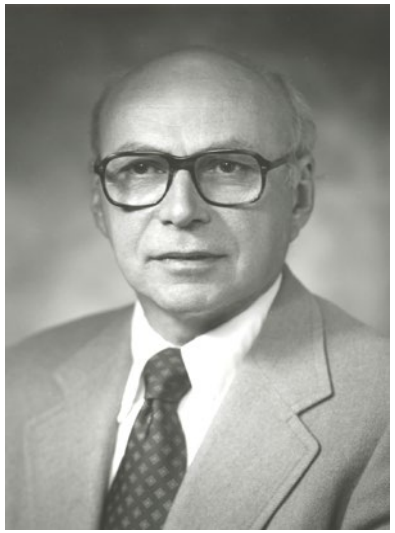
NICHD Directors 1963-Present

Robert Aldrich
1963-1964

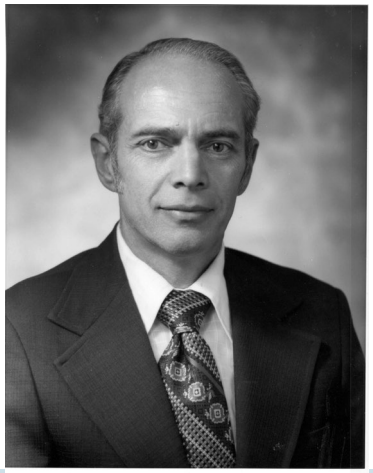


Donald Harting
1965-1966

Gerald LaVeck
1966-1973

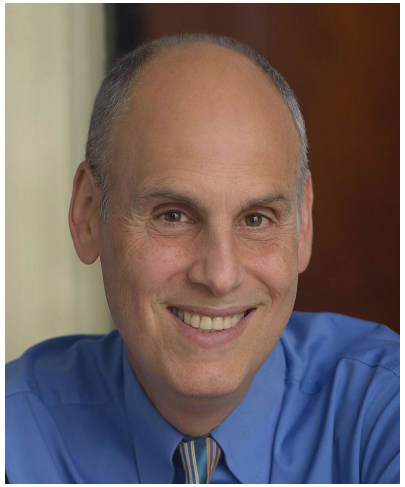


Norman Kretchmer
1974-1981



Mortimer Lipsett
1982-1985

Duane Alexander
1986-2009



Alan Guttmacher
2009-2015

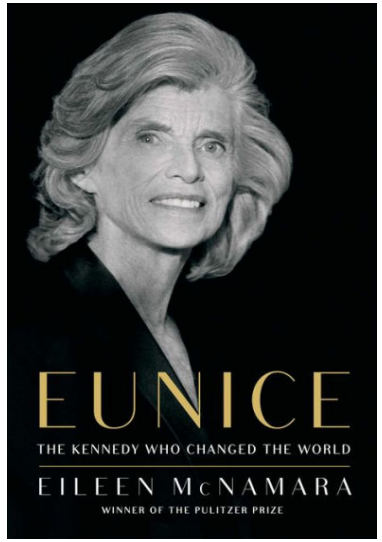
Diana Bianchi
2016-

Our Name is Misleading

55%

Eunice Kennedy Shriver

National Institute of Child Health and Human Development

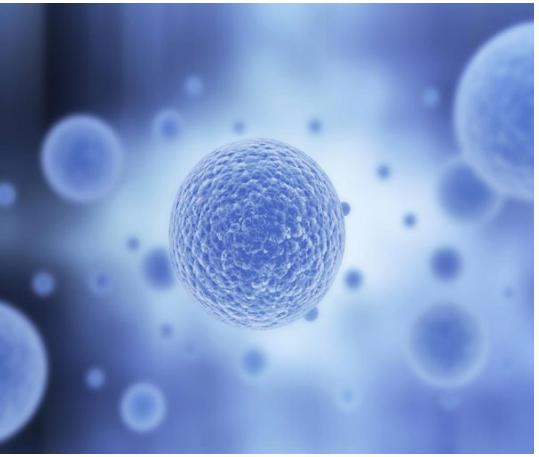


30%

18%

Mission Statement

The NICHD leads research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all.



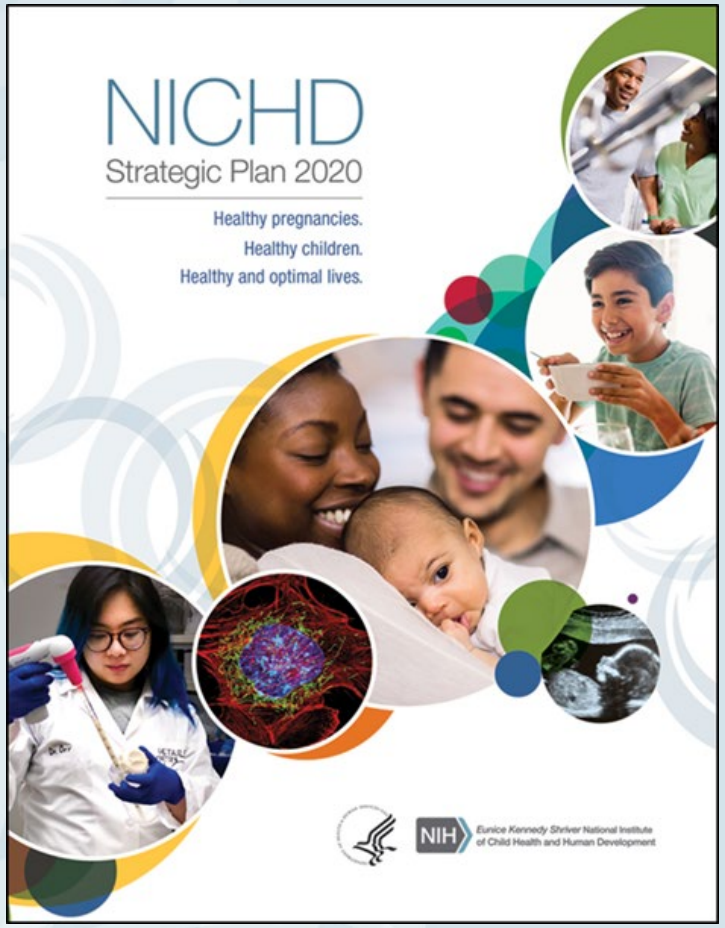


NICHD Vision Statement



Healthy pregnancies. Healthy children. Healthy and optimal lives.


NICHD Strategic Plan 2020

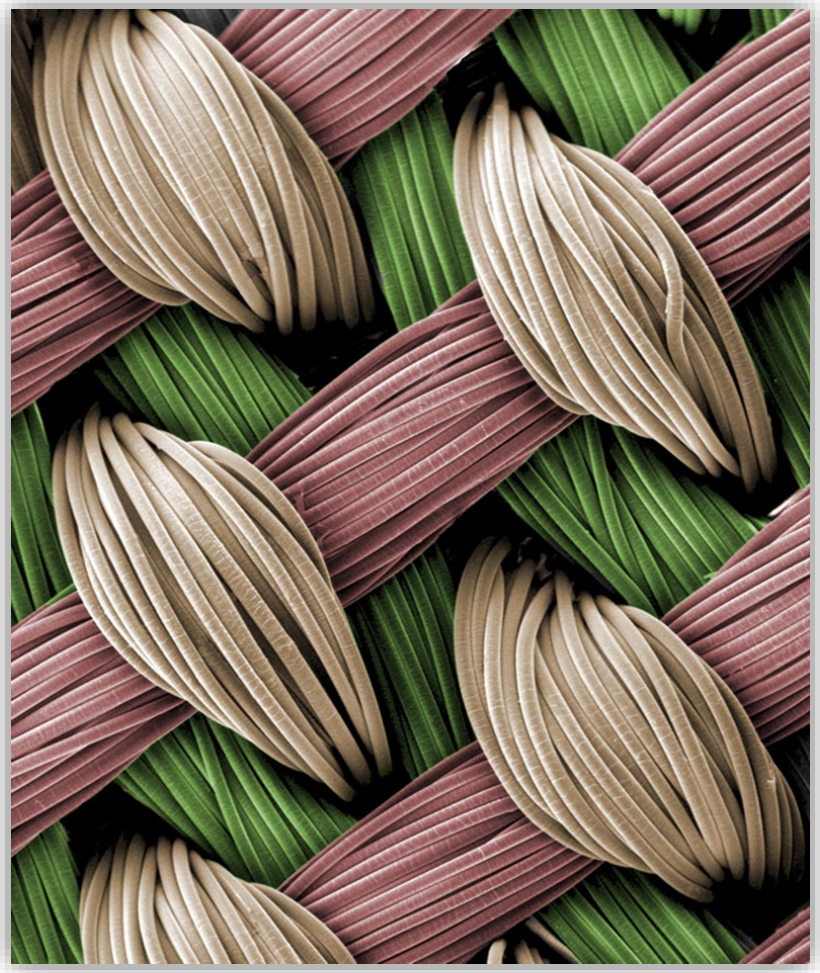


Research Themes

- Understanding the Molecular, Cellular, and Structural Basis of Development
- Promoting Gynecologic, Andrologic, and Reproductive Health
- Setting the Foundation for Healthy Pregnancies and Lifelong Wellness
- Improving Child and Adolescent Health and the Transition to Adulthood
- Advancing Safe and Effective Therapeutics and Devices for Pregnant and Lactating Women, Children, and People with Disabilities

Cross-Cutting Themes

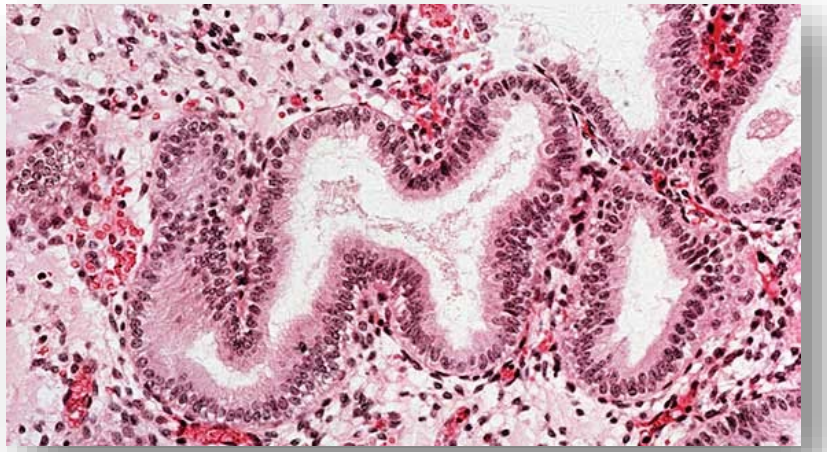
- Global Health
- Health Disparities
- Prevention
- Nutrition
- Infectious Disease



Credit: Guilak Lab, Washington University

Aspirational Goals

- **Goal 1:** Limb Regrowth
- **Goal 2:** Personalized Medicine for Children
- **Goal 3:** Diagnose, Treat, and Cure Endometriosis
- **Goal 4:** Predict Pregnancies at Risk for Fetal Loss
- **Goal 5:** Advance and Apply Knowledge of the Fetomaternal Immune Relationship
- **Goal 6:** Improve Care of Premature Infants
- **Goal 7:** Explore Risks of Technology and Media Exposure in the Developing Brain
- **Goal 8:** Synthesize and Personalize Human Milk
- **Goal 9:** Build Connections Between Atypical Neurodevelopment and Risk of Neurodegeneration
- **Goal 10:** Train Investigators in Artificial Intelligence



NICHD Funding Strategy

- Goal: to fund the best science and make the most of our research investments
- Each extramural research branch lists their research priorities on NICHD's website
  - Recently updated to align with NICHD's Strategic Plan
- Important to connect with a program officer to see if your project aligns with branch priorities

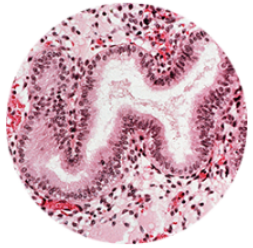
NICHD Overview
Division of Extramural Research Branches (N=12)

- Child Development and Behavior
- Contraception Research
- Developmental Biology and Structural Variation
- Fertility and Infertility
- Gynecologic Health and Disease
- Intellectual and Developmental Disabilities
- Maternal and Pediatric Infectious Disease
- Obstetric and Pediatric Pharmacology and Therapeutics
- Pediatric Growth and Nutrition
- Pediatric Trauma and Critical Illness
- Population Dynamics
- Pregnancy and Perinatology

NICHD Website:

www.nichd.nih.gov

Gynecologic Health and Disease Branch (GHDB)



Overview/Mission

GHDB's mission is to improve women's reproductive health by guiding and supporting gynecologic research and career development programs with the vision of a future in which women lead lives free of the effects of gynecologic disorders. To achieve this goal, GHDB supports basic, translational, and clinical research programs related to gynecologic health throughout the reproductive lifespan, beginning at puberty and extending through the early menopause.

The branch portfolio includes studies on menstruation, menstrual disorders, uterine fibroids, endometriosis, adenomyosis, polycystic ovary syndrome, pelvic floor disorders, and gynecologic pain syndromes, including both pelvic pain and vulvodynia. Obstetric fistula and female genital cutting are also of interest, as they apply to both international and immigrant communities. Emphasis is placed on the evaluation of disparities in the incidence and treatment responses of these gynecologic conditions across various socioeconomic, racial, and ethnic populations. The branch also supports research training and career development programs for investigators interested in pursuing research careers in women's gynecologic and reproductive health.

Branch Research Priorities

Longitudinal Gynecologic Studies

Gap: The natural history of fibroids, endometriosis, menstrual irregularities, dysmenorrhea, and other gynecologic disorders has been poorly studied, particularly in the early reproductive lifespan.

Priority: Identify ways to participate in ongoing or soon-to-be initiated longitudinal studies to include relevant questions with an emphasis on inclusion of adolescents, to understand better the risk factors and pivot points for preventing these disorders.

Mechanisms of Gynecologic Pain Syndromes

Lisa Halvorson, M.D.
Chief
lisa.halvorson@nih.gov

The Process for Review and Funding

Researcher

Initiates grant proposal:
- New project
- Continuing project

NIH Grant Proposal

Scientific Review Panel

Scientists evaluate scientific merit of grant proposal

Program Officer

Main contact for applicant
Helps interpret review results

Institute National Advisory Councils

Assess programs
Approve applications
Public members

Institute Director

Makes final decision
Allocates funds
Provides annual justification to Congress

Congress

Funds

Shared Data and Resources: Opportunities to Get your Research Career Started

- NICHD Data and Specimen Hub (DASH)
- Gabriella Miller Kids First Data Resource

DASH Data and Specimen Hub

- Centralized resource for researchers to share de-identified data from studies funded by NICHD. DASH also serves as a portal for requesting biospecimens from selected studies in DASH.
- Data sharing launched in August 2015; biospecimen request launched in March 2019
- Aims to accelerate scientific findings to ultimately improve human health

173 Studies

239 Data Requests

9 Studies Offering Biospecimens

44 Study Topics

39 Data Use Publications

https://dash.nichd.nih.gov

Study Topics in DASH

Adrenal Gland Disorders
Amenorrhea
Autism Spectrum Disorders
Birth Defects
Breastfeeding & Breast Milk*
Cerebral Palsy
Child Health*
Children's Bone Health & Calcium
Delayed Puberty
Diabetes
Driving Risk
Early Learning
Fertility Problems
High-Risk Pregnancy
HIV/AIDS*
Infant Care & Health *
Infant Mortality
Infertility & Fertility
Labor & Delivery
Men's Reproductive Health
Menkes Disease
Necrotizing Enterocolitis
Neuroscience
Obesity & Overweight
Obstetrics
Pediatric Injury
Pelvic Floor Disorders
Pharmacology
Preconception & Prenatal Care
Preeclampsia & Eclampsia
Pregnancy*
Pregnancy Loss
Preterm Labor & Birth*
Primary Ovarian Insufficiency
Puberty & Precocious Puberty
Rehabilitation Medicine
Sleep
Spinal Cord Injury
Stillbirth
Stroke
Sudden Infant Death Syndrome
Traumatic Brain Injury
Turner Syndrome
Women's Health*

*biospecimens available

Last updated 08/31/2020

DASH Data and Specimen Hub

- While not a biorepository itself, DASH serves as a portal for access to biospecimens associated with DASH data collections.
- Investigators worldwide can request both biospecimens and data for secondary analyses; other than the costs of preparing and shipping biospecimens, these specimens are free to investigators.
- Studies with biospecimens currently available include:
  - Genomic and Proteomic Network for Preterm Birth Research (GPN) – three studies
  - NICHD International Site Development Initiative (NISDI) – four studies
  - Mothers and Infants Cohort Study (MICS)
  - National Children's Study (NCS)

Study Topics Areas of Current Biospecimens

- Breastfeeding and Breast Milk
- Child Health
- HIV/AIDS
- Infant Care and Infant Health
- Pregnancy
- Preterm Labor and Birth
- Women's Health

Currently Available Biospecimens

- Amniotic fluid
- Blood
- Breast Milk
- Buffy Coat
- Cord Blood (Buffy Coat, RBC, Plasma, Serum)
- DNA/RNA/Proteins
- Environmental Samples
- Erythrocytes (RBC)
- Hair
- Lymphocytes
- Meconium
- Nail
- Saliva
- Serum/Plasma
- Tissue samples
- Urine
- Vaginal Fluid

Last updated 08/31/2020

Sample Publications from DASH Data Reuse

Maternal and Neonatal Outcomes of Induction of Labor Compared with Planned Cesarean Delivery in Wom… Weeks' Gestatio…

Tetsuya Kawakita, MD[1] Kather…

[1] Department of Obstetrics and Gynecolog… Hospital Center, Washington, District of …
[2] Division of Biostatistics and Epidemiolog… Hospital Medical Center, Cincinnati, Ohio

Am J Perinatol 2018;35:95–102.

Abstract

Obje… in wo… Study… nanci… ean a… (inter… omy)… ische… admi… (RDS)… contr… Resul… wom… assoc… risks… comp… 0.60;

Keywords

Open Access Research

BMJ Open

Impact of gestational weight gain and prepregnancy body mass index on the prevalence of large-for-gestational age infants in two cohorts of women with type 1 insulir… cross-sectiona…

Ketrell L McWhorter,[1,2,3] Ka… Chandra L Jackson,[3] Jane…

To cite: McWhorter KL, Bowers K, Dolan LM, *et al*. Impact of gestational weight gain and prepregnancy body mass index on the prevalence of large-for-gestational age infants in two cohorts of women with type 1 insulin-dependent diabetes: a cross-sectional population study. *BMJ Open* 2018;**8**:e019617. doi:10.1136/bmjopen-2017-019617

► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2017-019617).

Received 15 September 2017
Revised 17 January 2018
Accepted 12 February 2018

ABSTRACT

Objectives Despite improvements in tr… modalities, large-for-gestational age (LG… has remained between 30% and 40% a… mothers with type 1 insulin-dependent … (TIDM). Our objective was to estimate LG… examine the association between gestat… (GWG) and prepregnancy body mass ind… among mothers with TIDM.

Design Cross-sectional study.

Setting Regional data in Cincinnati, Ohi… Diabetes in Pregnancy Program Project … prospective cohort for the period 1978–… data from Consortium on Safe Labor (CS… cross-sectional study for the period 200…

Participants The study included 333 pr… the PPG and 358 pregnancies in the CSL… delivered prior to 23 weeks' gestation w… Women with TIDM in the PPG were ident… physician confirmation of ketoacidosis, … levels, and by International Classificatio… version codes within the CSL. LGA was … weight >90th percentile according to ge… and sex.

Main outcome measures LGA at birth.

Results Mean±SD maternal age at deli… years for PPG women and 27.5±6.0 yea… p=0.008. LGA prevalence did not signifi… between cohorts (PPG: 40.2% vs CSL: 3… More women began pregnancy as overw… cohort (PPG (16.8%) vs CSL (27.1%), p<…

Nonmedically Indicated Induction of Labor Compared with Expectant Management in Nulliparous Women Aged 35 Years or Older

Tetsuya Kawakita, MD[1] Katherine Bowers, PhD[2] J…

[1] Department of Obstetrics and Gynecology, MedStar Washington Hospital Center, Washington, District of Columbia
[2] Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio
[3] Division of Endocrinology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

Am J Perinatol 2019;36:45–52.

Abstract

Objective This article con… ≥ 35 years who experience… expectant management.

Study Design This was a re… a singleton and cephalic … compared between wome… gestation and those with e… (aORs) with 95% confiden… predefined covariates.

Results Of 3,819 nullipara… Overall at 39 weeks' gestati… or improved with NMII. At… expectant management was… 38, and 39 weeks' gestatio… management was associate… decreased odds of neonatal…

Conclusion In nulliparous… decreased odds of cesarea… odds of NICU admission… management.

Keywords

- cesarean delivery
- expectant management
- induction of labor
- macrosomia
- neonatal intensive care unit

Journal of Perinatology (2017) 37, 335–339

www.nature.com/jp

ORIGINAL ARTICLE

Racial and social predictors of longitudinal cervical measures: the Cervical Ultrasound Study

EW Harville[1], KS Miller[2] and LR Knoepp[3]

OBJECTIVE: To evaluate whether the racial and socioeconomic disparities are present in adverse cervical parameters, and, if so, when such disparities develop.
STUDY DESIGN: A prospective cohort study was conducted. 175 women with a prior preterm birth had up to four endovaginal ultrasounds between gestational weeks 16 and 24 (Cervical Ultrasound Trial of the MFMU). Each sociodemographic factor (race/ethnicity, marital status, insurance funding and education) was examined as a predictor of short cervix or U/funnel shape, using multiple logistic and linear regression. Changes in the cervical length and shape across pregnancy and after pressure were also examined.
RESULTS: The strongest associations were seen between race and government-funded insurance and short cervix and U shape per funneling (race and length < 25 mm per funnel: adjusted odds ratio (OR) 5.52, 2.24 to 13.63; government-funded insurance and length < 30 mm per funnel: adjusted OR 3.10, 1.34 to 7.15). Changes in cervical length were not associated with sociodemographics.
CONCLUSION: African-American race and, to a lesser extent, insurance funder, are associated with cervical length and shapes that have been associated with preterm birth, and those properties are present largely early in pregnancy.

Journal of Perinatology (2017) **37,** 335–339; doi:10.1038/jp.2016.240; published online 12 January 2017

INTRODUCTION

Even in the absence of clinical cervical insufficiency, shorter cervix is associated with preterm birth (PTB).[1] In the United States, the most striking epidemiologic feature of PTB is the disparity between African-American women and other racial/ethnic groups;[2] gradient relationships, with those at highest social risk also having the highest medical risk, are also seen between other socioeconomic indicators, such as poverty and education, and PTB.[3] A study of 5092 Dutch women found that white ethnicity was associated with longer cervical length, while women of African origin had the shortest mean cervical length.[4] There are also racial disparities in cervical insufficiency: an analysis of the US Natality file found that African Americans are more prone to cervical insufficiency than European Americans,[5] although other socioeconomic risk factors for preterm birth, such as marital status and education, were not related. While genetics have a role in cervical structure and function,[6] immigrant studies do not suggest genetic differences as a major cause for between-population disparities.[7,8]

The key role of the cervix in parturition has led to examination of cervical measures (length, shape, length after pressure, changes in length or shape, funneling) especially when repeated, as possible predictors of PTB. The Cervical Ultrasound Study (CRVUS) associated with increased risk of early preterm birth in CRVUS, results were imprecise.

We are not aware of studies that have more extensively examined the relationship between social factors and cervical length and changes in length or shape early in pregnancy. Although cervical length is the major cervical property known to be clinically predictive of preterm birth,[10] cervical shape and changes in length and shape are also associated with, if not diagnostic for, PTB. A major goal of this research field is to determine the pathophysiologic mechanisms that create health disparities and the times during which interventions are most likely to be useful. In this analysis, we consider social influences on cervical length, shape, and changes.

MATERIALS AND METHODS

This study is a secondary analysis of the 'Mid-trimester endovaginal sonography in women at high risk for spontaneous preterm delivery' study (Cervical Ultrasound Study/CRVUS) of the Maternal-Fetal Medicine Units (MFMU) Network. The goal of the study was to determine the predictive value of longitudinal cervical sonographic data collected prior to 24 weeks in predicting spontaneous preterm birth at < 35 weeks' gestation, including for cervical characteristics other than length. The study has been described in detail previously.[1] 187 participants were recruited between 1997 and 1999 from nine sites (University of Alabama, Wayne

- Scientific Vision
  - Alleviate suffering from childhood cancer and structural birth defects by fostering **collaborative research** to uncover the etiology of these diseases and supporting **data sharing** within the pediatric research community.
  - Tens of thousands of whole genome sequences
- Kids First Data Resource
  - A platform for empowering collaborative pediatric research
  - Query, search, discover, build & visualize synthetic cohorts
  - Model clinical data in FHIR-based data services for semantic interoperability and coordination
  - Data visualization tools
  - Pull data from multiple sources into one workspace.

Impact: Kids First Sequencing Cohorts 2015-2019

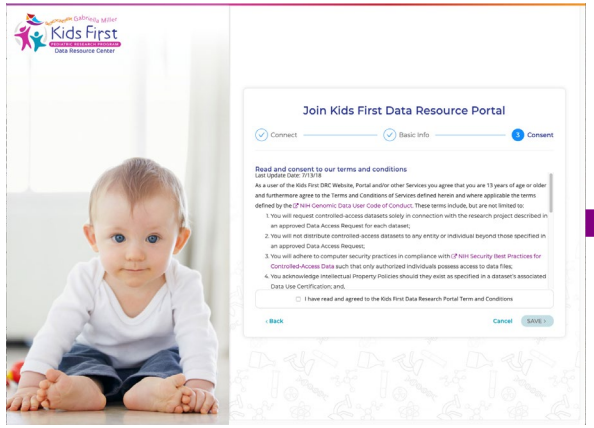
39 projects | 37,000 WGS | 15,000 cases | 13 released datasets | >150 Data Access Requests

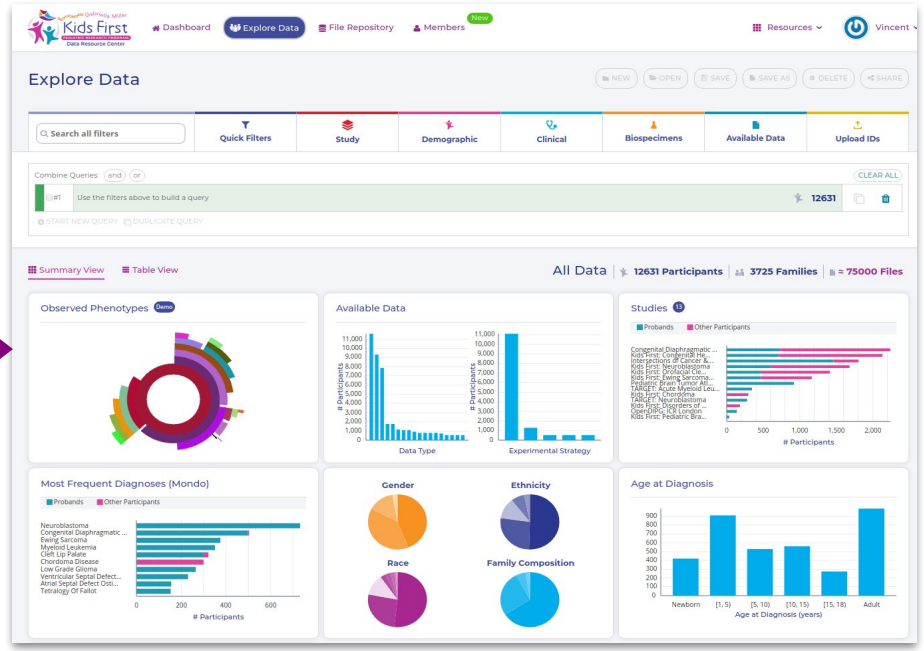
BROAD INSTITUTE | HUDSONALPHA INSTITUTE FOR BIOTECHNOLOGY | St. Jude Children's Research Hospital

- Congenital Diaphragmatic Hernia
- Disorders of Sex Development
- Ewing Sarcoma
- Structural Heart & Other Defects
- Syndromic Cranial Dysinnervation Disorders
- Cancer Susceptibility
- Adolescent Idiopathic Scoliosis
- Neuroblastomas
- Enchondromatoses
- Orofacial Clefts in Caucasian, Latin American, Asian & African, Filipino populations
- Osteosarcoma
- Familial Leukemia
- Craniofacial Microsomia
- Hemangiomas, Vascular Anomalies & Overgrowth
- Nonsyndromic Craniosynostosis
- Patients with both childhood cancer and birth defects
- Kidney and Urinary Tract Defects
- Microtia
- Hearing Loss
- Bladder Exstrophy
- Cornelia de Lange Syndrome
- Intracranial & Extracranial Germ Cell Tumors
- Esophageal Atresia and Tracheoesophageal Fistulas
- Fetal Alcohol Spectrum Disorders
- Myeloid Malignancies + overlap with Down syndrome
- Congenital Heart Defects and Acute Lymphoblastic Leukemia in Children with Down Syndrome
- Structural Brain Defects
- Structural Defects of the Neural Tube (Spina Bifida: Myelomeningocele)
- CHARGE Syndrome
- Laterality Birth Defects
- T-cell Acute Lymphoblastic Leukemia
- Pediatric Rhabdomyosarcoma

Data Resource Use Case: Compare genetic variants of congenital heart defects & neuroblastoma

Anyone can register & login to the portal (via ORCID, Google). User agrees to terms

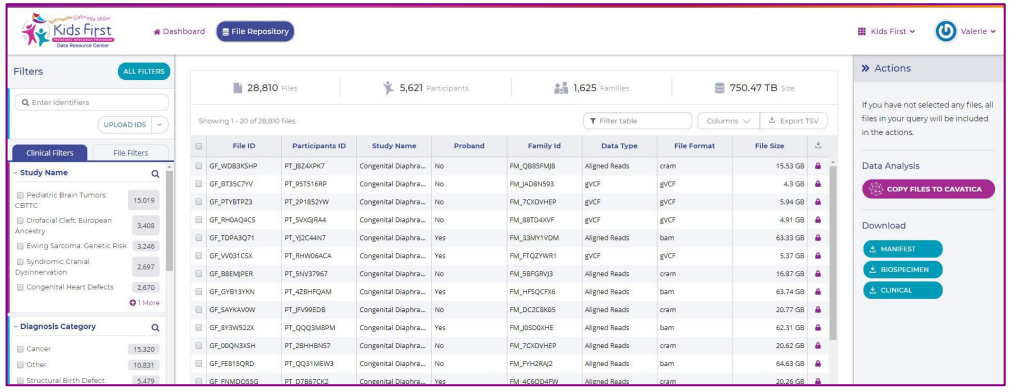




In *Explore Data*, user searches the terms "heart" and "neuroblastoma". Discovers data from children with congenital heart disease (KF & BDC data) & neuroblastoma (KF & NCI TARGET)

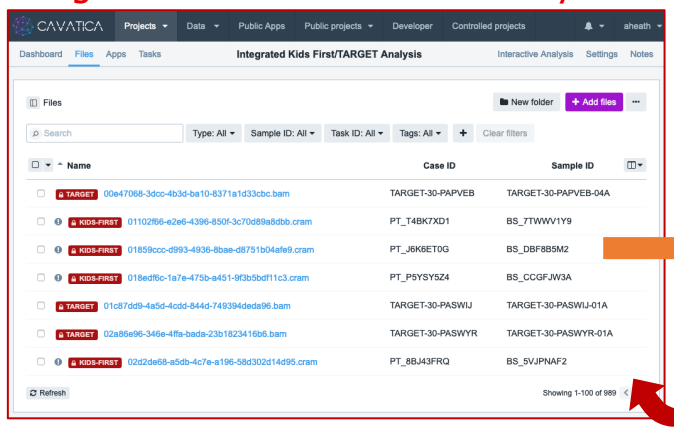
User builds a synthetic cohort based on these criteria and can view summary & deidentified individual-level clinical, demographic, and phenotypic information.

Synthetic cohort is ported to the *File Repository* where user selects which **genomic** and **histology image** files they want to analyze.

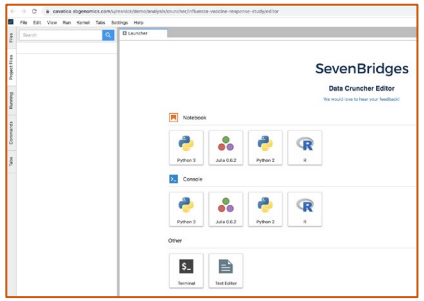


User has or applies for dbGaP access for genomic data

User pushes genomic, clinical data, and image data into Cavatica for analysis &



User runs statistical analysis in notebooks



User iterates through genomic workflows

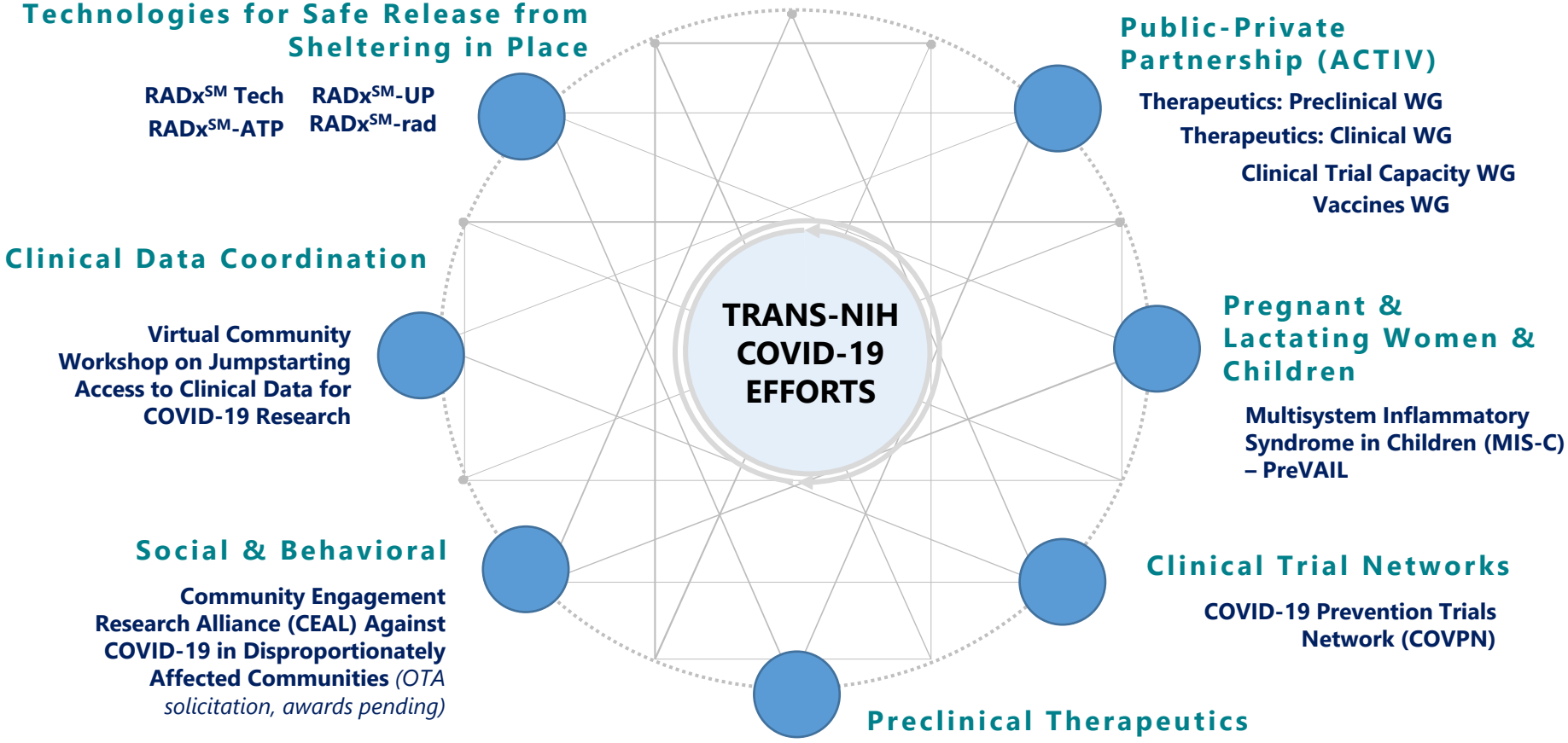
COVID-19

Updated: August 31, 2020

TRANS-NIH COVID-19 EFFORTS

NIH National Institutes of Health

In response to COVID-19, NIH has **multi-IC collaborative** efforts to address interdisciplinary challenges associated with the pandemic



These efforts directly support the NIH's **Strategic Priorities** outlined in its **Strategic Plan for COVID-19 Research**:

Improve Fundamental Knowledge • **Advance Research to Improve Detection** • **Support Research to Advance Treatment** • **Accelerate Research to Improve Prevention** • **Prevent and Redress Poor COVID-19 Outcomes**

Milestone highlights

Rapid Standup & Execution

EARLY APRIL
FNIH (Foundation for the NIH) collaborates with NIH to launch the Accelerating COVID-19 Therapeutic Interventions & Vaccines (ACTIV) Public-Private Partnership

EARLY JUNE
Ramp-up of additional Rapid Acceleration of Diagnostics (RADx^SM) programs

EARLY JULY
RADx Data Hub effort and RADx^SM-ATP program kick off

LATE JULY
Jumpstarting Access to Clinical Data for COVID-19 Research Virtual Workshop

EARLY AUGUST
Kickoff of increased focus on community engagement efforts & PreVAIL announced

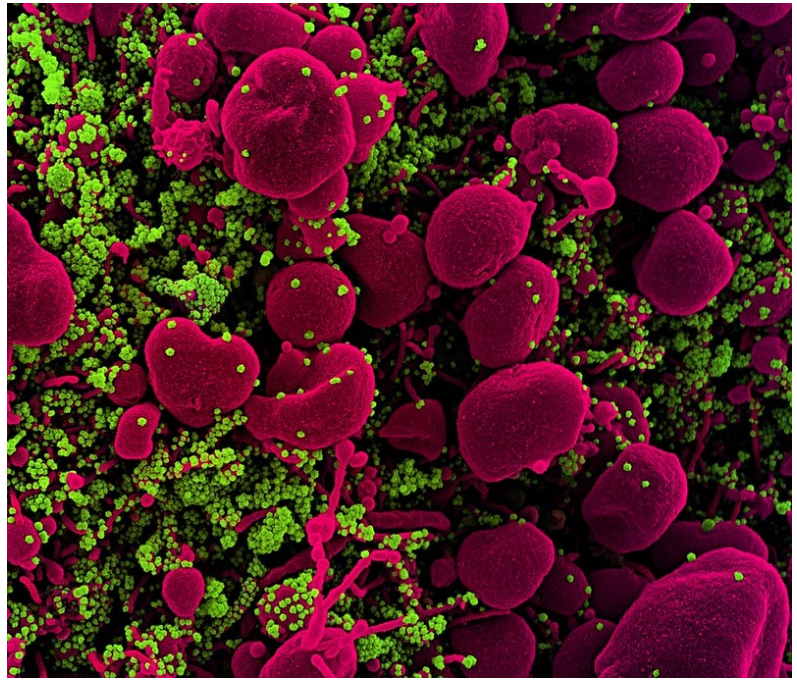
COVID-19: Research Goals for Pediatric Population

- Understand the range of clinical manifestations of SARS-CoV-2/COVID-19
- Understand the etiology and clinical manifestations of MIS-C
- Determine the risk profile for patients that develop
  - MIS-C
  - Severe COVID-19
- Understand the variations in immune response underlying the wide range of clinical manifestations in children infected with SARS-CoV-2, and identify predictive and prognostic immune biomarkers
- Understand long-term consequences of SARS-CoV-2, COVID-19, and MIS-C

COVID-19: NICHD's Goals and Objectives

We are working to accelerate research and better understand the impact of COVID-19 infection on pregnant and lactating women, children, and people with intellectual, developmental, and physical disabilities.

- Engaged across NICHD to advance scientific understanding of SARS-CoV-2 and COVID-19:
  - **Identifying existing opportunities in our networks and intramural laboratories**
  - **Participating in trans-NIH funding opportunities and notices of special interest**
  - **Working with the Department of HHS and our federal colleagues to address emerging concerns**

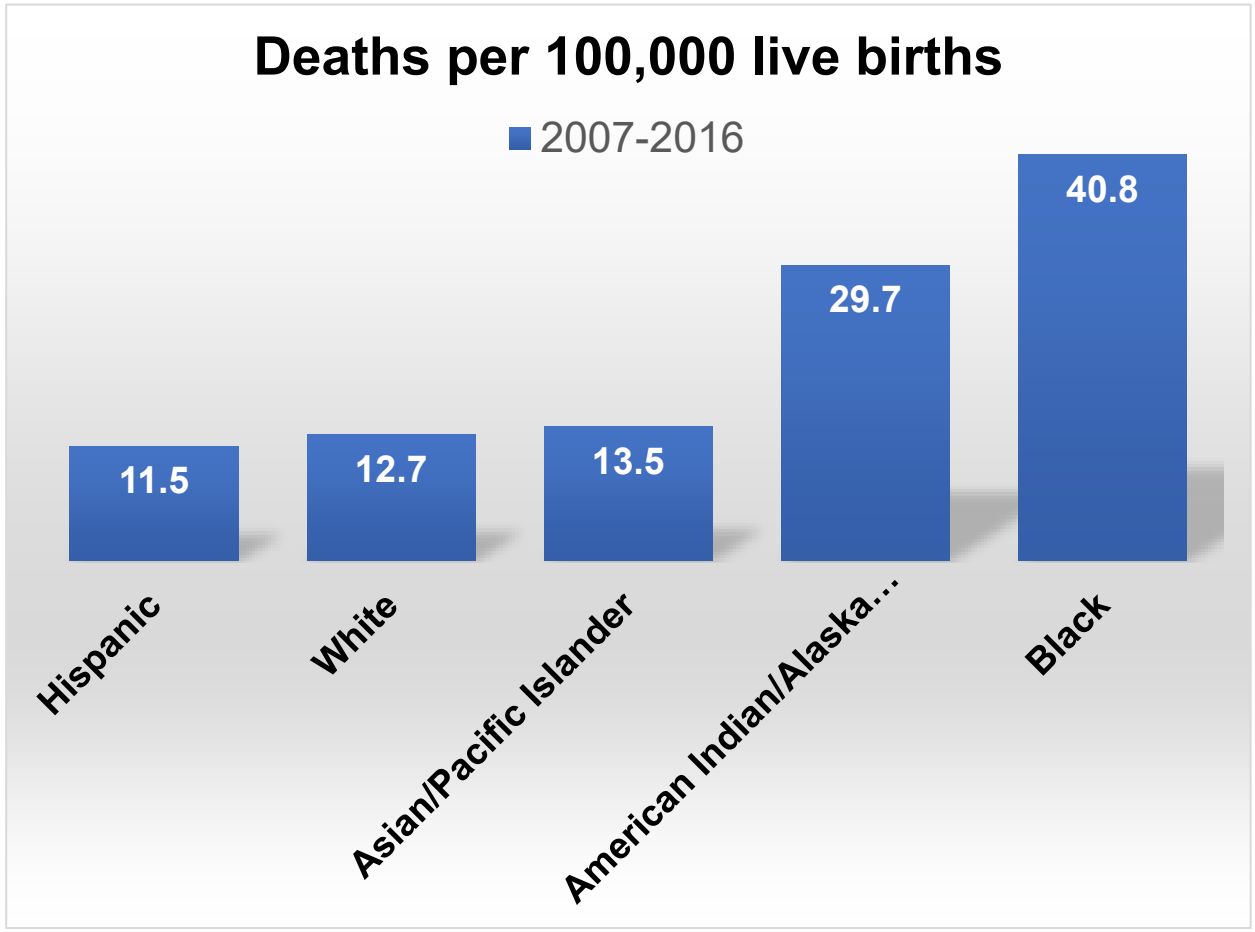


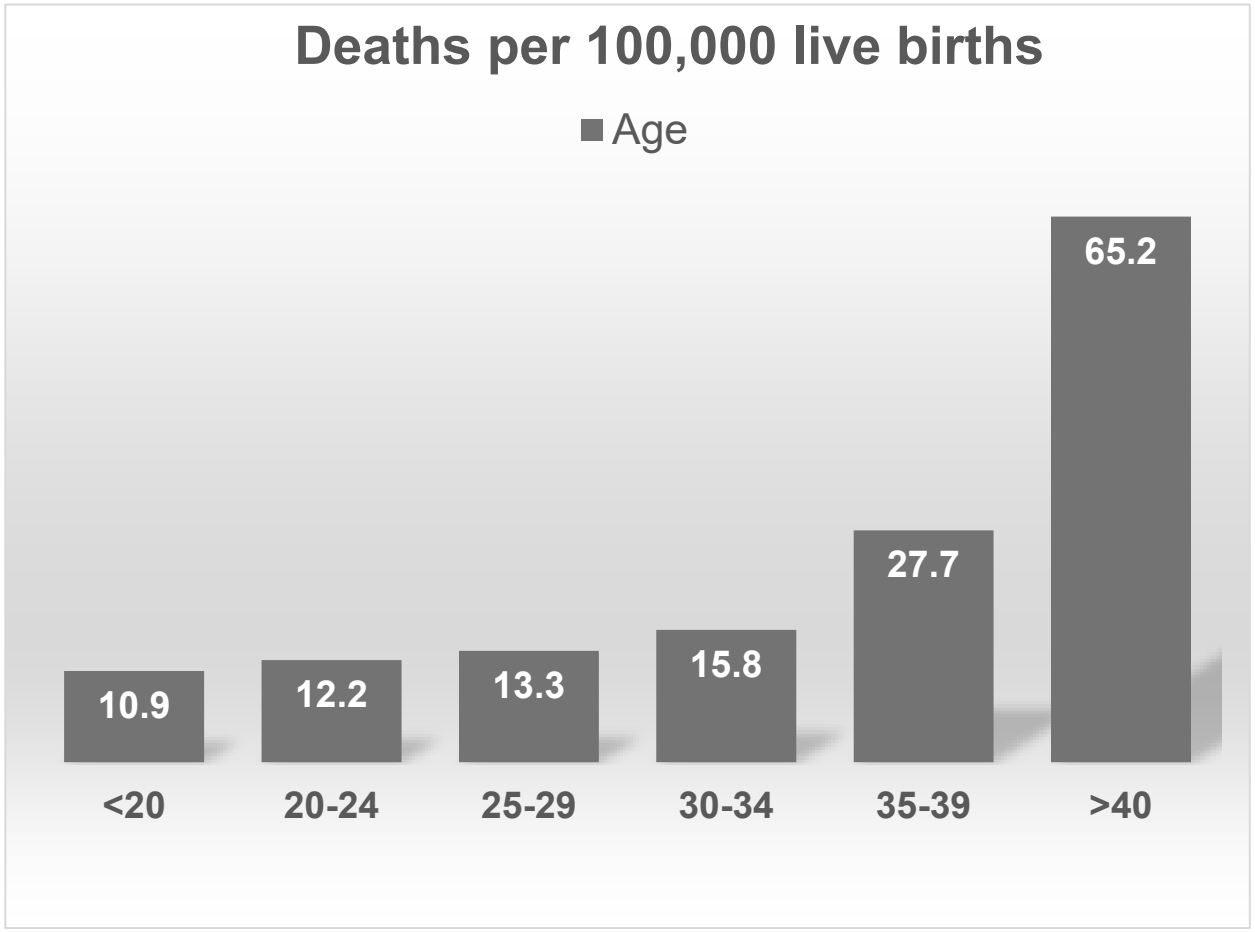
Maternal Morbidity and Mortality

Increased Congressional Interest in Maternal Health

December 11, 2019

Significant Health Disparities Exist in Maternal Mortality





Petersen EE, Davis NL, Goodman D, et al. Racial/Ethnic Disparities in Pregnancy-Related Deaths — United States, 2007–2016. MMWR Morb Mortal Wkly Rep 2019;68:762–765.

Maternal Mortality

700-900 maternal deaths: 60% are preventable

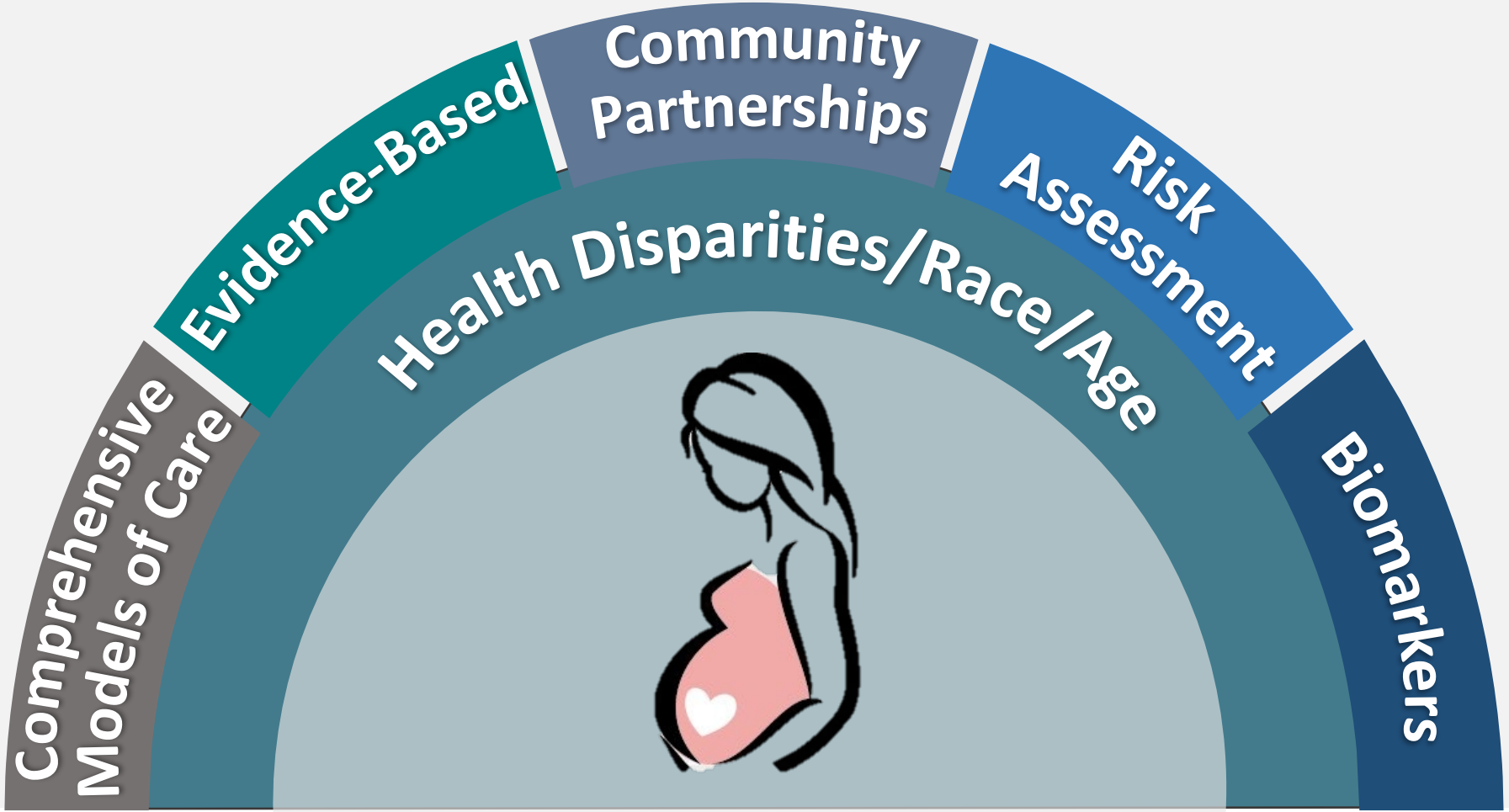
~50,000 near misses

~400,000 women with co-occurring conditions

~6.3 million pregnancies per year in the U.S.

Implementing a Maternal health and PRegnancy Outcomes Vision for Everyone (IMPROVE) Initiative

- Trans-NIH initiative that is in development
- Encompasses both foundational biology as well as social and biobehavioral research
- Community partners will be key voices to assess needs and to implement interventions



Summary

- Many reasons for optimism
  - Bipartisan support for NIH and medical research
  - Recent increases in NIH budget over past three years
  - Better paylines for Early Stage Investigators
- Many opportunities to immediately start your research career using publicly available data and specimens
- Information on NICHD extramural branch priorities is available on our web site. Make use of it!
- Opportunities for research careers outside of traditional academic PI exist
  - NIH intramural research (basic and clinical)
  - NIH extramural program administration

Thank You!