Division of Intramural Population Health Research

Eunice Kennedy Shriver National Institute of Child Health and Human Development
Division of Intramural Population Health Research

• Who we are
• What we do
• Metrics of leading discovery & mentoring
Who we are...
Mission

- **Mission**: To conduct research leading to the promotion of population health and well-being.
Division of Intramural Population Health Research

Eunice Kennedy Shriver National Institute of Child Health and Human Development

Division

Office of the Director

Biostatistics & Bioinformatics Branch

Epidemiology Branch

Health Behavior Branch

Deputy Director
What we do...

Promoting health for populations across the lifespan

(understanding the early origins of health & well-being)
Preconception Window

• Discoveries
  ▪ Diet & lifestyle influences on normal menstrual cycle function
  ▪ Environment & lifestyle affects fecundity & related impairments (e.g., infertility, pregnancy loss)
  ▪ Preconception low dose aspirin improves live birth rate among women with inflammation

• Research in progress
  ▪ Zinc/folate supplement may improve semen quality & infertility treatment outcomes
  ▪ Diet may improve female fecundity & fertility
In Utero Window

• Discoveries
  ▪ Race/ethnic specific differences in fetal growth
  ▪ Twin trajectories differ from singletons starting at 32 weeks

• Research in progress
  ▪ Early origins of mental health & suicide
  ▪ Diet & food satiety and pregnancy outcomes
  ▪ GDM exposure & offspring’s health
Infancy & Childhood

• Discoveries
  ▪ Mode of conception not associated with growth and development through age 3 years
  ▪ Behavioral interventions associated with better management of type 1 diabetes in children

• Research in progress
  ▪ Maternal food reward sensitivities & self-regulation programming infant’s sensitivities, diet & growth
Adolescent & Young Adulthood

• Discoveries
  - College students reported more binge drinking & blackouts, behaviors associated with school, work, police, and personal problems
  - Teenage drivers engaged in secondary tasks had 4-8 times crash risk

• Research in progress
  - Identifying optimal driving behaviors for new drivers to minimize/prevent crashes... understanding their behavioral etiology
Reproductive health – early markers of health across the lifespan

• Research in progress
  ▪ Etiology & prevention of GDM transition to T2D
  ▪ Impaired fecundity in pathway to gynecologic disorders
  ▪ Reproductive health & mortality
Emerging Research Areas

• Epigenetic reprogramming & fetal resilience
• Couple and family-based studies (e.g., pregnancy trying outcomes, children’s development, trans-generational influences)
• Reproductive health in the pathway to adult health
• Methods & analytic tools (e.g., causal inference, exposome, hierarchical & high dimensional data)

Promoting health with guidance & targeted interventions
NIH-Wide Strategic Plan Framework, 2016-2020
(turning discovery into health)

Fundamental Science

Health Promotion
Disease Prevention

Treatment
Cures

President Franklin D. Roosevelt’s dedication of the NIH
“…to the underlying philosophy of public health…”
Measuring our impact

(research, mentoring, professional service, health)
Publication Impact, 2012-2015

Bibliometric evaluation of 419 papers published for 1+ year, NIH Division of Library Services. Division had 509 publications between 2012-2015.
Extramural Collaborations, 2012-2015

Listing of the top 10 institutions with co-authored publications as derived from listed institutional affiliations. Biometric evaluation conducted by the NIH Division of Library Services.
Geographic Distribution of Fellows & Summer Interns, 2000-2015

Fellows, DIPHR

Summer Interns, DIPHR
Mentoring: Views from Both Sides of the Desk

Joe Bible, Miriam Eisenberg, Ana Maria Ortega-Villa, Sarah Pugh, Rose Radin, Melissa Smay, Wondiraen Yared
Other Metrics, 2012-2015

• 26 press releases
  ▪ Seen by 4.5 billion people globally (and an additional 268k Spanish speaking individuals)

• 8,902 statistical software downloads
  https://www.nichd.nih.gov/about/org/diphr/bbb/software/fan/Pages/default.aspx
Impact – leveraging resources

• NICHD Fetal Growth Studies leveraged for NIH’s ECHO initiative

• Web-based calculators & apps
  ▪ Race/ethnic fetal growth standards
Division
(meeting our mission... serving our populations)

Service
Research
Mentoring
50th Anniversary in 2017
Thank you...
## Operating Budget, 2012-2017

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<td>Personnel</td>
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<td>4,592,322</td>
<td>4,789,031</td>
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<td>Training</td>
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<td>Other costs</td>
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<td>335,552</td>
<td>390,140</td>
<td>398,408</td>
<td>318,172</td>
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<tr>
<td>NICHD taps</td>
<td>---</td>
<td>---</td>
<td>1,075,000</td>
<td>1,285,000</td>
<td>1,914,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>6,902,000</strong></td>
<td><strong>6,352,000</strong></td>
<td><strong>7,553,000</strong></td>
<td><strong>7,896,000</strong></td>
<td><strong>9,047,000</strong></td>
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<tr>
<td><strong>% NICHD Intramural Budget</strong></td>
<td>3.7</td>
<td>3.6</td>
<td>4.1</td>
<td>4.2</td>
<td>4.8</td>
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## Research Budget, 2012-2017

<table>
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<td><strong>Other Funding</strong></td>
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<td>981,355</td>
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*This includes funding from grants, other institutes and sources.*
### Intramural Research Budgets, NICHD, 2012-2016*

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<tbody>
<tr>
<td><strong>DIR (N= 73 tenure track &amp; senior investigators)</strong></td>
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<tr>
<td>Labs &amp; clinics**</td>
<td>105,003</td>
<td>95,179</td>
<td>96,627</td>
<td>96,627</td>
<td>100,490</td>
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<td>Assessments</td>
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<td>PPRO contract</td>
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<td><strong>DIR Subtotal</strong></td>
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<td><strong>DIPHR (N= 17 tenure track &amp; senior investigators)</strong></td>
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<tr>
<td>Operating costs</td>
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<td>6,352</td>
<td>6,478</td>
<td>6,611</td>
<td>6,894</td>
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<tr>
<td>Assessments</td>
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<td>1,075</td>
<td>1,285</td>
<td>1,927</td>
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<tr>
<td>R &amp; D contracts</td>
<td>15,001</td>
<td>13,849</td>
<td>16,384</td>
<td>14,466</td>
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<tr>
<td><strong>DIPHR Subtotal</strong></td>
<td>6,902</td>
<td>6,352</td>
<td>7,553</td>
<td>7,896</td>
<td>8,821</td>
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<td><strong>Total</strong></td>
<td>186,676</td>
<td>178,623</td>
<td>183,405</td>
<td>184,876</td>
<td>190,073</td>
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</table>

*In thousands of dollars; **Includes renovations
Cost per investigator $2.5 and $n, respectively
Strategic Plan, 2017-2022

• Early origins of health & disease
• Clinical trials of low-cost interventions
• Building methods & tools for hierarchical, high dimensional & longitudinal data
• Implementation & dissemination sciences
• Capacity building through mentoring, data sharing, leveraging talent & resources