



Establishing a Basic Behavioral and Social Sciences Research Working Group:

Identifying Emerging and Promising Basic Research with a Plausible Pathway to Health



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National Institutes of Health
Office of Behavioral and Social Sciences Research

Background

- Basic research – whether biomedical or behavioral/social –generates fundamental knowledge about the nature and behavior of living systems
- 2004 Report from NIH ACD Working Group on Research Opportunities in Basic Behavioral and Social Sciences
 - Pre-RCDC so the report was predominantly an overview of broad areas of basic behavioral and social sciences research (bBSSR) that various ICs supported at the time
 - More on WHY fund bBSSR than WHAT to fund in bBSSR
 - Report was partly in response to NIMH de-prioritizing some bBSSR
 - Report recommended a "stable home" for trans-NIH bBSSR, either at NIGMS or by transforming OBSSR to more of an OAR model
 - Resulted in OppNet

Opportunities for Funding in 2004 Report

- Macro-social behavior
 - Social integration and social capital
 - Work-related stresses
- Social and interpersonal behavior
 - Stigma and discrimination
 - Well-being
- Perception, learning, emotion, and cognition
 - Exercise and cognition
 - Fear, anxiety, and vigilance
 - Emotion, health, and disease
 - Memory and the life course
 - Perception and behavior
- Early development
 - Infant temperament
 - Intergenerational transmission of behavior
 - Infant pattern recognition
- Gene-Environment interactions
 - Biology of resilience
 - Precursors of obesity
 - Biosocial stress markers
- Technology, measurement, and methodology

OppNet

- 2010-2014 Funding From
 - One-year ARRA funding
 - Five-year tap on ICs
- Five-year budget of about \$85 million
 - Released 23 distinct FOAs
 - Funded 151 grant awards
 - Across a wide range of research areas
- OppNet funded a broad range of bBSSR in a short period of time

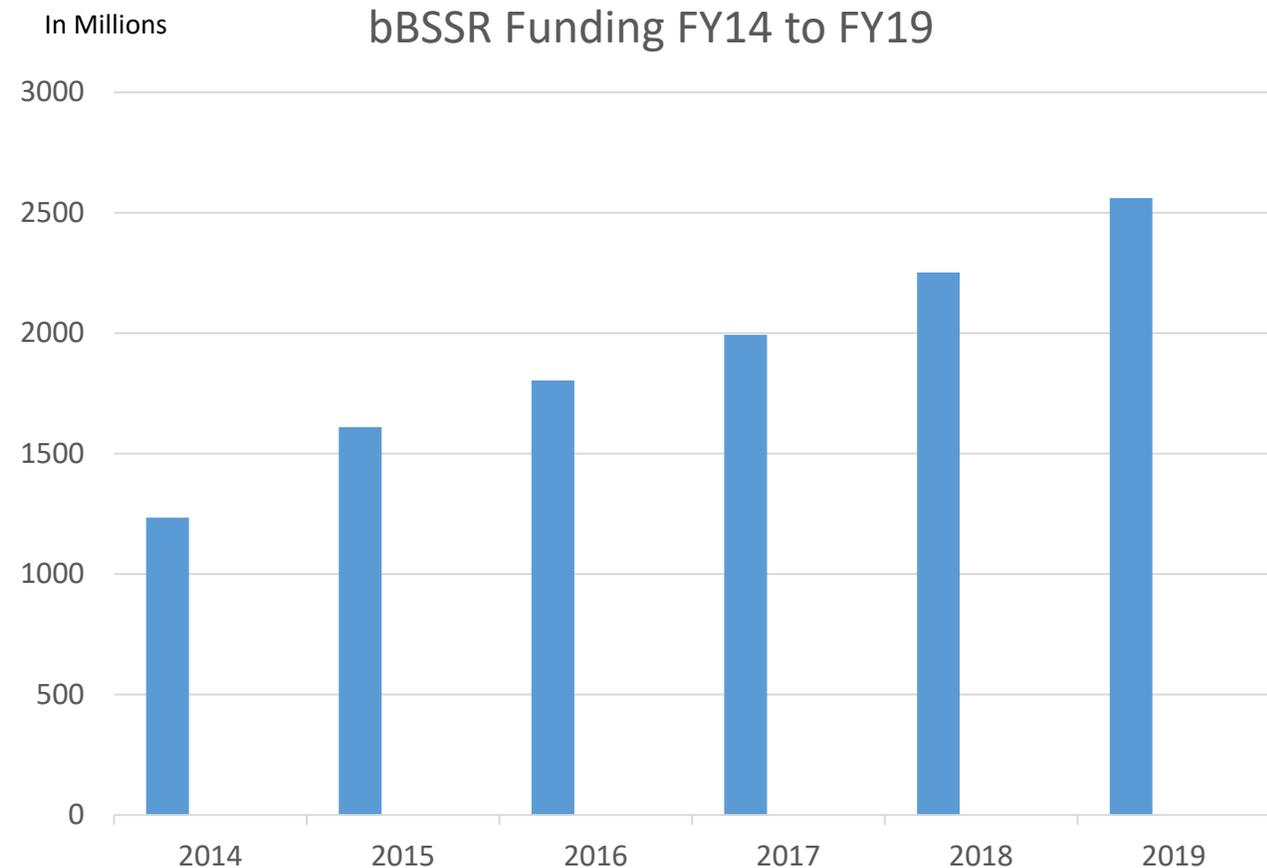
OppNet Evaluation Findings

- 30% of OppNet R01 and R21 PIs have received at least one bBSSR award subsequent to their first OppNet award.
- For R01s, 23% (95/412) never had applied to NIH for RPG funding
- For R21s, 36% (149/411) never had submitted a NIH RPG application
- For K18s, 33% (9/27) received 11 subsequent awards built on K18 awards
- R21s more likely to be unique to non-OppNet bBSSR funding

Group	Awards modeled	Q1 of CC	Q2 of CC	Q3 of CC	Q4 of CC
OppNet R01	30	13%	37%	17%	33%
OppNet R21	34	47%	24%	15%	15%
All R21	642	24%	27%	24%	25%
All awards	2,014	25%	25%	25%	25%

Changes since the 2004 Report

- OppNet continues after 2014, but with very limited resources (\$2M matching from OBSSR)
- bBSSR funding doubled in the last 6 years, now accounts for about 8% of total extramural funding



Changes since the 2004 Report

- Transformative scientific advances that can accelerate research in some areas of bBSSR (e.g., neuroscience tools, sensors, data science).
- Trans-NIH Initiatives with the potential to support more bBSSR (e.g., BRAIN, All of Us)

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POLICY

NIH's transformative opportunities for the behavioral and social sciences

Emerging scientific and technological opportunities, such as new sensor tools that better characterize neurological, behavioral, and social processes, have the potential to produce a scientific paradigm shift in the behavioral and social sciences. This shift from a fragmented data-poor science to an integrated data-rich science facilitates greater translation from basic to applied research and from applied research to clinical practice. In November 2016, the U.S. National Institutes of Health (NIH) Office of Behavioral and Social Sciences Research (OBSSR) released its strategic plan for fiscal years 2017 through 2021, which seeks to take advantage of these scientific and technological developments (1). Here, we outline four key developments that influenced the scientific priorities of the OBSSR strategic plan, each of which offers the potential for accelerating research and translation in the behavioral and social sciences.

INTEGRATING NEUROSCIENCE INTO BEHAVIORAL AND SOCIAL SCIENCES

Advances in neuroscience experimental approaches and technologies provide an ability to observe brain function and activity in real time and with increasing levels of granularity (2), but these brain functions and activities do not occur in isolation; they are influenced by an organism's environment and are expressed as behaviors that, in turn, have the potential to influence the environment. To understand these complex dynamic interactions, the brain must be studied in the context of environment

approaches have been improved greatly by the application of (i) modern psychometric theory (for example, item response theory) and (ii) smartphone technologies to obtain prospective, real-time assessments throughout the course of a day (for example, ecological momentary assessment). Digital footprints from routine interactions of people with technology provide new methods of capturing thought and behavior, and the rapid emergence of sensor technologies has provided an efficient and objective means for assessing physiology, behavior, and social and environmental contexts. The application of these scientific and technological advances to the measurement of behavioral and social processes provides a level of granularity and precision that has the potential to transform the behavioral and social sciences into a much more data-rich science (3).

DIGITAL INTERVENTION PLATFORMS

Advances in technology also hold the potential to transform the means by which behavioral and social science interventions are delivered. These interventions are often resource- and labor-intensive, which results in limited reach, scalability, and duration. The limited duration of these interventions negatively affects the ability to maintain behavioral change. The operationalization of these interventions into code ensures treatment fidelity from research to clinical practice settings and may extend their reach to anyone in any place at any time. Efficient delivery of behavioral and social change strategies via smartphones and other digital technologies require the attention to extend

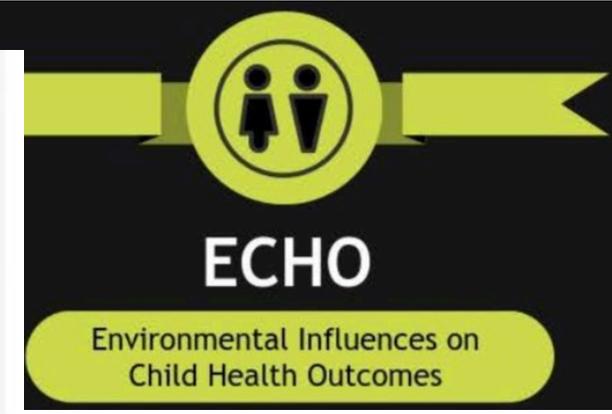


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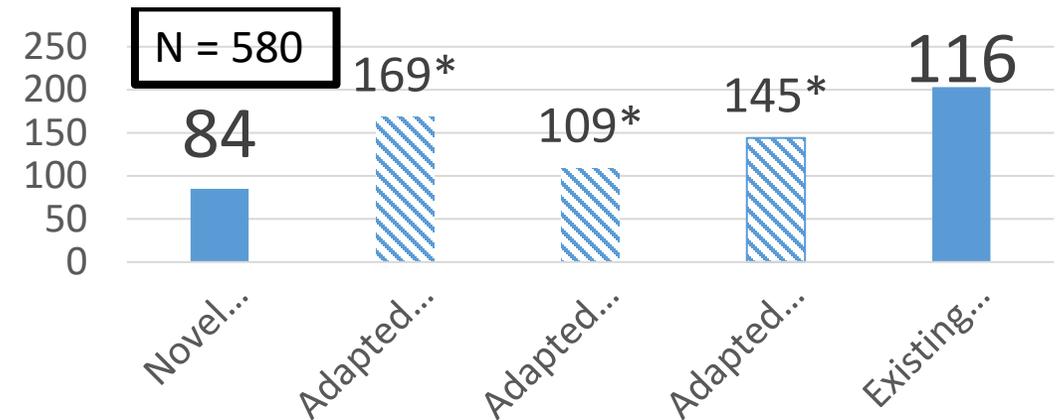
Office of Behavioral and Social Sciences Research

Changes since the 2004 Report

- RCDC and OPA tools for more in-depth portfolio analysis, including other agencies (e.g., NSF)



- Recent analyses of FY18 BSSR clinical trials suggests insufficient translation of bBSSR into novel behavioral intervention approaches



Charge of Council of Councils WG

In light of these changes over 15 years since the last report:

- Has NIH funding for bBSSR kept pace with the science?
- Can NIH improve return on investment by identifying better the promising and emerging areas of bBSSR relevant to the NIH mission?
- Which of these emerging areas of research are not adequately supported by the current NIH bBSSR portfolio which NIH can encourage and accelerate?
- Can these inadequately addressed emerging areas of research be addressed by individual IC efforts, or do some require a trans-NIH effort to address?

Proposed Composition of Working Group

- Co-Chairs: Graham Colditz, Bill Riley
- Members Selected From:
 - Editors of bBSSR Journals
 - Leadership of bBSSR Professional Associations
 - Promising bBSSR ESIs
- Gender and Racial/Ethnic Diversity
- Approximately 8-10 members
- Supported by Bill Elwood, Katie Morris, and the SCG contract