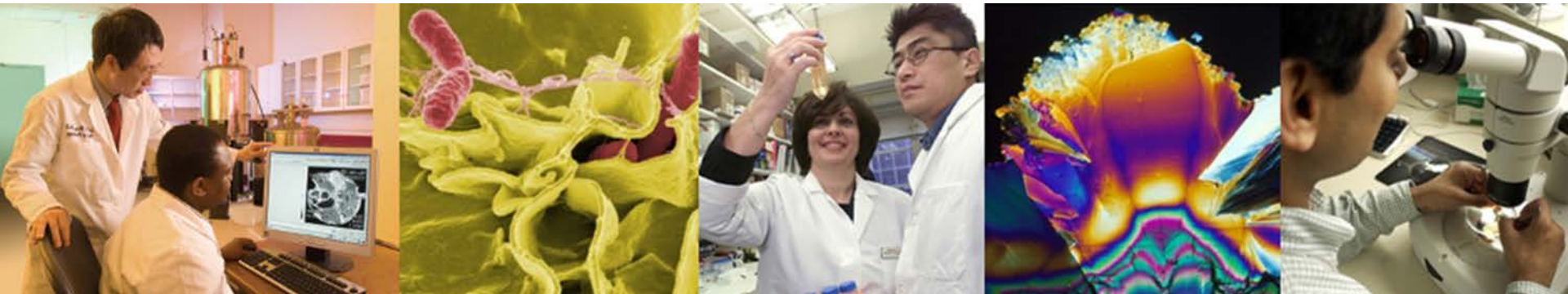


# NIH Update

## *Council of Councils Meeting September 9, 2016*



**Lawrence A. Tabak, DDS, PhD**

Principal Deputy Director, NIH

Department of Health and Human Services



# Topics for Today

- Budget Update
- Enhancing Reproducibility and Transparency of Research Findings
- Transitioning to a New Administration



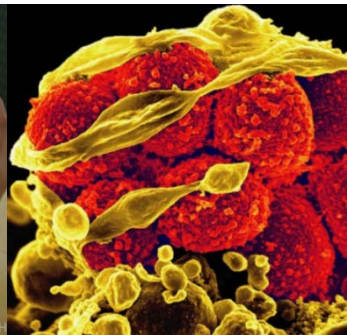
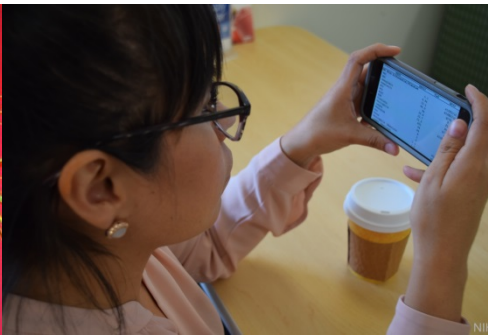
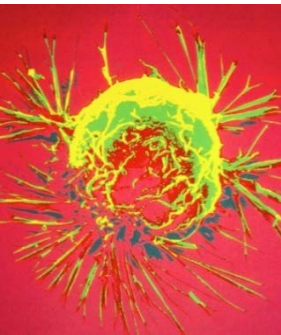
# Topics for Today

- **Budget Update**
- Enhancing Reproducibility and Transparency of Research Findings
- Transitioning to a New Administration



# FY 2016 Increase Highlights

- \$2 billion increase
- Allows highest level of new and competing Research Project Grants since FY 2003 (10,753)
- Precision Medicine Initiative
  - Cohort 130 M
  - Cancer 70 M
- Antimicrobial Resistance 100 M
- BRAIN Initiative 85 M
- Alzheimer's Disease 350 M





# NIH's FY 2017 Budget Request

| Year                          | FY 2015  | FY 2016  | FY 2017 Request |
|-------------------------------|----------|----------|-----------------|
| Program Level (\$B)           | \$30.311 | \$32.311 | \$33.136        |
| Competing RPGs (est.)         | 9,540    | 10,753   | 9,946           |
| Total RPGs (est.)             | 34,379   | 35,840   | 36,440          |
| Applicant Success Rate (est.) | 18.3%    | 19.2%    | 17.5%           |

- The proposed increase of \$825 million in FY 2017 would continue the progress achieved in FY 2016 and allow the highest total number of Research Project Grants (competing and noncompeting) in seven years

# FY 2017 Request:

## Targeted Increases – from Mandatory Funds\*

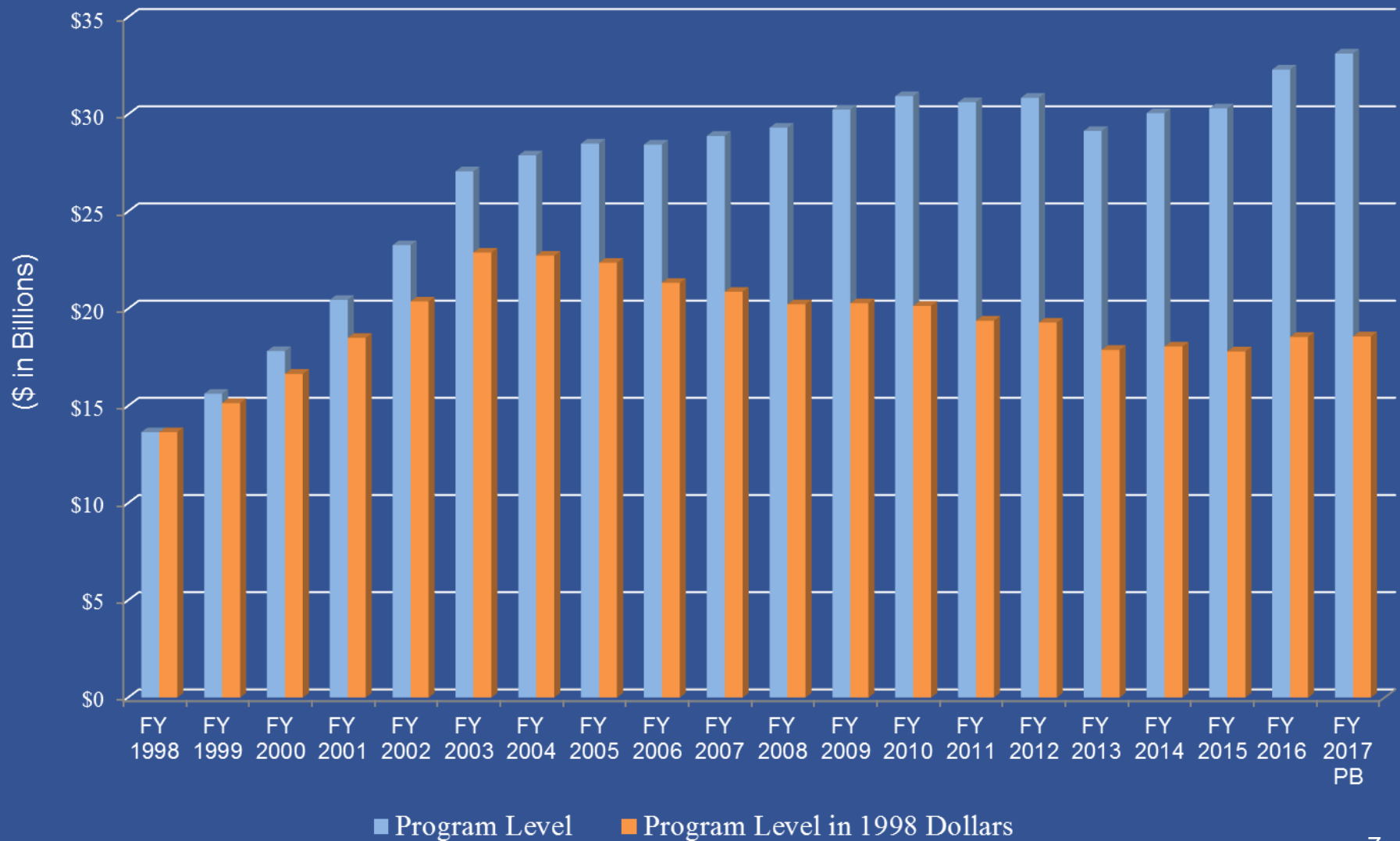
- National Cancer Moonshot \$680 M
- Precision Medicine Initiative Cohort \$100 M
- BRAIN Initiative \$45 M

\*Remainder of NIH budget request is at the same overall program level as FY 2016, but \$1 billion of that is from mandatory funds (\$1.825 billion total)



# NIH Program Level

## in Nominal Dollars and Constant Dollars



# Topics for Today

- Budget Update
- **Enhancing Reproducibility and Transparency of Research Findings**
- Transitioning to a New Administration





# The Growing Challenge: Ensuring the Rigor and Reproducibility of Science

- Noted by research community and beyond in several publications
  - Across research area
  - Especially in preclinical research

# The Growing Challenge: Ensuring the Rigor and Reproducibility of Science

- Noted by research community and beyond in several publications
  - Across research area
  - Especially in preclinical research

PERSPECTIVE

JBMR®

## Reproducibility of Results in Preclinical Studies: A Perspective From the Bone Field

Stavros C Manolagas<sup>1</sup> and Henry M Kronenberg<sup>2</sup>

RESEARCH ARTICLE

PSYCHOLOGY

## Estimating the reproducibility of psychological science

Open Science Collaboration<sup>†</sup>

The  
Economist

World politics Business & finance Economics Science & technology Culture

Unreliable research

## Trouble at the lab

Scientists like to think of science as self-correcting. To an alarming degree, it is not

Like 11k Tweet 1,227

## Beware the creeping cracks of bias

Evidence is mounting that research is riddled with systematic errors. Left unchecked, this could erode public trust, warns Daniel Sarewitz.

Science

## Evaluating replicability of laboratory experiments in economics

Colin F. Camerer,<sup>1\*</sup> Anna Dreber,<sup>2†</sup> Eskil Forsell,<sup>2†</sup> Teck-Hua Ho,<sup>3,4†</sup> Jürgen Huber,<sup>5†</sup> Magnus Johannesson,<sup>2†</sup> Michael Kirchner,<sup>5,6†</sup> Johan Almenberg,<sup>7</sup> Adam Altmejd,<sup>2</sup> Taizan Chan,<sup>8</sup> Emma Heikensten,<sup>2</sup> Felix Holzmeister,<sup>9</sup> Taisuke Imai,<sup>1</sup> Siri Isaksson,<sup>2</sup> Gideon Nave,<sup>1</sup> Thomas Pfeiffer,<sup>9,10</sup> Michael Razen,<sup>7</sup> Hang Wu<sup>\*</sup>

THE WALL STREET JOURNAL.

OPINION | COMMENTARY

## Getting the Bogus Studies Out of Science

Government funding should provide more incentives for replicating research

By ADAM MARCUS And IVAN ORANSKY

## Why animal research needs to improve

Many of the studies that use animals to model human diseases are too small and too prone to bias to be trusted, says Malcolm Macleod.

TECHNICAL COMMENT

PSYCHOLOGY

## Comment on “Estimating the reproducibility of psychological science”

Daniel T. Gilbert,<sup>1,†</sup> Gary King,<sup>1</sup> Stephen Pettigrew,<sup>1</sup> Timothy D. Wilson<sup>2</sup>

## False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant

Believe it or not: how much can we rely on published data on potential drug targets?

Florian Prinz, Thomas Schlange and Khusru Asadullah

## Raise standards for preclinical cancer research

C. Glenn Begley and Lee M. Ellis propose how methods, publications and incentives must change if patients are to benefit.

## Reforming Science: Methodological and Cultural Reforms

# The Growing Challenge: Ensuring the Rigor and Reproducibility of Science

- Noted by research community and beyond in several publications
  - Across research area
  - Especially in preclinical research

LAST  
WEEK  
TONIGHT  
WITH JOHN OLIVER



# Deficiencies in Experimental Procedures

- Insufficient Reporting in Publications
- “P-Hacking”
- Researcher’s “Degrees of Freedom”
- Lack of Consideration of Sex as a Biological Variable
- Cell Lines

# Deficiencies in Experimental Procedures

- Insufficient Reporting in publications – blinding, replication & randomization, sample size outliers and exclusion criteria





# Insufficient Reporting of Methodological Approaches is Evident for Pre-Clinical Studies

**Table 3. Prevalence of selected quality characteristics in other experimental models**

|                                | <b>Number of publications</b> | <b>Randomisation (%)</b> | <b>Blinded assessment of outcome (%)</b> | <b>Sample-size calculation (%)</b> |
|--------------------------------|-------------------------------|--------------------------|--|------------------------------------|
| Transgenic stroke studies      | 157                           | n/a                      | 3  | 0                                  |
| Stroke pathophysiology studies | 166                           | 5                        | 18                                       | 0                                  |
| Parkinson's disease            | 118                           | 12                       | 15                                       | 0                                  |
| Multiple sclerosis             | 183                           | 2                        | 11                                       | 0                                  |

*Trends Neurosci* 2007; 30: 433-439

## Design, power, and interpretation of studies in the standard murine model of ALS

Sean Scott, Janice E. Kranz, Jeff Cole, John M. Lincecum, Kenneth Thompson, Nancy Kelly, Alan Bostrom, Jill Theodoss, Bashar M. Al-Nakhala, Fernando G. Vieira, Jeyanthi Ramasubbu & James A. Heywood

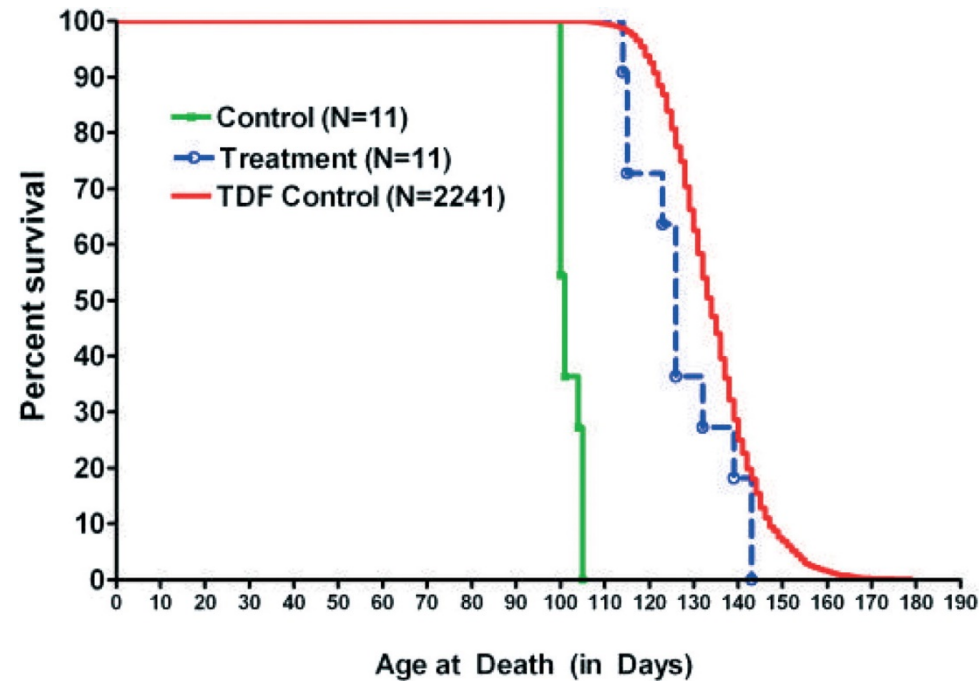


Figure 4. Survival analysis. Control and treated SOD1<sup>G93A</sup> mice from one publication compared to all of our 2241 control animals (acquired over four years – data from Table S2) that died of ALS.

# Deficiencies in Experimental Procedures (cont.)

- Insufficient Reporting in publications – blinding, replication & randomization, sample size outliers and exclusion criteria
- “P-Hacking”

1521-0103/35 1/1/200–205\$25.00  
THE JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS  
Copyright © 2014 Creative Commons Attribution-NoDerivatives 4.0 International (CC-BY-ND 4.0)

<http://dx.doi.org/10.1124/jpet.114.219170>  
J Pharmacol Exp Ther 351:200–205, October 2014

---

## *Commentary*

---

### Common Misconceptions about Data Analysis and Statistics

Harvey J. Motulsky

GraphPad Software Inc., La Jolla, California

Received August 8, 2014; accepted August 8, 2014

1) P-hacking, which is when you reanalyze a data set in many different ways, or perhaps reanalyze with additional replicates, until you get the results you want; 2) overemphasis on *P* values rather than on the actual size of the observed effect; 3) overuse of statistical hypothesis testing, and being seduced by the word “significant”; and 4) over-reliance on standard errors, which are often misunderstood.

# Deficiencies in Experimental Procedures (cont.)

## Researcher's “Degrees of Freedom”

*Simmons et al.*

---

**Table 2.** Simple Solution to the Problem of False-Positive Publications

---

### Requirements for authors

1. Authors must decide the rule for terminating data collection before data collection begins and report this rule in the article.
2. Authors must collect at least 20 observations per cell or else provide a compelling cost-of-data-collection justification.
3. Authors must list all variables collected in a study.
4. Authors must report all experimental conditions, including failed manipulations.
5. If observations are eliminated, authors must also report what the statistical results are if those observations are included.
6. If an analysis includes a covariate, authors must report the statistical results of the analysis without the covariate.

### Guidelines for reviewers

1. Reviewers should ensure that authors follow the requirements.
  2. Reviewers should be more tolerant of imperfections in results.
  3. Reviewers should require authors to demonstrate that their results do not hinge on arbitrary analytic decisions.
  4. If justifications of data collection or analysis are not compelling, reviewers should require the authors to conduct an exact replication.
-

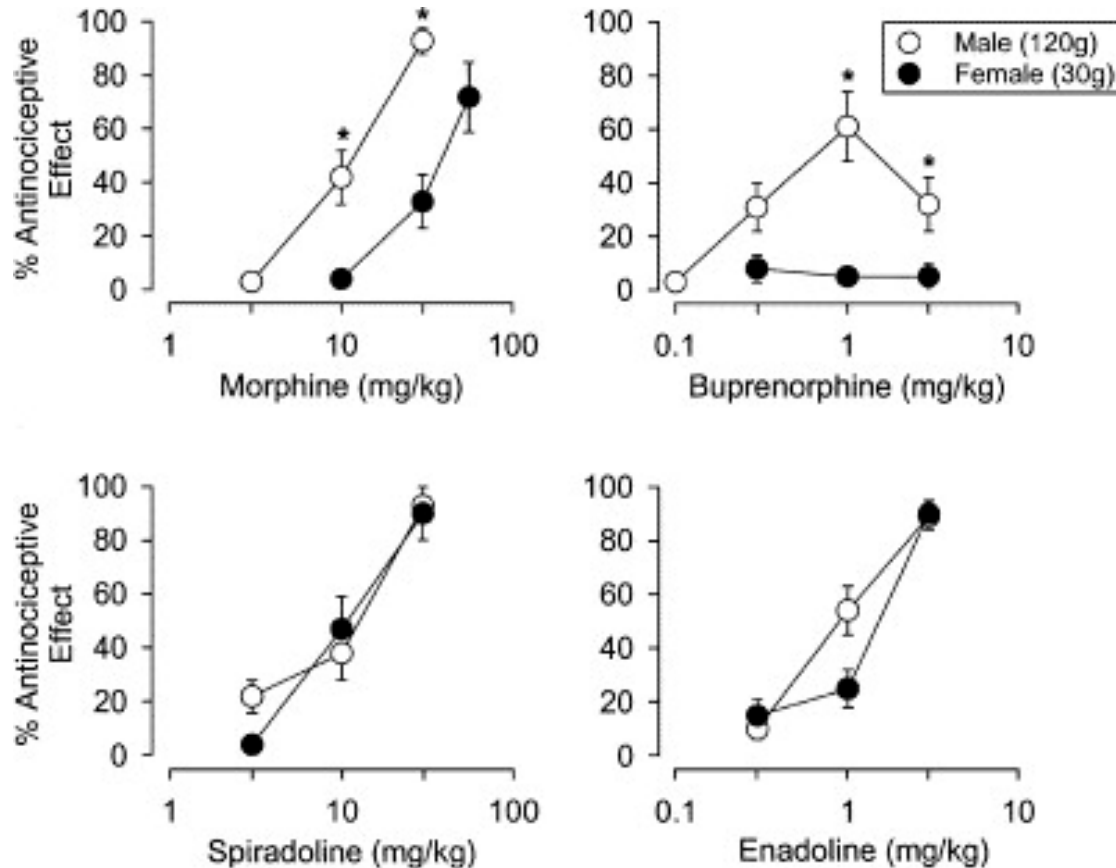
# Deficiencies in Experimental Procedures (cont.)

- Insufficient Reporting in publications – blinding, replication & randomization, sample size outliers and exclusion criteria
- “P-Hacking”
- Researcher’s “Degrees of Freedom”
- Lack of Consideration of Sex as a Biological Variable



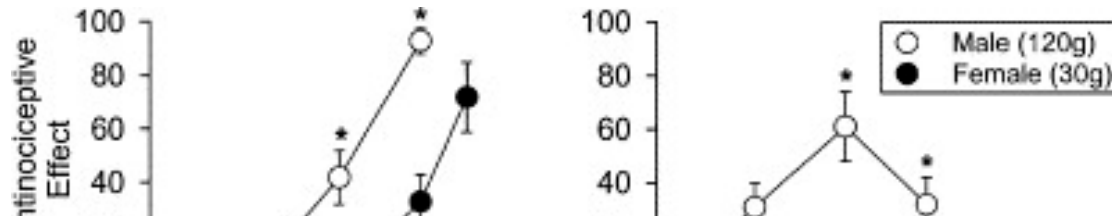


# Importance of Sex as a Biological Variable



**Morphine was 2.3-fold more potent in males and buprenorphine produced a 61% effect in males and only a 5% effect in females**

# Importance of Sex as a Biological Variable



1521-0081/68/2/242-263\$25.00

PHARMACOLOGICAL REVIEWS

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<http://dx.doi.org/10.1124/pr.115.011163>

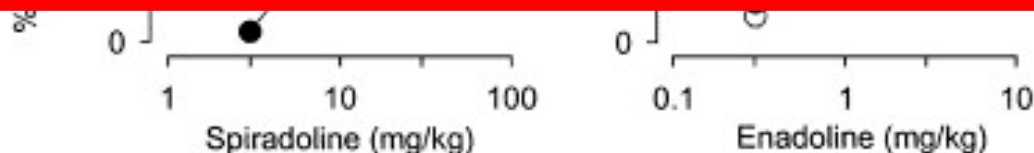
Pharmacol Rev 68:242-263, April 2016

ASSOCIATE EDITOR: MICHAEL M. GOTTESMAN

## Sex Differences in Animal Models: Focus on Addiction

Jill B. Becker<sup>1</sup> and George F. Koob<sup>1</sup>

*Molecular & Behavioral Neuroscience Institute, Department of Psychiatry, Department of Psychology, University of Michigan, Ann Arbor, Michigan (J.B.B.); and Director, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Bethesda, Maryland (G.F.K.)*



**Morphine was 2.3-fold more potent in males and buprenorphine produced a 61% effect in males and only a 5% effect in females**

# Deficiencies in Experimental Procedures (cont.)

- Insufficient Reporting in publications – blinding, replication & randomization, sample size outliers and exclusion criteria
- “P-Hacking”
- Researcher’s “Degrees of Freedom”
- Lack of Consideration of Sex as a Biological Variable
- Problems with Authentication of Cell Lines



# Reproducibility in Cell Culture Studies

- >400 misidentified cell lines have been cataloged, dating back to the 1960s
- ~70% of researchers surveyed in 2004 had never checked the identity of their cell lines
- Major repositories report that 14-30% of cell lines submitted are contaminated
- In a 2013 survey <50% of cell lines had an unambiguous identifier and source in publications
- Standards for cell line authentication and affordable methods for cell authentication now available

# Reproducibility in Cell Culture Studies



HOME | A

Search

New Results

## Assessing the prevalence of mycoplasma contamination in cell culture via a survey of NCBI's RNA-seq archive

Anthony O Olarerin-George, John B Hogenesch

doi: <http://dx.doi.org/10.1101/007054>

Abstract

Info/History

Metrics

Data Supplements

 Preview PDF

### ABSTRACT

Mycoplasmas are notorious contaminants of cell culture and can have profound effects on host cell biology by depriving cells of nutrients and inducing global changes in gene expression. Because they are small, they can escape filtration in culture media. Because they lack cell walls, they are resistant to commonly used antibiotics. Over the last two decades, sentinel testing has revealed wide-ranging contamination rates in mammalian culture. To obtain an unbiased assessment from hundreds of labs, we analyzed sequence data from 9395 rodent and primate samples from 884 series (or projects) in the NCBI Sequence Read Archive. We found 11% of these series were contaminated (defined as  $\geq 100$  reads/million mapping to mycoplasma in one or more samples). Ninety percent of mycoplasma-mapped reads aligned to ribosomal RNA. Interestingly, series using poly(A)-selection, which should bias against mycoplasma detection, had comparable contamination rates as non-poly(A)-selected series. We also examined the relationship between mycoplasma contamination and host gene expression in a single cell RNA-seq dataset and found 61 host genes ( $P < 0.001$ ) were significantly associated with mycoplasma-mapped read counts. Lastly, to estimate the potential economic cost of this widespread contamination, we queried NIH RePORTER to find grants with the terms "cell culture" or "cell lines". Funding for these totaled over \$3 billion, suggesting hundreds of millions of dollars in research are potentially affected. In all, this study suggests mycoplasma contamination is still prevalent today and poses substantial risk to research quality, with considerable financial consequences.



# Reproducibility in Cell Culture Studies

New Results

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# Principles for Addressing Underlying Issues

- Raise community awareness
- Enhance formal training
- Protect the quality of funded and published research by adoption of more systematic review processes
- Share information/data
- Increase stability for investigators

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# Raise Community Awareness

## NIH Rigor and Reproducibility Web-portal

 U.S. Department of Health & Human Services

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## RIGOR AND REPRODUCIBILITY



### Rigor and Reproducibility

- [Principles and Guidelines](#)
- [Publications](#)
- [Training](#)
- [Meetings and Workshops](#)
- [Expanded Guidelines](#)
- [Application Instructions](#)

Two of the cornerstones of science advancement are rigor in designing and performing scientific research and the ability to reproduce biomedical research findings. The application of rigor ensures robust and unbiased experimental design, methodology, analysis, interpretation, and reporting of results. When a result can be reproduced by multiple scientists, it validates the original results and readiness to progress to the next phase of research. This is especially important for clinical trials in humans, which are built on studies that have demonstrated a particular effect or outcome.



Johns Hopkins University students in a laboratory. *Johns Hopkins University*

In recent years, however, there has been a growing awareness of the need for rigorously designed published preclinical studies, to ensure that such studies can be reproduced. This webpage provides information about the efforts underway by NIH to enhance rigor and reproducibility in scientific research.

### Email Updates

Sign up to receive email updates about rigor and reproducibility.

[Sign up for updates](#)

### Related Links

[Letter from Dr. Stephen I. Katz: An Update on the NIH Initiative to Enhance Research Rigor and Reproducibility](#)

### Contact Us

Please send email to [NIHReprodEfforts@od.nih.gov](mailto:NIHReprodEfforts@od.nih.gov).

<http://www.nih.gov/science/reproducibility>

# Raise Community Awareness

- Workshop in Summer 2014 with PhRMA to identify areas of common interest with industry
- Workshop in Summer 2014 with Journal Editors to identify common opportunity areas
- **Over 135 journals** endorsed the principles, which were broadly shared in November 2014 through editorials and other notifications

**JCB**

**CellPress**

**nature**

*jbc* **THE JOURNAL OF  
BIOLOGICAL CHEMISTRY**

 **PLOS** | ONE

**Science**

**Circulation**

*The Journal of Neuroscience*



# Raise Community Awareness

## Efforts by Other Organizations: Recent Example



AMERICAN STATISTICAL ASSOCIATION  
Promoting the Practice and Profession of Statistics®

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### AMERICAN STATISTICAL ASSOCIATION RELEASES STATEMENT ON STATISTICAL SIGNIFICANCE AND *P*-VALUES

*Provides Principles to Improve the Conduct and Interpretation of Quantitative  
Science*

March 7, 2016

“We teach it because it’s what we do; we do it because it’s what we teach.”

“The *p*-value was never intended to be a substitute for scientific reasoning”

# Raise Community Awareness

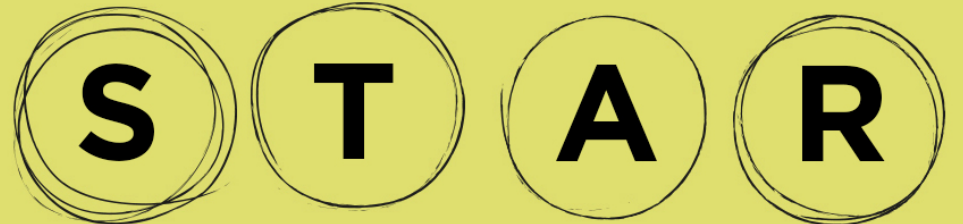


## Introducing **STAR★METHODS**

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to empower you.

STAR Methods promote rigor and robustness with an intuitive, consistent framework that integrates seamlessly into the scientific information flow—making reporting easier for the author and replication easier for the reader.

## What are STAR Methods?



<http://www.cell.com/star-methods>

# Principles for Addressing Underlying Issues

- Raise community awareness
- **Enhance formal training**
- Protect the quality of funded and published research by adoption of more systematic review processes
- Share information/data
- Increase stability for investigators

# Enhance Formal Training

- NINDS, IRP, and Office of the Director (OD) developed training modules in experimental design, which are being used within the IRP and are available publicly
- NIGMS (with 9 other ICs) is supporting the development of training modules to enhance reproducibility
  - Funded 6 awards, supported by 8 ICs
  - 26 administrative supplements to develop curricula
- IRP workshops on data interpretation considerations for various experimental techniques – “potentials and pitfalls”



# Principles for Addressing Underlying Issues

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# Application and Review Processes

- The NIH Office of Extramural Research (OER) **clarified and revised application instructions and review criteria** to enhance reproducibility of research findings
- Enhancing reproducibility through rigor and transparency
  - Scientific premise of proposed research
  - Rigorous experimental design
  - Consideration of sex and other relevant biological variables
  - Authentication of key biological and/or chemical resources
- Considering sex as a biological variable in NIH-funded research
- Applies to application submitted **Jan. 25, 2016** and beyond
  - Coming soon – updates to institutional training grants, institutional career development awards, and individual fellowships



# Principles for Addressing Underlying Issues

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- Protect the quality of funded and published research by adoption of more systematic review processes
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# Share Information/Data

**PubMed Commons:** System allowing researchers to share opinions on publications indexed by PubMed

The screenshot shows the PubMed Commons website. At the top, there's a PubMed logo and a search bar. Below the logo, the word "COMMONS" is prominently displayed, followed by the tagline "A forum for scientific discourse". A row of five colored squares (green, blue, light blue, green, blue) contains white speech bubble icons, with a "Pilot" label on the right. To the right of this row is a "PubMed Commons Blog" section with a post dated August 27, 2014, discussing the life of a research project. Below the blog, there's a "Follow us" section with a Twitter icon. The main content area features "Top comments now" with two entries. The first entry is titled "Troponin Elevations Only Detected With a High-sensitivity Assay: Clinical Correlations and Prognostic Significance" by Korley TK, dated August 28, 2014, with 2 comments. The second entry is titled "Cognitive conflicts in major depression: Between desired change and personal coherence" by Feixas G, dated 2014, with 2 comments. On the right side, there's a "What people are reading" section listing trending articles, including "Bidirectional switch of the valence associated with a hippocampal contextual memory engram" and "Effects of sexual arousal on lymphocyte subset circulation and cytokine production in man".

PubMed Commons enables authors to share opinions and information about scientific publications in PubMed

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**Top comments now** - [more about this](#)

**Troponin Elevations Only Detected With a High-sensitivity Assay: Clinical Correlations and Prognostic Significance.**  
Korley TK Acad Emerg Med 2014 2 of 2 people found this helpful  
[Frederick K Korley](#) 2014 Aug 28 3:10 p.m. (20 hours ago) 2 of 2 people found this helpful  
Agreed. Troponin values can no longer be used in a dichotomous fashion. Any troponin elevation is a bad troponin elevation. However, those without acute elevations may not necessarily need inpatient hospitalization. If they are discharged, they will benefit from expedited outpatient follow up.  
[Permalink](#) [Share](#)

**Cognitive conflicts in major depression: Between desired change and personal coherence.**  
Feixas G Br J Clin Psychol 2014 2 of 2 people found this helpful  
[Guillem Feixas](#) 2014 Aug 28 4:21 p.m. (18 hours ago) 2 of 2 people found this helpful  
Interested readers can watch a video much related to this paper. It was a keynote address of Dr. Guillem Feixas titled "Cognitive conflicts: A neglected issue in CBT?" given at the 42nd. Annual Congress of the European Association for Behavioural and Cognitive Therapies (Genova, 1st. of sept. 2012) <http://youtu.be/Fz63171r3o>  
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**PubMed Commons Blog**  
**Refining & revising research on the public record**  
August 27, 2014  
The life of a research project often doesn't end when a publication appears in a journal. PubMed Commons members are posting updated and complementary information to keep work current.  
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[Bidirectional switch of the valence associated with a hippocampal contextual memory engram](#)  
Nature. 2014

[Effects of sexual arousal on lymphocyte subset circulation and cytokine production in man](#)  
Neuroimmunomodulation. 2004.

[RNA switch at enhancers.](#)  
Nat Genet. 2014.

[Ribosome Profiling Reveals Pervasive Translation Outside of Annotated Protein-Coding Genes.](#)  
Cell Rep. 2014

[Cardiovascular risk and events in 17 low-, middle-, and high-income countries.](#)  
N Engl J Med. 2014.

# Share Information/Data

## Efforts by Other Organizations: Recent Example



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Bioengineering  
Bioinformatics  
Biophysics  
Cancer Biology  
Cell Biology  
Clinical Trials  
Developmental Biology

Ecology  
Evolutionary Biology  
Genetics  
Genomics  
Immunology  
Microbiology  
Molecular Biology  
Neuroscience  
Paleontology

Pathology  
Pharmacology  
Physiology  
Plant Biology  
Scientific Communication  
Synthetic Biology  
Systems Biology  
Zoology

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# Share Information/Data

ILLUSTRATIONS BY PETE ELLIS



## Team up with industry


Combining commercial and academic incentives and resources  
can improve science, argues **Aled Edwards**.

# Share Information/Data

## Efforts by Other Organizations: Recent Example

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Articles (4)

4 ARTICLES [SHOW FILTERS](#)

RESEARCH NOTE AWAITING PEER REVIEW

**Effect of LXR/RXR agonism on brain and CSF A $\beta$ 40 levels in rats [version 1; referees: awaiting peer review]**

Songli Wang, Paul Wen, Stephen Wood

[» Referees: Invited](#)

PUBLISHED 04 FEB 2016

RESEARCH NOTE AWAITING PEER REVIEW

**Does inactivation of USP14 enhance degradation of proteasomal substrates that are associated with neurodegenerative diseases? [version 1; referees: awaiting peer review]**

Daniel Ortuno, Holly J. Carlisle, Silke Miller

[» Referees: Invited](#)

PUBLISHED 04 FEB 2016


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The Preclinical Reproducibility and Robustness channel is a platform for open and transparent publication of confirmatory and non-confirmatory studies in biomedical research. The channel is open to all scientists from both academia and industry and provides a centralized space for researchers to start an open dialogue, thereby helping to improve the reproducibility of studies.

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Guest Editors



**Bruce Alberts**  
University of California, San Francisco  
USA



**Alexander Kamb**  
Amgen Inc.  
USA

# Principles for Addressing Underlying Issues

- Raise community awareness
- Enhance formal training
- Protect the quality of funded and published research by adoption of more systematic review processes
- Share information/data
- **Increase stability for investigators**



# Investigator Stability

*NIH is piloting the concept of awarding longer grants that provide more stable support*

- Each Institute and Center will decide appropriate size, duration of their award
- Applications will not require specific aims in R01 format
  - Investigators describe research plans; demonstrate how they will translate prior accomplishments into future research approaches
- For investigators at all career stages
- Being pursued at NCI, NINDS, NIGMS



# NIH plans to enhance reproducibility

**Francis S. Collins** and **Lawrence A. Tabak** discuss initiatives that the US National Institutes of Health is exploring to restore the self-correcting nature of preclinical research.

A growing chorus of concern, from scientists and laypeople, contends that the complex system for ensuring the reproducibility of biomedical research is failing and is in need of restructuring<sup>1,2</sup>. As leaders of the US National Institutes of Health (NIH), we share this concern and here explore some of the significant interventions that we are planning.

Science has long been regarded as 'self-correcting,' given that it is founded on the replication of prior work. Over the long term, that principle remains true. In the

shorter term, however, the imbalances that once existed have been hobbling the ability of today's researchers to replicate others' findings.

Let's be clear: we have no evidence that reproducibility is about to collapse. In 2011, the Office of the US Department of Health and Human Services pursued a plan to address the problem. Even if this represents the actual problem,

*"Efforts by the NIH alone will not be sufficient to effect real change in this unhealthy environment."*

# Role for Individual Scientists

## What you can do:

- Stimulate discussion amongst societies/organizations
- Increase transparency
- Promote training in experimental design
- Encourage data and material sharing
- Consider publication of refutations

# Topics for Today

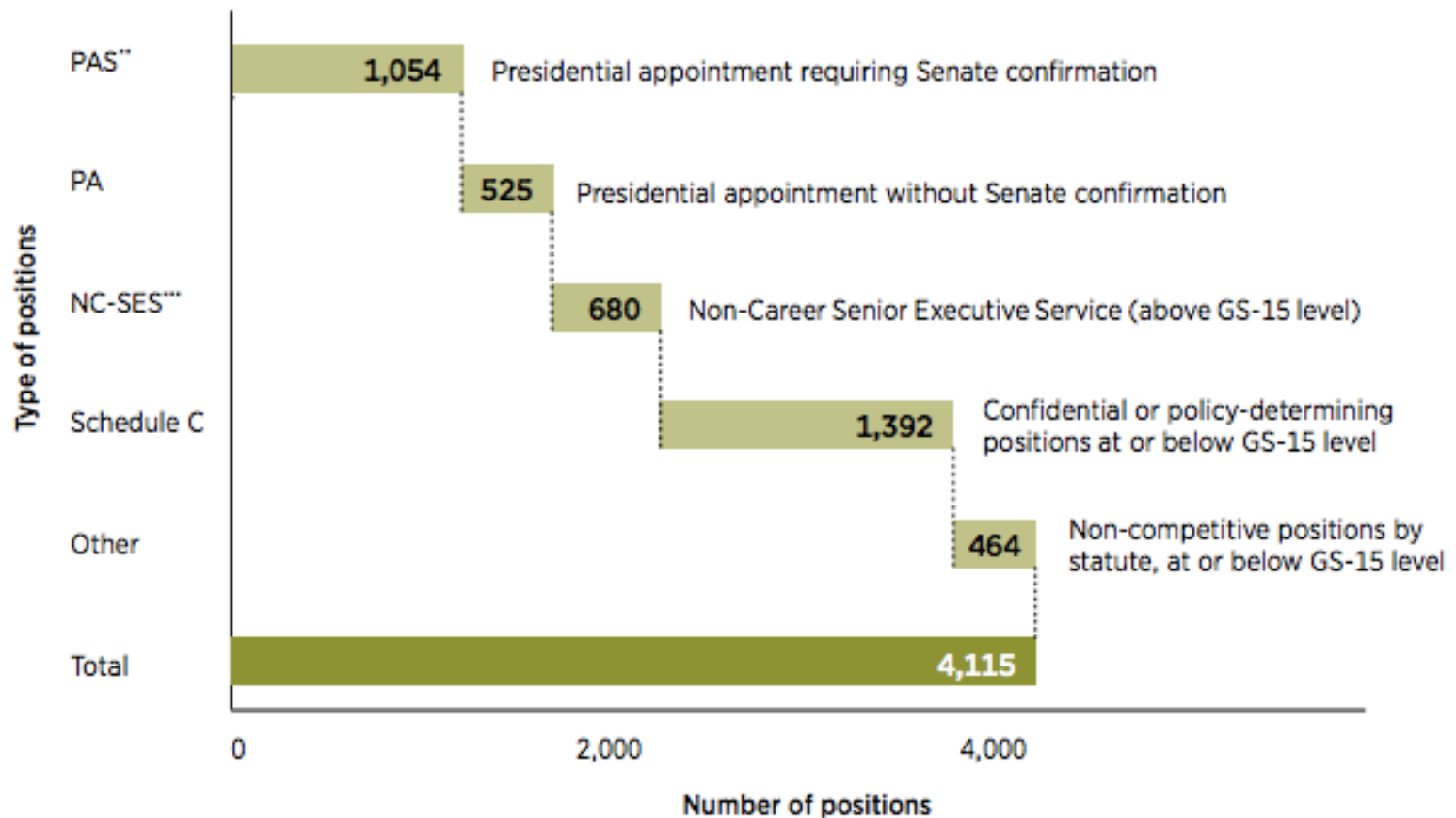
- Budget Update
- Enhancing Reproducibility and Transparency of Research Findings
- **Transitioning to a New Administration**



# A New Administration: Presidential Transition

## Types of non-competitive positions\*

A new administration typically makes ~4,000 appointments. Over 1,000 require Senate confirmation.



# A New Administration: Presidential Transition



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## Presidential Transition Resources for



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# **A New Administration: Presidential Transition**

- Obama administration has convened the White House Transition Coordinating Council (WHTCC) and Agency Transition Directors Council (ATDC)
- Both campaigns have access to office space provided by GSA
- Transition leaders will select agency review teams and strategic priorities

# A New Administration: Presidential Transition at the NIH



- Designation of “Acting”
  - Preparation of materials
- Agency Review
  - Teams arrive
  - Selection of incoming Presidential Appointees begins
- Inauguration and onboarding of new Political Appointees begins



# NIH...

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# Turning Discovery Into Health

