HOW SUPPORT OF EARLY CAREER RESEARCHERS CAN RESET SCIENCE IN A POST-COVID19 WORLD

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AUTHOR DEMOGRAPHICS

Public and Private Institutions

Medical and Undergraduate Campuses

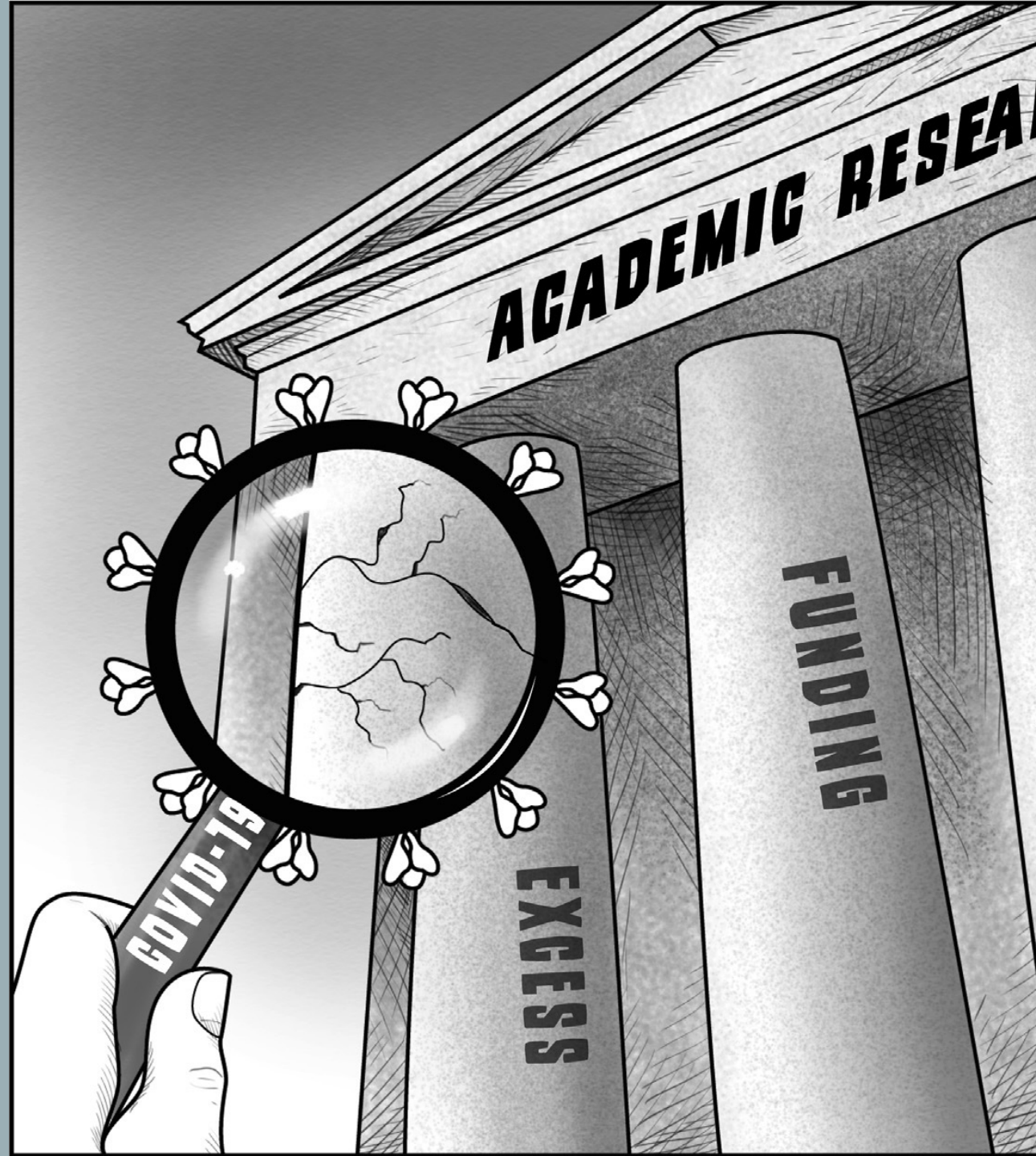
Incoming MD/PhD students through Department Chairs

US Residents and International Researchers

GOAL: FIND SOLUTIONS TO STRENGTHEN THE SCIENTIFIC ENTERPRISE

PRIMARY: SUPPORT OF EARLY CAREER RESEARCHERS, WHO ARE MOST VULNERABLE TO THE COVID19-INDUCED CLOSURES

SECONDARY: SHORE UP THE FOUNDATION OF ACADEMIC SCIENCE

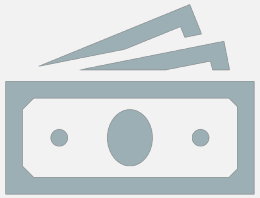


Gibson* et al., 2020 (*Cell*)

COVID19 MAGNIFIED THE SYSTEMIC ISSUES OF ACADEMIC RESEARCH

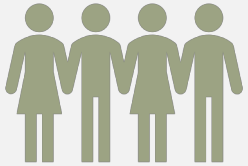
- Excess does not Equal Excellence
  - More is not better
  - Expectations for manuscript revisions quickly modified
- Diversification Leads to Discovery
  - COVID19 is disproportionately impacting populations that are already vulnerable in academic science (women, parents, URMs) – especially related to school closures/child care
- Rethink the Fundamentals of Funding
  - Dependence on federal funding is not sustainable
  - Necessary increase in public involvement in scientific endeavors

MULTI-PRONGED APPROACH TO ENSURE SUCCESS OF ECRS



Funding Agencies

Universities



Public

FUNDING AGENCIES

Simplification of grant application processes

Fewer supplemental documentations and more implementation of LOI formats prior to full proposals

Feedback on grants

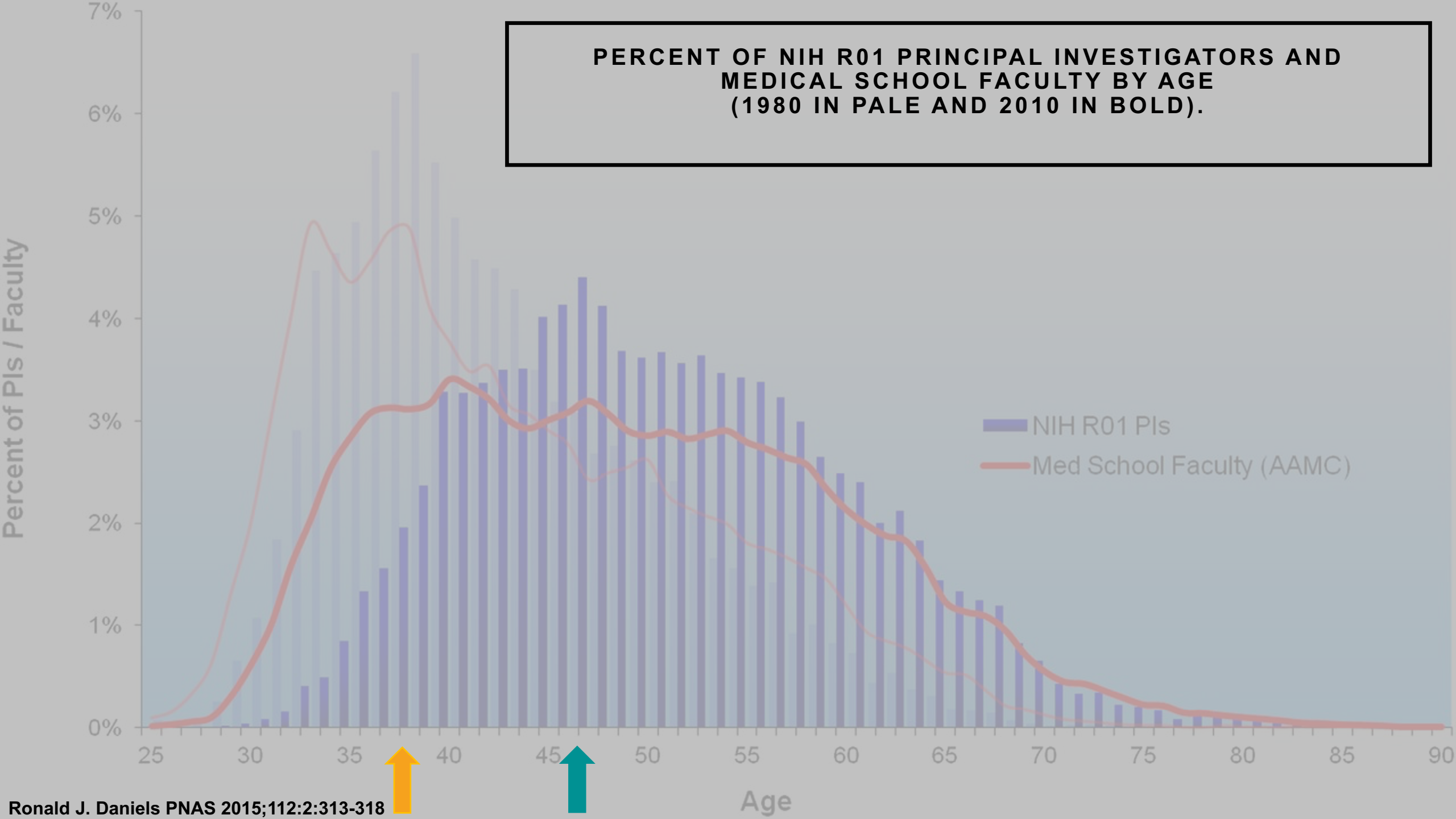
Void in preliminary data

New grant mechanisms that require less preliminary data

Inclusion of ECRs on supplemental applications of more established labs

EXCESS does not equal excellence & Fundamentals of FUNDING

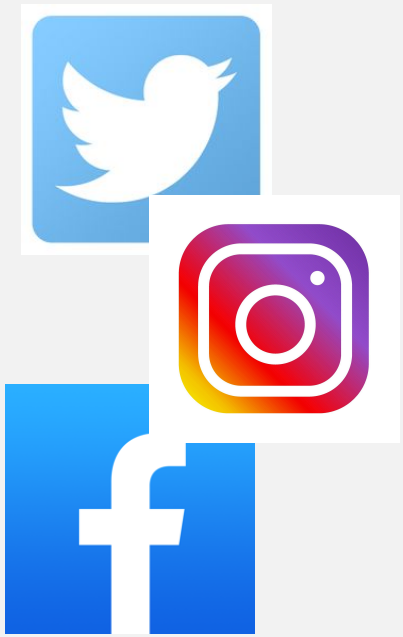
PERCENT OF NIH R01 PRINCIPAL INVESTIGATORS AND MEDICAL SCHOOL FACULTY BY AGE (1980 IN PALE AND 2010 IN BOLD).



Ronald J. Daniels PNAS 2015;112:2:313-318

UNIVERSITIES

- Extensions/Modifications of Tenure: Faculty, Postdocs, and Graduate Students (EXCESS and DIVERSIFICATION)
  - One size does **NOT** fit all approach to faculty tenure processes
  - Graduate students: ECRs more heavily rely on graduate students as the workforce of their l
    - **Stanford** commits to 12-month funding for all PhD students for full 5 years
- Reassess Administration and Teaching Loads (DIVERSIFICATION)
- Institutional Funds and Start-ups (FUNDING):
  - **Yale** – Dean's office to provide $30K in research funds to supplement start-ups and ECRs, which will be matched by the faculty's department
- Supplementation (DIVERSIFICATION & FUNDING):
  - Per diem costs
  - Child care



PUBLIC

- Make science a national priority
  - Exploiting technology & social media to bring science directly to the public:
    - Website-based donations platforms to allow private citizens to directly invest in science and scientists (Else, 2019; Miller, 2019) (FUNDING)
- Enhance scientific transparency
  - Much of the mistrust evident between the scientific establishment and the general population is rooted in lack of transparency and community involvement in science
  - Increase access to technology can help to mitigate this mistrust
  - Removing excess requirements in publishing, grantsmanship, and tenure expectations could have the added benefit of creating more time for scientists to interact in the public domain. (EXCESS)

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Science we can do together.

CROWD SCIENCE

experiment

INCLUDE **EARLY CAREER RESEARCHERS** IN THE CONVERSATION!

OTHER REFERENCES

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