HOW SUPPORT OF EARLY CAREER RESEARCHERS CAN RESET SCIENCE IN A POST-COVID-19 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 COVID-19-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).
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 labs
    • 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
• 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)
INCLUDE **EARLY CAREER RESEARCHERS** IN THE CONVERSATION!
OTHER REFERENCES

- **COVID-19 Impact on Age and Gender Discrepancy in Science:**