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# IMPACT OF COVID-19 ON SCIENTIFIC RESEARCH AND YOUNG INVESTIGATORS: LOSS OF A GENERATION

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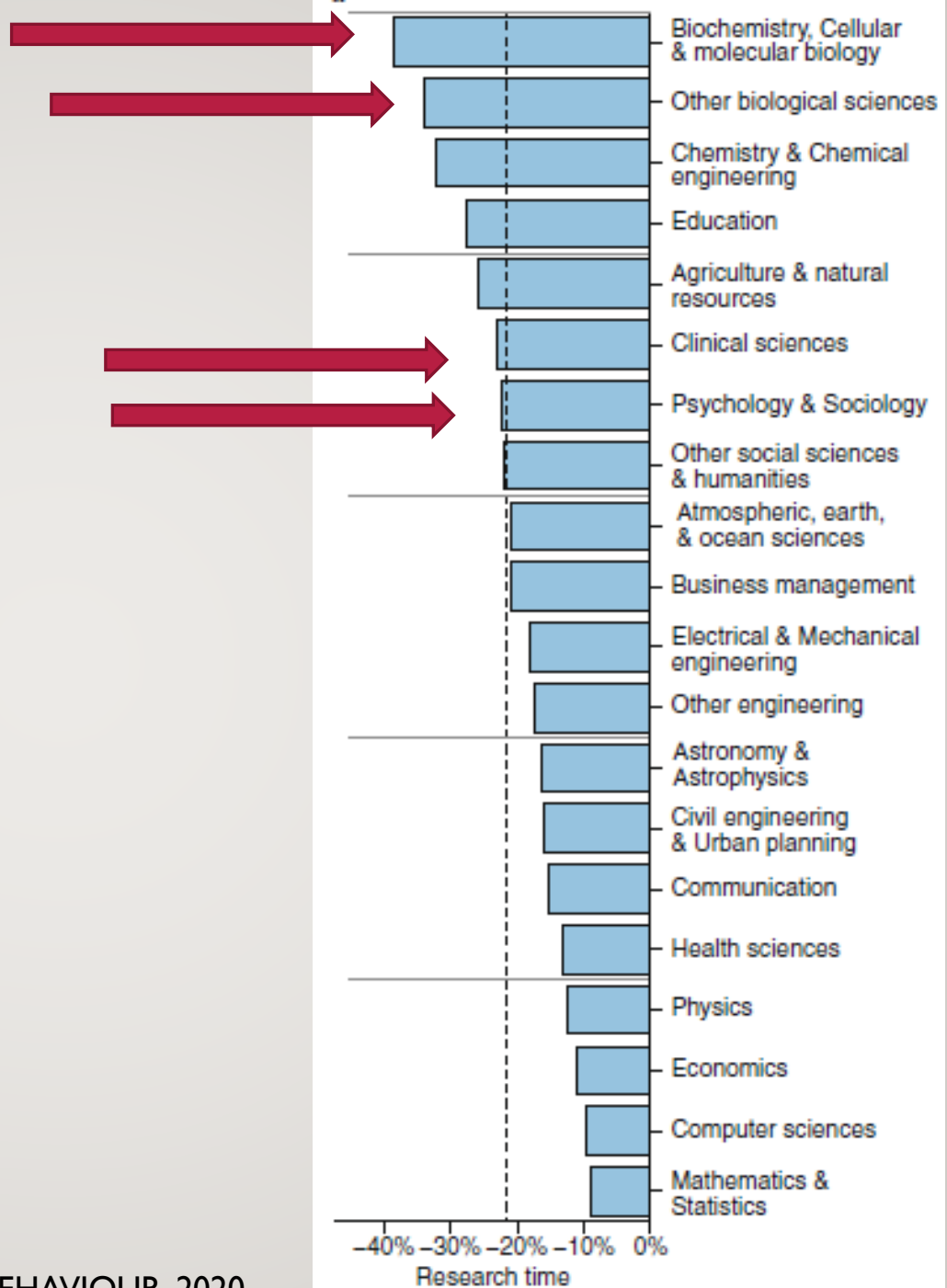
FRIENDS OF NIAAA

SEPT. 15, 2020

# CLOSING OR REDUCING ACTIVITY IN THE LAB

- In March, with concerns of COVID 19, many research programs, including NIH intramural programs, were required to shut down or reduce activity
- Often this action occurred within days; little preparation
- Disrupted ongoing research projects
  - Basic and Clinical Science had to pause projects
  - The ability to maintain a research project with such a pause varies on the project

# BIOLOGICAL, CLINICAL AND PSYCHOLOGICAL SCIENCES ARE HIT THE HARDEST



MYERS ET AL.,  
NATURE HUMAN BEHAVIOUR, 2020

# BASIC SCIENCE

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- Ongoing experiments were disrupted
- Cell culture studies
- Animal studies
- Imaging systems



# CLINICAL SCIENCE

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- Disruption of ongoing projects (unless specifically related to COVID)
- Loss of face-to-face contact needed for data collection
- With re-opening of labs, safety measures limit what data collection can occur
- Research with vulnerable populations, like elderly and children, is particularly challenging
- Research pauses can affect subject recruitment and maintenance



# LOSS OF RESEARCH PRODUCTIVITY

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## LOSS OF RESEARCH MOMENTUM

Re-opening and re-establishing research projects can be a slow process



# LOSS OF RESOURCES

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- Costs of maintaining the lab continue, even with reduced productivity
- Many researchers have worked diligently to maintain research staff
- Re-starting can be expensive
  - Basic science projects may need to replenish critical resources
  - Clinical science projects may need to re-establish clinical populations
  - Disrupted projects may need to be duplicated
  - May have to re-hire and train qualified staff
- Costs of maintaining safety as labs re-open: PPE, social distancing
- No additional funding; economic challenges for researchers

# LONG-LASTING IMPACT ON SCIENTIFIC PROGRESS

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Impact our rate of scientific advances toward addressing the important public health issues of the day, including the issues of alcohol use and use disorders



# THE PANDEMIC HAS CREATED ADDITIONAL DEMANDS AND CHALLENGES OUTSIDE OF THE LAB

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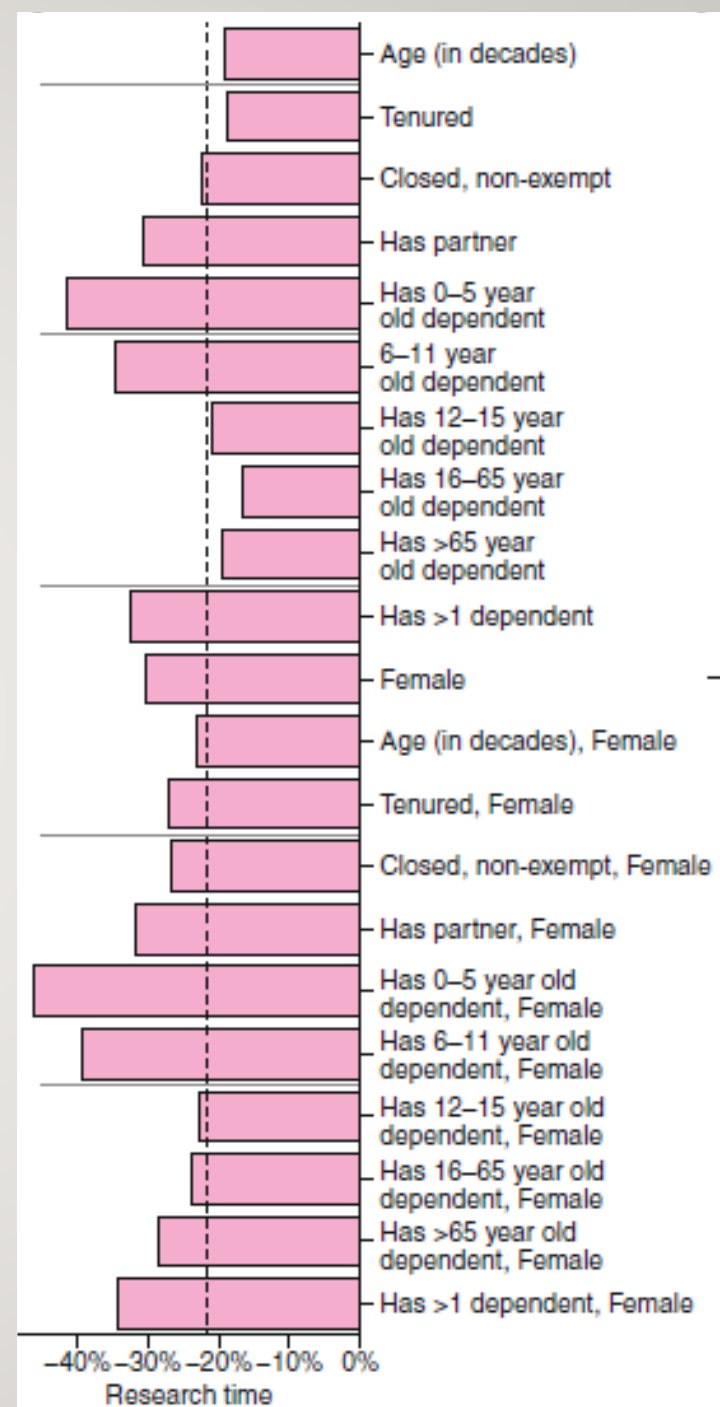
CHILDCARE, ELDERCARE, SCHOOLING HAVE BEEN MOVED TO HOME



# FEMALE SCIENTISTS AND THOSE WITH YOUNG DEPENDENTS ARE DISPROPORTIONATELY AFFECTED



MYERS ET AL.,  
NATURE HUMAN BEHAVIOUR, 2020



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## Science News

### Is COVID-19 widening the gender gap in academic medicine?

Study finds fewer women publishing COVID-related papers, especially in early days of pandemic

Anderson et al, eLife, 2020

# IMPACT ON TRAINEES AND YOUNG INVESTIGATORS

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Delays in career advancement



# UNDERGRADUATE STUDENTS

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- Difficult to keep students engaged in sciences remotely
- Fewer training opportunities because of economic challenges in labs
- May be dissuaded from entering a graduate program without undergraduate research experience
- Disparities in accessibility



# GRADUATE STUDENTS

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- With lack of access to labs, graduate students will require additional time to complete theses/dissertations
- Social distancing has impacted mentoring
  - Virtual forums cannot replace face-to-face mentoring
- Cancellation of scientific conferences limits critical networking
- What career opportunities exist after graduation?

nature

CAREER NEWS · 18 AUGUST 2020

**Signs of depression and anxiety soar among US graduate students during pandemic**

# PRODUCTIVITY IS CRITICAL FOR PROFESSIONAL ADVANCEMENT OF YOUNG INVESTIGATORS

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POSTDOCTORAL FELLOWS

JUNIOR FACULTY

# POSTDOCTORAL TRAINEES

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- Reduction in training and networking opportunities
- Inability to complete critical research projects for publication and pilot data to secure research grant funding
- Current grant awardees (K99) may have experience delays and face challenges finding faculty positions



# HIRING FREEZES

## Frozen Searches

INSIDE  
HIGHER ED

Scores of institutions announce faculty hiring freezes in response to the coronavirus.

By Colleen Flaherty // April 1, 2020



EGOR KAMELEV, PEXELS

nature

CAREER NEWS · 02 JUNE 2020

## Junior researchers hit by coronavirus-triggered hiring freezes

With student enrolment projected to fall, some US and UK institutions have halted recruitment.

TheScientist  
EXPLORING LIFE, INSPIRING INNOVATION

## Universities Issue Hiring Freezes in Response to COVID-19

Graduate students and postdocs are left wondering about the implications for their academic careers.

# HIRING FREEZES

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- Research labs facing economic challenges that lead to fewer hires
- As of mid-June, over 400 institutions in the U.S. had imposed hiring slowdowns or freezes (Nature, 2020, [582](#), 49-450)
- Hiring freezes
  - Universities
  - Research Institutes
- Accepted faculty jobs delayed
- Fewer staff and less administrative support for current researchers

# JUNIOR FACULTY

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- Tenure clock
- Limited start-up funds
- Pressure to maintain strong publication rates and research funding
- Additional demands on time (transition to virtual online teaching, increased class sections)

# WE RISK LOSING TALENTED RESEARCHERS

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# NEEDED ACTIONS

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Strong Funding to NIAAA and other NIH Institutes

Funding Support for Academic and Research Institutes

Support for Junior and Underrepresented Researchers

# THANKS

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- Michael Miles, Virginia Commonwealth University
- Kyle Myers & Dashun Wang, Northwestern University
- Friends of NIAAA