# NIH COVID-19 Extramural Survey Report

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National Institutes of Health
*Office of the Director*
*Scientific Workforce Diversity*

# Extramural Survey Objectives

## Institutions

- What has been the impact of the pandemic on research activities at extramural institutions?
- What are the current and expected financial impacts to the institution, including on the research workforce?
- How are institutions currently planning for and prioritizing operations?

## Individual Researchers

- What has been the impact of the pandemic on research productivity among individual researchers?
- How do researchers expect their career trajectory to be impacted by the pandemic?
- What external stressors are researchers experiencing?
- Are institutions providing effective support to researchers?

# Extramural Research Survey Overview

## Researchers Survey

| | |
|---|---|
| **Sample Selection** | Domestic institutions:<br>• eRA past two years<br>• Are in a scientific role |
| **Participants** | **45,348** out of 234,254 invites |
| **Response Rate** | **19%** |
| **Timeline** | October 14 – November 13, 2020 |

## Institutions Survey

| | |
|---|---|
| **Sample Selection** | Research leader (VP for Research or equivalent):<br>• Top-funded1,000 domestic institutions FY2019<br>• Members of the AAMC<br>• Minority-serving institutions |
| **Participants** | **224** out of 705 invites |
| **Response Rate** | **32%** |
| **Timeline** | October 7 – November 6, 2020 |

***Note:** Missing data are excluded from the percentages shown throughout the analysis. Only percentages with more than 5 respondents are shown to protect privacy.

# High-Level Findings – Extramural Institutions Survey

## Concerned About ...

| KEY QUESTIONS | Financial Status | Research Functions | Research Productivity | Loss in Endowment |
|---|---|---|---|---|
| **All Respondents** | **66%** | **41%** | **83%** | **15%** |
| **Doctoral with Professional School** (53%) | 77% | 49% | 85% | 19% |
| **Doctoral without Professional School** (17%) | 74% | 40% | 82% | 13% |
| **Independent Research Institution** (19%) | 33% | 29% | 83% | - |
| **Special Focus/Other Institution** (7%) | - | - | 87% | - |
| **Minority-Serving Institution** (24%) | 77% | 51% | 74% | 17% |
| **Non-Minority Serving Institution** (76%) | 76% | 44% | 85% | 15% |

***Note:** For certain dependent variables, higher percentages correspond to a more negative impact; whereas for other dependent variables, higher percentages correspond to a less negative impact.
**MSI** = Minority Serving Institution, **NMSI** = Non-Minority Serving Institution
All percentages are out of valid totals, with missing values removed.

More negatively impacted than the average across all respondents
Less negatively impacted than the average across all respondents
On par with the average across all respondents

# Researchers: Executive Summary

## Career Trajectory

- Majority (55%) reported negative effect; 14% said not
- Laboratory-based (61%) most likely
- Strongest predictor ability to apply for grants
- Underrepresented groups (women, racial/ethnic groups) reported varying impact, with Asian scientists most negatively impacted; differences between groups moderated by type of work and career stage*

## Mental Health

- Over 66% cited societal/political events and physical/social isolation
- Women and other gender identity affected more
- Early career investigators affected more

## Research Productivity

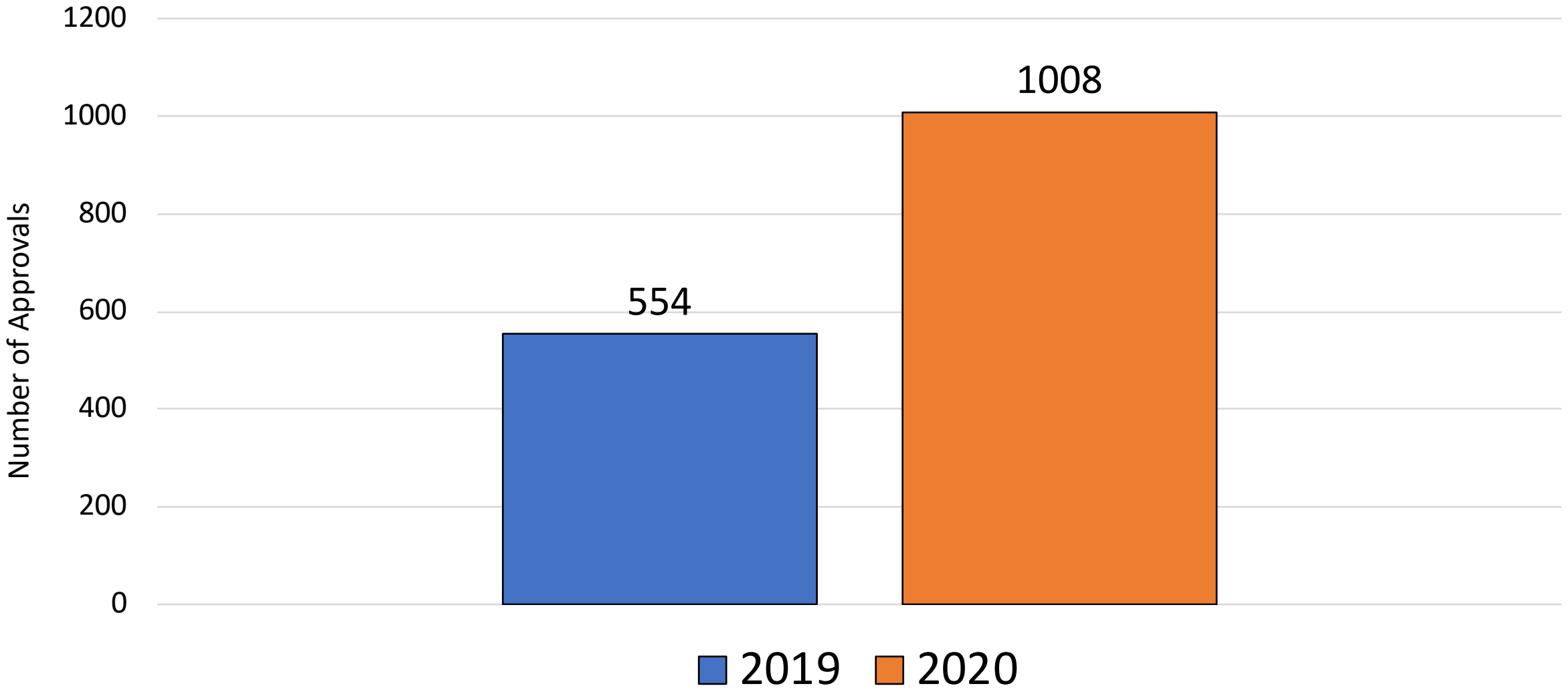
- Most (78%) reported lower productivity
- Most early (80%) and mid-career investigators (81%) reported lower productivity
- Access to labs, facilities, and colleagues were strongest predictors of lower productivity

* See appendix and full deck; additional analyses forthcoming

# Career Trajectory Concerns by Career Stage

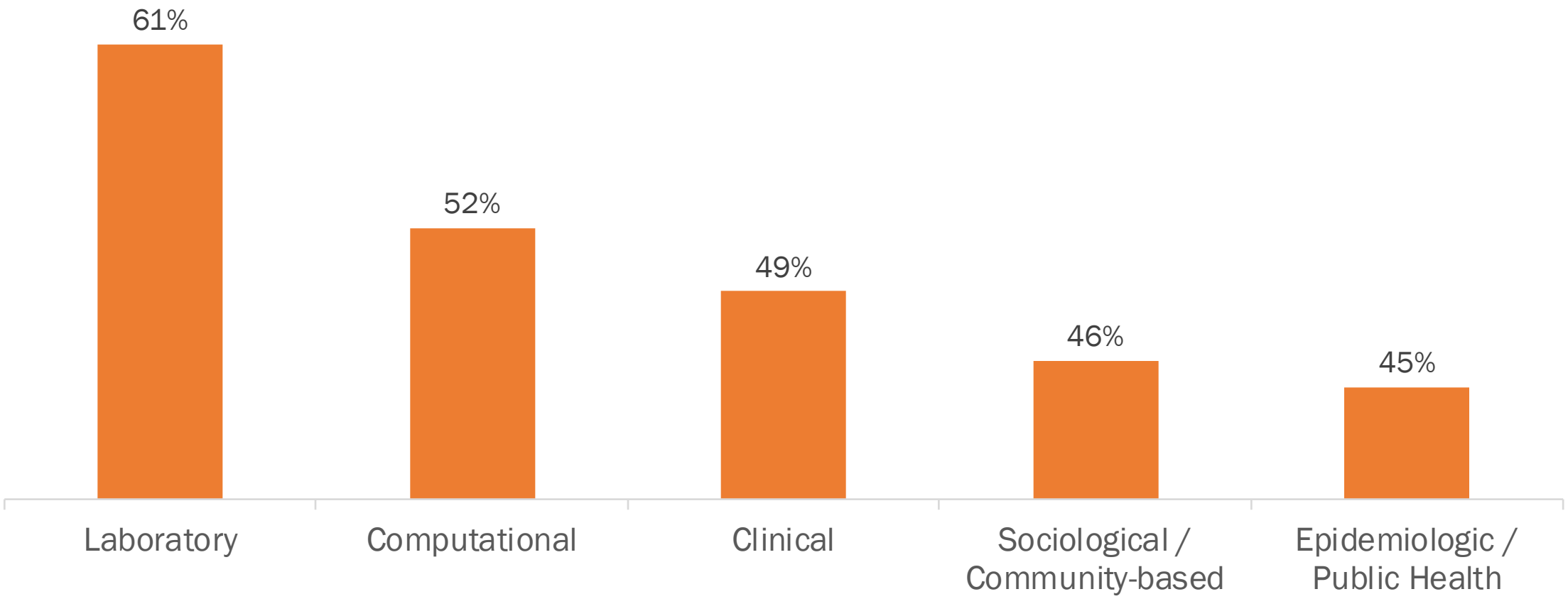
| Career Stage | % Negative Impact |
|---|---|
| Postdoctoral Fellow/Resident | **69%** |
| Faculty (0-6 years) | **67%** |
| Faculty (7-14 years) | **61%** |
| **All Respondents** | 55% |
| Student (Undergraduate, Graduate, Medical) | 56% |
| Researcher (0-6 years) | 54% |
| Researcher (7-14 years) | 49% |
| Faculty (15+ years) | 43% |
| Researcher (15+ years) | 34% |

# CY19 and CY20 ESI Extension Approvals



# Career Trajectory Concerns by Laboratory Type

## % Negative Impact by Type of Research



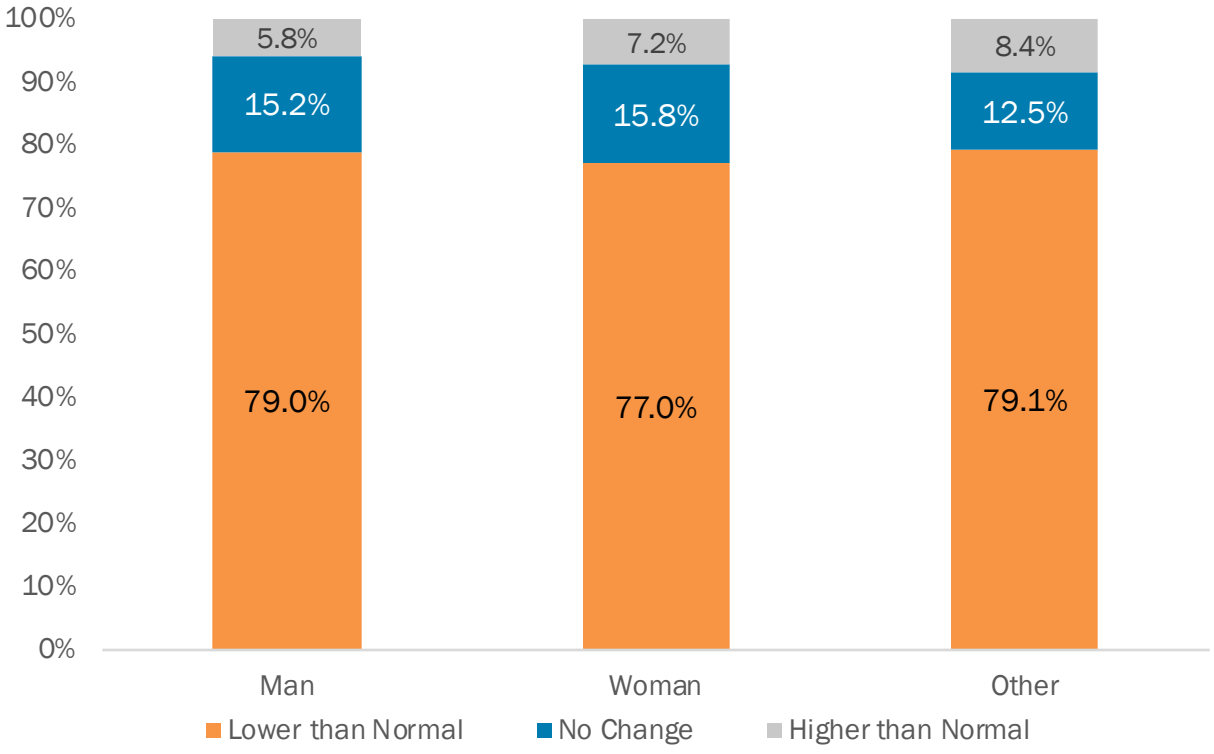
# Professional Impact by Gender Identity

There are **few differences** in the pandemic's effect on **productivity and career trajectories across gender identities**: both are less productive and agree that the pandemic will negatively impact their career trajectory.

**Q25. On average, how would you rate your overall research productivity since the pandemic began in March?**

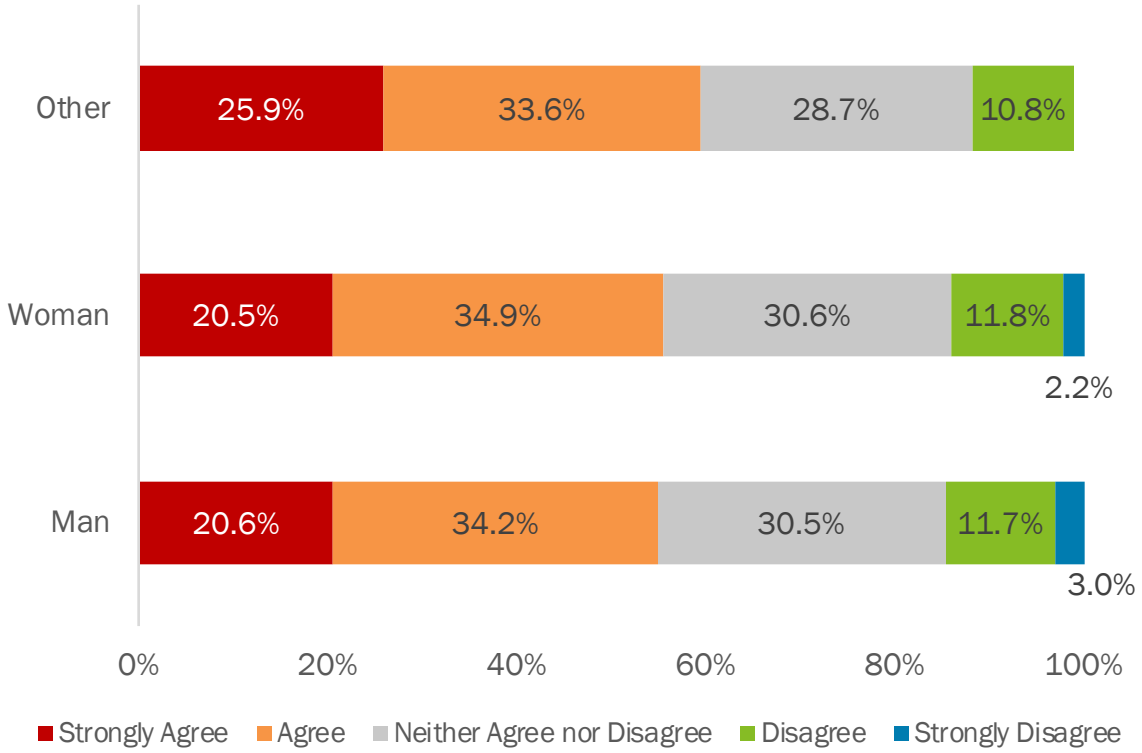
Research productivity includes submitting grant applications, publishing papers, collecting data, etc.

n=41,114




**Q50. The pandemic will probably have a negative impact on my career trajectory.**

n=41,112




Note: A chi-square test found that differences between groups are statistically significant for both Q25 and Q50

*Data for groups comprising five respondents or fewer are suppressed and not displayed in the charts for confidentiality reasons. As a result, percentages do not add to 100.

# Most Important Predictors of Career Trajectory Concerns

| | Top 10 Variables (Negative Class Predictors) | Importance |
|---|---|---|
| **1** | **Ability to apply for grants** | **0.1634** |
| **2** | **Progress towards promotion/tenure** | **0.0627** |
| **3** | **Reduced access to on-site laboratories** | **0.0604** |
| 4 | Reduced access to core facilities | 0.0573 |
| 5 | Concern for the health of family and friends | 0.0510 |
| 6 | Reduced access to colleagues | 0.0479 |
| 7 | Caretaking responsibilities | 0.0402 |
| 8 | Lost access to expertise | 0.0321 |
| 9 | Timeline uncertainty for returning to work | 0.0277 |
| 10 | Personal mental/physical health has impacted productivity | 0.0258 |

AUC = 79.3

# Most Important Predictors of Decreased Research Productivity

| | Top 10 Variables (Negative Class Predictors) | Importance |
|---|---|---|
| **1** | **Reduced access to on-site laboratories** | **0.0961** |
| **2** | **Reduced access to colleagues** | **0.0918** |
| **3** | **Reduced access to core facilities** | **0.0571** |
| 4 | Change in laboratory/animal facility access | 0.0554 |
| 5 | Research put on hold | 0.0424 |
| 6 | Ability to apply for grants | 0.0413 |
| 7 | Concern for the health of family and friends | 0.0374 |
| 8 | Lost access to lab spaces | 0.0231 |
| 9 | Laboratory-based researcher | 0.0210 |
| 10 | Timeline uncertainty for returning to work | 0.0187 |

AUC = 85.5

# Conclusions & Next Steps

| | |
|---|---|
| **Career Trajectory**  | Over half believed that their career trajectory will be negatively affected. Ability to apply for grants, reduction in on-site laboratory access, and stalled progress toward tenure and promotion drove this sentiment. |
| **Research Productivity**  | Most researchers reported lower-than-normal productivity. Driving factors are loss of access to laboratories, colleagues, and facilities. |
| **Mental Health**  | Over half indicated physical and social isolation and societal and/or political events affecting their mental health. Those with an "other" gender identity, those who identify with two or more races, and Hispanic/Latino respondents were more likely to report mental health concerns. |

**COSWD is continuing to analyze the data from the Extramural Researchers and Extramural Institutions Surveys.**

**The following reports are being developed:**

1. **February 19**: Detailed PowerPoint Report expanding on the research topics of career trajectory, research productivity, and mental health
2. **February 19**: Narrative Report on the high-level findings from the Extramural Researchers survey