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The UK funder Wellcome wants applicants, such as these researchers, to specifically mention the impacts from COVID-19 on their progress.

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## THE CAREER COST OF COVID-19 TO FEMALE RESEARCHERS

Some funders and journals are trying to support female researchers and others whose publications and positions are at risk.

**E**arly data on the coronavirus pandemic's effects on scientific-publishing output suggest that female researchers, particularly those at early-career stages, are the hardest hit. Submissions to preprint servers, such as arXiv, rose more quickly for male authors than for female authors as nations adopted social-isolation measures. And female authors have accounted for only one-third of all authors on published COVID-19 papers since January 2020.

As a consequence of the pandemic, female researchers' positions might be at risk. For example, a May report found that female scientists in Australia, who are 1.5 times more likely to be in casual or short-term contract jobs, are more likely to lose jobs, paid hours and career

opportunities than are their male counterparts.

For female scientists, the pandemic also poses a significant threat to hard-won gender-equity gains achieved over the past few decades. *Nature* asked journal editors, funders and academic leaders how to mitigate those threats.

### CANDACE HASSALL ENCOURAGE RESEARCHERS TO SHARE THEIR EXPERIENCES

It's clear that COVID-19, the lockdown and the subsequent closure of schools and nurseries have magnified existing problems. We can't

allow the systemic inequalities throughout the scientific enterprise to worsen. As funders, we need to actively encourage people to tell us what they've had to cope with. Otherwise, we won't know about it. Our application forms will now include a space for people to specifically mention the impacts of COVID-19 on their progress so far.

We look forward to the findings of a survey commissioned by UK Research and Innovation, which is a large national funder, and Universities UK, which represents institutions across the nation. Its aim is to gather evidence on the effects of COVID-19 on research groups. Those data will help us to bring about real, rather than tokenistic, changes that will make a long-term difference. As part of Wellcome's

## Work / Careers

Research Culture initiative, we created a website on which people can submit suggestions for improving research culture. It launched before the pandemic and was very general, but now researchers should use it to make recommendations about how we can respond to lockdown-related issues. (Editor's note: because of the pandemic, Wellcome cancelled a 'solutions summit' originally scheduled for March 2020, and expects to reschedule this year.)

Some researchers are e-mailing Wellcome to highlight what they're finding challenging – carer responsibilities, their own illness or the impact of prolonged laboratory closures – and what they would find useful in mitigating the impacts of those challenges. We are making broad changes in policy, including grant extensions, as well as specific interventions such as paying to re-establish research animals that died because of lab closures.

At the moment, we haven't done anything gender-specific for parental leave. We've offered grant extensions, salary supplements and student-stipend supplements to keep people employed. For grants ending this year, we offered six months of salary support. And for those ending in 2021, we'll provide three months of such support. We're an independent charity, and are able to redeploy our resources to make temporary changes – but not all funders are in this position.

**Candace Hassall** is head of researcher affairs at biomedical-research funder Wellcome in London.

### ROOPA DHATT SET QUOTAS FOR LEADERSHIP POSITIONS AND FUNDING

Within the global-health space, there is a growing legacy of frustration. We started quantifying women in global health in 2017. They account for 70% of the workforce, but stagnate at 25% of senior leadership. When the COVID-19 outbreak began, female researchers were not getting recognized in the media. To promote more equitable representation, we launched Operation 50-50, a tool that gives journalists and editors easy access to nearly 100 female specialists in clinical roles, health security and disease outbreaks. We will soon publish an update that will include 250 female experts.

In a recent opinion piece, my colleagues and I called for changes in promotion criteria, targeted funding opportunities and mandated inclusion of diverse speakers on academic conference panels or any university-hosted virtual dialogues. We're pushing for more accountability mechanisms in higher-education institutions. Universities need to be transparent about their diversity targets

– and about the fact that when they aren't reaching those targets, it is a failure.

Funders should set quotas for funding allocation. Women's-health research receives less than 5% of global-health funding worldwide. It should be 50:50, but one option would be to make sure at least 25% of that work goes to female researchers. We know women are more likely to research women's health, so making sure they have the resources to do that is one step forward. Too often, funders encourage women to apply, but don't ensure that they receive a fair percentage of the money. During this and any future pandemic or long-lasting disaster, women will need longer timelines to apply because they have added caregiving duties.

**Roopa Dhatt** is executive director and co-founder of Women in Global Health, an advocacy organization based in Washington DC.

### SINDY ESCOBAR-ALVAREZ REMOVE THE CAREGIVING STIGMA

COVID-19 has put a spotlight on researchers who also have carer responsibilities. We are hopeful that this moment will force us all to change the institutional culture that stigmatizes carers. In 2015, the Doris Duke Charitable Foundation began the Fund to Retain Clinical Scientists. We gave ten medical schools funding to retain promising scholars who have caregiving roles at home. They have research funding, so this supplement helps them to hire a technician or research coordinator.

Not surprisingly, almost 80% of those scholars are women. Researchers continue to document lessons from that programme: most early-career faculty members have carer responsibilities; supplemental funding helps them to reclaim time and to maximize productivity; and institutional commitment to researchers who are carers reduces the stigma associated with caregiving. We hope this evidence will shine through the pandemic.

The US National Academy of Sciences' Committee on Women in Science, Engineering and Medicine will soon launch a study on the pandemic's effect on female scientists' careers. Data from this study will help the funding community's efforts to create gender-specific policy adjustments. We want everyone to know that we realize applicants might not have preliminary data, but this shouldn't discourage anyone from applying. We hope to see other funders be clear about lowered expectations in the middle of the pandemic.

In 2018, we modified our grant applications to allow an optional paragraph to address any lapses in productivity or delays resulting from extraordinary situations. We hear reviewers say, "This person should already have produced this many publications," so we want to give applicants the opportunity to detail their circumstances.

We have learnt a lot from examining the language in requests for proposals, which can elicit biases in applicants. Between 2013 and 2016, female physician-scientists who applied for our Clinical Scientist Development Award had a 5% grant success rate, whereas that for their male counterparts was 13%. We changed the proposal language subtly, such as avoiding the word 'innovative' to describe research



Roopa Dhatt speaks at an event.

and instead using ‘never been done before’. Women now make up 53% of the applicant pool and have a 10% grant success rate. I hope funders will be mindful of our findings.

**Sindy Escobar-Alvarez** is a senior programme officer for medical research, Doris Duke Charitable Foundation, New York City, New York.

## **ANANYA ROY** **PRIORITIZE SUBMISSIONS** **FROM VULNERABLE GROUPS**

In May, the *International Journal of Urban and Regional Research* announced a pause in editorial activities, given our concern around adding to colleagues’ and reviewers’ existing burdens. We knew that the impacts of coping with the pandemic would fall to women, and that early-career researchers will face a dismal job market. Reviewers are a limited resource right now, and we want to use their contributions in a way that addresses structural inequality.

We decided to prioritize women and early-career researchers by putting their papers at the front of the review queue. Each group represents a certain kind of inequality. This is an opportunity for us to think about how we can deepen practices of compassion, care and equity.

We’ve encouraged people submitting manuscripts to include descriptions of their burdens in their cover letter.

For years, I’ve paid close attention to papers from scholars who are not at elite universities – particularly those who are at institutions in the global south – and to those from early-career researchers. Like other journals, we do a large number of ‘reject without review’, but we have set up systems of advice and mentorship, and send those authors detailed guidelines for getting their paper reviewed. I also find an editorial board member to serve as a mentor to work with them.

Research is going to be difficult this year and into the next. As a university faculty member, I’m worried about doctoral students who need to head out to do field research but face significant uncertainty. Universities, including the University of California, Los Angeles (UCLA), pushed hard early on to extend the tenure clock by a year. UCLA faculty members fought for extensions for graduate students, which yielded, for example, some payments towards summer stipends, but those policies are still being developed.

**Ananya Roy** is an urban-planning scholar at University of California, Los Angeles, and an editor of the *International Journal of Urban and Regional Research*.

## **EMMA JOHNSTON** **ALTER EVALUATION CRITERIA** **TO ACCOUNT FOR INEQUITY**

Women in academic science tend to be less senior than men are, and they hold fewer secure positions: they are more likely to be on contract or have junior roles, which are easier to terminate. When cost savings are necessary, the easy thing is to let go of those jobs first. Research institutions or universities should keep in the front of their minds that their cost-saving decisions might not be neutral from a gender perspective. There are a lot of data that show many benefits to a diverse workforce. Diversity is a treasure to be protected, and should not be considered a luxury.

I am hearing some reports of widespread cancellation of career-progression programmes that target parents who have newly returned to the workforce or focus on professional development for women. When you are in a crisis, it’s important not to sacrifice equity. We should protect those gains.

After the Australian bushfires of early 2020, and their impacts on productivity, the University of New South Wales published our policies on ‘achievement relative to opportunities’ (ARO), which aim to give more weight to the overall quality and impact of achievements rather than to their quantity, rate or breadth. Faculty members can submit ARO performance evidence cases for promotions if, for example, they rapidly transitioned to online teaching, leaving less time for research.

**Emma Johnston** is dean of science, University of New South Wales, Sydney, Australia, and a co-author of *Impact of the Pandemic on Australia’s Research Workforce*.

## **HEATHER SNYDER** **MAKE VIRTUAL** **CONFERENCES FREE**

My organization, the Alzheimer’s Association, is the largest non-profit funder of dementia science around the world. We had a grant-programme deadline in mid-March, but we paused it because it was negatively affecting too many potential applicants. Like other funders, we are working with current grantees to adjust timelines in case they have to pause for caring responsibilities right now, whether for a child or another family member. Carers are predominantly women, but some male grantees have asked to adjust timelines, too.

To support women specifically, our Alliance of Alzheimer’s Women Researchers, a global network, has identified four established scientists who will help junior researchers to think through career strategies in this

moment. We’re exploring how we can support early-career researchers at our annual meeting, which will now take place virtually during the last week of July. We’ve made the meeting free of charge to increase access, and will provide programming – for example, focusing on effective networking, gender bias and funding – and support to early-career researchers through chat rooms. We are offering a webinar series on grants, and there will be an open-question panel session on global perspectives on advancing women in science. We want to help this group to continue to make connections and form a network, despite being unable to meet in person.

**Heather Snyder** is vice-president of medical and scientific operations at the Alzheimer’s Association, Chicago, Illinois.

## **STEPHEN MATHESON** **GATHER DATA AND** **RESPOND APPROPRIATELY**

Five months ago, Cell Press introduced a gender question into our editorial process. Everyone is asked to identify as male, female, nonbinary or a member of another category. Initially, the company wanted to gather data on gender makeup to address a persistent problem – an overly male reviewer pool.

As we analyse our data, we are responding in two ways. One, which we’re already doing, is strongly amplifying female voices within the journal. Our editorial advisory board is currently 40% women, and we aim to be at 50% by end of this year. Right now, we are discussing the possibility of exclusively inviting female authors to write review or ‘preview’ articles – short articles that we commission, which highlight one or more papers in *Cell* or another journal for our readers.

The second is that we want at least one woman reviewing every paper. Other ideas we are considering are finding ways to expedite submissions from self-identified women, and soliciting submissions from women with some intent to publish. We are currently gathering data on the impacts that COVID-19 has had on our authors and are communicating with our female colleagues about how best to respond to the challenges they face.

As we try to mitigate the impact of the pandemic, we mainly need to make sure that our efforts to empower people – by inviting someone to write a preview, for example – don’t actually add to workloads.

**Stephen Matheson** is editor-in-chief, *Cell Reports*, Cambridge, Massachusetts.

These interviews have been edited for length and clarity. **Interviews by Virginia Gewin.**