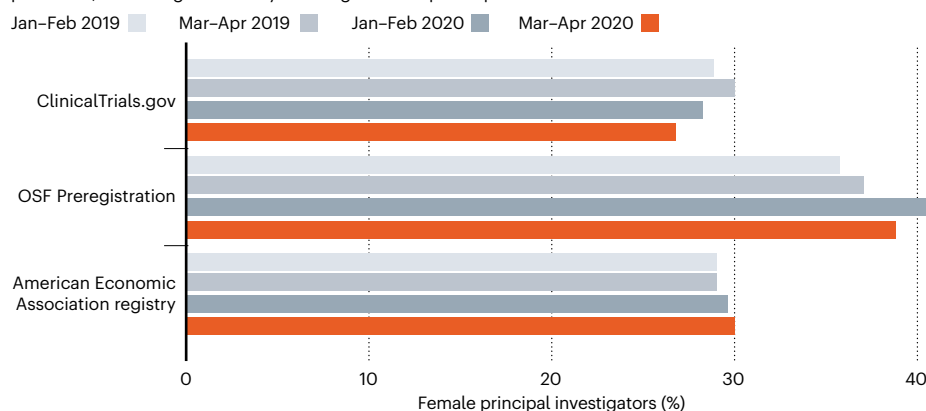


FEWER NEW PROJECTS

Women are registering a smaller proportion of research projects than before the pandemic, according to an analysis of registered-report repositories.



In economics, too, there are indications that the pandemic is disproportionately affecting younger researchers, says Noriko Amano-Patiño, an economist at the University of Cambridge, UK. Taken as a whole, there aren't clear discrepancies in the overall number of working papers – a preprint-like publication format in economics – that have been submitted to three major repositories, or in invited commentaries submitted to a fourth site that publishes research-based policy analyses (see 'Fewer new projects').

Academic responsibilities

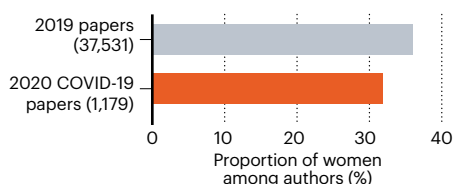
Amano-Patiño and her collaborators also examined who was working on pandemic-related research questions using a COVID-19-specific repository (see go.nature.com/36sj2cm). Although women have consistently authored about 20% of working papers since 2015, they make up only 12% of the authors of new COVID-19-related research. Amano-Patiño suspects that, in addition to their childcare responsibilities, early- and mid-career researchers, especially women, might be more risk-averse and thus less likely to jump into a new field of research. "Mostly senior economists are taking their bite into these new areas," says Amano-Patiño. "And junior women are the ones that seem to be missing out the most."

"Unfortunately, these findings are not surprising," says Olga Shurchkov, an economist at Wellesley College in Massachusetts. Shurchkov came to similar conclusions in a

separate analysis of economists' productivity during the pandemic (see go.nature.com/2zyuebi). And a 13 May arXiv preprint (J. P. Andersen *et al.* Preprint at <https://arxiv.org/abs/2005.06303>; 2020) shows the same trends in pandemic-related medical literature (see 'COVID-19 effect'). Compared with the proportion of women among authors of nearly 40,000 articles published in US medical journals in 2019, the proportion on COVID-19 papers has dropped by 16%.

COVID-19 EFFECT

An analysis that looked at 13 medical journals found that the proportion of female authors for COVID-19 papers is lower than the average for all studies published in 2019 in the journals.



THE QUEST TO ADDRESS INEQUALITY DURING THE PANDEMIC

Better data, testing and preparedness could reduce COVID-19's outsized toll on people of colour.

By Nidhi Subbaraman

As figures emerge on the disproportionate toll that COVID-19 is taking on people of colour in the United States, scientists are suggesting measures to help mitigate the inequalities.

They say that better data are needed on the incidence of the disease, that testing needs to be ramped up and that hospitals serving people at risk need to prepare more effectively. Researchers and some US lawmakers are now calling for a national commission devoted to identifying racial disparities in health that would act as a unified voice in trying to overcome them.

The unequal impact of the coronavirus is not solely a US problem, but the disparities are harshly felt in the United States, which currently has the highest number of COVID-19 infections and deaths in the world.

Increased childcare responsibility is one issue. In addition, women are more likely than men to take care of ailing relatives, says Rosario Rogel-Salazar, a sociologist at the Autonomous University of Mexico State in Toluca. These effects are probably exacerbated in the global south, she notes, because women there have more children on average than do their northern counterparts.

And women face other barriers to productivity. Female faculty members, on average, shoulder more teaching responsibilities, so the sudden shift to online teaching – and the curriculum adjustments that it requires – disproportionately affects women, King says. And because many institutions are shut, non-research university commitments – such as participation in hiring and curriculum committees – are probably taking up less time. These are often dominated by senior faculty members, more of whom are men. As a result, men could find themselves with more time to write papers.

Because these effects will be compounded as lockdowns persist, universities and funders should take steps to mitigate gender disparities as quickly as possible, Shurchkov says. "They point to a problem that, if left unaddressed, can potentially have grave consequences for diversity in academia."

The US Centers for Disease Control and Prevention (CDC) started releasing death and infection rates broken down by race and ethnicity in late April, after a public outcry from lawmakers, doctors and civil-rights groups.

The breakdowns were available for just 35% of US deaths. But as these and other data start to come in, they paint a stark picture of disproportionate disease burden.

Many of the causes of these health disparities are systemic and well known. "We're getting infected more because we are exposed more and less protected," says Camara Phyllis Jones, an epidemiologist at the Rollins School of Public Health at Emory University in Atlanta, Georgia. Existing socio-economic and health disparities can at least partially explain why people of colour are getting ill and dying at disproportionate rates.

In many parts of the United States, people of

SOURCE: P. VINCENT-LAMARRE, C. R. SUGIMOTO AND V. LARIVIÈRE [NATURE/INDEX/HTTPS://GO.NATURE.COM/2XHXQXR](https://go.nature.com/2xhxqxr) (2020)

SOURCE: J. P. ANDERSEN ET AL. PREPRINT AT [HTTPS://ARXIV.ORG/ABS/2005.06303](https://arxiv.org/abs/2005.06303) (2020)



A woman has her temperature taken in Compton, a city south of Los Angeles, California.

colour make up a high proportion of those in some low-paid professions that have elevated risks of exposure to the virus – people who staff grocery stores, drive buses and work at food plants, for example. Also, COVID-19 is deadlier for people with chronic conditions, including diabetes, obesity and cardiovascular disease. These have a higher incidence in many minority ethnic and racial groups in the United States.

Reaching for solutions

At the earliest stages of the epidemic, aspects of the US response might have made things worse, says Enrique Neblett, a psychologist who studies race and health at the University of Michigan in Ann Arbor. With limited tests available, US authorities initially reserved them for people with symptoms who had a recent history of overseas travel. This could have excluded people from disadvantaged socio-economic backgrounds, including people of colour, says Neblett. “By having that as a criterion, they’re automatically less likely to be tested.” Looking ahead, adapting the approaches to getting tests to the people and communities that are most at risk should be a priority, he says.

For example, in Louisiana – one of the first states to report data by race and ethnic group – testing teams went to poorer neighbourhoods to reach people without cars, who would have trouble making it to drive-through testing sites.

Outreach must extend beyond testing, to all aspects of the response, says Evelyn Hammonds, a historian of medicine at Harvard University in Cambridge, Massachusetts. Clinical trials, for example, must actively work to recruit a diverse population, otherwise the treatments and vaccines might not be equally effective. “We already know there’s a real problem with making sure that populations that are

enlisted into clinical trials need to be diverse,” Hammonds says.

And hospitals in neighbourhoods that are likely to see a surge in cases because they serve more severely affected groups should be equipped sufficiently, says Jones, who was president of the American Public Health Association in 2016. “If we know that these neighbourhoods are the ones being adversely impacted, then we need to move the ventilators and the health staff there,” Jones says.

A coherent voice

Billions of federal dollars have been deployed in the United States to tackle the pandemic, but because such emergencies require a coordinated response across national agencies, some have argued for a central commission that will represent the needs of minority racial and ethnic groups.

“The call is for a national coherent voice that starts to talk about these issues,” says Cato Laurencin, an orthopaedic surgeon and biomedical engineer at the University of Connecticut in Farmington, who led a roundtable discussion on diversity at the US National Academies of Science, Engineering, and Medicine.

Hammonds says that such a group could be effective because local US leaders typically prescribe public-health guidance and decisions, and so far have differed in their response to the pandemic. She compared New York’s rapid yet measured response with that in Georgia, where the governor announced a gradual re-opening of the economy in mid-April – despite advice against the move from public-health experts. This pandemic could be an opportunity to deploy consistent attention towards the needs of under-served communities, she says. “If there is a positive to come out of this, that would be one of them.”

Q&A

Astronaut with sights on Mars



BILL STAFFORD/NASA

Jessica Watkins graduated as a member of NASA’s newest astronaut class in January. As a planetary geologist, she is a leading candidate to participate in the agency’s Artemis programme, which aims to send people back to the Moon by the end of 2024. Further down the line, there might even be a trip to Mars, which she studied during her PhD. *Nature* spoke to Watkins about her career.

Why did you join the astronaut corps?

I have wanted to be an astronaut since I was little. There was something that always pulled me towards space – the idea of exploration, of wanting to push boundaries and capabilities, both technically and physically, but also mentally and spiritually. I kind of stumbled into geology and fell in love with that. And then the stars aligned for me to end up here.

What’s your favourite planet?

Mars is definitely my first love. I remember writing a book about a Martian in fifth grade. What intrigued me the most about Mars is how Earth-like it is, and how we’re able to use Earth as an analogue to understand more about Mars. Now, given the direction that NASA is going in – we’re talking about going back to the Moon in 2024, through Artemis – the Moon has become a significant interest for me, as well. I’m definitely brushing up on lunar geology and what it’s going to be like on the surface.

How can space exploration inspire us during the current public-health crisis?

This pandemic is asking us to band together as humans, to do the right thing to help save each other. There’s something really analogous to human spaceflight in that. Human spaceflight is about humans pursuing hard things, doing it together, and doing it in spite of differences that we may have created. Having that perspective allows you to see Earth for what it is. It’s one body. We’re all in this together.

Interview by Alexandra Witze

This interview has been edited for length and clarity.