

Despite a wealth of methods for collecting data, many policymakers have been unable to access and harness data during the pandemic. Researchers and funders should start laying the groundwork now for emergencies of the future, developing data-sharing agreements and privacy-protection protocols in advance to improve reaction times. And discussions should also begin about setting sensible limits on how much decision-making power an algorithm should be given in a crisis.

US president must keep funding pledge to HBCUs

Congress has eviscerated a White House proposal to upgrade research at historically Black colleges and universities.

It's a scandal: for decades, more than 400 colleges and universities in the United States that focus on educating students from under-represented communities, including Black, Hispanic and Indigenous Americans, have been underfunded – by both state and federal governments.

Efforts are now under way to address some of these historical injustices. Courts are awarding compensation to some of the more than 100 historically Black colleges and universities (HBCUs) that form part of a wider group known as minority-serving institutions (MSIs).

And in March this year, the White House proposed US\$20 billion to upgrade research infrastructure across MSIs as a whole. If approved by Congress, this funding would be dedicated to upgrading laboratories and creating new centres for research excellence – including a new national climate laboratory affiliated with an HBCU.

Fast forward six months, and the US Congress – which must approve the government's spending plans – has eviscerated US President Joe Biden's original proposal.

On 8 September, Democrats in the House of Representatives introduced an education funding package that amounts to a fraction of the original \$20-billion request. Democrats are instead proposing just \$1.45 billion for MSIs from the federal government, to be distributed among the 400 institutions over 5 years between fiscal years 2022 and 2026.

It's a small increase from the roughly \$1 billion that the federal government annually spends on grants and scholarships at these universities. But it's nothing like what the Biden team acknowledged is needed to make up for decades of discrimination and neglect – by scaling up research across hundreds more higher-education institutions.

The House Democrats' proposal does include \$2 billion in federal grants earmarked for all US universities outside

the R1 category (under the Carnegie Classification of Institutions of Higher Education), which indicates the highest levels of research activities. But more than 700 institutions will need to compete for this funding. "We are struck by the contrast between the vision laid out by the president and the actual application that we see in Congress," Lodriguez Murray, senior vice-president of public policy and government affairs at UNCF, an organization that raises funding for HBCUs, told *The Washington Post*.

HBCUs in the United States trace their origins to the segregation era of the 1800s. They seek to provide a nurturing environment for their students in a way that is less common elsewhere in higher education. The university experience is like being part of a family, several HBCU staff members and students have told *Nature*. "It's not unusual for students who experience housing or food insecurity to be taken to an administrator's home and given care and support," said Ronald Smith, who runs mentoring programmes at Howard University in Washington DC.

The majority are teaching-focused institutions, although an increasing number have ambitions to excel at research, too. One-third of Black Americans with a PhD earned their first degree at an HBCU; 11 of these institutions are in the second-highest research classification, called R2, but none yet is among the 131 universities with the coveted R1 status.

For decades, HBCUs have suffered from under-investment – especially when compared with the funding of predominantly white institutions. Now, in addition to long-standing fundraising from UNCF, technology corporations are also stepping in with donations. Google is providing \$50 million to 10 HBCUs, and Apple \$5 million to four institutions.

Some HBCUs are also seeing extra funding from legal settlements in which state governments are compensating universities for past inequities. In the United States, state governments fund public universities and the federal government provides grants for research. Four HBCUs in Maryland – including Morgan State University in Baltimore – will share \$577 million from a settlement with the state of Maryland over the next decade, following a 15-year campaign by alumni highlighting that the state had treated its HBCUs less fairly than it did predominantly white institutions.

Such settlements are an overdue step, but the leaders of universities and colleges educating students from under-represented communities rightly say that there is no substitute for steady, predictable, long-term funding, as opposed to one-off grants – for which institutions that are intentionally collaborative and inclusive will have to start competing.

Institutions, agencies and governments around the world have made many pledges to increase inclusion in the past year in science, technology, engineering and mathematics. These pledges need to be fulfilled and words must now translate into action. That means congressional support for research at historically underfunded universities at a level that is much closer to the Biden administration's original \$20-billion proposal.

“There is no substitute for steady, predictable, long-term funding.”