FT Magazine Scientific research

Covid revealed what science can do when funding is found

'In some ways, the pandemic ought to make us all feel more upbeat about the long-term future of medical research'

Gillian Tett 11 HOURS AGO

When Covid-19 hit America in the spring of 2020, Jean Bennett, a professor of biomedicine at the University of Pennsylvania, started killing her prized collection of research mice.

One reason was that the lockdown partly shuttered laboratories. Another was that the battle against the virus sucked resources, money and people away from other medical problems such as blindness, which is what Bennett's team studies.

In Bennett's case, there was a moderately happy outcome: her team cannily redirected part of their research into Covid-linked investigations, which kept a piece of her life's work — and some of the mice — alive.

This wasn't the case for many others in the same field. "Thousands of promising clinical trials under way before the pandemic have been disrupted or even stopped," notes a report from the Foundation Fighting Blindness, a US non-profit. Earlier this year there were still 1,000 on hold, "with about 30 percent of those considered pivotal focused on cancer, 13 percent on cardiovascular disease, and another 13 percent on issues affecting the central nervous system". The net result, it adds, is likely to raise "non-viral casualties" on top of the specific Covid-19 tally.

This is tragic. And it raises two important questions: first, when future historians look back at the past two extraordinary years, how will the knock-on, indirect and half-hidden costs of Covid-19 compare with the direct effects of the disease? Second, is there any way to restart all this derailed research when Covid-19 eases, so that as much as possible can be done to make these longer-term losses less stark?

It is impossible to answer the first question without having an answer to the second; and here the outlook seems uncertain. In some ways, the pandemic ought to make us all feel more upbeat about the long-term future of medical research. A report from the Milken Institute, an independent economic think-tank, notes that one silver lining of the crisis was "many positive and innovative actions were taken by those in the biomedical innovation community, and it's critical that we identify, acknowledge, and build on this progress".

Most notably, of course, vaccines were developed with unprecedented speed, partly because scientists used digital platforms to collaborate with each other to a degree never seen before. Meanwhile, businesses worked with governments — and received large dollops of cash. If this template could be repeated in other spheres of medicine, Milken notes, it would almost certainly deliver equally startling results.

The crucial word here is "if". One obstacle to replicating this template is that there is less of a sense of urgency around medical issues such as blindness. Another is funding: although oodles of cash were produced for pandemic battles, some areas of biomedical research such as pancreatic cancer were struggling for resources even before the pandemic and are likely to stay that way.

That is partly because government budgets are constrained — and will probably become more so, as debt pressures bite. But it is also because private finance for research is uneven. Deep-pocketed venture capital firms throw cash at ventures that seem likely to work, but are often reluctant to fund early-stage trials. So are established drugs companies, if the medical issues affect only a small number of people.

"We call this the Valley of Death," says Karen Petrou, a financier who wrote the Foundation Fighting Blindness report and is deeply involved in raising money for medical research, not least because she happens to be blind. The issue is that while scientists often scrape together enough public-sector cash to do initial breakthrough studies, they struggle to get money to develop them — until their concepts are proven. "That's why you read headlines about breakthrough research, but then nothing more comes of it," says Petrou.

She wants to find a solution to the "Valley of Death" so has created a proposal for the US government to issue $30bn worth of "BioBonds" that would be sold to private investors, with the government and philanthropic organisations on the hook to take the first chunk of any losses if something goes wrong.

This type of "blended finance" concept underpins the type of instruments found in American housing (where giants such as Fannie Mae also guarantee bonds). But, Petrou argues, it is actually more appropriate as a funding source for medical research, and later this month a bipartisan bill that advances this idea will probably be discussed in a Congressional committee.

Her reasoning may seem sensible, but it is far from clear that the bill will fly. One issue is that Congress is consumed with other political fights and "blended finance" tends to sound boring to voters. Another is that politicians and citizens alike have short attention spans. When a catastrophe such as Covid-19 erupts, it is easy to rally support for medical research, but a slow-moving crisis around cancer or blindness creates less drama. The victims of a failure to act are not seen.

But that is no reason to ignore them as the pandemic threat hopefully fades. It has shown why science matters, and what can be done when funding is found for bold ideas. That lesson now needs to be replicated in every sense.

Follow Gillian on Twitter @gilliantett and email her at gillian.tett@ft.com

Follow @FTMag on Twitter to find out about our latest stories first