Is it time to nationalise the pharmaceutical industry?

Drug companies fail to take account of the public interest and relentlessly focus on short term returns, say Mariana Mazzucato and Henry Lishi Li. But Ara Darzi argues that the profits drug companies make are vital for developing new medicines.

Mariana Mazzucato *founding director and professor in the economics of innovation and public value* 1, Henry Lishi Li *research fellow in health innovation and policy engagement* 2, Ara Darzi *co-director* 3

1 UCL Institute for Innovation and Public Purpose, London; 2 Institute of Global Health Innovation, Imperial College London

**Yes—Mariana Mazzucato, Henry Lishi Li**

Do we support state ownership of the whole pharmaceutical industry? No. But do we think that the state should play a greater role in the sector? Absolutely.

The public sector is a cornerstone of the pharmaceutical industry, often taking on the highest risk in the early stage of innovation. 1 It is also key to creating clusters that connect different actors in research and development (R&D), manufacturing, and health system demand, thus shaping the pharmaceutical market across its entire value chain.

**Short termism and misalignment of the existing market**

While the private sector is also crucial in bringing cutting edge medicines to the market, its entrenched short term and misalignment with public interest are equally striking. 2 Firstly, companies prioritise “blockbusters” at the expense of commercially unappealing medicines that are hugely important to public health. 3 Secondly, the pricing of these medicines does not take into account the contribution by other actors, including public institutions. 4 Thirdly, patents are often abused, being too upstream, wide, and strong, 5 and high prices can persist even as generic competition kicks in, as a result of occasional cases of insufficient competition. 6 Fourthly, high prices are driven by and in turn fuel the over-financialisation of parts of the industry, where share buybacks are outpacing R&D. 7 These prices also lead to a drive to cut costs by outsourcing manufacturing capabilities overseas, at the expense of local capacity. 8

The state should therefore govern the drug innovation process more like a market shaper: steering innovation, getting fair prices, ensuring that patents and competition work as intended, setting conditions for reinvestment, and safeguarding medicine supply. In other words, this is not about bashing big pharma—of course, it plays an important role—but about finding a way to govern a system that is not working for members of the public, who have invested in some of the riskiest stages of drug development.

In this context, where conventional policy instruments cannot effect the needed change in the pharmaceutical sector (especially where it fails), there is a strong case for a public option in pharmaceuticals: government provided, quality assured medicines that are universally available at a reasonable and fixed price, which coexist with products from the private sector. 9 This requires the government to be more directly involved in coordinating and executing the full range of activities in drug innovation and manufacturing and to retain a sufficient level of control.

Nationalisation is ideally positioned to deliver this public option. 10 Indeed, this is the very reason why the ex-chief economist of Goldman Sachs, Jim O’Neill, recently called for nationalisation to help solve the crisis in antibiotics innovation.

**Market shaping: the entrepreneurial state**

Nationalisation is not just about fixing a (private) market failure; it is about unleashing an entrepreneurial state shown to be good at developing transformative innovations. 11 It equips the state with greater strategic control over long term capital allocation and the resources to strengthen dynamic capability in the public sector (such as national laboratories and strategic agencies such as the Biomedical Advanced Research and Development Authority).

A more proactive role includes ensuring that the results of public investments in the riskiest phase of drug research—such as that coming from the $40bn (£31bn; €36.6bn) a year invested by the US’s taxpayer funded National Institutes of Health—are accessible only to the private companies willing and able to deliver medicines needed by the public, at a cost the public can afford. The same would apply to government and charity spending on medical R&D in the UK, which makes up 45% of the total spending. 12 This is not about micromanaging companies...
but about ensuring a public benefit for public investment. By making sure that prices reflect the public contribution, nationalisation can be a better way to manage risk and reward. A market creation and shaping perspective allows nationalisation to take different forms. Complete transfer of ownership is not necessarily required. Given different global contexts (such as the more stakeholder driven corporate governance in Scandinavia), the degree of ownership versus steering will differ.

**Broader public interests**

Nationalisation is further necessitated by broader public interests. A public option in pharmaceuticals is not only fundamental to protecting the human right to health and global health security but is also a strategic asset for the following:

- Protecting national security. Outsourcing of manufacturing capabilities creates vulnerability in the supply chain that can lead to crippling shortages in quality assured, essential medicines. Governments should tackle this as a significant security risk.
- Improving national competitiveness. The R&D of advanced biological, cell, and gene therapies requires substantial process innovation in manufacturing. Governments should take up leading roles in building the necessary “industrial commons.”
- Establishing robust market competition. Huge barriers to entry and market concentration can complicate or prevent effective competition. Governments can improve market efficiency by introducing new product options and providing transparent information on R&D and manufacturing.

**No—Ara Darzi**

The profit driven pharmaceutical industry is the worst system for discovering new drugs—apart from all of the others. This is a familiar trope, but it contains an important truth. There are downsides to any system. The challenge is to manage them. Over the past 50 years, big pharma has delivered transformative improvements in global health. That is incontestable. The eradication of smallpox, the discovery of HIV drugs, the introduction of monoclonal antibodies: these three alone have saved millions of lives. The UK’s long history of drug discovery and development is the envy of the developed world. The life sciences industry employs 140 000 people in one of the most productive sectors of the economy.

Drug companies do make big profits, but these are necessary to fund the enormous costs of developing new medicines. Glaxo spent £19bn (€22.3bn; $24.4bn) on research and development (R&D) over five years to the end of 2018. AstraZeneca spent nearly £30bn. Could a state controlled industry match these outlays? Would it?

**Licensing and de-linkage**

There are problems. They include “me too” drugs offering minimal gains, excessive advertising, price gouging, lack of transparency, and protectionism. During last year’s election campaign the Labour leader, Jeremy Corbyn, highlighted patients being “held to ransom” by one manufacturer, Vertex, which was locked in a battle with the National Institute for Health and Care Excellence (NICE) over Vertex’s £100 000-plus price tag for the cystic fibrosis drug Orkambi. It wasn’t pretty, but it was resolved by negotiation, and the drug is now available on the NHS.

Yet Mr Corbyn threatened to establish a publicly owned generics company and to strip existing drug companies of their intellectual property by introducing compulsory licensing—which would give the government the right to copy medicines deemed too expensive for the NHS.

With Brexit done, the last thing we need is a hostile environment for intellectual property and entrepreneurship. We need to foster our innovative and competitive pharmaceutical industry, not destroy it. True, an industry that relies on profits does not work for every drug class. There is an urgent need for new last line antibiotics, but the market is too small to generate returns. Here, some form of de-linkage is required, where governments step in with financial guarantees.

Critics of big pharma go further, favouring de-linkage more widely, whereby governments would expand direct funding of R&D. Yet governments already fund R&D, through our great science based universities (now doing ground breaking work on the 2019 novel coronavirus). Big pharma excels at the subsequent stage: taking the best ideas generated by scientists and bringing them to market, using its huge financial firepower to navigate the complex regulatory environment. No government could risk the huge sums involved.

**Successful regulation**

So, yes: British drug companies make big profits, which are necessary to fund the development of better treatments and save lives. The flipside is tough regulation to manage the downsides. Here, Britain also has a proud record of success. This is the country that developed NICE to ensure that only cost effective drugs were prescribed on the NHS—a model since copied around the world. The consumer regulator, the Competition and Markets Authority, has shown its mettle against big pharma by winning an £8m refund for the NHS last October from Aspen, a company accused of anti-competitive behaviour.

The NHS successfully struck a deal with the industry last year—the voluntary pricing and access scheme—under which the growth in NHS sales of branded medicines will be capped at no more than 2% a year for five years from 2019. The result? Our spending on drugs is lower than most of our European neighbours, amounting to just 12% of total health spending and placing the UK in the bottom quarter of OECD countries. The upshot is that we get excellent value from the pharmaceutical industry, and the downsides of its profit driven nature can be managed. We should support, monitor, and regulate it—not kill it.

MM is professor in the economics of innovation and public value at University College London (UCL), where she is founding director of the UCL Institute for Innovation & Public Purpose (IIPP). HLL is research fellow in health innovation and policy engagement at IIPP.

AD is a surgeon and director of the Institute of Global Health Innovation at Imperial College London. He was a Labour health minister from 2007 to 2009. Competing interests: All authors have read and understood BMJ policy on declaration of interests. MM and HLL have no relevant interests to declare.

AD declares the following interests: chair of the Accelerated Access Collaborative; honorary consultant surgeon, Imperial College Healthcare NHS Trust and the Royal Marsden Hospital; co-director of the Institute of Global Health Innovation; co-director of the Cancer Research UK Convergence Science Centre at the Institute of Cancer Research and Imperial College London; non-executive director of NHS England and Improvement.

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