Should Companies be Allowed to Patent Vaccines?

In this essay, I argue that the piracy of intellectual property is morally permissible under certain circumstances, with the piracy of the COVID vaccine formula during a pandemic being one salient example. I show that the utilitarian case for patents cannot be used to patent a COVID vaccine. Indeed, the COVID vaccine scenario reveals that patents, while potentially encouraging long-term innovation, are nonsensical when applied to emergencies such as a pandemic[1].

Hettinger writes that the strongest justification for patents is utilitarianism "based on providing incentives" for innovation (47, *Justifying Intellectual Property*). After all, patents are designed to protect ownership over a novel technology, ensuring that only the innovator can profit from it within two decades. Thus, over the long-term, patents provide the maximum utility by spurring innovation through rewarding independent, decentralized efforts at innovation. The above reasoning appears to make sense when applied to pharmaceutical companies: drug discovery is extremely expensive, requiring heavy upfront investments in all sorts of equipment, resources, and personnel. It also has a high failure rate: the success rate of a new drug entering Trial 1 is only 10%[2]. Thus, lucrative patents ensure that when a company does make a successful discovery, it is able to pay for all the failed attempts, meaning the company is able to take more risks in the process of discovery. Conversely, it appears to be a valid worry that if patents are removed, pharmaceutical companies would be unable to pay for themselves and collapse, or simply be less motivated to make new discoveries in the long run.

However, this utilitarianism based on the near future does not apply to global pandemics such as COVID, because 1) emergencies such as this will simply always spur innovation 2)

---

[1] This essay makes assumptions regarding human life, mainly: 1) Human life is intrinsically valuable; preventable deaths are intrinsically bad. 2) Everyone has equal rights to life (regardless of wealth/class, country of birth, etc.). 3) Profiting in ways that cause death/suffering is morally wrong. Since these assumptions are intuitive justifying, them would be outside of the scope of this essay.

[2] 'Why 90% of clinical drug developments fail and how to improve it?' https://www.sciencedirect.com/science/article/pii/S2211383522000521

governments provide a lot of funding to pharmaceutical companies, essentially mitigating the risk of failure. Regarding the first point, disease and vaccine research will always occur when a pandemic begins—regardless of profitability—as pandemics have the potential to existentially threaten humanity. Therefore, patents for vaccines cannot be considered as the same as patents for e.g., books, movies or an even lifechanging software or an iPhone. If movies and books become pirated to the point that they are no longer profitable at all, perhaps production and publishing will dwindle. But even if vaccines are not profitable at all, the government or other donors will find ways to support pharmaceutical companies in their research, because the alternative is unthinkable. Indeed, imagine that a much deadlier and more infectious pandemic (to the point of being able to wipe out humanity) emerged in two decades. Then saving humanity would come first; everything else (including profitability) would be a secondary concern. After all, there is no more utility if humanity is non-existent. A patent ensures that its owner can profit from it in the future, but if patents are applied to vaccines, there might not *be* a future.

The mention of government leads to the second point: during emergencies like COVID, governments often provide generous funding for vaccine discovery research. For example, Moderna, Novovax and Curevac were almost entirely funded by external investors, and Pfizer received significant government funding as well[3]. In this case, the companies are given assurance that even if research is not successful, there will not be a huge loss. Patents as an 'incentive' to innovate become unnecessary, as the government providing funding and assurance that a certain number of vaccines be bought would be a centralized force that ensures research happens. Thus, the utilitarian argument that patents encourage innovation in independent agents is invalid.

A potential counterargument against the argument above runs as following. If pharmaceutical companies know that their vaccines might be pirated, they might be less willing

[3] Funding Sources of Therapeutic and Vaccine Clinical Trials for COVID-19, https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2795180

to allocate resources towards vaccine research in the future. Even if the government requires vaccine research and provides full funding for research, because there's no upper limit to the number of resources that can be invested into research, the research might now occur at a slower pace. If vaccines can be patented, then there will be a race between various major pharmaceutical companies to produce vaccine first. While pace matters less under conventional circumstances, depending on the nature of future pandemics, a slower pace might result in more death and suffering than not pirating the COVID vaccine in the first place.

Furthermore, perhaps the argument only works during for serious pandemics that could cause existential risk or damage to the country where pharmaceutical company is located. If the disease is endemic to a foreign country and does not cause deaths, then (as terrible as it sounds), there might still be more utility in the long run to let the residents of that country suffer and the pharmaceutical companies to profit. The problem is it is difficult to estimate how much profit from patented vaccines will transform to greater utility, and how much profit is simply profit.

But despite the above counterarguments, I believe that vaccines should not be patented. The counterarguments all assume that the role of the government does not change. There are many other ways that governments can create race to produce vaccines without patents, e.g., by rewarding the first company to produce a vaccine (e.g., more future contracts, publicity, tax benefits). Finally, as a further consideration, perhaps companies do have some moral responsibility to not patent vaccines—they are already profiting from many other drugs after all. Thus, in conclusion, it is morally permissible to pirate COVID vaccines.