Health and Medicine
by Stephen Luntz
16 Apr 2018

Goldman Sachs Says Curing Diseases May Not Be Economically Viable

A leaked report has stated what many in the health industry have whispered privately; there is a lot less money in curing people than in long-term management of disease.

The issue is brought into focus by the possibility of a gene therapy that could soon cure a large variety of genetic conditions by changing individual units of DNA. However, the huge potential boon for society could be blocked without changes to the way health is funded. Countries with public health systems may be able to reap the benefits of the new technologies, leaving the US trailing in their wake.

Goldman Sachs analyst Salveen Richter[1] reportedly set out the issue in a note to clients;

> "The potential to deliver 'one-shot cures' is one of the most attractive aspects of gene therapy, genetically-engineered cell therapy, and gene editing. However, such treatments offer a very different outlook with regard to recurring revenue versus chronic therapies."

Someone who is rich enough may be willing to pay hundreds of thousands of dollars to be cured of a debilitating disease. Most people, however, coudn't afford this, especially if their condition affected their earning capacity.

Meanwhile, the same person might be able to scrape together tens of thousands of dollars a year to keep the worst aspects of the disease at bay, in the long run paying far more than they would have for a cure. It's a medical equivalent of Terry Pratchett's "boots theory"[2].

Richter points to the sofosbuvir[3] treatment of hepatitis C marketed by Gilead Sciences. In 2015 this brought the company $12.5 billion, mostly in the United States, as people suffering liver damage from the virus rushed to take up the new drug. However, the therapy cures most patients so thoroughly they're finished treatment within 12 weeks. Better still from a social perspective, but worse for profits, once treated people no longer transmit the virus, preventing new infections. This year Richter expects American sales to fall to less than $4 billion.

> "While this proposition carries tremendous value for patients and society, it could represent a challenge for genome medicine developers looking for sustained cash flow," Richter's note, which is not online, reportedly[4] concludes.

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[1] https://www.bloomberg.com/research/stocks/private/person.asp?personId=38763016&privcapId=25232416

[2] https://www.goodreads.com/quotes/72745-the-reason-that-the-rich-were-so-rich-vimes-reasoned

[3] https://www.drugbank.ca/drugs/DB08934

[4] https://www.cnbc.com/2018/04/11/goldman-asks-is-curing-patients-a-sustainable-business-model.html

Unsurprisingly, the report sparked outrage[5] after CNBC revealed[6] it.

Richter was writing for the investment bank's clients, and it is easy to mock any companies whose profits are threatened by technological changes that will benefit millions. However, unless we adjust the economic structures around healthcare the issue she has pointed to could deprive many of the cures they need.

It costs phenomenal amounts of money to invent new medical cures and test them until health authorities deem them safe – usually at least $1 billion. Someone has to pay. For a widespread problem like hepatitis C, the issue Richter points to simply reduces mega-profits to very, very large ones. For rarer diseases, however, there may not be enough potential income to economically justify doing the research and clinical trials. MIT Technology Review[7] has noted awareness of this issue may be why GlaxoSmithKline recently sold off its rights over some spectacular cures[8] for very rare diseases.

Public health systems, like the ones the most wealthy countries have, will often be willing to pay enough to cure their patients that the cost of the research can be justified. After all, in the long run, the savings will usually outweigh the costs. Only the best American private insurance plans, usually unaffordable to the people who need them most, are likely to see things the same way.

One way around this is to change how trials are run, making it cheaper to bring a new treatment to market. While some ideas propose doing this in a safe manner, most of the cost-cutting would come with the danger of another disaster like thalidomide[9].

Alternatively, we can look beyond profits, funding the development of new treatments with either philanthropic or government money. This is already how most basic medical research is funded, but these sorts of finances are largely absent from the expensive clinical trial stages. Unfortunately, these require governments to make expensive investments that will often take decades to pay off.

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[5] https://twitter.com/ParkerMolloy/status/984800714470973440

[6] https://www.cnbc.com/2018/04/11/goldman-asks-is-curing-patients-a-sustainable-business-model.html

[7] https://www.technologyreview.com/s/610873/the-gene-therapy-that-cures-bubble-boy-disease-isnt-worth-it-to-glaxo/?utm_source=newsletters&utm_medium=email&utm_content=2018-04-13&utm_campaign=the_download

[8] https://www.technologyreview.com/s/601390/gene-therapys-first-out-and-out-cure-is-here/

[9] https://www.tga.gov.au/book/fifty-years-independent-expert-advice-prescription-medicines-02