

**Testimony to the United States Senate
Committee on Health, Education, Labor and Pensions
Subcommittee on Primary Health and Aging
Hearing on the High Cost of High Prices for HIV/AIDS Drugs and the
Prize Fund Alternative
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I welcome this opportunity to share with you my thoughts on Senate Bill 1138, and on the broader subject of how we can best finance research on HIV/AIDS, and for health more generally.

I should begin by saying that the approach taken by the bill is exactly right. It reflects an approach that I have been arguing for for years, including in my book *Making Globalization Work*¹, in my academic writings², and in the various policy roles that I have been fortunate enough to play over the last two decades.

The timing of this hearing could not be better, coming soon after the release of the report of the Consultative Expert Working Group on Research and Development: Financing and Coordination at the World Health Organization, “Research and Development to Meet Health Needs in Developing Countries: Strengthening Global Financing and Coordination.”³ I was able

¹ Joseph E. Stiglitz, 2006, *Making Globalization Work*, New York: W.W. Norton. See chapter 4 for a discussion of intellectual property rights, including alternatives to the current system.

² Including “The Economic Foundations of Intellectual Property,” sixth annual Frey Lecture in Intellectual Property, Duke University, February 16, 2007, *Duke Law Journal*, 57(6), April 2008, pp. 1693-1724; “Intellectual Property, Dissemination of Innovation, and Sustainable Development,” with Claude Henry, *Global Policy* 1(1), October, 2010, pp. 237-251; “Two Ideas to Increase Innovation and Reduce Pharmaceutical Costs and Prices,” with Arjun Jayadev, *Health Affairs*, 28(1), January/February 2009, pp. 165-168; and “Medicine for tomorrow: Some Alternative Proposals to Promote Socially Beneficial Research and Development in Pharmaceuticals,” with Arjun Jayadev, *Journal of Generic Medicine*, 2010, 7(3), pp. 217-226.

³ Published April, 2012, and available at http://www.who.int/phi/CEWG_Report_5_April_2012.pdf (accessed May 10, 2012).

to present a keynote address at the launch of the report in Geneva just over a week ago.

Interestingly, but not surprisingly, its core recommendations concerning the organization and finance of research and development coincide closely with this bill. The working group arrived at those conclusions after reviewing a wide range of alternative proposals.

I will not spend time here reiterating the seriousness of the HIV/AIDS problem, both in America and around the world, the suffering of those afflicted by the disease, the economic cost to them, their families, and our economy. Medicines have made enormous progress in prolonging lives and alleviating some of these costs and suffering, and further research promises even bigger dividends. The problem is that the medicines are *very* costly; or more accurately, the price charged for them is very high, though the cost of production is but a fraction of the price charged.

This is the inherent consequence of our current "innovation" system. The curious aspect of our current system is that the government, directly or indirectly, finances most health R & D—directly, through public support (National Institute of Health, National Science Foundation), and indirectly, through public purchases of medicine, both in the Medicare and Medicaid programs. And even the part that is not so financed is not a "market" as we normally conceive of it; most individuals' purchases of prescription medicines are covered by insurance. Further, their decision to use a particular medicine is largely determined by physicians, and not by patients themselves.

Given that government is financing most of the research, it is especially important that it be done in a way that is efficient. There are many dimensions to efficiency, two of which I want to talk about today. The first is that, once knowledge is acquired, it should be used efficiently.

Thomas Jefferson described knowledge as being like a candle: When one candle lights another, it doesn't diminish the light of the first. Once produced, knowledge should be disseminated and used as widely as possible.

The desire to have knowledge used as widely as possible can run counter, however, to another concern: we have to have incentives to do research.

Our patent system attempts to balance these concerns by providing a temporary monopoly power to innovators, the result of which is that there is restricted use of the knowledge for a limited period of time. This is a large inefficiency.

But increasingly, we have become aware of some other limits of the patent system. While it provides incentives, it does not necessarily provide incentives that correspond to social returns. In the health care sector, it may be more profitable to devote research to a "me-too drug" than to the development of a drug that really makes a difference. The patent system may even have adverse effects on innovation, because the most important input into any research is prior ideas; and the patent system encourages secrecy, just the opposite of the openness that is the hallmark of successful universities and academia more generally. (There are other adverse effects on innovation, related to the patent thicket and hold-up problems.)

There is a simple way to "square the circle," which entails de-linking research and development incentives from drug prices, and that is precisely what S. 1138 proposed to do in the context of new medicines to treat HIV/AIDS. It does this through a simple mechanism—prizes.

The patent system is, of course, a prize. It awards to the first discover a temporary monopoly power, and that monopoly power results in the distortions I described above. In the

case of HIV/AIDS, what is at stake is more than a distortion: it can become a matter of life and death. The high prices mean that those without insurance may not be able to afford medicines that could save their lives.

With the prize system, we use the power of competitive markets to ensure that, once a drug is discovered, it is made available at the lowest possible price. Competition insures that the knowledge is used as widely as possible (in contrast, with monopolies, prices are raised to restrict the benefits that accrue from the knowledge.)

Moreover, with the prize system, rewards can better reflect the social contribution of the innovation—the true marginal contribution (as opposed to the current system, where research efforts are directed at maximizing rents, often achieved by taking rents away from others).

What is particularly innovative about this bill is Section 9, on Open Source Dividend Prizes. It recognizes that there is an alternative, more open and collaborative approach to innovation that has proven itself enormously successful in a number of areas of research, and not just IT.⁴ Research builds on previous research, and by providing incentives to ensure that more knowledge is in the public domain, the bill will contribute to the advancement of knowledge in this vital area. The bill is correct in asserting that the prizes "would create a powerful economic incentive to open source knowledge, data, materials and technology, which should directly benefit product developers."

Finally, this bill has an important provision for a Donor Innovation Prize Fund. The United States has recognized that AIDS is a global problem, and must be addressed globally. Our aid for AIDS is a humanitarian action, but it is also an action which is in self-interest.

⁴ Henry and Stiglitz, op. cit.

Global Health and Knowledge are both among the set of goods that have come to be called *Global Public Goods*, goods from which everyone can benefit. These goods have taken on increasing importance with globalization; as the world has become more interconnected, it has become increasingly imperative that there be cooperative actions to advance common interests.

The United States can play a leadership role in reforming the global system of financing and coordinating research and development to meet health needs, including and especially in the developing countries. As I noted before, the WHO Consultative Expert Working Group proposed the use of a prize fund to facilitate global innovation in this area.

In the critical area of HIV/AIDS research, the need to de-link research development incentives from drug prices for new medicines and to stimulate greater sharing of scientific knowledge is apparent and imperative. The economic costs of not doing so are huge, but so too may be the human costs, in terms of lives unnecessarily compromised or lost.

I should emphasize, in closing, that especially in a time of budget stringency, the need to increase the efficiency of America's innovation system is compelling. The difference between what the drug companies charge the government and the cost of production is in the tens of billions of dollars a year. (Dean Baker estimates the gap at \$270 billion a year.) Money that goes to developing me-too drugs could be far better spent. We need more of our health research budget to be spent on diseases that matter. Moreover, much of the difference between the cost of production and what is charged does not go into research, but into advertising and marketing, and much of that is not spent to transmit information that would lead to better health, but to decrease the elasticity of demand across products, thereby increasing monopoly power and profits.

Moving from a patent system to an effective prize system, using the power of the competitive market place to ensure the efficient dissemination of medicines, is a critical step in creating this more efficient innovation system. We should think too about changing the balance between government sponsored research (e.g. through the NIH, which has an impressive track record) and the patent system. The patent system encourages secrecy (and to some extent, so does the prize system, with the important exception of the open source prizes), and the hoarding of knowledge, rather than its efficient and full dissemination. (The patent, and to a less extent, the prize system has the further disadvantage of introducing high levels of uncertainty, which is reduced, if not resolved, in government-funded research programs. In the patent there is often duplicative research. These costs of duplication and of risk are inevitably passed on to consumers, or in the case of medicines, largely to taxpayers.)

We should think too about reducing research and development costs and conflicts of interest in drug development by promoting public funding of clinical trials.⁵

We could also improve the efficiency of our research system by encouraging *real* innovations, those that make a difference for health, through value-based pricing for drugs (and since the government is such a large buyer of drugs, its use of such a system would help shape the entire marketplace.)⁶ The bill, in outlining the criteria for the award of the prizes, simultaneously outlines some of the principles that could guide a system of value-based pricing.⁷

America is the most innovative country in the world. It has the best universities, attracting the best minds from around the world. But America also has the least efficient health care system in the world, spending more money per capita, and a larger fraction of GDP, on the

⁵ See, e.g. Stiglitz and Jayadev, 2010, op. cit.

⁶ See, e.g. Stiglitz and Jayadev, 2010, op. cit.

⁷ One of the key principles is to focus on "incremental therapeutic benefit...as compared to existing drugs."

health care sector than any other country--and getting far poorer outcomes than countries that spend much less.

We need to harness our innovation system to work to drive down the costs and to improve performance. As I have said, it is not just a matter of economics. It is, in many cases, a matter of life and death. We can do it. An essential step in doing this is de-linking research and development incentives from drug prices and promoting greater sharing of scientific knowledge. This bill does this in an area that is of critical importance. It will provide a model for further reforms in our health innovation system.