OPEN SOURCE PHARMA FOUNDATION

OVERVIEW

The Problem:

Massive Health Needs Left Unaddressed

The pharmaceutical industry has failed to deliver in countries both rich and poor - for neglected disease, for antibiotics, and for affordable cures generally. According to the Global Research for Health Forum, only 10% of global health R&D is devoted to diseases of the global poor. New drug prices in OECD markets can exceed $80,000 annually. Productivity in the pharmaceutical industry (as measured by spending per new molecular entity) has been *declining* exponentially. The needs of billions are left unmet by an industry ripe for upending.

A radical, alternative, end to end, open source pharmaceutical system dedicated to breakthroughs in affordable medicine is possible. It would leverage exponential advances in computing power and collaborative technologies; alternative approaches to intellectual property; and the vast reach of the generics industry.

The Approach:

Linux for Drugs

Open source software such as Linux and Android are crowdsourced, patent-free, affordable, and market-dominant. In brief, open source pharma is 1) crowdsourced and computer-driven drug discovery; 2) IT-enabled clinical trials with open data and crowdsourcing (including a possible results-based financing mechanism to fund them), and 3) generics manufacture.

Key Players in Open Source Pharma Foundation

Dr. Tanjore Balganesh - *Former head of Astra Zeneca India; board member*
Prof. Jaykumar Menon - *McGill University, Canada; international human rights lawyer, serial social entrepreneur; board member*
Dr. UC Jaleel - *Leader in organizing open source drug research*
Prof. Samir Brahmachari - *Former head, CSIR/national lab system of India; scientific advisor*
Bernard Munos - *Ex-Eli Lilly; pharma innovation expert/Forbes contributor; one of 25 most influential people in biotech; advisory board*
Dr. Matthew Todd - *University of Sydney; founder, Open Source Malaria; advisory board*
Dr. Zelalem Temesgen - *Head of Mayo Clinic TB Center; scientific advisor*

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The Status:

Achievements to Date

The Open Source Pharma statement of vision, mission, and 10 operating principles have been adopted by members of leading global institutions, including the WHO, Medicins Sans Frontières, the NIH, France's INSERM, the national lab system of India's Open Source Drug Discovery (OSDD) program, leading research universities, and Big Pharma. See www.opensourcepharma.net/about.html#vision.

Initial funding for the movement has been supplied by the Rockefeller Foundation and the Open Society (Soros) Foundations. The board of the Tata Trusts, chaired by Ratan Tata, has committed $3M ($1M per year for 3 years) to establish the Open Source Pharma Foundation, based in India, but an international group. Further support has come from the Geneva-based Global Fund to fight AIDS, TB, and Malaria, and the EU-funded European & Developing Countries Clinical Trials Partnership.

Achievements by the broader movement, including by partner OSDD, include a crowdsourced annotation of the tuberculosis genome by hundreds of students using Facebook and Twitter; awarding over 100 student online research fellowships; creating a network of hundreds of open source researchers; holding the world's first open source pharma global conferences (at the Rockefeller Bellagio Center in Italy, and a castle in Germany); and access to the national supercomputer system of India for crowdsourced open source drug research. The movement has been mentioned in articles in *The Economist, The Lancet,* and national newspapers in India.

Next Steps

Explore new treatments via repurposing existing generic drugs; conduct world's first open source clinical trial; establish India's (and the developing world's) first PDP (Product Development Partnership – a nonprofit drug company), which will conduct clinical trials for neglected disease; build platforms for international scientific collaboration; manage fellowships of students; promote citizen science; work with patient communities; pursue crowdsourced science; build open source pharma movement and innovation model; work towards alternative end to end pharma system; create world's first open source drug. Goal of 90% cost reduction and 50% time reduction over standard pharma model.