How the technology behind virtual currencies can build global health equity

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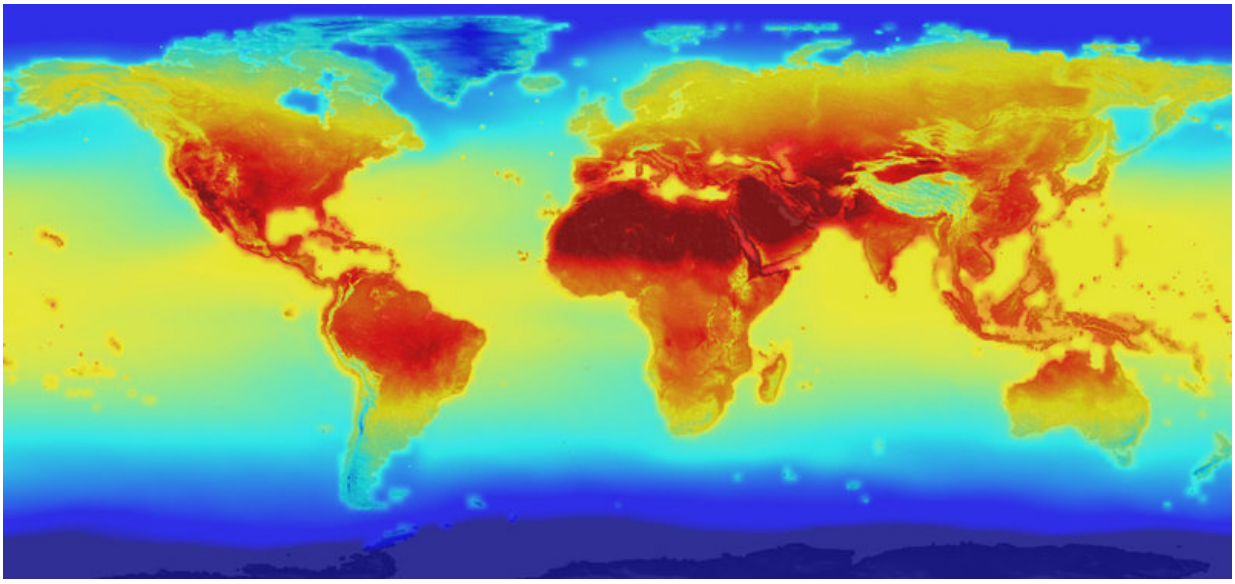

Credit: Harvard Medical School

Around the globe, a staggering $455 billion intended for health care is lost every year to fraud or misuse. Much of this abuse occurs in developing countries, where the loss of funds can have devastating consequences for health and development.

Could the answer to stopping the hemorrhaging of critical funds be blockchain—the cryptography technology underpinning virtual currencies such as Bitcoin?

It is a decidedly promising option worth exploring, according to a commentary published Nov. 3 in Foreign Affairs penned by a team of global health experts led by John Meara, the Steven C. and Carmella R. Kletjian Professor of Global Health and Social Medicine in the field of Global Surgery at Harvard Medical School.

Meara, who is also HMS professor of surgery at Boston Children's Hospital, began investigating the depths of the financial challenges for global health funding as part of his work on the Lancet Commission on Global Surgery. In addition to increasing the amount of money flowing toward building systems for global health, the authors of the commentary say, it is crucial to make sure that any funds invested for health development actually reach the intended recipients.

Today, instead of catching up, the world's bottom billion are falling further and further behind, Meara said.

"Health, economic development, and broader geopolitical stability are inextricably linked," Meara said. "Recognizing this reality, the world now spends nearly $7 trillion per year on health assistance, equivalent to 10 percent of global GDP."

This figure is projected to reach $18 trillion per year by 2040, the authors say.

Translating these financial investments into human health and prosperity will require tools that allow for much greater transparency and accountability, but without increasing the costs to donors or the recipients of aid for providing oversight.

That's where blockchain comes in. In virtual currencies like Bitcoin, each financial transaction is recorded simultaneously in multiple encrypted files in computers around the world. These individual records,

or blocks, are strung together to form chains that record the comings and goings of currency in ways that make fraud and misappropriation of funds easy to track and nearly impossible to hide.

New tools currently in development use blockchain technology to monitor financial transactions and shipments of goods such as drugs or medical supplies from donors to the organizations and governments they fund, the authors write. In a quick glance at reliable digital ledger, these automated systems verify that funds and goods reach their intended destinations—something that now requires a team of forensic accountants pouring over a mountain of paper files to ascertain.

In order for blockchain to reach its full potential and move the world toward health equity and universal access to healthcare, the global health and financial communities must work together. They must join forces to guide—not force, stifle or oppress—this process, the authors say.

"For too long global health aid has focused on getting grants out the door rather than delivering care to the patient," Meara said. "Blockchain technology can help us dissolve transnational financing barriers, ease inequitable capital access and build more efficient means of distributing help where it is needed most. And it can do this all while curbing fraud with unprecedented transparency."

Provided by Harvard Medical School