

Health Care Track



Challenge 1: Confronting Depression

Depression has been recognized as a major health challenge of the 21st century contributing significantly to global disease burden and disability worldwide. Full accounting for depression's disease burden is often understated, as it's role as a causative or exacerbating factor in other chronic conditions represent an even greater impact on global health that is difficult to quantify. Despite this revelation, depression commonly goes undiagnosed leaving societies unknowingly burdened with the associated population costs which can be direct, such as increased healthcare utilization, or indirect, as in reduced occupational functioning and performance. Suicide is an unfortunately common cause of mortality in both developed and developing nations, particularly among young and otherwise healthy individuals. Depression thus represents a substantial target for any nation looking to reduce overall mortality and improve the quality of life of its constituents.

Addressing depression and other mental health disorders will include raising awareness, removing stigma, improving access to diagnostic tools, and support tools for those already suffering. With increasing access to information, mobile devices, and the emerging power of social media, the world is more amenable to technology driven solutions than ever before and represents the core focus of our Confronting Depression Challenge.

Challenge 2: Health Data In Action

Looking to the future, innovation in healthcare will come from a number of different directions spanning medical devices to genetic characterization; improved health information exchange to stem cell advancements. The one theme consistent in all of these, is the presence of new data, which will be of increasing volume, variety, and velocity unlike any we have ever encountered.

The ability to extract insight and opportunity from this data will be key to providing the highest quality care for patients the world over and that is why we've dedicated one track to developing a data-driven solution to any current health problem.

When Steve Jobs was at Apple, innovation didn't necessarily come from invention. The iPhone wasn't the first smartphone, the iPad, not the first tablet. What Apple did exceptionally well was open up the highly technical abilities of these devices and made them simple to understand and easily accessible to the broader public. What insightful design and an innovative marketplace has done for millions of consumers, so can well executed data evaluation do for the medical community. What we're asking is for our hackers to make sense of the technical, make it compelling, make it beautiful, make an impact. That is our Health Data in Action Challenge.

Challenge 3: Geo-Localized Health Solutions

As we challenge the global community to take on "Big Choices" it is important to remind young entrepreneurs that one of their greatest assets is an inherent understanding of the local challenges which exist in their communities. An understanding of infrastructure, stakeholders, and available resources often allow local entrepreneurs to formulate better solutions than larger entities that take a "large net" approach to problem solving, or do not invest at all fearing small profit margins.

The following are inspired by some of the large healthcare challenges affecting the various host cities. Participants will select a micro-challenge topic and use their understanding of a unique community to provide an executable solution. The Micro-Challenges are:

- Data accumulation and resource allocation regarding sanitation needs in rural or developing nations (Sao Paulo, Brazil; Bangalore, India)
- Prevention of pregnancy complications or reduction of newborn loss (Accra, Ghana)
- Environmental or community change regarding heart disease and metabolic syndrome (Singapore)
- Methods for improved follow-up, education, or prevention of admissions relating to ambulatory sensitive conditions (COPD, Asthma, Heart Failure) (San Francisco, U.S.A., London, U.K.)

Challenge 4: Sexual Health

Each year, in the United States alone, there are more than 20 million sexually transmitted infections ranging from HPV and Chlamydia to HIV. Looking at the problem globally, the picture becomes more complex, as financial, cultural, and technological impediments leave many populations susceptible to what are largely preventable diseases.

We invite teams to make the "Big Choice" to improve sexual education access for a population with respect to its financial, cultural and technological capacity. This may include but is not

limited to the following examples:

- **Phone or Text Resource:** Provide education about sexual & reproductive health to adolescent individuals focusing on populations with low smartphone or internet penetration and low access to sexual health education.
- **Smartphone Resource:** Innovative smartphone applications to help patients understand their sexual health status and evaluate the risks they face with their sexual activity choices.
- **Interactive/Social Resource:** Apps or hacks to improve interactive and social activities around sexual health, such as discretely alerting previous partners or remote communication between physicians or counselors.