

Brian Gitta

Hello everyone, I'm excited to be here sharing about how we can harness data science for health discovery and innovation in Africa. I am Brian Gitta, Team Lead at Matibabu, a company aimed at closing the gap between the communities and their rightful access to health care using technology and data.

The healthcare infrastructure in Africa, generates large volumes of data. However, the data is primarily not available in real time. The COVID-19 pandemic has tested our systems, and it's clear that teams throughout the continent have taken considerable time to structure the data needed to track the pandemic. And although there has been a tremendous amount of work done to provide epidemiological training at the grassroots levels during this critical time, the power of digital tools to bring about change in how we use data for health discovery is still tied to innovation.

Personally, I'm excited about the growth of opportunities and expanding capacity on the continent and particularly within the Sub-Saharan Africa. There is an incredible optimism for harnessing data science for the continent with new schools and institutes emerging of late. And there are those in the private sector who are using data to solve some of the most intractable problems. As an example, I offer Matibabu as a case study for how we envision data transforming and how we address health.

Matibabu really started with understanding that, how we diagnose disease was inherently a problem that required same patterns in the data. Starting the company in 2013, and leading the team in that vision has helped me understand the power of data and digital tools. Such tools have opened doors for my generations that were imaginable in my parents generations.

Of late, our team at Matibabu has been working on a new platform. The Yotta platform, which we added to our product line to leverage opportunities for collecting data from the last mile clinics throughout Uganda. The real-time clinical data we collect from these clinics, allow us to create heat maps for visualizing the data, data that in aggregate can be used for decision making.

Project Yotta is building an ecosystem around malaria rapid diagnostic tests, including the Matibabu device by providing real time malaria surveillance. The data is collected into a central repository, and our goal is that data can be used for policy decisions for malaria

elimination programs.

Data is of course critical for disease surveillance and in relation to malaria data, it can support vector control programs in proper programming, allow creation of insecticide resistance maps, visualization of antimalarial drug efficacy and help pharmaceutical companies better understand the performance of their products and medicines. But real time data is a challenge and even with routine data, researchers such as Snow have noted the inclusiveness of quantifying the precise burden of malaria. Snow's advocacy for changing the culture of how we look at malaria data is very relevant.

Modeling approaches alone, are not enough to help us understand the disease. We in fact need to do more data to triangulate and investigate the patterns we see. Real-time, vigorous and responsive surveillance systems are critical for malaria eliminations.

Strategically, pillar three of the Global Technical Strategy For Malaria that is running till 2030, calls for the transformation of malaria surveillance into a core intervention, both in malaria endemic countries and in those countries that have eliminated malaria, but remain susceptible to re-establishment of transmission. Improved surveillance of malaria cases and deaths, helps ministries of health and other malaria fighting bodies determine which areas and populations are most affected and enables countries and these organizations to monitor changing disease patterns.

Strong malaria surveillance systems also help in the design of effective health interventions and help public health experts to evaluate the impact of malaria control programs. In Uganda, some disease dashboards are emerging, but we have far go.

My journey down this path, is linked to my personal experience with malaria. In Uganda, the disease is still a real threat to health for many. As a computer scientist, after experiencing the frustrations of the traditional testing methods first hand, I decided to rethink diagnostic tools. From there, Matibabu was born. And it's out of this non-invasive approach that delivers faster diagnosis that we began to think about how all the other diagnostics could provide real time data and from there, Yotta has emerged.

The opportunities that exist are of course situated within challenges that operate in tandem challenges, that I'm very passionate about finding ways to address.

One main challenge relates to how data is shared between techies and practitioners. There is a need to present the data in a format that is consumable by practitioners so that the practitioners themselves are involved over time.

As data scientists, we need to work to split the processes into chunks that can be consumable over time as practitioners understand the relevance of data, so that they are able to make meaning from it for their work. Even if it means starting with data as text messages, we have work to do to be able to show the power of data for decision making on many levels.

There are other challenges that we must tackle as well, such as policy level work, and convening to advance the agenda of using data for innovation in health, as well as other sectors. Data privacy and data security are also important for policy action.

To bring about real change that we need for health, we need to build awareness of the importance of data for medicines and for disease tracking and community health monitoring, such that we work with a variety of stakeholders, taking ownership of this data and in the process.

As innovators and data scientists, there are also challenges as we create new paths in this field. Where there are incredible amounts of data being generated, African data scientists are not always in position to access this data as project opportunities are many times given to international organizations.

At other times, there are gatekeepers that limit access to these opportunities. I think these challenges are overcome with deepened partnerships, especially across the sectors and geographies. Working collaboratively with young Africans taking on greater leadership roles, we can build a new ecosystem that places data and innovation on the leading edge. In the last eight years, I've had an opportunity to travel globally, and perhaps one of the greatest highlights of this travel has been traveling to other African countries and interacting with like-minded innovators who are ready to use data to help address the challenges that are before us.

I would leave those who are entrepreneurial in mindset, with few key pieces of advice.

Believe in your vision, and surround yourself with a few key people who also believe, but who are also able to show you when you need to readjust your frames. The problems we face, indeed need bold answers and bold innovators but there will be periods of silence before many understand your vision.

Keep moving forward. Keep your focus even when doors close when you think they should be opening. To change the way we harness data for health, we'll require innovation. I

believe that it also requires bold leadership across our continent. leadership that is inclusive, welcoming the young and the old, the female and the male and leadership that is willing to take bold steps to ensure that Africans have resources, tools, skills to lead this transformation.

Although my journey down this path is just beginning, I'm committed to the journey and I'm committed to finding others willing to walk the journey together with me. Thank you.