New ideas for using mobile tech to improve access to healthcare (14 min read) [1]

Access to Healthcare [2]

Meet three finalists of the Sandoz HACk.

The Sandoz HACk – Healthcare Access Challenge [3] – called on young people to submit novel, mobile-technology solutions, to connect people in their countries to better health. Nearly 150 ideas were submitted from more than 30 countries. Now six finalists have a chance to win one of three €20,000 prizes to fund their projects, and receive expert mentorship to help bring their ideas to life.

Using social media to encourage people to donate blood in the Maldives

- A blood-donation app connects blood donors in the Maldives. Through social media, and an innovative rewards system, it incentivizes people to give blood. With his Sandoz HACk idea, Mohamed Shuraih hopes to ease the burden of Thalassemia in his country.
- Video of Using social media to encourage people to donate blood in the Maldives

The Maldives has the highest prevalence of Thalassemia in the world: this disease affects almost one in five Maldivians, according to Mohamed Shuraih’s research. One out of every 120 newborn is born with Thalassemia. Without regular blood transfusions, 85 percent of these children will die by the age of five, he explains. Put simply, the demand for blood donors is greater than the number of people willing to give blood. And local blood banks are under constant stress to meet blood-donation needs, made more acute by surgeries or emergencies. Through an app, Mohamed wants to connect blood donors and encourage donations, so blood banks have the resources to save lives.

Mohamed’s idea is to create an M-Health app that provides incentives for people in the Maldives to give blood. “For example, the app helps to find donation centers, shows a person’s donation schedule, or sends push notifications when donors are urgently needed in emergency situations,” says the 25-year-old software developer, one of six Sandoz HACk finalists.

I would like to see a future where donating blood is commonplace.

Thalassemia has always been an issue in the Maldives, Mohamed explains, and that couples
must get free Thalassemia tests before getting married. “The awareness is there, but in emergency situations, people don’t know how to reach out and connect with donors.”

Mohamed noticed that the young population in his country has a strong online social presence. “So my idea is to seize this opportunity. Through the app, donors can set goals and share updates with friends on social media or earn badges.”

By working with partners, such as corporations with CSR programs, Mohamed plans to further incentivize the act of donation through a redeemable point system. This would help drive engagement.

Eager to get started on his project, Mohamed discovered the Sandoz HACk competition on a website called Funds for NGOs. He says an opportunity like this is rare in a small country such as the Maldives. “I’m glad that I get my story out,” he says. “And that people learn about the problem. I am happy to be working on finding a solution.”

Learn more about Mohamed’s idea at OpenIDEO [4]

Helping patients in Pakistan take medicines correctly

- MedMee aims to support people in Pakistan, and around the world, in taking their medications properly and avoiding medication errors. It puts digital medical records in the hands of patients, and a virtual nurse named Casey offers advice on taking medicines. MedMee’s founders are Saif Ali, Abrar Ahmad and Badar Saeed. Saif is presenting his team’s idea in the Sandoz HACk.
- MedMee also offers Casey, a virtual nurse coupled with artificial intelligence and machine learning. “She will ensure the efficiency of your treatment, notify you when and how to take your medicines, and what to avoid,” says the 20-year-old, and one of six Sandoz HACk finalists.

Software engineer entrepreneur turned Saif Ali has identified three troubling health issues in Pakistan. The first is medication errors, which can have catastrophic effects, including injury or even death. The second is waiting for needed medication, which is stressful. And third is that it is difficult for patients to access their own medical records, which means that people are not well informed about their own health conditions. In response to these challenges, Saif Ali and his team have come up with a personalized, interactive, and smart healthcare mobile system — MedMee, which delivers medical data, medication advice and even medicines on demand.

The purpose of MedMee is to eliminate errors people make when taking medication. Saif's plan is to decentralize Pakistan’s traditional medical records from the hospitals to the patients, and to establish digital medical profiles that patients can access anywhere via mobile. MedMee also offers a virtual nurse coupled with artificial intelligence and machine learning. “She will ensure the efficiency of your treatment, notify you when and how to take your medicines, and what to avoid,” says the 20-year-old, and one of six Sandoz HACk finalists.

We want to eliminate errors that people make when taking medication.

A case of accidental overdose in Saif's family showed just how dangerous medication errors
could be. “My mother had hyperthyroidism, and she had to take her medicine three times a day, which she missed quite often. Then she would take multiple doses in a short amount of time. That made her case so severe that she had to undergo a surgery, after which she was not allowed to speak for ten days,” Saif says. “So I promised myself I would do something in the fight against medical and medication errors in Pakistan.”

Saif and his friends, now MedMee’s cofounders, spent an evening talking about all the difficulties they face going through medical treatment in Pakistan. Over plates of chicken wings, they brainstormed a concept and business plan. “Artificial intelligence and machine learning fascinate me,” admits Saif, who found out about the Sandoz HACk on the F6S platform for start-ups. He was excited to discover that Sandoz is providing support, networking and mentorship. “Budding healthcare entrepreneurs, no matter where they live, can really benefit from such global programs,” he says.

Learn what people had to say about Saif's idea on OpenIDEO

**Bringing medicine to patients in South Africa, saving time and money**

- **PillDrop is a mobile application that enables delivery of medications to patients in South Africa. It also links patients with healthcare facilities. Pharmacist Johannes Mangane describes his idea for the Sandoz HACk.**
- [Video of Bringing medicine to patients in South Africa, saving time and money](#)

In South Africa’s rural provinces, healthcare facilities are scattered across vast expanses. As a pharmacist, Johannes Mangane has served in South Africa’s health sector for years, regularly witnessing the same scene. “I observed patients queuing for hours in overcrowded facilities just to get their medicines. They lost days of work and income,” he says. Long wait times combined with long journeys mean that patients often spend a full day just to pick up their medications. Also, people might be exposed to infectious diseases in hospitals, he adds.

Seeing the situation in his own family, too, moved Johannes to action. “My dad travels a huge distance to collect his hypertension medication, and his cost of traveling is always greater than the cost of the medicines.” I felt there was something I could do,” says the 28-year-old pharmacist, one of six Sandoz HACk finalists.

We want to increase access to medicines by reducing traveling costs and risk of infection.

To help remedy the situation, Johannes Mangane wants to deliver medications to patients. Through his mobile app, PillDrop, people can connect with registered drivers who pick up and deliver medicines.
Using a barcoding system, the app will enable registered PillDroppers to pick up and deliver medicines for clients, Johannes explains. It also links the healthcare facility with patients. Healthcare workers could also be enlisted as PillDroppers, as they live in communities where some of the chronic patients live, and could combine care visits with deliveries.

Mobile technology has transformed his life, says Johannes. “It has changed shopping and banking, for example. We can use it to improve healthcare access, too.” He heard about the Sandoz HACk in a radio broadcast in South Africa. He, too, believes that individuals can find solutions to problems that are currently far from being solved, “Especially regarding access to medicine, a lot of burning issues exist, in my opinion.”

Learn more about Johannes’s idea, and read comments on it, at OpenIDEO [6]

Bringing pharmacist services to patients in Ghana

- GoPharma is a telepharmacy mobile application that links pharmacists in Ghana to facilities that dispense medicine to patients. The idea comes from pharmacist Elvin Blankson, who wants to optimize services and cover regions where there are too few pharmacists.
- Video of Bringing pharmacist services to patients in Ghana

Up to seven in 10 pharmacies in Ghana’s rural areas do not have a pharmacist, estimates Elvin Blankson. Countrywide data support the observation of the 32-year-old pharmacist. According to Ghana’s Ministry of Health, in 2012, just 2,900 licensed pharmacists served Ghana’s population of nearly 24 million, or only 1.2 pharmacists per 10,000 people. Since then, the population has swelled to nearly 28 million, and the need for trained pharmacists has become even greater. However, many pharmacies cannot afford to pay a pharmacist full time wages, and most pharmacists will not relocate to rural areas for work. As a consequence, many facilities are staffed only by medical-counter assistants. The lack of qualified pharmaceutical staff extends to urban hospitals and private clinics, too. Elvin’s suggestion for dealing with the skills shortage is GoPharma – a smartphone-based telepharmacy that allows pharmacists to oversee several facilities in different locations at once and all in real time.

“I am a pharmacist myself, so I know what the situation in pharmacies looks like. I know what is needed to improve the healthcare system in Ghana,” says Elvin. Cost is a major factor in healthcare access, he adds. “The pharmacy is the first point of call for almost everyone who falls ill, because pharmacies do not charge for consultation.” Using mobile technology can bring qualified pharmacist services to many more Ghanaians, efficiently and at low cost, he says. “This idea came as a result of observing my working environment, and of seeing what can be, instead of what is.”

I have assisted patients remotely via video-enabled mobile apps, so I know it’s doable.

With a mobile phone, tablet or laptop, a pharmacist in Ghana can supervise operations at multiple pharmacy locations 24 hours a day, explains Elvin, one of the six Sandoz HACk finalists. They can review prescriptions or advise patients, for example. His eight years of
experience working in six different community and hospital pharmacies in Ghana inspired him to search for ways to optimize pharmacy services using mobile technology. “I have assisted patients remotely via video-enabled mobile apps, so I know it’s doable.”

“People have great ideas that will solve a lot of problems,” Elvin says. “But for someone who tries to start a business – especially in Africa – it is hard to get publicity. You need the right platform, and that is the Sandoz HACK. The opportunity is mind blowing.”

Learn more about Elvin’s idea at OpenIDEO [7]

Teaching CPR through a mobile app in the Philippines

- Sali is an interactive mobile application to teach Filipinos cardiopulmonary resuscitation. It also automatically connects to emergency services. Joel Manuel Alejandro explains his idea for the Sandoz HACK.
- Video of Teaching CPR through a mobile app in the Philippines

Cardiovascular disease is the number one cause of death in the Philippines — an estimated 60,000 people annually die from sudden cardiac arrest. But the country has poor emergency response systems, and lacks a functional national medical hotline, explains medical student Joel Alejandro. Ideally, in an emergency, citizens could perform life-saving cardiopulmonary resuscitation until medical services arrive. However, (CPR) training courses are not accessible everywhere, because there are just 100 training centers for the population of more than 100 million, he says. With an app called “Sali,” Joel Alejandro wants to put CPR training in the pocket or purse of every Filipino.

Joel is one of the six Sandoz HACK finalists, and his interactive mobile application, “Sali”— a Tagalog word for “to join”— aims to build a country of lifesavers who are willing and able to administer CPR effectively in all cases of emergency. “I came up with the idea during our medical school CPR class,” the 21-year-old says. “Our instructor told us CPR could save lives. To me, CPR seemed easy enough, so I wondered why more Filipinos didn’t learn it.” Through Sali, Joel aims to universalize training in the Philippines, so that anyone can administer CPR step-by-step, anywhere and anytime.

We want to increase the chances of surviving sudden cardiac arrest.

Many Filipinos were shocked by a 2014 incident involving Samboy Lim [8] (Sam), a popular Filipino basketball player. One afternoon while Sam was playing a recreational game of basketball, he suffered a heart attack. No one in the gym knew what to do, and the athlete became permanently disabled. He is among many Filipinos suffering from cardiovascular diseases. So Joel wants to do his part to empower citizens to assist in a cardiac emergency. “If people know CPR, maybe they can prevent a case like Sam’s in the future.“

“As an aspiring doctor, my aim is to improve people’s health,” Joel adds. “With the Sandoz HACK, I can show my passion and contribute to better national health in the Philippines. And I hope that through this project, our team can save people one heartbeat at a time.”

Learn more about Joel’s idea and what other people had to say about it at OpenIDEO [9]
Supporting refugees mental health and integration into new communities in Germany

Over the last years, the world has seen a huge wave of migration, especially visible in European countries such as Italy, Greece, Sweden and Germany. Accommodation and ultimately integration of refugees is a challenging task for local communities, as they are confronted with an overwhelming number of people with very diverse backgrounds, many of whom have experienced traumatic events in their land of origin and during their often long and dangerous journey to Europe. A good and stable state of mental health is a prerequisite for successful integration in the community and entry into the job market. As of now, there is no structural process that identifies and prioritizes those who are most desperately in need of help. To improve this situation, Benedikt Schmidl intends to develop a mobile application that tackles exactly this problem.

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