



**Technology Solutions for Africa: Revolutionizing Healthcare**

**Access in Africa (eg, Babylon Health)**

**BSc. in Software Engineering**

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## **Technology Solutions for Africa: Revolutionizing Healthcare Access in Africa (eg, Babylon Health)**

### **Abstract**

Babylon Health is a telemedicine platform that initially started in the United Kingdom. It provides a new way of supplying healthcare with the aid of artificial intelligence and mobile applications to give people online consultations and health tracking devices with basic medical advice. This paper identifies how Babylon Health has improved over time. It also explains the way the platform is designed, its impacts, what it can do, and how it shapes the way society accesses healthcare and uses technology. Additionally, it shows some of the problems the platform faces, especially when it comes to reaching and including people from marginalized communities. This paper proposes the best design options that would help make Babylon Health more important and accessible across African countries. With the right changes, it could play an important role in enhancing healthcare access, especially in rural and other areas where it is difficult to reach.

### **Introduction**

In many African countries, access to health care is restricted by limited infrastructure, a short number of medical professionals, and long-distance travel to clinics (Uche, 2022). Babylon Health, an online health platform that commenced in the UK in 2013, gives AI-based signs

and symptoms checking, online consultations with doctors, and health management devices accessed through smartphones (Ahmad, 2020; Jason & Jean Pierre, 2020). This study mainly focused on Babylon Health's design evolution, its impacts on users and the community, and how it could be customized to overcome the health access problems faced by most African communities.

### **Historical Development of Babylon Health**

Babylon Health was established in 2013 by Ali Parsa, with the goal of making healthcare more affordable and accessible to people around the world (O'Neil, 2020). It started as a simple mobile application that allows users to book appointments with doctors by using video calls. Then, it introduced an AI-powered symptom identifier to help users know their health better (Driquez et al., 2023). As time passed, Babylon collaborated with national health systems like the NHS in the UK and the Ministry of Health in Rwanda, which helped it develop quickly. Some of the best moments of its journey include the launch of its AI health bot in 2015, connecting with NHS services in 2017, and expanding to Rwanda in 2019 with Babylon (which allows people to use SMS to talk to doctors). It also entered new markets like the U.S., Canada, and some parts of Asia in 2020 (Uwaliraye et al., 2019), and global expansion into the United States, Canada, and parts of Asia as well. These decisions made the app scalable, mobile-based, and data-driven, shaping its abilities for diagnosis and health monitoring.

### **Features, Benefits, Dangers, and Effects**

Some of the most unique features of Babylon Health include an AI symptom checker, 24/7 video consultations, health record tracking, and personalized health plans. The use of this technology has improved the health care services in different ways. This technology reduced the time wasted by the patients, increased access in remote areas, provided effective

diagnoses, helped the healthcare workers with the overload of work, and facilitated self-monitoring. However, it also presents dangers. The use of AI to collect health data raises the issue of security and privacy. Furthermore, over-reliance on AI can also lead to misdiagnosis if not coupled with human oversight; users may become overly dependent on self-diagnosis, potentially avoiding necessary in-person consultations. On the other hand, this technology requires a stable internet connection and smartphones, which may exclude people from low-connectivity areas.

### **Influence on User Behavior and Social Interactions**

Using technology in healthcare systems like Babylon Health shows a change from traditional medical practices, changing how patients interact with medical professionals and engage with their health. Although this technology helps a lot in healthcare, it also introduces potential challenges. Primarily, the use of this technology encourages virtual interactions between healthcare and patients, which has changed the relationship between patient and doctor.

Traditionally, most of the time, patients are more passive; they only present symptoms to the doctor, and the doctor does the rest to ensure the patient gets better treatment. On the other hand, the use of this technology empowers the user to become proactive by putting their symptoms in AI symptom checkers, accessing healthcare information needed. As a result, it increases the sense of personal responsibility for health management. Furthermore, it also reduced face-to-face interaction between patients and doctors, which sometimes provides psychological comfort and trust to the patients when they are with doctors. It also provides a lot of healthcare information, which may help the user to educate themselves about conditions, treatments, and prevention measures, causing the patients to be more active. On the contrary, the use of technology can cause patients to undermine in-person consultations, which are also necessary in healthcare, as some treatments need physical appointments with

specialized medical doctors. Additionally, in some communities, especially those with low digital literacy, it may be difficult to navigate through the platform, which reduces the effectiveness of technology. Language barrier also affects the use of technology in healthcare. For example, if the patient didn't understand the terms used in the symptoms checker, it can lead to misdiagnosis.

Babylon Health promotes digital-first interactions with medical professionals, altering traditional patient-doctor relationships. Users become more self-reliant, using AI tools to monitor symptoms and make preliminary health decisions. This model encourages preventative care but may undermine the in-person consultation culture. In some communities, especially those with lower literacy levels, the interface may be intimidating or inaccessible, leading to digital exclusion. The system also favors English-speaking users, often alienating non-English speakers or those with limited digital literacy.

### **Alternative Design Choices for African Contexts**

To serve African communities well, Babylon Health could have included voice and multilingual support in its design. Most people in these regions mainly speak languages like Swahili or Hausa. Therefore, having an AI that works in multiple languages would make it easier to use, especially with audio. Since access to the internet can be limited in rural areas, low-data options like SMS-based health consultations would be more impactful. A hybrid approach also helps build trust and boost the quality of care. Collaborating with local health organizations and making some parts of the platform open to local developers could result in culturally relevant features that make the service more trustworthy and user-friendly.

### **Conclusion**

Babylon Health is the best example of how technology can change and improve healthcare. While its core strengths, AI integration, mobile accessibility, and user empowerment, make it promising for Africa, its current design choices inadvertently exclude some groups. By adopting voice support, offline functionality, and community-centered design, this technology could dramatically improve healthcare access in African countries, particularly for rural populations where there is a low level of literacy and low internet accessibility.

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