



Emerging Markets

- EDITORIAL, *C. MAROLT*
- LESSONS FOR HEALTHCARE FROM EMERGING MARKETS
- ALLIAR: INNOVATIONS FOR A COUNTRY OF CONTINENTAL DIMENSIONS, *F. TERNI & C. ARAJUO*
- FINANCING MICRO HEALTH INSURANCE, *D.M. DROR*
- INTEGRATED, RISK-BASED CARE FOR SOUTH AFRICA, *H. HANEKOM*
- MANAGED EQUIPMENT SERVICES CAN BE BOON FOR EMERGING MARKET HEALTH, *C. MCCAHAN*
- AFRICA LEADING WAY IN HEALTHCARE TECH, *J. MUMLEY & A. THAKKER*
- AYUSHMAN BHARAT - INDIA'S NATIONAL HEALTH PROTECTION MISSION, *D. MUNDRA*

HEALTHCARE BUSINESS INTERNATIONAL 2018, *D. FARBROTHER*

SMART HOSPITAL ETHICS, *S. HEINEMANN*

DISTRIBUTING A LIFE SOURCE IN AFRICA, *T. GIWA-TUBOSUN*

STRATEGIC PRODUCT APPROVAL FOR HEALTH COMPANIES AND REGULATORS, *P. FAGBENRO*

GENERAL DATA PROTECTION

REGULATION AND HEALTHCARE, *J. MUCKLOW ET AL.*

EHEALTH - TRANSFORMING HEALTHCARE IN DISRUPTIVE TIMES, *M. FEYZRAKHMANOVA*

DOES RADIOLOGY HAVE A BRIGHT FUTURE? *G. MCGINTY*

FOSTERING CLINICAL RESEARCH IN IMAGING DEPARTMENTS, *J. MCNULTY*

EIBIR'S ROLE IN IMAGING

RESEARCH PROJECTS, *P. ZOLDA*

CLINICAL AUDIT: THE PILOT EUROSAFE IMAGING STAR PROJECT, *G. PAULO*

FIBRE-BASED SOFT TISSUE RECONSTRUCTION, *M. HANDEL*

GAME-CHANGING SKIN-LIKE ELECTRONICS FOR STROKE PATIENTS, *J.A. ROGERS*

AI AND HEALTHCARE TECHNOLOGY IN INDIA, *P. RAO*



Africa leading way in healthcare tech

The continent is ahead of the game in cutting-edge drone use

The African healthcare context is uniquely placed to adopt and benefit from drone technology.



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In the past decade, the possible use of drone technology in various sectors of the economy has become increasingly likely. As with most new technologies, drones are seen as a double-edged sword. Their most high-profile use has been in a military context, which often couches the discussion around this technology in some level of controversy and fear. Additionally, drones have posed challenges in the area of air traffic control and safety, as well as personal privacy. However, drones also offer exciting, cost-effective opportunities for advancement, especially in the area of transport and supply chains. Considering the specific challenges facing the healthcare sector, especially in Africa, drones provide a potential solution to many of the sector's primary challenges. Whatever the feelings around drone technology, its advancement is now inevitable and must be taken very seriously. The African health sector is uniquely placed to capitalise on the strengths and mitigate the drawbacks of this new technology.

Africa's recent history has shown an ability to adopt technologies quickly and effectively, especially when compared with Europe, the United States and other more established economies. There are many reasons for this, but primarily because of less developed infrastructure and less restrictive regulations. Cellphones were adopted rapidly throughout Africa in the late 1990s and early 2000s, partially because landline phones were so ineffective. Because of the widespread use of cellphones, limited financial regulation, and the fact that a large percentage of the population was unbanked, there was then fertile ground for M-pesa and the start of the mobile banking revolution. The U.S. and Europe have been markedly behind Africa in both of these developments and are still in the process of catching up.

This open environment puts the continent in an ideal position to adopt innovative technologies that often get bogged down by bureaucracy and regulation in other areas of the world.

“THE OPEN ENVIRONMENT IN THE AFRICAN CONTINENT HELPS IT ADOPT INNOVATIVE TECHNOLOGIES OFTEN STALLED BY BUREAUCRACY AND REGULATION ELSEWHERE”

Additionally, the challenges that Africa faces in the area of transportation infrastructure and the difficulty of providing quality healthcare to the most rural population, makes drone technology a perfect opportunity to skip aspects of the costly and time-consuming efforts of building roads and airports and makes the transportation of life-saving goods a possible reality in the very near future. One of the primary issues facing the healthcare sector in Africa today is the rural-urban divide. Whereas Nairobi, Johannesburg and Lagos may have state-of-the-art health facilities, the populations in rural and hard-to-reach areas often have trouble meeting their most basic healthcare needs. Poor road infrastructure means there is a significant need for alternative delivery systems. The delivery of products is, of course, only one aspect of healthcare service delivery and is ineffective without the technical and

diagnostic expertise of qualified medical practitioners. Combined with telemedicine, made possible through the mobile phone technology that already exists, drone technology could be revolutionary.

Although not yet mainstream or widespread, there are already efforts to make use of drones a reality in healthcare in Africa. Zipline is a company based out of California in the United States, working primarily in Rwanda, and is the most well-known example of drone technology use in healthcare to date (zipline.com). Their Rwanda programme began in October 2016 and has grown to deliver more than 20 percent of all the nation's blood supply outside of Kigali. The organisation tells story after story of life-saving deliveries that would not have been possible without the use of their drones. Their work has also radically changed the structure of the country's medical supply chain. The use of drone technology ensures that hospitals always have enough blood and minimises wastage due to the reduced transport time.

The blood delivery that Zipline offers has made a huge impact in Rwanda, but the use of drones should by no means be limited to that specific niche. In fact, Zipline plans on expanding into Tanzania with a programme that is set to deliver blood transfusion supplies, HIV medications, antimalarials, antibiotics, surgical supplies and much more. Drones have the potential to transport life saving supplies, not only in emergency situations, but also on a regular basis, providing a cheaper transport alternative to the established supply chain systems.

As with any new technology, however, the health sector must also be aware of the potential unintended negative consequences. The same reasons that make Africa the perfect place to carry out new and exciting innovations are also open doors for potential harm. Although at times redundant and bureaucratic, there are reasons that the regulations in Europe and the U.S. are in place and, if Africa is to move forward with implementing this kind of technology into the healthcare system, a balance must be reached. Government bodies and the private sector on the national, regional and continental levels should work together to form policy that neither stifles innovation nor is reckless in its implementation. The Africa Healthcare Federation (AHF), a continent-wide federation of the private health sector, established in 2016, offers an opportunity for this type of dialogue and partnership formation. The annual Africa Health Business

Symposium, being held this year in Johannesburg in October, provides a platform for experts in the field to discuss these issues, alongside their public sector partners, to come up with the most effective solutions to the health sector's most pressing problems.

Drone technology is here and available. Despite the risks that every new technology presents, there are many more benefits it can offer in combination with telemedicine, that will drastically improve healthcare service delivery. The African continent is the perfect setting to explore this technology, not only because it is open to innovation, but also because it has the most to gain. The rural-urban divide, transportation challenges, and financial constraints make delivering quality healthcare to the entire population a daunting task. It will only be possible by cooperating on the national, regional, and continental levels to capitalise on the opportunities that drone technology provides and implementing it in a creative and responsible manner. ■

KEY POINTS



- ✓ There is significant fear and suspicion around the topic of drones
- ✓ Africa has shown that it has the ability to quickly and effectively adopt new technologies
- ✓ Because of the unique challenges facing the African health sector, drones could have an immense impact on improving health outcomes
- ✓ National, regional, and continental policies need to be put in place that find a balance between stifling innovation and allowing reckless implementation



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