



Medical Solutions Using Emerging Technology

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Each year provides newer, faster, and more reliable ways of providing medical care in emergency or remote locations, and amongst the exciting possibilities that are emerging, the use of drones to deliver urgent medical tools, diagnostic tools, drugs, or blood for transfusions is gaining acceptance as an idea worth pursuing. Medical providers are also increasing their acceptance of diagnosis via artificial intelligence as a viable option.

Are drones ready to take to the skies at present to accomplish these things? Can AI diagnostics create better medical care? And how does this relate to blockchain technology?

Unmanned aerial drones are operated remotely and are currently being tested in a variety of settings. The TU-Delft Ambulance Drone, currently undergoing testing in Europe, aims to deliver a defibrillator within minutes from being summoned to the side of someone who has had a heart attack. The estimated rate of survival by using this method would increase from 8% to an astonishing 80%. Future versions will provide emergency medical care for episodes of diabetes attacks, several types of trauma, respiratory distress, and for the resuscitation of drowning victims. It's easy to visualise

how this technology could move from the current developmental stages into active use in remote locations around the world. (Citrix, Aug. 2017)

Using blockchain platforms for drone management will not be without challenges. The cryptographic encryption will need to be perfected and deliveries can only be made after verification by a 'blockchain identifier' in the form of an encrypted or numeric key.

Additionally, clearing the 'highways in the sky' through remote monitoring of weather, obstacles, terrain, and other vehicles in the airspace will lessen the need for the current amount of human interaction. Peer-to-peer sharing via blockchain records will also enable other users to view the landscape or urban areas that are being flown over and mapped. (ANRA Technologies, Feb. 2018)

Recent disasters in the USA at the end of 2017 prompted an increase in the use of drone technology. As homes and businesses alike were destroyed by a series of hurricanes, it quickly became apparent that the insurance companies did not have enough insurance adjusters available to examine each scene and begin the process of paying claims to the affected policyholders. Several of the largest insurance companies used drones to fly over damaged or destroyed buildings and send images of those locations back to their home offices.

Drones were also used by utility companies after the hurricanes to spot downed power lines and damaged infrastructure, thus allowing Florida Power and Light to begin repair operations within an hour after the storm had passed.

Other ways that drones have been used for global emergency situations include:

- transfer of blood samples in small temperature-controlled compartments
- delivery of emergency supplies in areas that are cut-off and difficult to reach due to downed power lines or flooding
- delivery of medical supplies including remote diagnosis devices
- assistance to first responders in their assessment of damage and formulation of a rescue strategy following the collapse of buildings, landslides/mudslides, or floods
- improvement of firefighting ability through onboard sensors that pick up 'hot spots' on the ground
- delivery of emergency shelter materials via heavier-duty drones
- delivery of food and water (PWC, Oct. 2017)

In other versions of emerging technology, diagnostic possibilities are being explored through a combination of an Amazon Echo device, a medical diagnostic API created by Infermedica, and the Octoblu platform to arrive at what is essentially an ask-a-doctor tool for diagnosis. This AI medical tool can be used by home users, but will also serve as a diagnostic tool for medical professionals in the field or under emergency situations. Symptoms and descriptions of injuries can be entered into the program through voice commands and the system then provides the remote doctor with the likeliest possible diagnosis and solution.

Further improvements in healthcare could be offered by blockchain-secured electronic medical records that could be streamed into remote devices, including the prototype diagnostic tool described above or tablets. These medical records can detect emerging patterns of disease or compare the patient’s symptoms with other previously-documented cases and solutions to further enable the on-site medical staff to resolve medical problems. (Citrix, Aug. 2017) (Octoblu, n.d.) (Infermedica, n.d.)

REFERENCES

1. Matthieu, Chris (2017, Aug. 4). Eight Essential Emerging Technologies. Retrieved from <https://www.citrix.com/blogs/2017/08/04/eight-essential-emerging-technologies-applied-to-healthcare/>
2. Ganjoo, Amit (2018, Feb. 13). Blockchain and Drones: The Reality. Retrieved from <http://www.anratechnologies.com/home/consulting/blockchain-and-drones-the-reality/>
3. Mazur, Michael, Hewlitt, Christopher and Morrison, Alan (2017, Oct. 9). Commercial drones proving their worth in disaster relief. Retrieved from <http://usblogs.pwc.com/emerging-technology/commercial-drones-for-disaster-relief/>
4. Octoblu Integration of Things (n.d.). Retrieved from <https://octoblu.github.io/>
5. Infermedica: Artificial intelligence for medical diagnosis. (n.d.) Retrieved from <http://infermedica.com/>

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