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## **mHealth and Sustainable Development: The Case of Rural China**

Zhenpeng Liao (Joe)

### **Introduction**

As China's urbanization continues to increase, more and more rural youths have left the countryside and come to the cities to work. Most of the residents left behind in the countryside are the elderly and children. Most of these remaining rural residents lack education and lack money. The most important is the lack of medical resources. According to 'Difficulties and Countermeasures in Cultivating Rural Medical Service Market' (Lin & Tang, 2009), insufficient human resources and insufficient market flow of medical service resources are the main problems in rural medical care. Rural residents in most remote areas are the key care objects of medical resources such as the elderly and children. Therefore, rural residents have greater demand for medical resources than urban residents.

The purpose of this paper is to discuss how to provide needed medical care to all people living in rural China. Two mHealth technologies are proposed as solutions. The first solution is Teleconsultation. The second solution is Electronic Medical Record. Both solutions are related to mHealth and may have different advantages and disadvantages when implemented. Both of these solutions have the opportunity to solve the problem of medical resources for China's remote villages.

### **The Sustainable Development Goals**

According to the video “A Non-boring Definition – Sustainable Development” (Taylor, 2021) the United Nations Sustainable Development Goals are 17 goals for sustainable development adopted on September 25, 2015. SDGs are defined as a goal that turns social, economic and environmental development issues into a sustainable development path. The

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difference between it and other development goals is that SDGs emphasizes two themes, development and sustainability. These two themes may conflict in some cases, but SDGs will try to resolve the conflict. Many people are convinced that achieving The SDGs can develop the present world while allowing future generations to live a life no worse than ours.

### **SDGs#3 Good health and well-being**

According to “Goal 3: Why it Matters” (United Nations, n.d.), the goal of SDG3 is to safeguard the health and well-being of all people. A healthy body is the foundation of work for people. For the United Nations development goals, SDG3 is also the foundation of all development. Only by satisfying people's well-being can people work hard for development, which is why SDG3 is important. However, SDG3 faces great challenges. The arrival of COVID-19 has overwhelmed the previously built health system. In order to solve the harm of COVID-19, a lot of resources have been devoted to the research and treatment of COVID-19. This puts previously achieved health gains at risk. At present, the realization of SDG3 is facing huge challenges, but people and organizations should pay more attention to and support SDG3. If they do this, there will be a better future.

### **Findings and Discussion**

mHealth refers to the provision of medical-related services through mobile devices and information devices. At present, China's rural areas lack the conditions for the realization of mHealth. According to Li (2008), fixed-line telephones and televisions are still the most important means of information communication and reception in rural areas, and rural China lacks a mature and easy-to-use information system. A complete information system is the prerequisite for establishing an mHealth system. To address this problem, the Chinese government should subsidize mobile phones, computers and other information products in the

rural market. Mobile phones should be available to the residents of marginal rural areas. Only in this way can an information system be built in rural China.

Teleconsultation is an important part of the mHealth system. Teleconsultation is a technology for diagnosing and deciding treatment plans on the Internet through mobile and information devices. According to Feng and Shen (2013), the telemedicine consultation work is conducive to the residents in different rural areas to receive high-quality and convenient medical services, improve the utilization of medical resources, and help control medical expenses. When the teleconsultation system is established, people in remote areas can receive diagnosis and treatment from doctors in higher-level hospitals in basic hospitals through information equipment. How can a teleconsultation system be built? To establish a Teleconsultation system, basic rural hospitals should establish remote network connections with advanced township hospitals, and township hospitals should have dedicated doctors responsible for online connection with rural hospitals. Teleconsultation plays an important role in solving the problem of lack of medical resources and funds for residents in rural areas of China.

While teleconsultation can provide medical services to residents of remote villages in China, another promising approach is the Electronic Medical Record. According to Liu et al. (2011), Electronic Medical Record is defined as the digital storage record of medical services for clinical diagnosis and treatment of patients and guidance intervention by medical institutions. Electronic Medical Record can help hospitals respond to large-scale diseases, environmental pollution and other problems faster in remote areas. Because residents in rural areas of China lack basic medical knowledge, they cannot effectively communicate with doctors. The Electronic Medical Record can help doctors understand the condition more quickly and make better treatment. Establishing an Electronic Medical Record system requires a large and complete

central information center. Only in this way can better information be collected, and a convenient information system operating system is also essential. An Electronic Medical Record system can better manage and collect disease data of rural residents and Meet the health needs of rural residents in China.

mHealth has many advantages in rural China. However, the compatibility between the mHealth system and the original medical system must definitely be considered in SDG3. According to Lehoux et al. (2002), the mHealth system has high requirements for doctors. For example, the workload of a doctor in charge of remote consultation will be greatly increased, and the excessive workload will lead to a decline in medical accuracy. Under fatigue, their medical level may be lower than that of doctors in basic hospitals. In addition, a local doctor has a better understanding of local patients and the reserve of medical resources than a remote doctor who has only read electronic files. The prescriptions that doctors in other places may prescribe may not be suitable for local conditions. There is incompatibility between mHealth and traditional medical care, but it is hoped that as time goes by, the mHealth system will be better integrated with the local medical system.

## **Conclusion**

People living in remote villages in China face many challenges, including insufficient medical resources, which is the focus of SDGs 3. The mHealth system can come to help them. The first solution, teleconsultation can solve the shortage of doctor resources. The second option, Electronic Medical Record, allows the medical system to quickly respond to large-scale diseases such as infectious diseases. While both solutions have their own drawbacks, both solutions are promising solutions to the problem.

At present, the lack of medical resources is a worldwide issue. It is hoped that the world will take the development of mHealth in rural China as an example, so that mHealth can help the poor and those who lack of medical resources in the world to provide health and well-being. In the contemporary era where technology is more and more developed, it is important to use technology to help meet SDG3.

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