Ehealth Efficiency

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Abstract—The use of artificial intelligence and robotics in the field of medicines can be both considered a book and a bane. Due to the limitations brought about by the use of artificial intelligence and robotics (generally considered as electronic health or e-health) this paper aims to explain why the world is not yet prepared to have robots and internet to handle their medical concerns.

Index Terms—Eheath, efficiency, artificial intelligence, robotics, health care, medical technology, internet

1 INTRODUCTION

The manner of exploration of new technologies is incremental—it becomes more and more advanced in just a short span of time. Just before, the field of medicine caters only manual check-ups and manual medications, as if every single procedure is done one by one manually. Now, we have the so-called electronic health (also known as E-Health) which greatly contributes to the efficiency of the providing health care to people in all areas around the world.

Healthcare in the United States has been being unaffordable and accessible. To make it more affordable and accessible to Americans, the use of artificial intelligence has been suggested. Artificial intelligence is expected to lessen the costs of healthcare, as well as to improve its quality to ensure the safety and health of all its citizens. Artificial intelligence is the main element comprising the idea of e-health.

3 SECTIONS

I. Ehealth Definition

E-health is the manner of incorporating artificial intelligence as well as robotics in providing health services and operations to people. By providing the definitions of artificial intelligence and robotics and their functions in the field of medicine, the concept of e-health can be easily understood.

A. Artificial Intelligence in Health Care

Artificial intelligence is expected to lessen the costs of healthcare, as well as to improve its quality to ensure the safety and health of all its citizens. Medical practitioners incorporate artificial intelligence to their operations to increase efficiency.

One of the contributions of using artificial intelligence in healthcare can be seen in the Clinical Decision Support System (CDSS) which helps the medical personnel to diagnose the condition of a certain patient through the symptoms and the encoded demographic characteristics. Another is that, using artificial intelligence, making predictive models has been easier because of the data stored in it. It also helps in proper recording of cases and patients through the Electronic Health Records (EHR) making it easier to retrieve files, cases and patient's profiles to improve the provision of health services. Through the use of a computer, the privacy of the patients is taken care of since it no longer includes much of a person to person interaction.

B. Robots in Health Care

Usually, people think that robots are just for kids. The usual robots are the remote control cars and trucks that kids play. However, in the contemporary time, robots are programmed to act like humans. They can serve foods like butchers and waiters do in a restaurant and can even be used to reserve a slot on a sale like how a woman used her robot to queue for the launching of iPhone 6s (Parsons, 2015).

In terms of health care, a publishing network, the Information Week [Connecting the Business Technology Community] released a list of medical robots which could greatly help in providing the best health care. Among these are the Magnetic Microbots, the Vasteras Giraffe, the Aethon TUG, the AVA Telepresence Technology, the Bestic, the Direct Physical Interface, the CosmoBot and Anybots, the Swisslog RoboCourier, and the Walk Training Assist robot which was introduced by Toyota.

II. Ehealth, Efficient or Inefficient?

Ehealth has been continuously improved because it has the potential to increase efficiency in providing better health care to citizens. However, there are still debates on whether or not the existence and development of ehealth make the provision of health care more efficient or less efficient. The next paragraphs will detail the negative perceptions on the use of artificial intelligence and robotics, or e-health in general.

Robots in the field of medicine may be efficient but delicate. Basically, robots lack empathy. It will never understand human pain. Instead of using a robot, a caregiver will still be better because they can tell stories to patients and even smile to them when they feel like giving up. The value of humanity must always be considered. Sharing stories make people shortly forget the pain they are feeling. Smiling at them when they feel sad and blue makes them feel a bit lighter. Smiles are the most powerful tool to make people feel better because such gesture manifests care and love which robots cannot give.

Would a robotic adult attendants be an effective and efficient way to provide assistance to a senior or would it be a dereliction of duty to provide humane care? The answer is here. Robotic adult attendants will not be that effective and efficient in providing assistance to senior citizens. It is true that it will result to a dereliction of duty of providing a real

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humane care.

In spite of all the above-mentioned potentials of using artificial intelligence in the field of health care, are the limitations that are important to be considered. Artificial intelligence can only be used in specific diseases since it has not been developed that much as of the moment. Also, it can only be used in a small subset of the whole United States population because of its limited space. To make it more helpful and for it to contribute more to the field, it must be further developed to increase its potential in helping the community attain the best healthcare services.

4 Conclusion

This paper recognizes the merits posed by the existence of e-health in the field of medicinal care. Several samples of different existing robots in medical care are mentioned and discussed to manifest that the author of this paper is not really close minded about opposing the use of robots especially in helping patients with different situations.

However, the author stands firm that because robots, as part of e-health, have harmful potentials, lack of experience, and inabilities to understand pain, then robots which will serve as adult attendants would fail to provide adequate care for citizens. The latter part of this paper will discuss the ethical issues in using robotic attendants to help and serve its adult owners.

There are many testimonials expressing how helpful robots are to people who needs attendants. Sometimes, patients who are staying at home needs somebody or something which can attend to their needs. However, in some cases, robot inventors tend to forgot how to make robots sensitive to the feelings of the patients and people around them.

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