Ethical Debate – Con Side

Wearables such as smart watches, that are used to collect and monitor health data, have their limitations and they can display inaccurate results which may make their whole existence ineffective. These devices may not consider other factors that can affect the results of people with certain conditions. For example, in a study done by Werner Budts for JMIR on the expenditure of energy in patients with cardiovascular disease he found that “the Apple Watch systematically overestimates energy expenditures in this group of patients” (Budts). In an article by the Journal of Medical Internet Research, the authors talk about how “users might deliberately use the device in an unorthodox way to trick the system in certain circumstances” (Huang, Kim & Schermer). This highlights a problem with wearables which is that they can be easily manipulated by their users for their own personal benefit. The article also states that “a user of a digital twin might not follow the instructions properly and therefore compromise the quality or accuracy of the data collected by the device” which is very likely to happen (Huang, Kim & Schermer)

If the service provider fails to develop suitable management techniques following each system upgrade, digital obsolescence may hinder people's capacity to reutilize their data for other healthcare services. Furthermore, it is conceivable that some digital twin developers for specialized primary care services will suffer a closure and will no longer provide assistance maintenance. The outage may make it challenging for digital twin users for tailored healthcare to obtain the data related to health they entrusted to the providers. Being unable to access one's data would have a significant impact on the quality of health treatment a person may receive, given that the digitization of medical aid is an inexorable trend. It is critical to acknowledge these difficulties in accessibility and conceive methods for digital twin users for individualized services in healthcare to obtain, recover, and transfer the information that has been assigned to their service provider.

The collection of data is required for digital twinning to work in a healthcare system, which can lead to a lot of issues. One of the issues which is talked in an article by Journal of Medical Internet Research is hyper collection, which “can severely infringe on the right to privacy and autonomy” (Huang, Kim & Schermer). Another concern is that “service providers might secretly exploit the data collection process by collecting as much data as possible” (Huang, Kim & Schermer). This can lead to a huge problem which is lack of consent from users, and invasion of privacy as some of the data is not even required for digital twinning. There is a huge security concern in the healthcare industry, as it is stated by Stacy Weiner for the Association of American Medical Colleges that “more than 1 in 3 healthcare organizations globally reported being hit by ransomware in 2020” (Weiner). With more information being collected for digital twinning, hackers are licking their lips as they continue to target the healthcare system.

A feature of healthcare trackers is the ability to detect health problems in patients before they become a major issue. One of the things that many of us might skip over when downloading an app is the rules of the app. We might not read these rules, and we end up accepting these rules and sharing our data or selling our data to advertisers and social media companies (Robbins, 2021). The problem is that while the technology found in theses devices is becoming increasingly more reliable, there is still a margin for error. The data collected from these devices has been found to be inaccurate due to factors such as the user’s body mass index and skin color (Robbins, 2021). Another issue is that the data provided by these devices may cause users to unnecessarily worry by obsessively checking on the results given to them by their health tracker (Robbins, 2021). One last thing is that “people with mobility impairments may not benefit much from a movement tracker (Robbins, 2021).”

Works Cited

Falter M, Budts W, Goetschalckx K, Cornelissen V, Buys R Accuracy of Apple Watch Measurements for Heart Rate and Energy Expenditure in Patients With Cardiovascular Disease: Cross-Sectional Study Retrieved Oct 17 from: <https://mhealth.jmir.org/2019/3/e11889>

Huang PH, Kim KH, Schermer M. Ethical Issues of Digital Twins for Personalized Health Care Service: Preliminary Mapping Study J Med Internet Res. 2022 Retrieved Oct 15 from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8844982/>

Robbins, Ocean. (2021, June 23). *Health Trackers: Benefits, Downsides, & the Top Types to Consider*. Food Revolution Network. <https://foodrevolution.org/blog/health-trackers/>.

Stacy Weiner for the Association of American Medical Colleges. The growing threat of ransomware attacks on hospitals. Retrieved Oct 17 from: <https://www.aamc.org/news-insights/growing-threat-ransomware-attacks-hospitals>

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