Kaylee Auguillard

Professor Mcmanus

ITAI 2377

21 October 2024

Comparison of Healthcare Predictions in “2057 - The Body" and Current AI Advancements

The documentary *2057 - Michio Kaku - The Body (Ep. 1)* envisions a future where AI and robotics revolutionize healthcare through advancements such as robotic surgery, brain chips, and intelligent clothing. A notable prediction is the use of AI-powered robotic surgery, which is becoming a reality today. Systems like the Da Vinci Surgical System allow surgeons to perform minimally invasive procedures with high precision. Furthermore, telesurgery—conducting surgery remotely—has seen experimental success, especially with advancements in 5G and real-time communication technology (Reddy).

In the realm of brain chips, companies like Neuralink are exploring brain-computer interfaces (BCIs) aimed at assisting patients with neurological conditions. While we are not yet at the stage where brain chips are widespread or directly influence everyday medical care, these technologies show early promise in neuroscience. Additionally, while 3D-printed organs and personalized medicine are on the horizon, real-world applications are still catching up to the documentary’s vision. Although 3D-printed tissues exist, fully functional organs remain a complex challenge (Didem).

Currently, AI significantly impacts diagnostics, patient monitoring, and personalized medicine. AI algorithms, such as those used by IBM Watson Health, analyze medical data to assist in diagnosis and suggest treatment plans. AI also plays a crucial role in radiology, where tools can quickly analyze medical images to detect abnormalities like tumors or fractures more efficiently than human capabilities alone.

In patient care, AI-driven platforms facilitate continuous health monitoring through devices like smartwatches and wearable sensors, connecting to the documentary’s portrayal of intelligent clothing and personalized healthcare. For instance, wearable devices now enable real-time tracking of vital signs, alerting healthcare providers to potential issues before they escalate.

However, the implementation of AI in healthcare raises several ethical concerns, particularly regarding patient autonomy and privacy. With technologies such as brain chips and robotic surgeries, one major issue is the potential for data security breaches. Sensitive health data gathered from brain-computer interfaces could be misused if not adequately protected. Furthermore, the risk of algorithmic bias in AI tools poses ethical dilemmas regarding equitable treatment across diverse patient populations.

Another ethical debate revolves around access to healthcare technology. Advanced AI-driven tools, such as robotic surgery or personalized medicine, may only be available to wealthier individuals, exacerbating healthcare inequality. This concern aligns with class discussions about how technological advancements might limit access to quality healthcare for underprivileged communities. The divide in access could lead to a future where only a portion of the population benefits from innovative medical technologies.

In conclusion, while the documentary *2057 - Michio Kaku - The Body* presents an optimistic view of future healthcare technologies, the current reality reflects both progress and challenges. The advancements in AI, robotic surgery, and patient monitoring illustrate how close we are to realizing some of these predictions, while ethical considerations highlight the need for careful implementation to ensure equitable access and patient protection in the evolving healthcare landscape.

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