

Advancement of Artificial Intelligence in the Healthcare Industry

Student Name

HSM541

Date

Professor Gounaris

Introduction of AI in Healthcare

Artificial Intelligence (AI) has been around since the 1950s, beginning with Alan Turing's book "Computers and Intelligence," in which he described the "Turing test" to determine whether computers were capable of human intelligence (Kaul et al., 2020). John McCarthy described the term AI as "the science and engineering of making intelligent machines" (Hamet & Tremblay, 2017). Back then, AI consisted of very simple algorithms. Today, these algorithms are very complex and perform similarly to the human brain.

AI in Medicine (AIM) started gaining momentum in the 1960s with the development of the web-based search engine, PubMed, by the National Library of Medicine. This important digital resource accelerated biomedicine and improved clinical informatics databases and electronic medical records systems (Kaul et al., 2020). However, we don't see AIM being used more frequently in hospitals and clinics until the 2000s.

Improving Access to Care

AI has been improving health care over the past 60 years or more, especially in the areas of accessibility, prevention, and personalized medicine. The World Health Organization (WHO) predicted in 2020 that there will be a shortage of 10 million health care professionals by 2030 (Boniol et al., 2022). That's where AI comes in. It has the potential to address the supply and demand challenges we are facing, especially in low-income communities (Bajwa et al., 2021), and it can reduce the cognitive burden that many health care professionals face today (American Medical Association & American Medical Association, 2024).

Artificial Intelligence in Medicine doesn't replace health care professionals, but it does help assist with clinical workflows, improve clinical decision making, provide faster, more accurate diagnoses, and improve overall efficiency (Giansanti, 2025). When caregivers and