02

PERSONALIZED HEALTHCARE

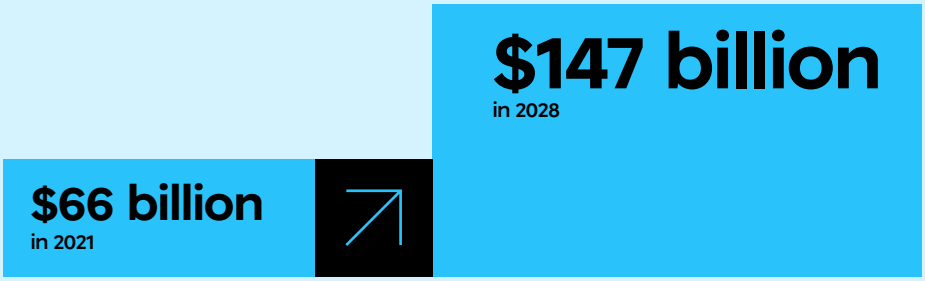
Shaping the Future of Personalised Medicine and Patient Care in Dubai

WHY PERSONALISED HEALTHCARE IS A CHALLENGE GLOBALLY

The complexities of global healthcare highlight the need for personalized care, as traditional models often fail to consider individuals' unique genetic, environmental, and lifestyle factors. This is particularly important in the treatment of chronic diseases, where the worldwide cost is estimated to reach $47 trillion by 2030 [1]. Precision medicine addresses this by using genomic data to tailor treatments, improving outcomes and reducing side effects. **Although the transition to personalised healthcare is slow due to data demands and treatment customisation challenges, the market is projected to reach $112.8 billion by 2028** [2]. This growth underscores the opportunity to transform patient care through AI and big data, despite ongoing implementation challenges.

KEY STATISTICS

The global precision medicine market, which heavily relies on genomic data, is expected to grow **from $66 billion in 2021 to $147 billion by 2028,** at a compound annual growth rate (CAGR) of 12%.[2]



The proteomics-based market, related to genomics, **was valued at $26.8 billion in 2022 and is projected to increase to $103.8 billion by 2032.**[3]

Chronic diseases globally account for **71%** of all deaths globally.

Nearly half of these deaths occurring in individuals **under 70.**[4]

WHAT DOES IT LOOK LIKE IN DUBAI?

Dubai's healthcare ecosystem is undergoing a significant transformation, driven by the integration of AI to enhance personalised care. Spearheaded by the Dubai Health Authority (DHA), as part of The Emirati Genome Programme, the initiative is being executed in Dubai by G42 Healthcare, in collaboration with DHA setting the stage for a new era of medicine, The Programme aims to build the first de novo Emirati reference genome, based on the DNA of UAE nationals. This will allow scientists, researchers and medical experts to understand the unique genetic make-up of Emiratis, which will help establish the foundation for innovation in health and wellness in the Dubai [5], providing a rich database that AI can utilise to tailor treatments to individual genetic profiles. **This initiative is a critical component of Dubai's broader vision to become a global leader in healthcare innovation, positioning the city as a pioneer in personalised medicine.**

HOW AI WILL SOLVE THIS CHALLENGE

AI's potential to revolutionise personalised healthcare in Dubai is immense. **By integrating AI with electronic health records (EHRs), the city is poised to achieve a 40% improvement in diagnosis accuracy , significantly enhancing patient outcomes.** AI-driven systems can analyse genetic and lifestyle data to create precise treatment plans, reducing the reliance on trial-and-error methods. In cancer treatment, for example, AI could cut the time needed to identify effective therapies by 50%, potentially increasing survival rates by 20%.

THE IMPACT OF USING AI FOR DUBAI

The integration of AI into Dubai's healthcare system will have a transformative impact. Patients will benefit from faster, more accurate diagnoses, and treatments specifically tailored to their needs. AI-powered monitoring systems for chronic diseases could reduce hospital readmissions by 25%, easing the strain on healthcare resources and reducing costs. With Dubai Health Authority (DHA) projects focusing on fully integrating AI into personalised healthcare, Dubai could see a 20% reduction in overall healthcare costs by 2030. These advancements will not only improve the quality of care but also position Dubai as a global benchmark for healthcare excellence.

CITATIONS

[1] National Center for Biotechnology Information, "PMC Article," www.ncbi.nlm.nih.gov/pmc/articles/PMC10830426/, accessed 2024.

[2] Precedence Research, "Precision Medicine Market Size,"https://www.precedenceresearch.com/table-of-content/1085, accessed 2024.

[3] Market US Research, "Proteomics Market ," https://market.us/report/proteomics-market/, accessed 2024.

[4] World Health Organization, "Diabetes Fact Sheet," www.who.int/news-room/fact-sheets/detail/diabetes, accessed 2024.

[5] Dubai Health Authority, "News Release," www.dha.gov.ae/en/media/news/816, accessed 2024.