



GAMIFICATION IN HEALTHCARE

Introduction

The global healthcare gamification market was valued as \$25.3 billion in 2020 and it is expected to grow at a CAGR of 14.6% to reach \$65.1 billion by 2027. The market is divided into three broad segments- The prevention market which has a market share of >46%, followed by casual games market (>38.4%) and consumer-based market (14.5%). The market is led by North America followed by Europe and Asia Pacific due to growing population and adoption to the new technological advancements.

The growth in healthcare gamification market is driven by increased usage of digital

media and smartphone, increased awareness of using wearable devices to maintain health, increasing prevalence of chronic diseases, more focus on consumers and acceptance of gamification in healthcare.

The recent COVID-19 pandemic has provided a lot of opportunities in healthcare gamification industry from physicians using digital diagnosis, telemedicine to communicate with the patients to consumers using wearable devices to maintain their health. Elements of gamification helped in successfully transmitting basic knowledge and understanding about COVID-19 and

helped in spreading health messages in different parts of the world. It has been seen using gamification principles it is possible to make health initiatives more relevant, relatable, and inclusive.

The education and training of physicians, medical students, patients as well as pharmaceutical sales training also has followed the digital route. The key players in healthcare gamification market include Google LLC, Mango Health, Microsoft Corporation, Nike, Akili Interactive labs, Bunchball, Microsoft, Ayogo Health, Fitbit and mySugr.

Following diagram shows the areas Gamification has helped Healthcare Industry:

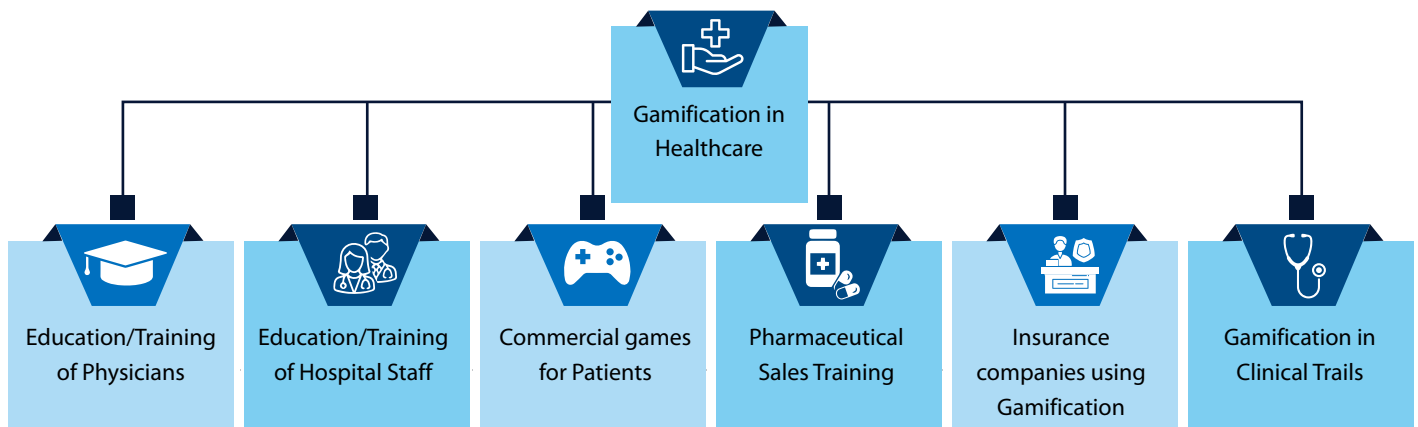
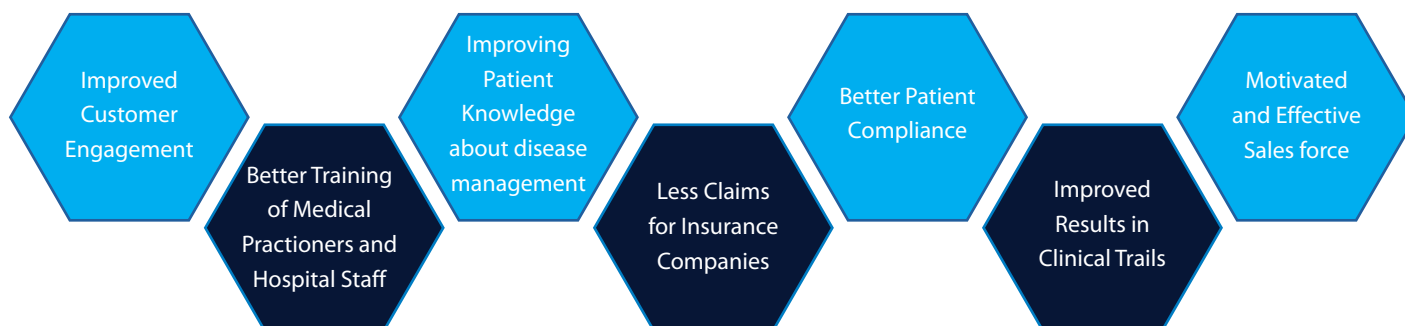


Table 1 – Examples of Gamification applications developed and helped in different areas of Healthcare Industry

Gamification in Healthcare	Current Scenario
Education/Training of Physicians	<p>Video games are being used to educate medical students as well as physicians about disease management, improving patient care and developing surgical skills through simulations.</p> <p>Examples-</p> <ul style="list-style-type: none"> • Touch Surgery allows students to put their surgical skills to test and improve them. • Dr. Neb- It is a simulation-based game created for students at American college for Chest Physicians to help in treating patients with uncontrolled COPD. • Bridge to Care- A platform developed by Merck to help physicians to communicate effectively with HIV patients.
Education/Training of Hospital Staff	<p>The hospital staff is trained during their orientation by exploring their knowledge using video games where they compete on a leaderboard to earn rewards and complete the training.</p> <p>Example-</p> <ul style="list-style-type: none"> • The World of Salus- A video game used in orientation of nurses in Mercy Medical Center.
Pharmaceutical Sales Training	<p>Pharmaceutical companies are adopting gamification in training and keep engaging their salesforce in challenges, daily missions to keep them motivated and increase their productivity.</p> <p>Example-</p> <ul style="list-style-type: none"> • A pharmaceutical company named Lundbeck Pharmaceuticals leverages 'The Training Arcade' to improve the knowledge of their salesforce and keep them competitive in the market.
Commercial games for Patients	<p>Commercial games are available for Patient education on various diseases, fitness tracking and self-management of chronic conditions to improve communication between patient and physician.</p> <p>Examples-</p> <ul style="list-style-type: none"> • PersonalZen- Helps patients to deal with anxiety and stress • Packy & Marlon – Helps in Self-management and improved communication for children suffering with Diabetes Mellitus type1 • CardioTeach- provides patients with an overview of healthy heart functions
Insurance Companies using Gamification	<p>Insurance companies are using games to assess the health of the patients to provide them personalized premiums.</p> <p>Example-</p> <ul style="list-style-type: none"> • Cigna Health Matters- onboards its users with a gamified health assessment.
Gamification in Clinical Trails	<p>Gamification is used in clinical trials for patient engagement and retention.</p> <p>Example-</p> <ul style="list-style-type: none"> • Pfizer partnered with Akili Interactive Labs for conducting clinical trials to identify people with high risk of developing Alzheimer's disease using a gaming app named 'Evo'.

Benefits of using Gamification in Healthcare



Ethical Issues & Pitfalls

Despite the benefits of using Gamification in healthcare, there are some pitfalls and ethical issues around the proper use of this technology. For example, Gamification can be exploitative to fulfill the purpose of one party (such as marketing) without benefitting the other, behavioral manipulation of the user can be done without the concern, addiction, ethical issues related to use of data and data privacy are also a concern.

Future Aspects

The Gamification market in Healthcare is here to stay and set to grow at a rapid pace. But the industry needs to address some issues related to the use of this technology by being more transparent and user friendly which will eventually result in long term user engagement. The increasing prevalence of both chronic and acute diseases is increasing with the increasing population and thus the burden on healthcare systems around the globe is increasing. Gamification can help in addressing this added responsibility effectively and reduce the burden by assisting in various aspects and providing better outcomes.

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