



# Digital Health Marketing and Its Applications: A Neglected Priority in Iran's Healthcare System

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## Dear Editor,

With the advancement of technology and the spread of the Internet in the digital era, marketing has significantly developed (1). Digital health marketing is an ever-changing process referring to any marketing activity conducted through electronic devices with advanced computing systems. Digital health marketing, particularly e-Health, is an emerging interdisciplinary topic used for electronically managing health-related data by digital healthcare stakeholders (1), including medical professionals, healthcare providers, patients, technology companies, technology startups, academic research institutions, and regulators. These potential clients should be focused on digital health marketing (2).

Mobile health applications are expected to improve public health services and provide valuable information to patients and clinicians (2). For example, the e-Health mobile (mHealth) application named StayAlive ([www.stayalive.app](http://www.stayalive.app)) is used to prevent suicide in England. In one of its digital health marketing campaigns, StayAlive could achieve four million digital impressions and 25,800 clicks and experienced 450 and 67 percent increases in engaged app sessions and accessibility of suicide prevention services, respectively (3). A variety of mHealth apps are used to monitor and manage different diseases such as HIV/AIDS (4), cardiovascular and type 2 diabetes mellitus (5), blood pressure and hypertension (6), asthma and allergic diseases (7), cardiac care during COVID-19 pandemic (8), alcohol and illicit drug use (9), and weight management (10).

Today, due to the increased access to the Internet, people rely on it to find health-related solutions. In this regard, all kinds of health services can be viewed through digital

health marketing to make health delivery more efficient. For example, we can imagine an online service capable of conducting blood tests and announcing the results without needing blood samples from patients in hospitals or medical centers. There is a service in Iran named Homeca ([www.homeca.ir](http://www.homeca.ir)) that provides healthcare services by providing online advice for preventing and treating diseases. Although there are several online medical services like Homeca in Iran (e.g., Snapp Doctor ([www.snapp.doctor](http://www.snapp.doctor)), and Drsaina ([www.draina.com](http://www.draina.com))), it appears that the number of local mobile applications available for different healthcare purposes, including improvements in training, preventing, diagnosing, and treating various types of diseases, is scant. Some of the limitations of health-related digital marketing, which can lead to poor acceptance or lack of attention to digital health marketing, are as follows. However, we need to further utilize digital healthcare devices and applications to understand their limitations more clearly.

(1) A considerable portion of society has low or insufficient digital health literacy;

(2) Not all target audiences may use digital devices, particularly the elderly;

(3) Not all the theoretical benefits of implementing digital health in clinical practice have been understood in practice by stakeholders;

(4) Lack of trust in patients concerning health data privacy and some ethical aspects of the doctor-patient relationship that indirectly increases the cost of marketing;

(5) Remote rural areas of Iran have limited access to the Internet.

Developing multiple digital marketing and e-health tools can significantly facilitate people's access to health-

care services. Primarily, by learning lessons from other countries, decision-makers in the Iranian healthcare system can foster the development of e-health. For example, they can invest in projects informing patients and digitalizing hospitals and health clinics. To achieve this, they should pay particular attention to the specific applications of the Internet of Things (IoT), big data, artificial intelligence, chatbots, and virtual reality in the Iranian health system. In addition, at the governance level, integrating “mobile app-based health promotion programs” into current Iranian Ministry of Health prevention programs can improve clinical outcomes and should not be neglected in the future.

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### References

- Eysenbach G. What is e-health? *J Med Internet Res*. 2001;3(2):E20. [PubMed ID: 11720962]. [PubMed Central ID: PMC1761894]. <https://doi.org/10.2196/jmir.3.2.e20>.
- Moses JC, Adibi S, Shariful Islam SM, Wickramasinghe N, Nguyen L. Application of Smartphone Technologies in Disease Monitoring: A Systematic Review. *Healthcare (Basel)*. 2021;9(7). [PubMed ID: 34356267]. [PubMed Central ID: PMC8303662]. <https://doi.org/10.3390/healthcare9070889>.
- Grassroots Suicide Prevention. *Stay Alive app*. Brighton, England: Grassroots Suicide Prevention; 2020. Available from: <http://prevent-suicide.org.uk/find-help-now/stay-alive-app/>.
- Safdari R, Seyed Alinaghi SA, Mohammadzadeh N, Noori T, Rahmati P, Qaderi K, et al. Developing Aysoo: a mobile-based self-management application for people living with HIV. *HIV AIDS Rev*. 2022;21(1):24–30. <https://doi.org/10.5114/hivar.2022.113389>.
- Buss VH, Varnfield M, Harris M, Barr M. A Mobile App for Prevention of Cardiovascular Disease and Type 2 Diabetes Mellitus: Development and Usability Study. *JMIR Hum Factors*. 2022;9(2):e35065. [PubMed ID: 35536603]. [PubMed Central ID: PMC9131155]. <https://doi.org/10.2196/35065>.
- Jamaladin H, van de Belt TH, Luijpers LC, de Graaff FR, Bredie SJ, Roeleveld N, et al. Mobile Apps for Blood Pressure Monitoring: Systematic Search in App Stores and Content Analysis. *JMIR Mhealth Uhealth*. 2018;6(11):e187. [PubMed ID: 30429116]. [PubMed Central ID: PMC6262205]. <https://doi.org/10.2196/mhealth.9888>.
- Kagen S, Garland A. Asthma and Allergy Mobile Apps in 2018. *Curr Allergy Asthma Rep*. 2019;19(1):6. [PubMed ID: 30712150]. [PubMed Central ID: PMC6394463]. <https://doi.org/10.1007/s11882-019-0840-z>.
- Gonzalez Garcia M, Fatehi F, Ershad Sarabi R. Telecardiology and Digital Health for Cardiac Care During COVID-19 Pandemic: Opportunities and Precautions. *Health Scope*. 2020;9(3). <https://doi.org/10.5812/jhealthscope.107401>.
- Tofighi B, Chemi C, Ruiz-Valcarcel J, Hein P, Hu L. Smartphone Apps Targeting Alcohol and Illicit Substance Use: Systematic Search in Commercial App Stores and Critical Content Analysis. *JMIR Mhealth Uhealth*. 2019;7(4):e11831. [PubMed ID: 31008713]. [PubMed Central ID: PMC6658280]. <https://doi.org/10.2196/11831>.
- Ghelani DP, Moran LJ, Johnson C, Mousa A, Naderpoor N. Mobile Apps for Weight Management: A Review of the Latest Evidence to Inform Practice. *Front Endocrinol (Lausanne)*. 2020;11:412. [PubMed ID: 32670197]. [PubMed Central ID: PMC7326765]. <https://doi.org/10.3389/fendo.2020.00412>.