

# What is e-health?

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**Abstract:** E-health can be defined as a set of technologies, applied using the Internet, where healthcare services are delivered to improve quality of life and facilitate healthcare delivery. Due to the lack of similar studies on the subject, this analysis uses a systematic literature review of articles published between 2014 and 2019 to identify the most commonly used eHealth practices worldwide, as well as the main services offered, the diseases treated and associated technologies, who support in eHealth practices. One of the main results was the identification of the four most used practices (mHealth or mobile health; telemedicine or telemedicine; technology; and others) and the most used technologies related to e-health (IoT, cloud computing, big data, security and systems).

**Keywords:** E-health, technologies, healthcare services.

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## 1. INTRODUCTION

Everyone is talking about eHealth these days, but few people have found a clear definition of this relatively new term. Rarely used before 1999, this term now seems to serve as a general "catchword". It's used to characterize not just "internet medicine" but pretty much anything to do with computers and medicine. The term was apparently first used by industry leaders and marketers rather than academics. They created and used this term in line with other "electronic words". such as e-commerce, e-business, e-solutions, etc. to convey the promise Principles, excitement (and hype) around e-commerce (electronic commerce) in healthcare and to consider the new possibilities that the internet is opening up in healthcare. For example, Intel described eHealth as "a concerted effort by leaders in healthcare and high-tech to take full advantage of the convergence of the internet and healthcare." As the Internet has created new opportunities and challenges for the traditional healthcare information technology industry, it seemed appropriate to use a new term to address these issues. These "new" challenges for the healthcare information technology industry were primarily (1) the ability of consumers to interact with their systems online (B2C = "business to consumer"); (2) improved opportunities for data transfers from institution to institution (B2B = "business to business"); (3) new possibilities for peer-to-peer communication between consumers (C2C = "Consumer to Consumer"). So how can we define e-health in academia? However, the term has already entered the scientific literature (today, 76 Medline-indexed articles contain the term "e-health" in the title or abstract). What remains to be done, in good academic tradition, is to define as best we can what we are talking about. However, another member of the editorial board noted: "Printing a definition of something like eHealth is like stamping a definition of 'the internet': you define how it's used;

You can't fix the definition because which is a dynamic environment, in constant motion. "It seems very clear that eHealth encompasses more than just technological development. I would define the term and concept as follows: Health is an emerging field at the intersection of medical informatics and public health and business, refers to health services and information provided or enhanced via the Internet and related technologies. Broadly speaking, the term denotes not only a technological development but also a state of mind, a way of thinking, an attitude, and a commitment to connected global thinking to improve healthcare locally, regionally and globally through the use of information and communications technology. Hopefully this definition is broad enough to apply to a dynamic environment such as the Internet and at the same time recognizing that e-health encompasses more than "Internet and medicine".

As such, the "e" in e-health does not only stand for "electronic," but implies a number of other "e's," which together perhaps best characterize what e-health is all about (or what it should be). Last, but not least, all of these have been (or will be) issues addressed in articles published in the Journal of Medical Internet Research.

The Ministry of Health in Saudi Arabia is expanding the country's telemedicine services by using advanced technology in health services. In doing so, an e-health application (app), Seha, was introduced in 2018 that allows individuals to have face-to-face visual medical consultations with their doctors on their smartphones.

## 2. THE 10 E'S IN "E-HEALTH"

1. **Efficiency** - one of the promises of e-health is to increase efficiency in health care, thereby decreasing costs. One possible way of decreasing costs would be by avoiding duplicative or unnecessary diagnostic or therapeutic interventions, through enhanced communication possibilities between health care establishments, and through patient involvement.
2. **Enhancing quality** of care - increasing efficiency involves not only reducing costs, but at the same time improving quality. E-health may enhance the quality of health care for example by allowing comparisons between different providers, involving consumers as additional power for quality assurance, and directing patient streams to the best quality providers.
3. **Evidence based** - e-health interventions should be evidence-based in a sense that their effectiveness and efficiency should not be assumed but proven by rigorous scientific evaluation. Much work still has to be done in this area.
4. **Empowerment** of consumers and patients - by making the knowledge bases of medicine and personal electronic records accessible to consumers over the Internet, e-health opens new avenues for patient-centered medicine, and enables evidence-based patient choice.
5. **Encouragement** of a new relationship between the patient and health professional, towards a true partnership, where decisions are made in a shared manner.
6. **Education** of physicians through online sources (continuing medical education) and consumers (health education, tailored preventive information for consumers)
7. **Enabling** information exchange and communication in a standardized way between health care establishments.
8. **Extending** the scope of health care beyond its conventional boundaries. This is meant in both a geographical sense as well as in a conceptual sense. e-health enables consumers to easily obtain health services online from global providers. These services can range from simple advice to more complex interventions or products such as pharmaceuticals.
9. **Ethics** - e-health involves new forms of patient-physician interaction and poses new challenges and threats to ethical issues such as online professional practice, informed consent, privacy and equity issues.
10. **Equity** - to make health care more equitable is one of the promises of e-health, but at the same time there is a considerable threat that e-health may deepen the gap between the "haves" and "have-nots". People, who do not have the money, skills, and access to computers and networks, cannot use computers effectively. As a result, these patient populations (which would actually benefit the most from health information) are those who are the least likely to benefit from advances in information technology, unless political measures ensure equitable access for all. The digital divide currently runs between rural vs. urban populations, rich vs. poor, young vs. old, male vs. female people, and between neglected/rare vs. common diseases.

In addition to these 10 essential e's, e-health should also be easy-to-use, entertaining (no-one will use something that is boring!) and exciting- and it should definitely exist!

We invite other views on the definition of e-health and hope that over time the journal will be filled with articles which together elucidate the realm of e-health.

### 3. E-PRESCRIPTION

This service allows users to dispense medication from commercial pharmacies through consulting MOH's remote channels. The user can call 937-Service Center or use «Mawid» app to get an e-prescription that can be dispensed from the nearest pharmacy without the need to see a doctor: The user communicates with one of the medical advice channels of the Ministry of Health, namely: 937 and the Sehha app.

- The doctor accesses the electronic prescription platform, and then the patient's data is entered and verified electronically through the Ministry of Interior.
- Medicines are prescribed by the doctor based on the diagnosis of the condition.
- A text message will be sent to the patient with a special code for the prescription, in addition to the status of the request, allowing him to go to any of the participating commercial pharmacies to dispense the medicine.
- The patient provides the pharmacy with the identification number and the code for the prescription.
- The pharmacist logs into the electronic prescription system, and then checks the patient's prescription data and disburses it so that its status is modified electronically to (Expense).

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