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A Digital Health Framework Applied to Global Chronic Diseases

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Introduction

Effective screening, preventive, and treatment methods are necessary for the management of chronic diseases. Effective decision-making based on health information is essential to managing chronic diseases. The right decisions are more likely to be made when the right information is made available to the right person at the right time. By giving patients, physicians, and decision-makers access to information, digital technologies have the potential to drastically alter how chronic illness care is delivered.

Description

Digital health extends beyond the use of computers, mobile devices, and the internet and includes, among other things, wearable technology, sensors, Web 2.0 technologies, and genomic data. The global application of digital technologies is increasing, but utilization has not been optimized. Oftentimes, stakeholders who would benefit from these technologies are unaware of their potential to transform care. Further, many potential users get paralyzed by the complexities of implementing digital health systems within already complex health care environments. Digital health solutions can be seen as little more than tools that can be used in a variety of ways to manage chronic conditions.

While some of these solutions directly impact patient care, others are utilised to fortify health systems and enhance governance and equity. concentrating only on the immediate clinical impact of digital systems frequently ignores these other useful effects of digital health solutions. The major intervention categories in this framework's generic digital health framework are providers, patients, and the healthcare system. Globally, more and more digital health systems, such as electronic registries and integrated disease surveillance & response systems, are being introduced for population and public health. The current framework excludes some categories of digital health, such as bioinformatics-based systems, as their adoption remains very low in global health settings.

It should be mentioned that different technologies can frequently be used to construct digital health systems with similar functionality. Computer-based reminders can be produced and distributed as alerts within standalone or web-based electronic record systems, displayed during a computerised order entry session, sent to a smartphone app, or sent as text messages via short message services, for instance, to achieve computerised decision support. In reality, powerful digital health solutions frequently combine many of these technologies into a single package. Thus, it is important to use caution when discussing digital interventions (such as mobile health solutions) as doing so frequently leaves out the fact that these solutions are multifaceted and interwoven. It should be mentioned that the implementation of the system has a big impact on how successful digital health is, in addition to the technological product itself. Therefore, depending on the implementation situation, it is not unusual for the same system to have widely diverse consequences.

Digital health advocates push for a solution before an in-depth analysis of the problem has been done—akin to a hammer looking for a nail. An approach that objectively looks for the best solution for that problem, regardless of whether or not it involves a digital health solution, is the best approach. A digital health solution should only be used when it is clear that integrating the solution makes the most sense given the problem at hand. Digital solutions collecting patient-level data should be able to communicate and share data with the electronic health record systems. This is best achieved by having systems that use standard application programming interfaces, leverage accepted clinical messaging standards like HL7. and employ common terminologies to enable semantic interoperability, such as the Systematized Nomenclature of MedicineeClinical Terms and the International Classification of Diseases, Tenth Edition. Individuals must also be able to be uniquely identified, as this is crucial. In many resource-limited settings, significant infrastructure challenges exist, ranging from unreliable electrical supply to poor Internet connectivity [1-5].

Conclusion

Recognizing the infrastructure needs of proposed digital health solutions is essential for successful implementation. It is not uncommon to find that the same digital health solution works very well in one setting, yet fails miserably in another setting. It is widely acknowledged that there are large gaps in identifying, connecting, treating, and keeping patients with hypertension in low- and middle-income nations. It is not uncommon to find that the same digital health solution works very well in one setting, yet fails miserably in another setting.

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Conflict of Interest

The Author declares there is no conflict of interest associated with this manuscript.

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