Chapter 21
Creating a Supportive Environment for Self–Management in Healthcare via Patient Electronic Tools

Sharazade Balouchi
Sewanee: The University of the South, USA

Ahmad Zbib
Heart and Stroke Foundation, Canada

Karim Keshavjee
InfoClin Inc, Canada & University of Victoria, Canada

Karim Vassanji
InfoClin Inc, Canada

Jastinder Toor
InfoClin Inc, Canada

ABSTRACT

Consumer electronic healthcare applications and tools, both Web-based and mobile apps, are increasingly available and used by citizens around the world. "eTools" denote the full range of electronic applications that consumers may use to assess, track, or treat their disease(s), including communicating with their healthcare provider. Consumer eTool use is prone to plateauing of use because it is one-sided (i.e., consumers use them without the assistance or advice of a healthcare provider). Patient eTools that allow patients to communicate with their healthcare providers, exchange data, and receive support and guidance between visits is a promising approach that could lead to more effective, sustained, and sustainable use of eTools. The key elements of a supportive environment for eTool use include 2-way data integration from patient home monitoring equipment to providers and from provider electronic medical records systems to patient eTools, mechanisms to support provider-patient communication between visits, the ability for providers to easily monitor incoming data from multiple patients, and for provider systems to leverage the team environment and delegate tasks to appropriate providers for education and follow-up. This is explored in this chapter.

INTRODUCTION

Patient-provider relationships rarely move beyond the confines of a doctor's office or hospital room. The typical patient-provider interaction is a time-honored tradition from the time of Hippocrates: a patient visits with his or her healthcare provider when experiencing symptoms or problems with his or her health. Based on this consultation and follow-up tests, the provider assesses the patient's condition and advises on the best method of treatment, which often includes prescribed medication, but also includes a variety of other modalities, such as physiotherapy, psychotherapy or non-pharmacological treatments. The patient proceeds by this method of treatment, or withdraws from it if he or she finds it ineffective or not feasible, until the next visit several months later. In between visits there is often no communication between the patient and the provider to discuss how the treatment is working. Although this approach does provide a great level of patient autonomy, it only works for low acuity diseases or when treatment regimes are relatively simple.

With the rapid growth in diagnostic and treatment modalities and preventive care approaches across a wide number of chronic diseases, it is increasingly difficult for patients to maintain their autonomy without additional supports. New technologies are trying to fill that gap, but may not provide the appropriate context and judgment patients need to maintain appropriate adherence to treatment recommendations over the long periods of time (sometimes decades) necessitated by today's preventive care protocols. For example, a patient with high cholesterol or high blood pressure may need to regularly monitor and treat his or her disease for 30, 40 or even 50 years to gain the benefits of stroke and heart attack prevention.

If medicine is to achieve economies of scale and capabilities, it is important that patients assume an active role in the management of their health because patients are more in tune with their own symptoms and healthcare providers are increasingly overworked. An approach that encourages patient involvement is self-management, which involves active collaboration between the patient and provider. Self-management is essential to long-term patient health, for it engages both the patient and provider to agree on the issues, establish goals, decide on priorities and agree on treatment plans (Schaefer et al 2009).

Electronic tools (eTools) are designed to assist patients with managing their diseases by identifying risk factors, monitoring symptoms, and facilitating communication with the patients' healthcare providers between visits (http://apps.nhs.uk/). eTools take many forms from personal health records to patient portals to mobile applications and social media. In particular, social media outlets and dedicated disease social networks have strong potential to enable the process of self-management since the effects and health outcomes from using social media appear positive (Merolli 2013).

A recent Pew Internet survey (2012) showed that over 70% of patients measure and track a health indicator for themselves or for a loved one. However, only 21% of patients use some form of technology to track their health; i.e., the remaining 49% track the metrics 'in their head'. This same rate appears in reports from the several years preceding 2012 as well, indicating a "plateaued" use of eTools in general. Plateaued use of specific health applications, as with many other apps, is quite common but poorly documented (Rudansky 2013). Nonetheless, it is an important metric for understanding the needs of users and providing tools that will work for them over an extended period of time. It also highlights the need for healthcare providers to reinforce the use of eTools, if they are to be effective in driving improved patient outcomes.

The marketplace distinguishes between two specific kinds of tools: *consumer* eTools – those applications that a person seeks out on his or her own to self-monitor health conditions – and *patient* eTools, which are designed for patients to use under the guidance of and through interaction with a healthcare

Related Content

Reflections of Teaching Narratives
 (2022). *Using Narrative Writing to Enhance Healing During and After Global Health Crises (pp. 86-105).*
www.irma-international.org/chapter/reflections-of-teaching-narratives/287740

Narratives of Journal Writing
Jennifer Lynne Bird (2020). *Using Narrative Writing to Enhance Healing (pp. 269-294).*
www.irma-international.org/chapter/narratives-of-journal-writing/242505

An Intelligent and Secure Framework for Wireless Information Technology in Healthcare for User and Data Classification in Hospitals
Masoud Mohammadian, Dimitrios Hatzinakos, Petros Spachosand Ric Jentzsh (2016). *Handbook of Research on Advancing Health Education through Technology (pp. 452-479).*
www.irma-international.org/chapter/an-intelligent-and-secure-framework-for-wireless-information-technology-in-healthcare-for-user-and-data-classification-in-hospitals/137972

Post-Baccalaureate Pre-Medicine Programs: A Non-Traditional Route to Graduate Medical Education
J. Barton Gillum, Nicole DeVauland Souheil Ghannouchi (2022). *Handbook of Research on Advising and Developing the Pre-Health Professional Student (pp. 139-154).*
www.irma-international.org/chapter/post-baccalaureate-pre-medicine-programs/303436

The Role of Humanities in Medical Education
Arthur L. Frank (2020). *Handbook of Research on the Efficacy of Training Programs and Systems in Medical Education (pp. 148-155).*
www.irma-international.org/chapter/the-role-of-humanities-in-medical-education/246625