

# Chapter 6

## Technology as a Bridge between Health Care Systems and Older Adults

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### **ABSTRACT**

*The authors explore the role of technology in supporting collaboration between health care providers and older adults. They focus on two technologies that help link patients to their providers by giving them access to health information and services: 1) patient portals to Electronic Health Records, and 2) Personal Health Record systems. Theories of distributed cognition and common ground are used to frame a review of the small but growing body of research that investigates which older adults use or do not use these technologies, and why. The findings, while sparse, suggest that older adults with lower levels of health literacy stand to benefit the most from this technology, but they tend to have fewer cognitive, literacy, and other psychosocial resources needed to take advantage of the technology. This discrepancy is due in part to systems that are not designed with older adults' needs and abilities in mind. The authors conclude with recommendations for improving the use of these tools to support patient/provider collaboration by making them easier to use, and by integrating them with other communication media to support the broader context of the patient/provider relationship.*

### **INTRODUCTION**

This chapter explores the role of technology in supporting collaboration between health care providers and older adults, focusing on recent types of technology that help link patients to their

providers by giving patients access to their health records and other health information. We draw on theories of distributed cognition as they relate to aging in order to inform our review of recent research related to patient portals and personal health records. We consider who tends to use these technologies, what factors predict their use, and the implications of such findings for making

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the technology easier to use and more useful for supporting collaboration between older adults and their providers.

Health springs from many sources, especially patient-centered care that supports prevention and treatment goals (Bodenheimer, Lorig, Holman, & Grumbach, 2002; Wagner, Bennett, Austin, Greene, Schaefer, & Vonkorff, 2005). Patient-centered care in turn requires the free flow of health information to patients, who have some degree of control over this information (IOM, 2003). Because health care providers remain the most frequent source of health information, patient-centered care ultimately depends on effective patient/provider collaboration that support patient decision making and self-care (Aspden, et al., 2007; Bodenheimer, et al., 2002; Stewart, et al., 1995). For example, measures of patient/provider collaboration are associated with patient satisfaction, health behaviors, and outcomes (e.g., Greene, Adelman, Friedmann, & Charon, 1994; Hall, Roter, & Katz, 1988; Stewart, et al., 1995).

Patient-centered care may have drawbacks as well as benefits, depending on how it is implemented. Greater scope of responsibility for patients' own care (e.g., more information to be understood; more decision making required) may undermine health if it is not accompanied by effective support (e.g., McNutt, 2004). This may be especially true for patients with lower levels of health literacy, who struggle with health care tasks that requires comprehension, decision making and other cognitively demanding activities (Aspden, et al., 2007; Nielson-Bohlman, Panzer, & Kindig, 2004).

Health Information Technology (IT) is a key to effectively implementing patient-centered care. Robust health care delivery systems generally depend on IT infrastructure that supports ready access to large amounts of information integrated from multiple sources (e.g., electronic health records) (IOM, 2003). While health IT adoption is driven by many factors (e.g., reduce cost, improve safety, document quality of care), an

important goal related to federal requirements for 'meaningful use' of IT in health care is to support patient-centered care by helping patients access information and services, so that care is more continuous between face-to-face encounters (IOM, 2003; Federal Health IT Initiative, 2011; Stead & Linn, 2009). Benefits of IT-supported patient care may include: a) improved patient education and decision making; b) integrated and updated health information and services provided to patients, which reduces fragmented care; c) tailored information and services to individual patient needs (Kreider & Haselton, 1997); d) improved provider/patient communication; e) support for self-care activities (symptom monitoring, adherence; Wald, et al., 2007); and f) social support. An example, described in detail later in the chapter, are well-designed patient portals to Patient Health Records (PHR) systems in integrated health care organizations, which allow patients to access general health information through the Web as well as patient-specific information about treatment and diagnoses from multiple providers (e.g., test results; medication list), allow patients to communicate and make appointments with their providers through Web-based email, and perhaps to chat with other patients who have similar conditions and concerns.

Older adults may especially benefit from health IT. As the most frequent consumers of health care (they are more likely to have chronic illness with high self-care demands; see Morrow & Wilson, 2010, for review), older adults have more need for IT-based care. There is some evidence that they also recognize the potential benefit of this resource. Older adults with chronic illness report wanting to access health information from the Web (Flynn, et al., 2006; Fox, 2007), and they think this access would help them manage illness at home (Leonard, 2004). However, they may be more interested in using the Web to find information that helps them make sense of their illness than to make health decisions independently of their providers (e.g., Xie, 2009). In short, older

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