



## PATIENT PORTALS: A TOOL TOWARD ACHIEVING HEALTH EQUITY IN E-HEALTH



Researchers agree that disadvantaged populations that carry the burden of health disparities could be aided by increased access to technology. With the increasing emphasis on Electronic Health Records and patient portals, the benefits of these technologies may disproportionately impact patients with greater access to the Internet and the skills and resources to use them. Understanding the barriers to portal use faced by racial and ethnic minorities and our nation's aging population is critically important to the health equity movement as public health and health policy leaders leverage the potential of patient portals to increase health communication and improve health outcomes.

### INTRODUCTION

The use of digital technology has grown rapidly over the past several decades and the Internet has become a crucial tool for health management and health care-related communication, offering new possibilities for improving care for all populations. Recognizing the potential utility of Health Information Technology (IT) to improve equity in health and healthcare, Healthy People 2020 includes goals for increased use of health communication and Health IT to improve public health outcomes, quality of care, and achieve health equity.<sup>1</sup> Extant research highlights that patients' quality of care improves when providers have access to accurate information and that Electronic Health Records (EHRs) can improve patient outcomes by aiding in diagnoses, improving patient safety, and improving risk management.<sup>2,3</sup> The Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, which transforms the way Medicare pays providers, explicitly emphasizes expanded use of Health IT and data feedback to help providers deliver higher quality care. MACRA's focus on EHRs is driving patient access to information and places a high value on patient-provider interactions making patient portals the foundation of patient-provider communications.



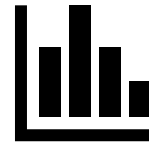
### *The Digital Divide: The Saga Continues*



Much is known about the existing disparities in access to information technology, known as the digital divide. In the general U.S. population, a digital divide exists along racial/ethnic, socioeconomic, and geographic lines and recent studies highlight similar disparities in the use of patient portals. African Americans, Pacific Islanders and Latinos are less likely to have Internet access and less likely to use this access to search for health-related information compared to Whites and Asians.<sup>4</sup> Likewise, the elderly, lower income individuals as well as those with lower educational attainment and individuals living in rural areas are less likely to have access to or use the Internet compared to their younger, higher socioeconomic status, and urban counterparts.<sup>5</sup> Addressing the existing disparities in the

utilization of patient portals is essential to maximizing new opportunities that digital technology brings to patient care.

Considering these stark disparities, there is general consensus that increased access to technology could aid disadvantaged populations that bear the brunt of health disparities and improve equity.<sup>6, 7</sup> Patient portals have the potential to improve patients' health by enhancing both the quality and access of care through communication, improving the management of chronic illnesses as well as engaging patients and their families in care.<sup>8, 9, 10</sup> Further, patients tend to be more satisfied with provider communication and overall care when using patient portals.<sup>11</sup> Increasing portal use has the potential to decrease the gap in health disparities particularly for communities of color. However, given that racial and ethnic minorities, and the elderly are less likely to use portals, promoting portal use also has the potential to exacerbate health disparities if the barriers to portal use are not fully understood and assessed, such as health literacy, computer literacy, and technical support.



### **Barriers to Health IT Among the Elderly**



The elderly face a unique set of challenges that warrant special attention from healthcare organizations, providers, and portal designers when determining how to ensure that they benefit from the use of patient portals and Health IT in general. Adults aged 65 years and above are significantly less likely to be Internet users<sup>12</sup> and less likely to search online for health information compared to their middle-aged counterparts.<sup>13</sup>

Within the senior age group, people of color,<sup>14, 15</sup> those with a high school diploma or less,<sup>16, 17</sup> individuals with low levels of health literacy,<sup>18</sup> and people with low income<sup>19</sup> are less likely to have computer access and have been shown to have limited ability to use the internet. Studies highlight that the elderly often feel less confident in their ability to use technology as an effective mode of patient-provider communication.<sup>20</sup> Research has also revealed that technophobia is a common barrier to portal usage among the elderly. Patient portals place a high demand on cognitive abilities, such as numeracy and memory which can be problematic for the elderly.<sup>21</sup> Along with cognitive impairments, 60% of seniors over 65 suffer from rheumatic conditions which can impact their ability to operate patient portals independently, further discouraging portal use.<sup>22</sup>

The usability of patient portals, which can be defined in terms of the user's thoughts about ease of use, is an important determinant of portal adoption among the elderly.<sup>23</sup> Though not adequately researched, a few studies have demonstrated the difficulty faced by seniors in performing relatively straightforward tasks that are common in the operation of such systems. Since patient portals, unlike other forms of Health IT, require users to play the role of active participant, ensuring that seniors will be able to navigate these systems with relative ease is critically important.<sup>24</sup>

### **CONCLUSION**

Federal policy initiatives are transforming patient portals into a standard part of healthcare delivery, which emphasizes the importance of ensuring the accessibility of patient portals to everyone in order to minimize disparities in their use. This calls for an earnest focus on strategies for identifying and addressing barriers to portal use, including computer literacy among the elderly and particularly patients of color. Diminishing visual or auditory acuity, as well as loss of motor skills are barriers elderly patients face that must be adequately addressed.



Another strategy that health policy makers can pursue is to address the gap between well-resourced and under-resourced providers. Populations burdened by disparities in portal use and e-Health are disproportionately served by under-resourced providers such as solo, small, and rural practices and providers. Since 2008, EHR adoption among office-based physicians has doubled from 42% to 87%. Between 2014 and 2015, adoption of Basic EHRs increased by 7% and that of any EHR increased by 5%.<sup>25</sup> These are encouraging trends. Creating policy solutions for investing in under-resourced providers that have historically been challenged in using Health IT is an essential part of ensuring health equity in patient portal use.

Health care, public health and health policy leaders must turn their attention to how equity in eHealth and Health IT can be achieved with a focus on improved utilization of patient portals. Through this strategic endeavor, barriers to portal use among various subgroups will be identified and understood. As such, this research priority can reveal the extent to which differences in the use of and comfort with patient portals have the potential to create or exacerbate disparities in access to timely health care-related information and quality of care. In so doing, we can more effectively utilize this evidence-based tool to advance the national goal of achieving health equity.

Contributing authors: Laurén A. Doamekpor, Shandra Edwards, Crystal Reed, Faline Rojas

## References

---

- <sup>1</sup> HealthyPeople.gov. Healthy People 2020. Health communication and health information technology URL: <http://www.healthypeople.gov/2020/topics-objectives/topic/health-communication-and-health-information-technology>
- <sup>2</sup> Kreps GL, Neuhauser L. New directions in eHealth communication: opportunities and challenges. *Patient Educ Couns.* 2010;78(3):329-336.
- <sup>3</sup> Dixon RF. Enhancing primary care through online communication. *Health Aff.* 2010;29(7):1364-1369
- <sup>4</sup> Lorence DP, Park H, Fox S. Racial disparities in health information access: resilience of the Digital Divide. *Journal of medical systems.* 2006;30(4):241-249.
- <sup>5</sup> Sudano JJ, Baker DW. Explaining US racial/ethnic disparities in health declines and mortality in late middle age: the roles of socioeconomic status, health behaviors, and health insurance. *Social science & medicine.* 2006; 62(4):909-922.
- <sup>6</sup> Chang BL, Bakken S, Brown SS, Houston TK, Kreps GL, Kukafka R, Safran C, Stavri P.Z. Bridging the digital divide: Reaching vulnerable populations. *Journal of the American Medical Informatics Association.* 2004; 11(6): 448–457.
- <sup>7</sup> Kreps GL. Disseminating relevant information to underserved audiences: Implications from the Digital Divide Pilot Projects. *Journal of the Medical Library Association.* 2005; 93(4 Suppl.):S68–S73.
- <sup>8</sup> Emont S. Measuring the impact of patient portals. California Healthcare Foundation. 2011; 1-20.
- <sup>9</sup> Allen M, Iezzoni L, Huang A, Huang L, Leveille S. Improving Patient-Clinician Communication About Chronic Conditions. *Nursing Research.* 2008;57(2):107-112.
- <sup>10</sup> Kruse C, Argueta D, Lopez L, Nair A. Patient and Provider Attitudes Toward the Use of Patient Portals for the Management of Chronic Disease: A Systematic Review. *Journal of Medical Internet Research.* 2015; 17(2):e40.
- <sup>11</sup> Lin C, Wittevrongel L, Moore L, Beaty B, Ross S. An Internet-Based Patient-Provider Communication System: Randomized Controlled Trial. *Journal of Medical Internet Research.* 2005;7(4):e47.
- <sup>12</sup> Fox S, Rainie L. Pew Research Center. 2014. Available at <http://www.pewinternet.org/2014/02/27/the-web-at-25-in-the-u-s/>. Accessed December 20, 2016.
- <sup>13</sup> Fox S, Rainie L. Pew Research Center. 2014. Available at <http://www.pewinternet.org/2014/02/27/the-web-at-25-in-the-u-s/>. Accessed December 20, 2016.
- <sup>14</sup> Choi NG, Dinitto DM. Internet use among older adults: association with health needs, psychological capital, and social capital. *J Med Internet Res.* 2013;15(5):e97
- <sup>15</sup> Gell NM, Rosenberg DE, Demiris G, LaCroix AZ, Patel KV. Patterns of technology use among older adults with and without disabilities. *Gerontologist.* 2015 Jun;55(3):412–421.
- <sup>16</sup> Choi NG, Dinitto DM. Internet use among older adults: association with health needs, psychological capital, and social capital. *J Med Internet Res.* 2013;15(5):e97
- <sup>17</sup> Greysen SR, Chin GC, Sudore RL, Censer IS, Covinsky KE. Functional impairment and Internet use among older adults: implications for meaningful use of patient portals. *JAMA Intern Med.* 2014 Jul;174(7):1188–1190.
- <sup>18</sup> Levy H, Janke AT, Langa KM. Health literacy and the digital divide among older Americans. *J Gen Intern Med.* 2015;30(3):284–249.
- <sup>19</sup> Choi NG, Dinitto DM. Internet use among older adults: association with health needs, psychological capital, and social capital. *J Med Internet Res.* 2013;15(5):e97
- <sup>20</sup> Harris L, Thomas V, Fox M. The Influence of Health Care Literacy on the Use of PHRs among Older Adults. *MedSurg Nursing.* 2015;24(4):283-285.
- <sup>21</sup> Lober WB, Zierler B, Herbaugh A, Shinstrom S, Stoylar A, Kim E, Kim Y. Barriers to the Use of a Personal Health Record by an Elderly Population. AMIA 2006 Symposium Proceedings. Seattle: American Medical Informatics Association.
- <sup>22</sup> Lober WB, Zierler B, Herbaugh A, Shinstrom S, Stoylar A, Kim E, Kim Y. Barriers to the Use of a Personal Health Record by an Elderly Population. AMIA 2006 Symposium Proceedings. Seattle: American Medical Informatics Association.
- <sup>23</sup> Ogunseye S, Komiak SX, Komiak P. The Impact of Senior-Friendliness Guidelines on Seniors' Use of Personal Health Records. 2015 International Conference on Healthcare Informatics. IEEE.

---

<sup>24</sup> Lyles C, Schillinger D, Sarkar U. Connecting the dots: health information technology expansion and health disparities. *PLoS medicine*. 2015;14(7):e1001852.

<sup>25</sup> Office of the National Coordinator for Health Information Technology. Office-based Physician Electronic Health Record Adoption, Health IT Quick-Stat #50. Available at <https://dashboard.healthit.gov/quickstats/pages/physician-ehr-adoption-trends.php>. Accessed on January 11, 2017.