Chapter 94
How Do Mobile Applications for Cancer Communicate About Their Privacy Practices?
An Analysis of Privacy Policies

Zerin Mahzabin Khan
https://orcid.org/0000-0001-6033-2013
Virginia Tech, USA

Rukhsana Ahmed
https://orcid.org/0000-0003-0381-4491
University at Albany, SUNY, USA

Devjani Sen
Algonquin College, Canada

ABSTRACT

No previous research on cancer mobile applications (apps) has investigated issues associated with the data privacy of its consumers. The current chapter addressed this gap in the literature by assessing the content of online privacy policies of selected cancer mobile apps through applying a checklist and performing an in-depth critical analysis to determine how the apps communicated their privacy practices to end users. The results revealed that the privacy policies were mostly ambiguous, with content often presented in a complex manner and inadequate information on the ownership, use, disclosure, retention, and collection of end users' personal data. These results highlight the importance of improving the transparency of privacy practices in health and fitness cancer mobile apps to clearly and effectively communicate how end users' personal data are collected, stored, and shared. The chapter concludes with recommendations and discussion on practical implications for stakeholders like cancer app users, developers, policymakers, and clinicians.

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INTRODUCTION

Current statistics project that by the year 2025, 72.6% of the world's internet users will access the internet exclusively with their smartphones (Handley, 2019). Approximately 53% of current mobile phone users possess a smartphone, half of whom use their device to find health information (Fox & Duggan, 2012). Due to a rise in the demand for technology to help people manage their health, including fitness, diet, and diseases, there were a total of approximately 100,000 health applications (apps) which focused on promoting health for patients in the Google Play and iTunes stores in 2016 alone (Carroll et al., 2017). These mobile health (mHealth) apps can promote physical, emotional, and psychological well-being (Jones & Moffitt, 2016) while simultaneously helping to enhance treatment in a cost-effective manner (Price et al., 2014; Smith, 2010). However, Jones and Moffitt (2016) report that when the internet is used to store, record, and monitor the information of clients, it inherently risks client privacy. Hence, more so than other types of devices, mobiles in particular are more apt to risk the privacy of its users (Wottrich, van Reijmersdal, & Smith, 2018).

Although the Health Insurance Portability and Accountability Act was passed by the US congress in 1996 to protect the confidentiality and privacy of patients in healthcare systems, there are currently no national policies regarding the development and use of mobile apps (Jones & Moffitt, 2016). In this case, confidentiality refers to the protection of information, while privacy is the protection of the clients (Fein & Kulik, 2011; Fisher, 2013). Due to the growing number of mHealth apps per year, O'Loughlin and colleagues (2019) report that it is not feasible to regulate them all, which raises concerns about the implementation, quality, data security, and privacy practices of these apps.

The dynamic and technical capabilities of mobiles enable various services to be accessible to users in accordance to their personal preferences (Porter & Lee, 2013). Mobile devices are feasible portals to help manage and monitor health conditions (Mirkovic, Kaufman, & Ruland, 2014), while specifically, mobile apps can enable interventions to induce health behavior changes with a more personalized approach (Vollmer Dahlke et al., 2015). For cancer patients in particular, mobile apps can provide information with more accessibility at a lower cost and can be tailored to the patient's individual needs (Vollmer Dahlke et al., 2015). Cancer mobile apps can aid in monitoring patients' quality of life (Wu, Johnson, Schepp, & Berry, 2011), can improve the accuracy with which patients can track their symptoms (Wesley & Fizur, 2015), and can even provide an avenue to increase the patient's social network to facilitate social support among patients who are undergoing similar experiences (Wesley & Fizur, 2015). A study on a cancer mobile app had demonstrated that it can also enable patients to communicate more effectively with their healthcare provider for collaborative decision making on treatment plans (Mirkovic et al., 2014).

In the context of mobile apps, the terms and conditions of the app are analogous to informed consent in the healthcare system and are a required component for apps which request the users to provide their personal information in the app (Jones & Moffitt, 2016). Information is provided to the users, including licensing agreements and the privacy policy, in order to allow the users an opportunity to make an informed decision on using the app any further (Jones & Moffitt, 2016). Results from a recent study conducted by Wottrich and colleagues (2018) have indicated that consumers of mobile apps actively engage in privacy-tradeoff and privacy calculus and that the value of an app is favored over any privacy concerns in the decision making process. Yet, previous studies have indicated that even when consumers are provided with information on privacy protection and risks, they may be unable to comprehend and process the information well enough to be able to arrive at a rational decision (Acquisti & Grossklags, 2005).