

Chapter 7

Synopsis for Health Apps: Transparency for Trust and Decision Making

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ABSTRACT

Unfortunately, many users are unaware of the risks and limits that arise from the use of health-related and medical apps in a medical context. Often, problems arise from insufficient, misleading, or false information, but they also arise from errors within the app or inappropriate hardware that is used for running the app. Provided information is often inadequate to enable users to assess whether a medical or health app is reliable and safe. Laws and regulations that are meant to provide consumer safety (for patients and medical professionals alike) only apply to a limited number of apps with a specific medical purpose. For non-regulated apps used in a health context, there are various projects and initiatives, for example relating to app certification, but not all of these provide the information they collect about an app in a comprehensible and verifiable manner. The app synopsis presented in this chapter aims at alleviating the situation. The authors propose that manufacturers and developers use its clear structure for providing users with information about an app, ideally in a place where they commonly look (e.g. the app stores).

INTRODUCTION

“I will do no harm” is a promise to be found as an integral part of the Hippocratic Oath (National Library of Medicine, 2014). Ever since this timeless phrase was coined, for sake of the patient’s safety,

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physicians have been called upon to follow it. The line drawn by this simple ethical principle forces the physician to estimate the costs and benefits of every action taken on the patient. In this context, every new method to be used on patients, including new procedures used for prevention, diagnostics,

or therapy must be carefully evaluated – in the last instance by the performing physician who is guided by regulations and guidelines as well as experience and his conscience. The use of smart devices and apps for medical purposes does not allow for exceptions from this rule: although these technologies are rapidly being adopted in the medical field, their effects on health care processes and thus also on the outcome of the patients' treatment are still not fully understood: mobile devices as well as the software they run on are relatively new players in the field and in their enthusiasm for such exciting technologies, developers as well as users – medical professionals and laypersons alike – often do not acknowledge that while such devices certainly offer new opportunities, there are also many pitfalls that may not always be obvious at first glance.

In the past, the process of distributing software to a large audience often required considerable efforts on the part of the developers and distributors. In contrast, the advent of the app stores offered for many mobile platforms considerably simplified the process of rapidly developing and easily distributing a software product – even for individual developers or small companies – to a large audience that includes billions of potential users. The barriers for publishing a product are very low and the quality standards that an app must conform to in order to gain admission into an app store are often reduced to checking whether the app is not in violation of the distributor's policies, e.g. due to undesirable content or by using the functionality of the target device in some way that is not sanctioned by the distributor. If at all, aspects such as safety and privacy are often only causally evaluated before an app is admitted into an app store. Another problem that must be considered in this context is that mobile devices are often brought from the private sector – where users may accept lower standards (or simply do not think of the consequences) – into professional application settings, where more strict standards need to be applied, especially when it is health

that could be affected. Already, there are about 97,000 “health apps” and “medical apps” on the market and this number grows by about a thousand apps every month (Research2Guidance, 2013).

Definition

What makes an app a “health app” or a “medical app”? There is often no clear distinction between these two terms and they are also used with variation in different countries. To better define the term “health app”, we would like to suggest using the definition provided by the World Health Organization (WHO) in 1946 that defined health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO, 1948). Therefore, applications (apps) that are in accordance with this definition of health – including apps that deal with wellness and fitness – can be summarized as “health apps”. Apps dealing with the prevention of or aid with diagnostics and treatment of diseases as well as injuries could also be added to this category, but since they touch on areas typically covered by medical professionals (Merriam-Webster, 2014), assigning the label “medical app” seems more appropriate to underline the diagnostic and therapeutic aspects of such apps (Figure 1).

The Potential of Health Apps

Medical apps have the potential of supporting both the patient and his physician: They may be valuable for diagnostic as well as therapeutic purposes and for performing general health care related tasks, since they support users in obtaining (individualized) information, aid them in recording, storing and evaluating any health related data. Often, they also simplify access to an individual's datasets for other partners participating in the health care process. These features also open up new possibilities for better integrating patients in their own care, e.g. by using feedback mechanisms to actively inform them about changes in their health

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