

Abstract

An estimated 70,000 preventable medication errors occur in Canada annually, causing 9,250 to 23,750 deaths. Medication errors increase when the number of medications being administered increases. Therefore, people with multi-morbidity who take several medications at once are more vulnerable to medication errors. Medication errors can be prevented by developing and managing an efficient healthcare system integrated with technology. Recently, several wireless technology applications have been developed to prevent medication errors. Smartphone technology has been shown to improve the quality of health care and increase patient safety. Smartphone has a powerful ability to identify and track objects such as patients and medications; its identification and tracking abilities give it significant potential especially in detecting drug interaction and drug allergy.

The main objective of this this is to present a novel solution using a smartphone integrated with an BLUETOOTH application to detect and update drug allergies and drug interactions for people with multi-morbidity during medication administration. According to our literature review, this proposed system is the first of its kind. The system scope focuses on detecting a drug allergy or drug interaction, alerting the nurse, the physician, and the pharmacist, providing adequate information about the case detected, enhancing the communication among the treatment staff, updating the patient's health record in case of an unknown allergy or non-recorded allergy detected by the nurse.

The system has been implemented using Smartphone with Android platform..