

Cellular Phones: A Way to Improve Patient Adoption of Emergency Medical Identification?

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Emergency medical identification (EMI) is important for patients with chronic medical conditions who require emergency medical services. The information can help providers give appropriate medical care, contact the patient's physician and family, and improve time to treatment. Health care providers recommend that patients use medical alert identification for a variety of conditions including diabetes, allergies, and epilepsy. Recently, the Apple iOS 8 update introduced a version of EMI. This report reviews the current choices of EMI as well as its usage and barriers, and introduces the new option for Apple mobile devices.

The traditional formats for EMI are jewelry and wallet cards. Companies such as MedicAlert and SOS have been providing body-worn emblems (jewelry) and laminated wallet cards for more than 50 years. The jewelry options include bracelets, necklaces, key chains, arm bands, and shoe tags.¹ The least expensive version ranges from \$4.99 for the arm band to \$39.99 for the bracelet, although pricier items are available for up to \$1,499. A bracelet can be inscribed with 63 characters over 5 lines. MedicAlert requires a membership to order the jewelry and to use the additional services that include 24/7 access to the patient's medical information by EMS personnel, notification of the patient's physician, and notification of family members. This "MyMedicAlert" membership is free for the first year and then \$19.99 every year thereafter. A premium membership option "Advantage" provides the same services and also allows access to scanned documents that can include DNR (do not resuscitate) and power of attorney orders. This choice costs \$49.99 per year including the first year. Patients enter their medical information and contacts either online or via telephone, and they are responsible for updating it as needed.

Emergency medical services (EMS) personnel (emergency medical technicians, paramedics) and emergency department staff are trained to look for medical identification devices. EMS providers in the United Kingdom reported routinely searching the body for EMI (97% of survey respondents), as did 71% of emergency department staff.² Ninety-nine percent of EMS personnel

agreed that it was important for patients to have some form of EMI.²

The prevalence of patients with chronic medical conditions who use medical identification is unknown. One study of children with a history of food allergy found that only 6% had a Medic Alert bracelet with them in the allergy clinic.³ A survey of hemophilia nurses revealed that only 25% to 50% of patients 6 to 18 years old wore EMI, despite the nurses routinely recommending it for nearly all patients.⁴ A negative outcome occurred in 8% of children 6 to 18 years old due to not wearing proper EMI.⁴ Potential barriers to wearing medical identification include age-based preference, stigma, sizing, lack of knowledge, and costs.^{4,5} One reason that has been provided for children not having EMI is that the parent or another adult is always with the child.³ However, among 49 caregivers of children with chronic medical problems, only 29% of the parents were able to name all of the child's medications and just 25% could provide the subspecialist name and contact number.⁶

An emerging method of medical identification is the use of body tattoos, which addresses some of these barriers and may be more desirable among certain people. Patients have been identified with tattoos of their medical condition, blood type, or specific care wishes, such as DNR.^{7,8} While this modality is of potential benefit to some people, it has drawbacks, including risk of infection, body alteration, and limited medical community awareness of this form of identification. Medical alert tattoos may be even more unlikely to gain popularity in the pediatric population.

With wider use of mobile technology, including cell phones and tablet computers, incorporating EMI into these multifunctional devices may be the key to greater

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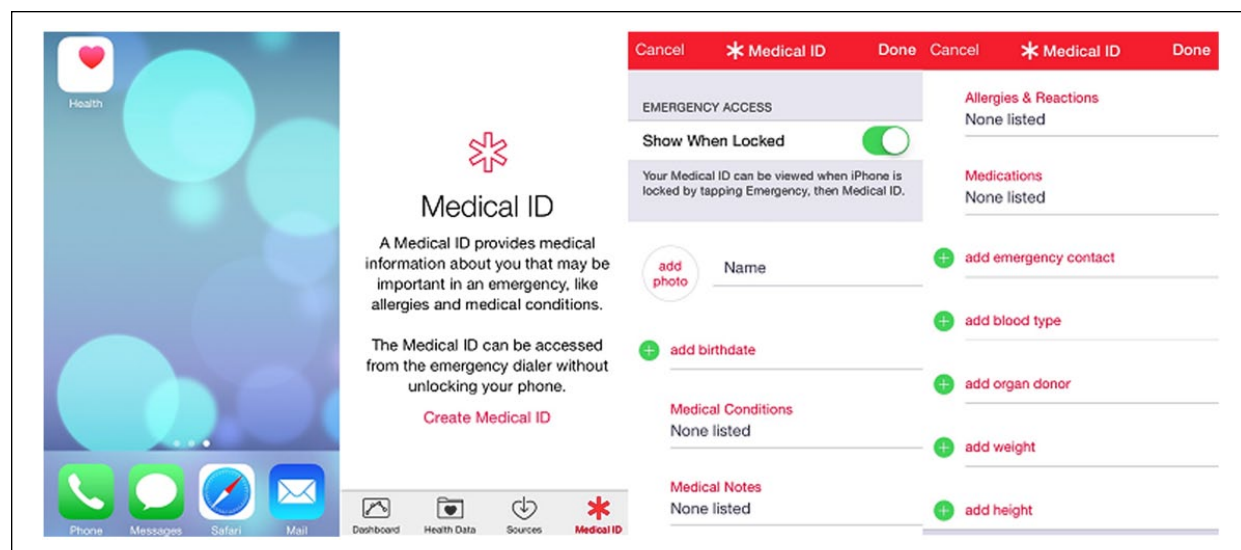


Figure 1. Screenshots of iPhone “Medical Alert Identification” setup.

usage of EMI. Cellular phones are ubiquitous today. Seventy-eight percent of teens (13-17 years old) own a cell phone (47% are smartphones), and 23% have a tablet.⁹ Among the tween age group (8-12 years old), 56% own cell phones.¹⁰ Parents cite safety as the most important factor in their decision to purchase a cell phone for their child.¹⁰

An electronic form of medical identification that can be accessed through a cell phone, or perhaps a tablet, may be an appealing option for people of all ages, especially teenagers. The phone is a device that people routinely carry with them, potentially decreasing the opportunity for forgetting their EMI at home. A cell phone maintains anonymity of a person’s medical condition unless an emergency requires accessing the EMI, compared with medical alert jewelry that may be more obvious. Another advantage of cell phone-based EMI is the lack of additional cost for a MedicAlert membership or similar service. Cell phones and tablets could be used to store important documents such as DNR orders so that they may be more readily accessible in emergency situations. One potential barrier to relying on cellular phones for EMI in the pediatric population is that some schools ban students from carrying a cell phone, although many schools are revisiting these policies because of concern for ensuring the students’ safety.

Currently, many applications are available on various cellular phone platforms (Apple’s iOS, Android) that store medical information. These applications require the user to find and download the application, and the information is not always accessible from a locked home screen. The new iOS 8 software available on iPhones

and iPads has an application called “Health” that allows a user to enter information that can be accessed from the home screen even on protected phones. When a user updates their device with iOS 8 software, the “Health” folder is automatically created. By opening the “Health” application and selecting the “Medical ID” option, patients can provide their medical conditions, medications, allergies, emergency contacts, blood type, organ donor status, and DNR requests (Figure 1). The information can be accessed on a locked home screen by tapping the emergency button and selecting the medical ID option (Figure 2). Other cell phone operating systems, such as Android, do not currently have a similar feature.

Given the barriers that have been identified with traditional EMI and the increasing ubiquity of cell phones among people of all ages but especially children, cell phone-based EMI should be embraced by patients, health care providers, and cell phone programmers. It remains to be determined whether patients will use technology-based EMI once they are made aware of the option. Education of emergency medical personnel and the general public about how to access cell phone-based EMI will be an important factor in its success in settings where patients require emergency care.

The iPhone Medical ID feature is a new and useful tool for patients. Cell phone-based methods may be more acceptable and eliminate certain barriers to EMI use, particularly in the pediatric population. Medical providers, including first responders, should be aware of this technology to educate their patients and to access the information in emergent settings.

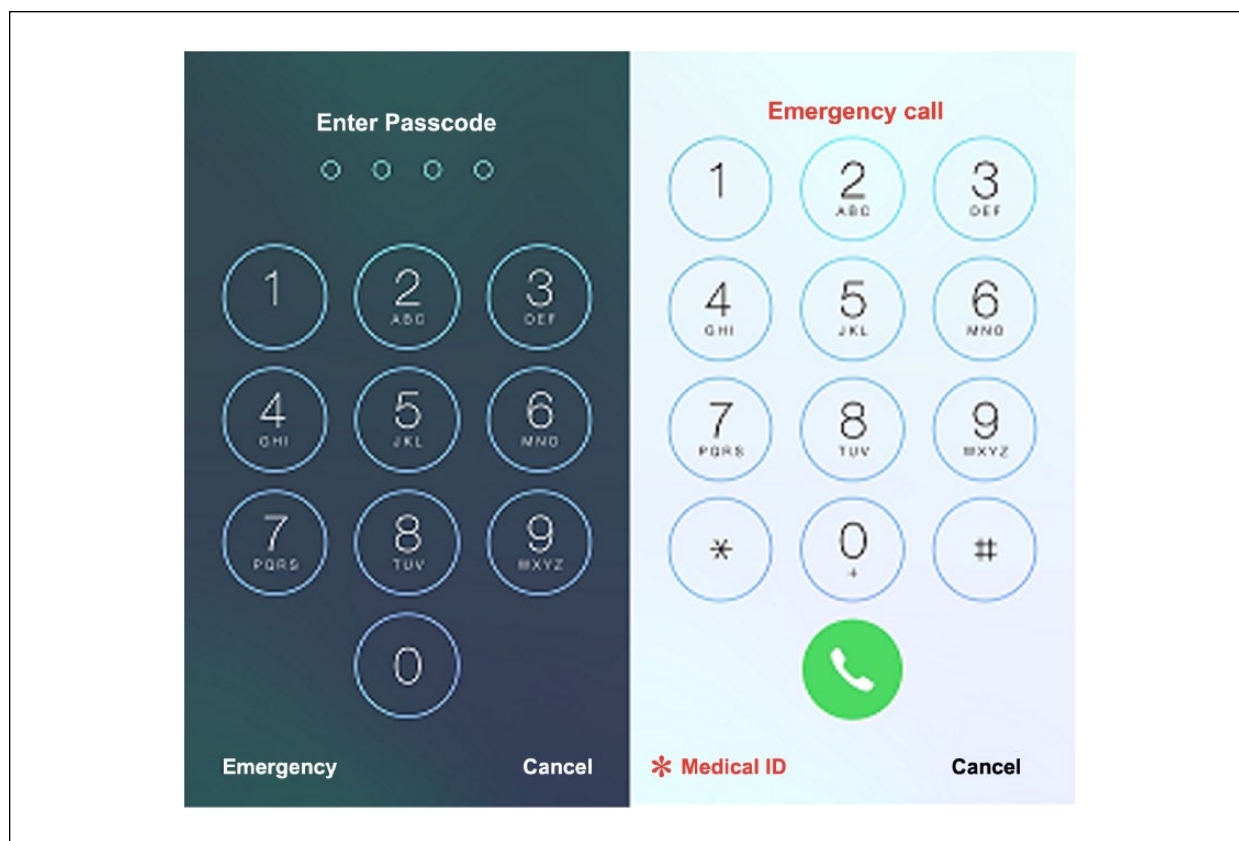


Figure 2. Screenshots of access to “Medical Alert Identification” from locked screen of iPhone.

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