Qr codes and your health: how technology can impact care

Imagine being able to have your medical history, medication list, pharmacy preferences and allergies kept safe for you in one location that wouldn't take up any space. Next, imagine being able to access this information instantly with just a mobile phone, or electronic reader, or if you are unable to do this a trained responder could access this same information and formulate your treatment. Thanks to Quick Response (QR) codes, this new technology is slowly becoming a safe and available option for health care consumers.

A new pilot program in Marin County, California is offering its residents free access to enroll in an online medical management program called Lifesquare. This program offers the residents a way to use technology to reduce human error "...the paramedic can scan the Lifesquare QR code and directly upload that health information to an electronic report, making the information more accurate. " (Rich, 2012, p. 41).

This process is " not only quicker for paramedics, it also removes the element of human error. " (Rich, 2012, p. 41). QR codes offer other advantages, such as appointment scheduling, directions to a hospital, maps, medication information and nutritional teaching. QR codes are customizable and can be individually tailored to meet a person's specific needs.

Body A QR code is a two- dimensional barcode. It can hold any information you want, and can be updated quickly. There are free programs that walk the user through creating a QR code. QR codes were first used in the mid-1990's by an automaker to track car assemblies (Kabachinski, 2012). Now, these QR codes are located on items from boxes of cereal to advertisements.

Due to the ease of creation and ability to hold lots of information in a small space, QR codes are become more readily used in medical facilities.

Hospitals typically use these QR codes in a variety of different ways such as linking to the women's health clinic to schedule a mammogram, linking to a map of the hospital with directions and department contact information and linking to a booking page for patients to directly book appointments. Another invaluable resource that QR codes provide is education. A family practitioner can write up simple instructions, such as dietary restrictions, activity restrictions or medication usage, create a QR code unique to that information and print the code out for their patient. (Lewis, 2012). The patient will then be able to scan the code and have the information available when and where they want it. This minimizes the risk of having an actual paper handout lost or misplaced.

Lifesquare, which is a startup company located in California, is participating in a pilot program with Marin County, California medical personnel to distribute free QR code stickers to residents. These stickers would direct emergency responders to a patient's medical profile, including health history, allergies, medication lists and emergency contacts (Rich, 2012). To enroll, the patient creates a free online account, uploads their medical history and then the company will mail them a set of personalized QR stickers, with their unique code. These stickers are meant to be placed in multiple spots- car keys, bike helmets, wallets, refrigerators, etc.

The QR code technology is cloud-based, meaning the users can update their online profiles at any time. The information is stored securely in HIPAA

compliant servers. Plus, the code itself is secure and only accessible by the patient and the responders enrolled in the program, so if a resident is in a public place and someone sees it they will not be able to know what any of the person's medical history is (Rich, 2012). A large barrier to widespread QR usage is a lack of awareness of what a QR code is.

There was a survey done that found that 43% of people surveyed didn't know what a QR code was, or thought that they needed a smartphone only to use it. This survey also found that 26% of people didn't have a smartphone. However, a different survey found that 14 million users in the United States used a QR code in the first half of 2011. (Kabachinski, 2012). Alternatively, Athens Regional Medical Center in Athens, GA stated they had a 15% increase in visitors to the mammogram form and thinks that those who use the QR code to go the online mammogram request site are more likely to schedule an appointment (Kabachinski, 2012). ConclusionI believe that QR codes are an emerging and vital technological advance for health care consumers.

Some concerns that I have after reviewing the literature are: a patient has the option to exclude information if they are personally responsible for uploading their medical history. For example, a person may be a substance abuser in addition to having diabetes, hypertension or heart failure. If the person isn't willing to be honest about how much they drink, or what kind of drugs they use on a regular basis- this could lead to unnecessary problems, and missed treatment opportunities. I also believe that for this technology to be advantageous and cost effective there needs to be more education and teaching for the consumer on how to use a QR code and also for providers on

how to create a QR code. I myself have only used a QR code once before and I was totally confused about what it was and what it did! Once I figured it out, it was very easy to use. There are also concerns about privacy.

The data is stored in HIPAA compliant servers but if there was ever a hacking or malfunction, what would happen to the data? Could it be sold, used for blackmail, or lost? Another concern is if there are multiple QR stickers in a household and the wrong information is inadvertently scanned in. The patient may be unable to speak to correct the responders. I feel that there needs to be more studies and pilot programs to help work out any potential kinks before widespread implementation is possible. All in all, I think that QR codes present an excellent way to provide fast, effective health management. They can be used to teach about chronic diseases, nutrition, medication, safety.

Any topic can be customized for the patient. If a patient is going on a trip, a travel document with tips can be created and uploaded and the patient would have this document readily available as they need it. Working in home care, it would be fantastic to be able to go into a patient’s home and scan a QR code on their hospital DC paperwork and have all of the information and past medical history available immediately. If my neighbors were asked to participate in the pilot program I think that they should participate. There are multiple benefits associated with using QR codes, and these benefits far outweigh any of the drawbacks that I could find.