“Anaphylactic Shocker!”: The Use of a Dynamic QR Code Medical Bracelet and Connected Bluetooth Carrying Case to Locate and Administer a Practice Epinephrine Auto-Injector During a Staged Medical Emergency

France, Katelyn (School: Hinckley-Finlayson High School)

Medical bracelets can save lives, but often lack the information for appropriate medical care. Will a dynamic QR code medical bracelet connected to a Bluetooth medical technology carrying case allow participants to react faster to a staged medical emergency than a standard medical bracelet, a static QR code medical bracelet, or a non-Bluetooth dynamic QR code medical bracelet? In this study, sixty-four participants were presented individually with a mock medical emergency. The person receiving medical attention wore one of four medical bracelets (standard, static, dynamic, and dynamic/Bluetooth). Both dynamic QR code bracelets displayed the location of the auto-injector and how to use it, while the connected Bluetooth carrying case system also emitted a buzzing sound. The static QR code only informed participants of the need for an auto-injector. The standard bracelet displayed the medical condition. The original hypothesis was a dynamic QR code medical bracelet connected to a Bluetooth medical technology carrying case will allow participants to react faster to a staged medical emergency than a standard medical bracelet, a static QR code medical bracelet, or a dynamic QR code medical bracelet that is not connected to a Bluetooth medical technology carrying case. The hypothesis was supported. The dynamic QR code bracelet with connected Bluetooth carrying case was faster and more accurate in all trials. Those with a medical condition would benefit from using the dynamic bracelet and Bluetooth carrying case system to improve appropriate medical response time and care, leading to fewer hospital stays and possibly saving lives.