

Best go digital in a pandemic

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The use of a digital checklist for patients being administered emergency drugs during a pandemic or following a biological terrorist attack reduces the fatigue factor, according to a report in the *International Journal of Healthcare Technology and Management*, and could save lives.

Getting medication rapidly to everyone who needs it during a major disease outbreak, such as an unexpected [flu pandemic](#) or other fast-spreading viral infection, could be carried out more effectively using a prescription system based on personal digital assistants, or similar portable devices, rather than pen and paper.

Victoria Garshnek of the Telehealth Research Institute at the University of Hawaii in Honolulu and colleagues set up a simulated pandemic emergency and had mock citizens sent through testing and dispensing points with volunteer clerks during two sessions. Clerks used either a [personal digital assistant](#) (PDA) decision tree, also known as a flowchart, a type of algorithm, to process the citizens or a paper-based version of the algorithm. The simple-to-use algorithm checks the citizen's age range, weight, gender, whether they are pregnant or breastfeeding, and any allergies to medication. All these factors must be taken into account in deciding which type of drug and dose to administer or whether medication is appropriate at all.

"Analyses of the data found no significant difference in time or number of prescription errors in PDA vs. paper methods," the team says. "This demonstrates that although we intuitively believe that technology will

provide greater efficiency and accuracy this not always the case." However, they also found an important difference depending on whether a clerk used paper or PDA first. Clerks doing the paper method second did show a significant slowness compared to those who did paper first.

"This may indicate the presence of a [fatigue](#) factor from using the paper method and may indicate that during an outbreak, when clerks are tired, using an algorithm-driven PDA may help sustain efficiency," the team says. The PDA method was not only more effective than pen and paper, but has the added advantage of electronic storage of the data for easy subsequent retrieval and analysis and for medication inventory control.

"The results are encouraging and indicate that laypersons with little or no PDA experience can be quickly trained to use this technology and can efficiently serve in an emergency," the team concludes.

More information: "Mass medication distribution for disease outbreak: comparison of personal digital assistant and paper-based decision support" in Int. J. Healthcare Technology and Management, 2009, 10, 226-244

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