Development of a Multi-Sensory System to Better Relay Pharmacotherapy Information

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This project consisted of the design and creation of a system for prescribers to provide medication instructions to patients via translation, visual representation, and audio in order to replace current methods of simply providing textual instructions (often in a language that patients cannot read). Studies have found that misinterpretation of medication instruction is a prevalent worldwide issue. Dosing errors, due to poor health literacy and language barriers place patients in danger of bodily harm and even death. These two factors are particularly pronounced when emergency aid personnel respond to distressed populations in disaster situations (warzones, natural disaster recovery, mass casualty incidents, etc.). Studies demonstrate that providing information through pictograms and multiple modalities improves outcomes. To address these problems, an interactive computer-based system, The Prescription Architect (TPA), was created for medication prescribers to convey pharmaceutical instructions via multiple modalities. TPA generates handouts with culturally sensitive pictograms. Textual and spoken instructions are also generated in the patient's native language. A major advantage of TPA is that, after its initial download, it requires no internet access. New translations, pictograms, and orations can be easily appended to the program's dynamic database. TPA is being evaluated by the International Pharmaceutical Federation (FIP) for integration into pharmaceutical practice. The FIP currently hosts the program on its official website. To date, the program has been downloaded over 700 times in more than 80 countries. Worldwide users are continually providing the author with more translations and orations so that the program can be used to aid more people.

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