Pharmacy Technician Remote Best Possible Medication History Program Using a Novel Electronic Tool in a Small Rural Hospital

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Background

- Medication Reconciliation (Medrec) at transitions of care is key for medication safety
- The Best Possible Medication History (BPMH), creation of an accurate and complete list of a patient's home medications, is an integral first step to the Medrec process
- Pharmacy technicians (RPhT) play a vital role by directly interacting with the patient and referencing healthcare system resources to compile and document an accurate BPMH
- Small community hospitals often lack the human resources to obtain and document a complete and up-to-date BPMH
- The usability of an electronic tool employing a standardized algorithm to guide the BPMH interview was tested

Methods

Study Design: Non-interventional, single-centre cross-sectional study that compared nurse created BPMH's to RPhT derived BPMHs using an electronic tool

Objectives:

- To test an electronic tool usability for conducting a patient BPMH interview remotely and refine content based on RPhT end-user feedback
- To describe deviations between nurse created BPMHs to BPMHs created by RPhTs when utilizing an electronic tool
- To determine time requirements for RPhTs to complete and document BPMHs using the electronic tool

Methods: During study hours, the RPhT was notified of patients to be admitted through the emergency room. The RPhTs created BPMHs by conducting semi-structured patient interviews with open-ended questions employing the electronic tool via telephone. Patient's community pharmacy records were referenced. Through continuous review and feedback, any technical issues with the tool that presented were identified and information was provided to the developers to rectify.

Data Collected: Nurse derived BPMH deviations and their associated risk identified by the RPhT, task times for RPhT to complete a BPMH, number and types of medications (prescription, OTC, and scheduled/as needed) . BPMH documentation type (using the electronic tool and/or in the electronic health record).

Participants: Adult patients admitted to a 30-bed rural hospital through the emergency room who had an RPhT and nurse created BPMH

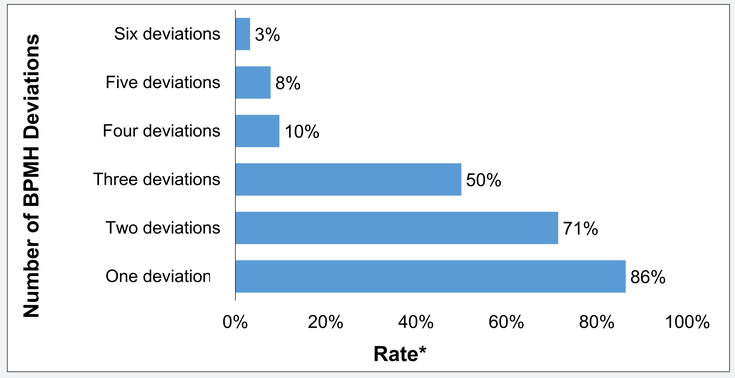
Results

Table 1: Patient BPMH characteristics (n= 154)

Data Characteristics	Reported cases	Median	IQR
Time spent for collection of medication list sources (min)	120	5	1-6
Time required to receive medication sources after request (min)	154	32	14-60
Time to connect with patient for interview (min)	154	10	2-80
Time required to interview patient (min)	154	17	15-25
Time to compile/document BPMH (min)	154	20	15-25
Overall time to create a BPMH (min)	154	**85**	42-181
Number of scheduled prescription medications, n	154	6	3-10
Number of scheduled non-prescription medications, n	154	1	0-3
Number of PRN prescription medications, n	154	1	0-2
Number of PRN non-prescription medications, n	154	1	0-2
Overall all total number of medications a patient takes, n	154	**10**	5-15

- 45% (70 cases) additional time was required to perform tasks other than listed
- 79% (121) cases RN had already obtained the community pharmacy list

Figure 1: Deviation Rate per patient BPMH (n=154, 352 deviations)



*Rates reported including composite data

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3 Pharmacy Technicians

154 BPMHs

Figure 2: Deviation types in nurse created BPMH identified by RPhT (n=154)

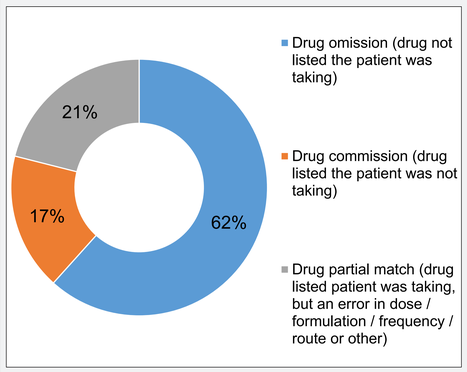
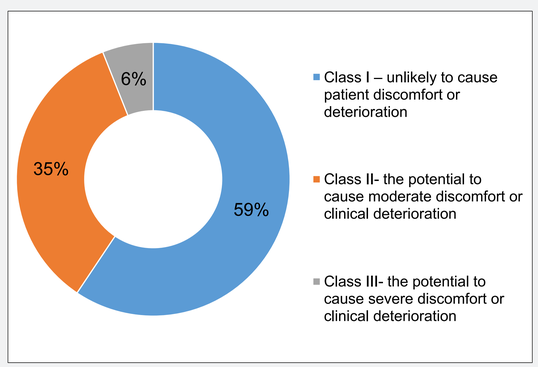


Figure 3: Risk class of nurse created BPMH deviations identified by RPhT n=154



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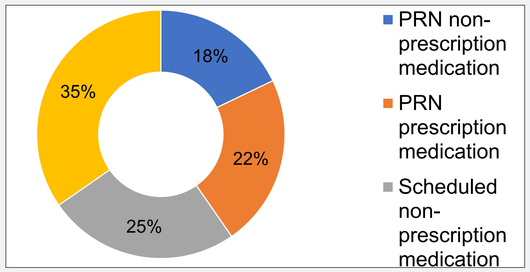
Results

Figure 4: Nurse created BPMH deviations identified by RPhT - medication categories N=154



Survey results found pharmacy technicians agreed that the electronic tool was easy to use, documentation was accurate, it improved the quality of BPMH, and they would recommend use of the tool to complete a BPMH

`The tool has the ability to gather medical information …. with auto-generation of additional questions within the tool based on medical conditions and diagnoses provided by the patient e.g. for a patient with diabetes, the tool will generate questions about blood sugar control, medication compliance, and diet to determine other health-related issues…'

`I find the tool to be very helpful… often times I also use the questions as prompts and then elaborate on the question to get some additional information from the patient. Some questions I may have missed if I wasn't using the tool'

Conclusions

This study found derivation and documentation of an up-to-date BPMH by an RPhT remotely using an electronic tool was useful. RPhTs were able to identify three or more errors in 50% nurse-derived BPMHs; 41% of the deviations had the potential to cause moderate to severe discomfort or clinical deterioration.

Incorporating remote RPhTs to complete timely and accurate BPMHs in the emergency room where on-site resources are limited is an innovative solution to improve the quality of Medrec and patient safety.

Disclosure Summary

Lynch, R	Employed by Northwest Telepharmacy Solutions
Brandt, A	Employed by Northwest Telepharmacy Solutions
Polyakova, O	Employed by Northwest Telepharmacy Solutions
Dhaliwall, S	Employed by Northwest Telepharmacy Solutions
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