A Health Literacy-Informed Strategy to Promote Medication Reconciliation in Ambulatory Care

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Background

- Discrepancies are common; self-reported medication lists and medications in a patients' medical chart are often not the same[1]
  - This is a patient safety concern

- In our clinic, 54.3% of patients had at least 1 discrepancy

- Link between low health literacy and poor medication reconciliation in ambulatory care settings[2]

[1]Persell et al. *Am J Med* 2010, [2]Persell et al. *JGIM* 2007

Purpose of study

- **To develop and test a health literacy-informed electronic health record (EHR) strategy to:**

    - Promote better patient-provider communication about medicines

    - Reduce the number of discrepancies in EHR medication lists

Methods

- One academic general internal medicine clinic in Chicago, IL

- 144 patients recruited

- Physician-randomized trial (intervention vs. usual care)

- After-visit in-person interview

- Medical chart review 2 and 6 weeks post in-person interview

The Intervention

- Intervention received medication reconciliation tool (MRT) upon check-in

- The MRT explained how to update the list and notate any concerns

- This MRT was then given to the physician to prompt medication reconciliation

Please Review Your Medicines

It is very important that your doctor knows all the medicines you are taking.

Follow these steps:

Step 1. Remove any medicines you are not currently taking by **drawing a line through the drug's name**.

Step 2. For medicines you are currently taking, place a check (√) in the **Taking as directed?** column next to the correct box indicating if you are taking the medication as described in the instructions.

Step 3. Place a check (√) in the **Concerns** column next to any concern you may have about the medication.

Your Current Medications Are

Medication	Instructions	Taking as directed?	Concerns
CELEBREX 200 MG OR CAPS	Take one tablet by mouth daily with food	☐ yes ☐ no ☐ taking only as needed	☐ None ☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
DONEPEZIL HYDROCHLORIDE (ARICEPT) 5 MG TABS	Take one tab by mouth every AM	☐ yes ☐ no ☐ taking only as needed	☐ None ☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
TYLENOL 325 MG TABS	2 TABLETS EVERY 4 HOURS AS NEEDED	☐ yes ☐ no ☐ taking only as needed	☐ None ☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
ZIAC 5-6.25 MG or TABS	1 TABLET DAILY	☐ yes ☐ no ☐ only as needed	☐ None ☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
ZOLPIDEM TARTRATE (AMBIEN) 10 MG TABS	Take one tab by mouth every night	☐ yes ☐ no ☐ taking only as needed	☐ None ☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other

Step 3. Add the names of any other medicines you are currently taking that are not on the list. This includes prescription drugs, over-the-counter medicines, vitamins, and other supplements. For each drug, provide the dose and the instructions on how you take it. *Please don't worry if you have the exact spelling of your medications.*

Step 4. Place a check (√) in the **Concerns** column next to any concern you may have about the medication listed.

Your Additional Medicines Are

Medicine Name	Dose	How you take it	Concerns
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other
			☐ Need Refill ☐ Cost ☐ Side Effects ☐ Other

Types of discrepancies

1) Omission = taking a medication not on list

2) Commission =no longer taking a listed medication

Results

- Mean age 60.5 years old

- 42% Black, 44% White, 14% Other

- Patients were taking:

  Mean = 8.2 Rx medications (SD 3.3)

  Mean = 2.8 OTC medications (SD 1.9)

Results

OUTCOME	AFTER VISIT			~ 2 WEEKS			~ 6 WEEKS		
	U (n=69)	I (n=75)	P Value	U (n=69)	I (n=75)	P Value	U (n=69)	I (n=75)	P Value
R_x Medications									
Discrepancies, %	52.1	49.3	0.74	50.7	46.7	0.74	43.5	37.3	0.50
Reconciliation, %	---	---	---	2.8	10.8	0.36	30.6	48.7	0.15
Commission, %	---	---	---	3.3	6.3	1.0	33.3	43.8	0.44
Omission, %	---	---	---	0.0	18.2	0.20	7.7	45.5	0.06

Results

- In multivariable analyses, discrepancies that were less likely to be reconciled were:

    – Medicines prescribed by other physicians
    – OTC
    – Commissions

Conclusions

- The MRT may be an efficient and sustainable means of promoting reconciliation and education

- However, effectiveness was limited
  - Reconciliation usually at 6 weeks and not 2 weeks
  - Mostly for Rx medications

- Patients still left the encounter with an after-visit summary that was not always correct

Limitations

- Physicians and clinic staff were not asked to change their routine

  - Automated activities were supposed to prompt review of medications

- Results are not generalizable to populations outside of this clinic

Post-trial feedback

- Results were shared with clinic staff in study

- Root causes of medicines that were not reconciled explored:

    - Not enough time during encounter
    - Not required to fix medication list
    - Non-prescriber

Next Steps

- Future studies should pair the MRT with a counseling (nurse, pharmacist?) encounter to encourage thorough medication review

- More robust means are needed to promote timely medication reconciliation at the same visit

Thank you!

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