Impact of an emergency department patients' own medications procedure on medication safety: an interrupted time-series

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Background

Patients' Own Medications (POMs) are valuable for obtaining the best possible medication history and ensuring timely dosing in the emergency department (ED).[1-3] However, POMs directives for hospitalized inpatients are impractical in high patient turnover EDs.

Having patients bring their POMs to ED has been demonstrated to reduce prescribing errors.[1,2] POMs can:

- be useful props to help patients/carers describe their medication routine and assess adherence
- be useful for dose administration
- help teach patients about changes made to their regimen in ED.

Official ED procedures need to be feasible for EDs to implement into everyday practice. In an ED that sees several hundred patients each day, locking POMs away:

- means that POMs are not readily available to assist with patient care
- runs the risk of POMs not being returned when patients leave ED
- is time consuming to achieve.

A pragmatic POMs procedure was developed to standardize POMs storage and use in the ED and short stay unit (SSU). POMs were not locked away. As dispensed medications, legally they are patient belongings. Rather than being a legal issue, storage and use of POMs in ED is a risk management consideration.

Aims

To evaluate the process and patient safety outcomes of implementing a pragmatic ED/SSU POMs procedure.

Method

Study design, setting, time period:

- Prospective, interrupted time series
- Large metropolitan ED/SSU
- Data were collected pre-implementation (2017) and during four post-implementation time periods (2018-2021).
- Data were collected at unannounced times for approx. 100 patients taking medications prior to ED presentation.

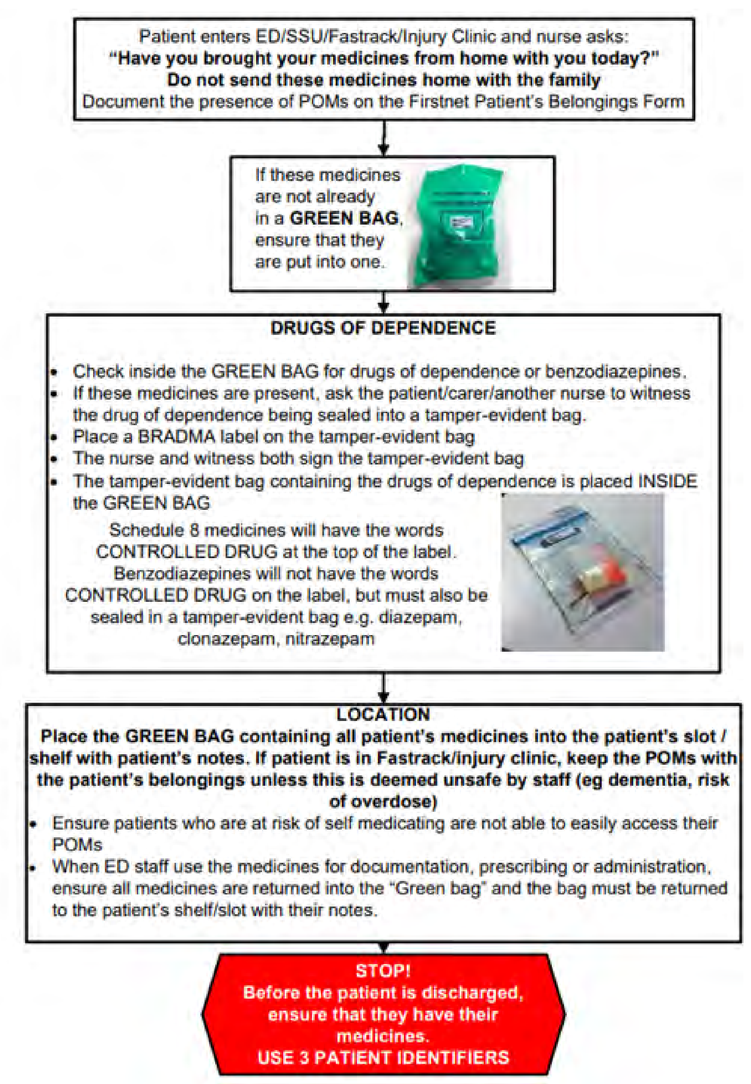
Endpoints:

- Process: proportion of patients with POMs stored in a green POMs bag, in the standardized location.
- Patient safety: proportion of patients who self-medicated without charting on the medication administration record or without ED nurses knowing.

Intervention:

- POMs procedure for ED and SSU was developed with multidisciplinary input (nurses, pharmacists and doctors).
- Training was incorporated into staff orientation programs.
- Annual audit, with feed back after each audit.

Fig: 1: Summary of Patients' Own Medications storage procedure



Results

Data were collected for 127 and 422 patients pre- and post-implementation, respectively. In both groups:

- Just over half of patients were brought to ED by ambulance
- Approximately half brought their POMs to ED
- When brought to ED, >95% of POMs were retained in ED.

After procedure implementation, POMs were stored in the standardized locations for 45.9% of patients.

- The proportion of patients with POMs stored in the green bag increased from 6.9% to 48.2% post-implementation (difference in percentages 41.3%, p<0.001).
- Patient self-administration without their ED nurse knowing declined from 10.3% to 2.3% (difference in percentages 8.0%, p=0.015).

The frequency that POMs were left behind in ED/SSU has remained low (approx. 5-10 bags/week) and is managed within the ED pharmacy service workload.

- No incident reports of diversion were identified post-implementation.

Fig: 2: Patients Own Medication storage in ED

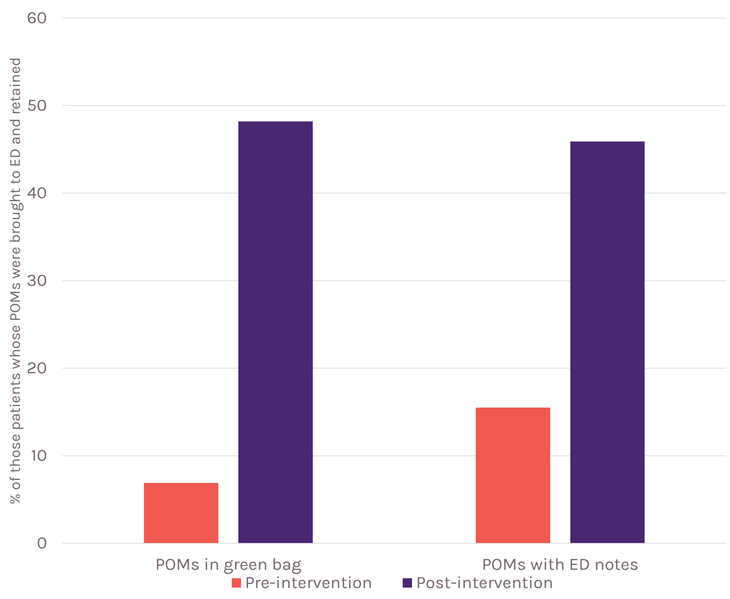
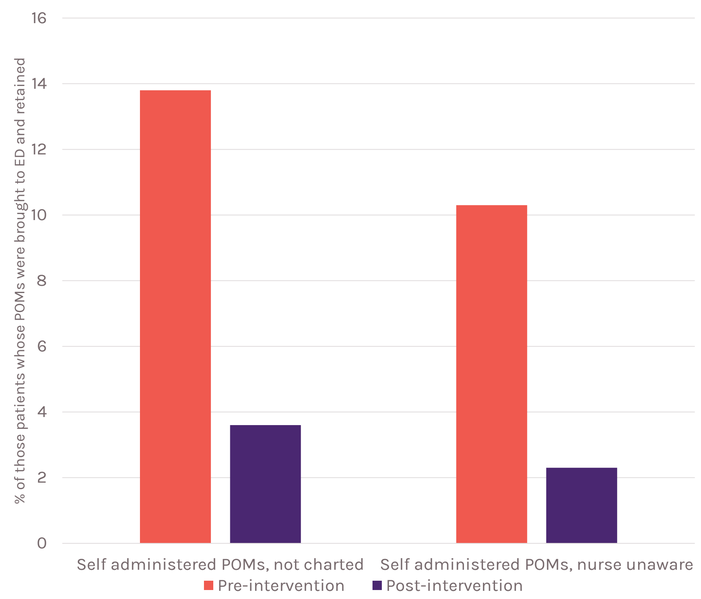


Fig: 3: Patient self-administration of POMs in ED



Discussion

POMs directives for hospitalized patients, do not specifically address challenges faced in ED. We kept POMs with each patient's paperwork to avoid them co-mingling with POMs of other patients. Refrigerated items and Drugs of Dependence were not separated, to avoid them being left behind, or omitted from medication histories. Storing POMs in green bags, meant they were readily identifiable as medications belonging to a patient.

Potential concerns about not locking POMs away is risk of diversion, and self administration. Improvements in measures of patient safety were associated with the procedure, however diversion was difficult to measure.

There is room for further improvement in the use of green POMs bags. This is a potential role that pharmacy technicians could assist with in ED. Further improvements could be achieved if there was consistency amongst ambulance services and EDs nationally to retain POMs in ED and store them in the POMs green bags.

References

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3. Good P, Hoschke D, Klarenaar K. Tablets are bagged letting emergency treat safely (TABLETS). JEPHC. 2007;5(3):22

The POMs procedure tailored for the high patient turnover of ED has standardized POMs use and storage.
Although POMs were readily available to ED clinicians to use for patient care (and not locked away), patient self-medication without charting or without nurses knowing, has declined.

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