A SCREENING MODEL TO IDENTIFY ELDERLY POLYPHARMACY PATIENTS THAT MAY BENEFIT FROM PHARMACIST LED MEDICATION REVIEW DURING HOSPITAL ADMISSION

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Background and Aim

The Danish Health Authority calls for a plan ensuring that relevant elderly polypharmacy patients receive medication reviews during hospital admission to reduce the risk of adverse events.
Potentially Inappropriate Medications (**PIMs**) are one of the most frequent causes of adverse events in older people.

The purpose of the study was to develop a screening model that will identify the patients who may benefit from a pharmacist-led medication review in hospital.

The model will be based on experience with existing success in the setting such as:
- Potentially Inappropriate Medication lists
- Pharmaconomist (trained pharmacy technicians) ward based top-up service
- Pharmacist-led medication review in the acute wards

Results

The screening tool comprised ten medication focus points, and demonstrated a specificity of 78% and sensitivity of 80% in detecting the relevant patients when applied to a cohort of elderly polypharmacy patients.

During April-June 2018, 17,631 patients were screened using the tool. The pharmaconomists referred 396 patients to the pharmacists (average age 78 years, 52% women). Of these, 229 received a pharmacist intervention regarding PIMs (average of 2.78 interventions/patient).

For the 115 patients eligible for follow-up, the average of PIMs/patient was significantly reduced from 2.0 PIMs at the admission to 1.6 PIMs at discharge, despite an increase in number of medications.

Outcome	Type of Ward	Patients n	Average (admission)	Average (discharge)	% difference	T-test, p
Medications	All	115	12.4	13.5	+9%	0.000
	Medical	80	12.9	13.8	+7%	0.013
	Surgical	35	11.3	12.7	+12%	0.002
PIMs	All	115	2.0	1.6	-22%	0.000
	Medical	80	2.1	1.6	-24%	0.000
	Surgical	35	1.8	1.5	-17%	0.037

Design and Methods

A screening tool was developed from PIMs described in international literature. Then adapted to the workflow of Danish pharmaconomists and clinical pharmacists in hospitals using a Delphi like technique in scoring a) likelihood of deprescribing the PIM, b) clinical impact if deprescribed and c) difficulty in screening for the PIM during pharmaconomist top-up service.

Pharmaconomists applied the screening model to all elderly polypharmacy patients admitted to bed wards in Region Zealand hospitals, and referred patients to a pharmacist-led medication review.

The pharmacist-led medication reviews were performed centrally and communicated to the physicians in the electronic patient record.
The primary outcome was number of medications and number of PIMs at discharge.

Conclusion

The screening model developed was able to detect relevant elderly polypharmacy patients for a pharmacist-led medication review during hospital admission.

The model was easy to implement, low-resource and resulted in a significantly reduced number of Potentially Inappropriate Medications.

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