

Implementation of extended top-up service increased correct recording in the electronic medication module

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Electronic medication module

Drug dispensing and administration

Drug	AR	AS	PM	?	Morning	Noon	Evening	Night
Aspirin, tablet 75 mg	oral	o	X		1 unit			
Dipyridamole, ER capsule ex 200 mg	oral	o	X		1 unit		1 unit	
Bendroflumethiazide, tablet 2.5 mg	oral	o	X		1 unit			
Potassiumchloride, ER tablet 750 mg	oral	o	X		1 unit		1 unit	
Furosemide, injection 10 mg/ml 2 ml PN	iv	o		!				
Enalapril, tablet 20 mg	oral	o	X		1 unit		1 unit	
Cefuroxime, injection 750 mg	iv	o			1 unit 6:00 am	1 unit 12:00 pm	1 unit 18:00 pm	1 unit 24:00 am
Acetaminophen, tablet 500 mg	oral	o	X		2 unit	2 unit	2 unit	2 unit
Morphine, tablet 10 mg 1 unit PN	oral	o						

AS = Administration Status
PM = Patient Medicine

Background

The patients' safety is compromised, when incorrect data are recorded in the electronic medication module (EMM). To ensure increased consistency between the medication consumed by the patient with the medication prescribed in the EMM, the hospital pharmacy scaled up the top-up service from a logistical "Model 1" to an extended top-up service "Model 2".

Purpose

To evaluate whether implementation of Model 2 could increase the number of correct recordings of generic substitution and administration status in the EMM at two hospital wards.

Methods

Model 2 focused on generic substitution and correct recording in the EMM. The intervention study consisted of implementation of Model 2 including a two hour training session for nursing staff regarding management of generic substitution and recording of use of the patients' own medicine in the EMM. Data of incorrect recording in the EMM were collected during two time periods; five weeks before the intervention and five weeks after.

Ward O1 and O2	Baseline (number)	Endpoint (number)	Reduction as result of the intervention ^a
Patients	699	448	-
Prescriptions	6021	3491	-
Prescriptions per patient (average)	8,6	7,8	-
Prescriptions there needed generic substitution	59	14	58%*
Prescriptions with incorrect recording of use of the patients' own medicine in the EMM	282	21	88%*

^a Difference between baseline and endpoint were calculated in proportion to the total number for prescriptions
* P-value < 0,05

Table 1. Prescriptions recorded from the two orthopedic wards, O1 and O2

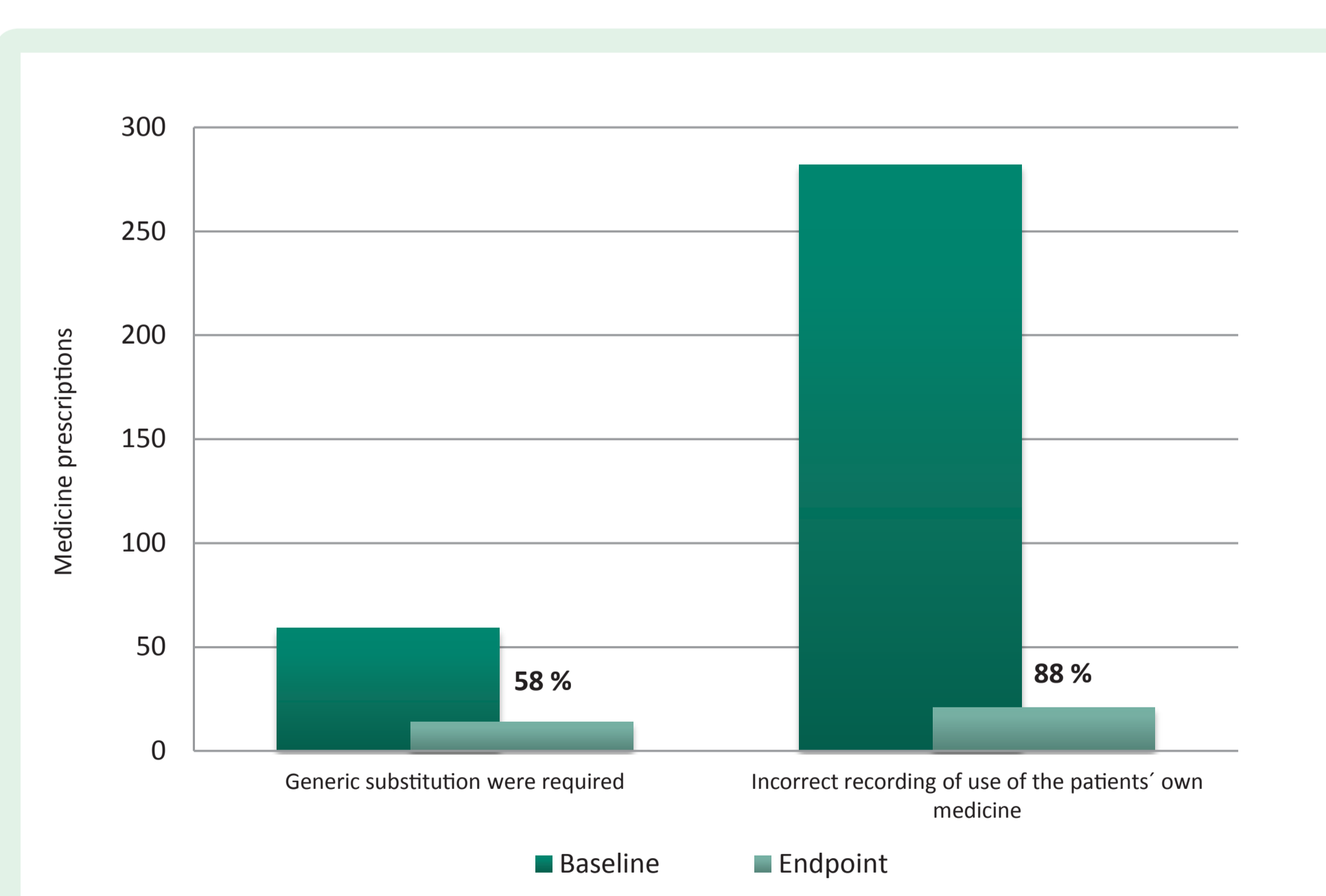


Figure 1. Difference in incorrect recording in the electronic medication module before and after the intervention

Results

Prescriptions were evaluated at two orthopedic wards; 699 patients (6021 prescriptions) before and 448 patients (3491 prescriptions) after the intervention.

Introduction of Model 2 significantly reduced the number of incorrect generic prescription in EMM with 58%; 59 incorrect prescriptions before and 14 after the intervention.

Similarly the intervention reduced the number of incorrectly recorded prescriptions of the patients' own medicine in the EMM, with 88%; 282 incorrect recording of the patients' own medicine before and 21 after the intervention (table 1, figure 1).

Conclusion

The introduction of extended top-up service increased correct recording in the EMM for generic substitution and recording of the patients' own medicine, respectively. The hospital pharmacy will offer extended top-up service to all wards at the hospital.

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