

INCREASING THE PERCENTAGE OF DISCHARGE PRESCRIPTIONS DISPENSED THROUGH BEDSIDE DISPENSING IN HOSPITAL KAJANG

DZATIL AWATIF YUSOF¹, Tan Kean Zhi¹, Lim Lee Ling¹, Noor Hidayah Roslan¹, Dr Alia Zubaidah Bahtar², Dr Tan May Ching²

¹Pharmacy Department, Hospital Kajang ²Medical Department, Hospital Kajang



1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

In Hospital Kajang, discharge medication dispensing can occur at the ward or at the Outpatient Pharmacy Department (OPD). Discharge medication dispensing occurring at the ward is called Bedside Dispensing (BD). Through BD, patient does not have to go to the OPD to queue for number and collect their medication.

1.1 PRIORITISATION OF PROBLEM

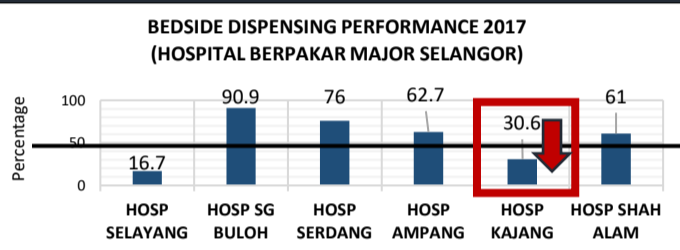
PROBLEM	S	M	A	R	T	SCORE
Low percentage of discharge prescriptions dispensed through bedside dispensing in Hospital Kajang	24	17	19	18	21	99
Long patient's waiting time at OPD	15	13	9	13	18	68
Excessive number of floor-stock items in wards	18	15	16	14	16	79
Inhaler wastages among admitted patients in the ward	20	14	10	14	18	76

7 GROUP MEMBERS	SCORE	1	2	3	4	5
INDICATION	Very Low	Low	Fair	High	Very High	

1.2 REASON FOR SELECTION

S	SERIOUSNESS
	Patient given prescription for self-collection of discharge medication without screening by pharmacist in the ward prior to discharge may increase risk of medication discrepancies which may lead to potential adverse drug events (PADEs) post hospital discharge. ¹
M	MEASURABLE
	Percentage of discharge prescriptions dispensed can be measured.
A	APPROPRIATENESS
	Increase in bedside dispensing can reduce PADEs, the risk of medication related hospital readmission and increase adherence thus can reduce the medical cost and improve patient outcome. ²
R	REMEDIAL
	Require active involvement of a multidisciplinary team approach.
T	TIMELINESS
	This study can be completed within a short period of time.

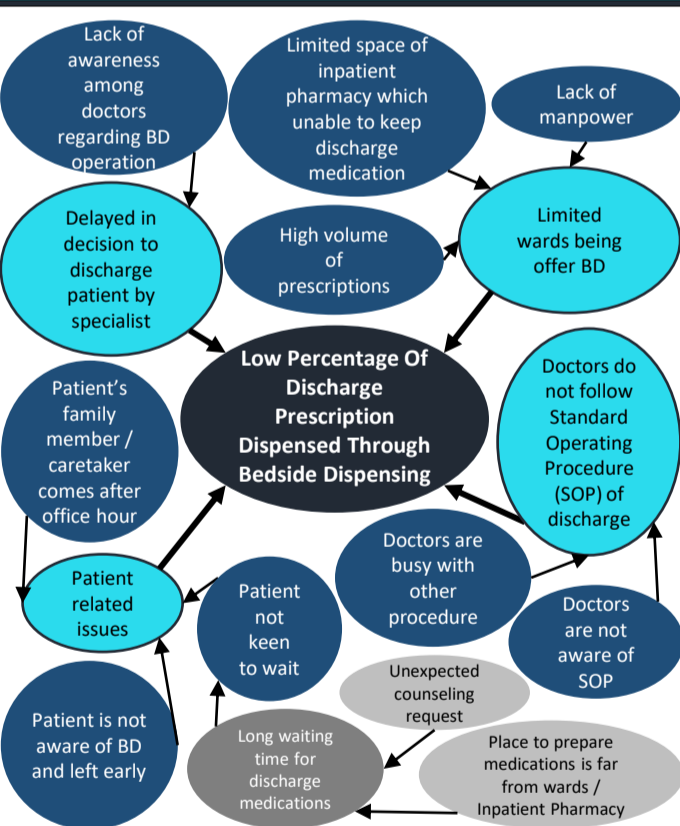
1.3 PROBLEM STATEMENT



1.4 LITERATURE REVIEW

BD can help to prevent 33.5% medication discrepancies during discharge which can lead to adverse drug events ³ (Walker et. al, 2009)	BD improved outpatient primary adherence from 51% to 66.7% ⁴ (Leguelinel-Blache et. al, 2015)	Medication reconciliation during the discharge process manage to increase one or more medication corrected by pharmacists ² (George et. al, 2019)
--	---	---

1.5 PROBLEM ANALYSIS CHART



1.6 TERM & DEFINITION

TERMS	DEFINITION
DISCHARGE PRESCRIPTION	An instruction written by a medical practitioner that authorizes a patient to be issued with a medicine upon discharge
BEDSIDE DISPENSING	One of the clinical services offered by pharmacist through collecting discharge prescription from the ward, preparing the medication and dispensed the medications to the patient upon discharge at the ward

2. KEY MEASURES FOR IMPROVEMENT

2.1 OBJECTIVES

GENERAL OBJECTIVE

To increase percentage of discharge prescriptions dispensed through bedside dispensing in Hospital Kajang

SPECIFIC OBJECTIVE

- To determine the percentage of discharge prescriptions dispensed through bedside dispensing in Hospital Kajang
- To identify factors contributing to low percentage of discharge prescriptions dispensed through bedside dispensing in Hospital Kajang
- To formulate strategies and to implement possible remedial action
- To evaluate effectiveness of remedial measures implemented

REFERENCES

- Rixt Nynke Eggink, Albert W. Lenderink, Jos W. M. G. Widdershoven, Patricia M. L. A. van den Bemt. *Pharm World Sci* (2010) 32: 759 *The effect of a clinical pharmacist discharge service on medication discrepancies in patients with heart failure.* December 2010, Volume 32, Issue 6, pp 759-766.
- Doris George, Nirmala D. Supramaniam, Siti Q. Abd Hamid, Mohamad A. Hassali, Wei-Yin Lim, and Amar-Singh Hss. *Effectiveness of a pharmacist-led quality improvement program to reduce medication errors during hospital discharge.* *Pharm Pract (Granada)*. 2019 Jul-Sep; 17(3): 1501.
- Walker PC, Bernstein SJ, Jones JM, Piersma J, Kim HW, Regal RE, et al. *Impact of a pharmacist-facilitated hospital discharge program: a quasi-experimental study.* *Arch Intern Med.* 2009 Nov 23;169(21):2003-10.
- Leguelinel-Blache G, Dubois F, Bouvet S, Roux-Marson C, Arnaud F, Castelli C, et al. *Improving Patient's Primary Medication Adherence: The Value of Pharmaceutical Counseling.* *Medicine (Baltimore)*. 2015 Oct;94(41):e1805.

2.2 INDICATOR & STANDARD

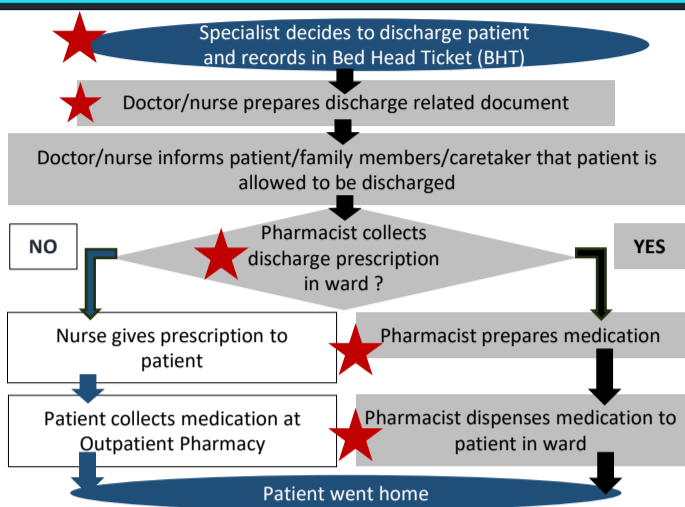
INDICATOR

Percentage of discharge prescriptions dispensed through BD:

$$\frac{\text{Total number of discharge prescriptions dispensed through BD}}{\text{Total number of discharge prescriptions}} \times 100\%$$

STANDARD $\geq 50\%$ Based on Plan of Action (POA) 2018 of the Pharmaceutical Services Division, Ministry of Health Malaysia (MOH).

2.3 PROCESS OF CARE



2.4 MODEL OF GOOD CARE

NO	PROCESS	CRITERIA	STAND ARD	PRE- REMED IAL	CYCLE 1	CYCLE 2
1.	Specialist decides to discharge patient and records in BHT before collection time	Decide to discharge patient and record in BHT before collection time	100%	86%	87%	94%
2.	Doctor/nurse prepares discharge related document	Write discharge prescription for BD before collection time	100%	73%	62%	77%
3.	Pharmacist collects discharge prescription in ward	a. Collect prescription	100%	53%	58%	73%
		b. Screen prescription	100%	53%	58%	73%
		c. Cross-checking prescription with discharge plan in BHT	100%	53%	58%	73%
		d. Discuss with doctors if PCI(s) were found	100%	53%	58%	73%
		e. Inform patient regarding BD	100%	8%	58%	73%
4.	Pharmacist prepares medication	a. Fill medication at Inpatient Pharmacy	100%	53%	58%	73%
		b. Fill medication at OPD	100%	47%	42%	27%
		c. Prepare counselling aid and devices for discharge	100%	13%	23%	73%
5.	Pharmacist dispenses medication to patient in ward	a. Identify patient in ward	100%	28%	38%	68%
		b. Dispense medication in ward	100%	28%	38%	68%
		c. Do personalize medication counselling in ward	100%	11%	38%	68%

3. PROCESS OF GATHERING INFORMATION

3.1 METHODOLOGY

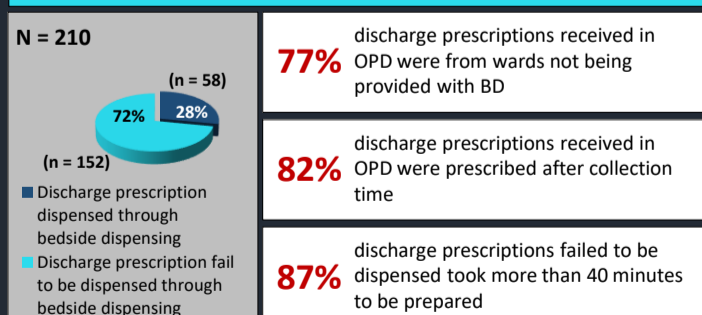
STUDY DESIGN	Quasi-experimental
STUDY SETTING	All wards and OPD
SAMPLING TECHNIQUE	Universal Sampling
STUDY PERIOD	VERIFICATION : September 2018 CYCLE 1 : October 2018 – March 2019 CYCLE 2 : April 2019 – September 2019
INCLUSION CRITERIA	• All discharge prescription received at OPD • All discharge prescription collected from the ward
EXCLUSION CRITERIA	• Discharge prescription received after office hour

3.2 DATA COLLECTION TOOL

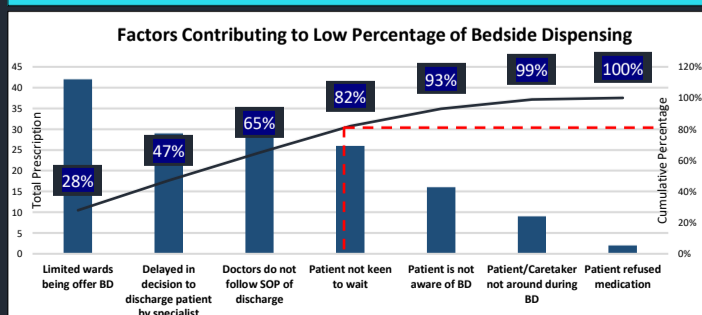
TOOL	AIM	SAMPLE
Data collection form	To determine percentage of discharge prescription dispensed through BD To calculate time spent in each checkpoint during BD process To identify factors contributing to low percentage of BD	All discharge prescription received in OPD and collected in ward during office hour

4. ANALYSIS AND INTERPRETATION

4.1 VERIFICATION STUDY



4.2 PARETO CHART



5. STRATEGIES FOR CHANGE

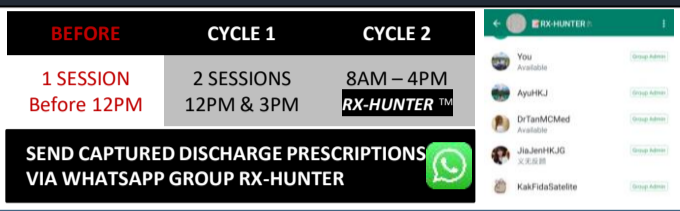
5.1 EXPANSION OF SERVICES

PROBLEM: 77% discharge prescriptions received in OPD were from wards NOT BEING PROVIDED with BD



5.2 RX-HUNTER

PROBLEM: 82% discharge prescriptions received in OPD were prescribed AFTER COLLECTION TIME



5.3 MEDSTOCK

PROBLEM: 87% discharge prescriptions failed to be dispensed took more than 40 MINUTES to be prepared



RELOCATION OF MEDICATION PREPARATION FROM OPD TO INPATIENT PHARMACY & MEDSTOCK WAS CREATED TO STORE MORE DISCHARGE MEDICATION

5.4 BD-WHEELS (TRANSPORTER)

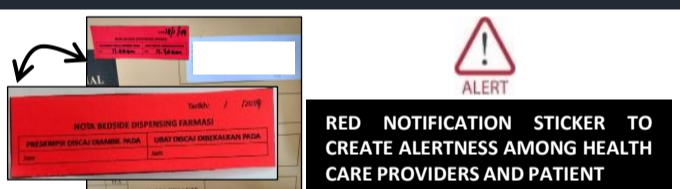
PROBLEM: Verification study shows only 13% counselling aid was given during BD and only 23% counselling aid was given during CYCLE 1 and delayed in the journey was due to INADEQUATE CAPACITY to carry medication



MULTICOMPARTMENT STORAGE TO PREVENT MEDICATION FROM MIX UP & MORE ERGONOMIC WAY TO CARRY MEDICATION

5.5 NOTIFICATION OF SERVICE

PROBLEM: 16% prepared medication failed to be dispensed due to UNAWARENESS of health care providers and patient

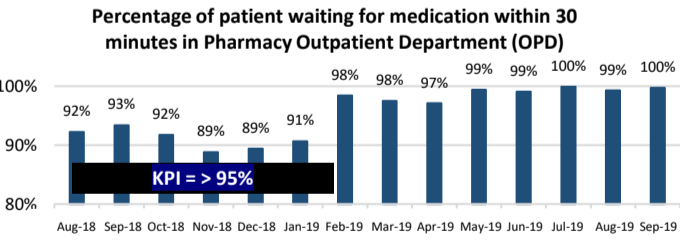
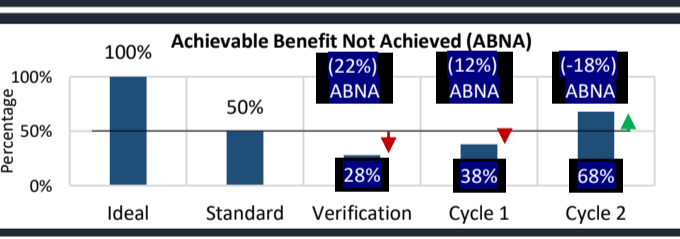


5.6 DISTRIBUTION OF INFORMATION

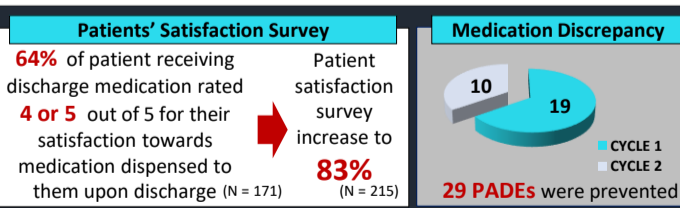
Dept.'s Weekly Assembly	Hospital Management Meeting	Monthly CME	House Officer Orientation
12/11/2018	17/01/2019	15/02/2019	6/05/2019 2/09/2019

- Objectives of BD
- Procedure of BD
- Target of BD to achieve

6. EFFECT OF CHANGE



Discharge prescription received in OPD reduced from **1.5% to 0.9%**, where **89%** of discharge prescription received was during **PEAK HOUR** in OPD



Lesson Learnt

- Our remedial strategies proved successful in increasing the percentage of discharge prescriptions dispensed through BD.
- These results also shows we can prevent PADEs from happening and warrant patient safety in the future.

7. THE NEXT STEP

- Incorporation of BD during ward orientation to patient
- Education to new doctors and nurses during new staff orientation
- Introduce a mobile discharge pharmacy equipped with computer and printer
- Include BD in Pharmacy Department's Objective Quality in 2023

ACKNOWLEDGEMENT

PENGARAH HOSPITAL KAJANG Dr Abdul Ghani bin Abdul Jalil	HEAD OF PHARMACY DEPARTMENT Pn Norlida bt Ibrahim
HEAD OF MEDICAL DEPARTMENT Dr Manohari A/P Balasingam	PHARMACISTS • Yong Shire Li • Choong Siew Pei