




INSTITUT KANSER NEGARA




**REDUCING THE PERCENTAGE OF RETURNED ANALGESIC  
MEDICATIONS IN THE OUTPATIENT PHARMACY  
DEPARTMENT (OPD) OF INSTITUT KANSER NEGARA (IKN)**

**MUHAMMAD AIMAN BIN MAZLAN**





But I still have  
extra medications  
at home

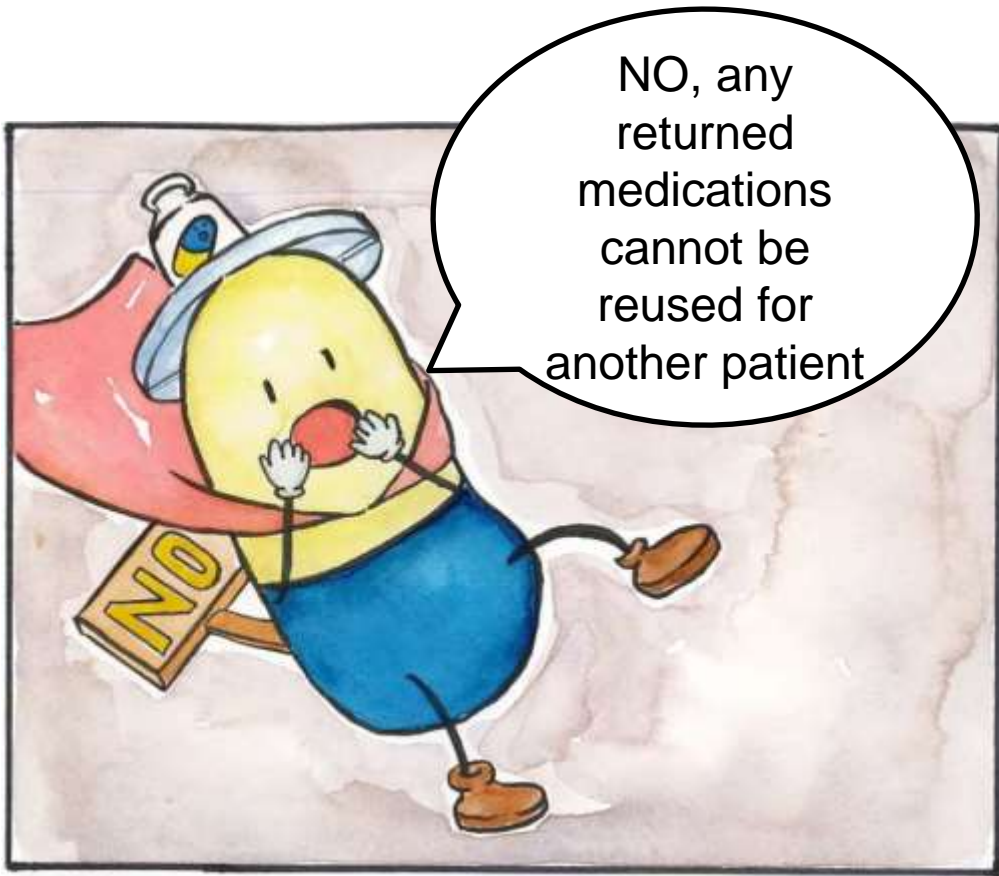


Never mind, I'll  
just throw them  
away and get  
new medications





I want to return this medications at pharmacy so they can give it to other patients that need it



NO, any returned medications cannot be reused for another patient



As we cannot ascertain the quality and efficacy of the products



→ **EKSKLUSIF**

**Projek inovasi elak pembaziran**

**Matahari:** Adakalanya kesulitan membeli, membolehkan ubat yang tidak digunakan menjadi tidak berkesan. Kita sebagai kerajaan hendaklah berinovasi dengan projek inovasi elak pembaziran ubat.

**Pengarah Projek Inovasi Ubat:** Datuk Dr. Uthman Othman, berkata kita sebagai kerajaan hendaklah berinovasi dengan projek inovasi elak pembaziran ubat.

**Uthman:** Kita sebagai kerajaan hendaklah berinovasi dengan projek inovasi elak pembaziran ubat.

**Kaji Selidik Kebangsaan Mengenai Ubat-Ubatan (NSUM) 2015**



**Dr. Uthman Othman**  
Pengarah Projek Inovasi Ubat, Kementerian Kesihatan, Kuala Lumpur

**Bazir ubat puluhan juta ringgit setahun**

• Kajian dapati rakyat Malaysia tak harga program Kementerian Kesihatan

**Fakta menarik**

**RM227,013.56**  
NILAI  
ubat ubat yang tidak digunakan pesakit dan dibazirkan secara rasmi kepada hospital



Selasa, 17.01.2017  
18 Februari 2016

Harga RM1.50  
No. 1, Jln 17/10  
11100 Kajang, Selangor

**BH**  
Berita Harian

**Pembaziran EKSKLUSIF**  
ubat hospital

Kajian mengenai penggunaan ubat-ubatan dapati majoriti rakyat yang mendapat rawatan di hospital kerajaan tidak mematuhi arahan pengambilan, berhenti mengambil ubat, tukar ubat hingga menyebabkan kerajaan rugi puluhan juta ringgit = **Ms. 14**



Pegawai Farmasi, Mahid Sumari Mohamad Araf mengutip ubat-ubatan yang dibazirkan kepada Kementerian Kesihatan di Hospital Mahid bagi menangani masalah pembaziran ubat.

**Wah Rudin dan Nur Hafizah**  
Kementerian Kesihatan

**• Kuala Lumpur**

**R**akyat Malaysia dibazirkan puluhan juta ringgit setahun kerana tidak mematuhi arahan pengambilan ubat-ubatan yang dibazirkan kepada hospital.

Antara projek inovasi elak pembaziran ubat yang dijalankan oleh Kementerian Kesihatan ialah projek inovasi elak pembaziran ubat.

**Uthman:** Kita sebagai kerajaan hendaklah berinovasi dengan projek inovasi elak pembaziran ubat.

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INSTITUT KANSER NEGARA



# REDUCING RETURN ANALGESIC MEDICATIONS IN OUTPATIENT PHARMACY DEPARTMENT (OPD) OF INSTITUT KANSER NEGARA (IKN)

MUHAMMAD AIMAN BIN MAZLAN

# GROUP MEMBERS



**Hospital Director** : **Dr Mohd Anis bin Haron @ Harun**  
**Advisor** : **Pn Sahidah Binti Said**  
**Facilitator** : **Pn Prita Nambbiar**  
**Unit Kualiti IKN**

**Group members** :

1. **Muhammad Aiman bin Mazlan (Unit Farmasi Nuklear)**
2. **Kirubaa Nanthini (Unit Farmasi Pesakit Dalam)**
3. **Siti Nurnaqiah binti Mohd Aripin (Unit CDR)**
4. **Muhamad Akmal bin Muhamad Samudi (Unit Unit CDR)**
5. **Mohamad Hafiz bin Abdul Rahim (Unit Farmasi Pesakit Luar)**
6. **Dharishiny Subramaniam (Unit Farmasi Pesakit Luar)**



# PROBLEM IDENTIFICATION



1

Needle prick injury due to improper return of used injection medications by patients

- A pharmacist assistant was involved in the needle prick injury while discarding return medications in 2017

2

High number of return analgesic in OPD

- Total value of return medications for 2018 was **RM52,847.18**

3

Frequent enquiries regarding dilution of commons drugs from nurses

- 10 enquiries regarding dilution of common drugs per week

4

Floor stock indenting is not done as scheduled

- Indenting of floor stock out of scheduled day once a week

# PROBLEM PRIORITIZATION - 'SMART' CRITERIA



No	Problems	S	M	A	R	T	Total
1.	Needle prick injury due to improper return of used injection medications by patients	17	13	12	11	11	64
2.	High number of return analgesic in OPD	16	17	17	13	12	<b>75</b>
4.	Frequent enquiries regarding dilution of commons drugs from nurses	10	12	10	10	11	53
5.	Indenting of floor stock is not done as scheduled	13	12	10	9	11	55

**Nominal Group Technique**

**Rating scale: 1=Low 2= Medium 3= High**

# PROBLEM TO BE STUDIED/ CHOSEN PROBLEM



**Reducing return analgesic  
medications in Outpatient  
Pharmacy Department of  
Institut Kanser Negara**



# REASONS FOR SELECTION



<b>S</b> ERIOUSNESS	<ul style="list-style-type: none"><li>• High expenditure for analgesic medications usage</li><li>• Costly drug return</li><li>• Frequent occurrence</li></ul>
<b>M</b> EASURABLE	Percentage of return analgesic in Outpatient Pharmacy
<b>A</b> PPROPRIATENESS	Minimizing the analgesic medications return can save the expenditure and reduce wastage
<b>R</b> EMEDIABLE	Remedial actions can be done with active involvement of a multidisciplinary team approach
<b>T</b> IMELINESS	The study can be completed within the stipulated time

# INTRODUCTION



- The National Cancer Institute is a cancer medical institution specially designed to provide specialized care in the treatment of cancer patients

([www.nci.moh.gov.my](http://www.nci.moh.gov.my))

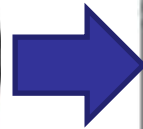


- Chronic pain is extremely prevalent among patients with cancer
- Approximately 1/3 of patients have pain while undergoing active therapy for the disease, and more than 3/4 have pain during the last stages of illness (David, L et. Al, 2004)

# LITERATURE REVIEW



Pharmaceutical  
Services Division,  
Ministry of Health  
Malaysia



**2010**

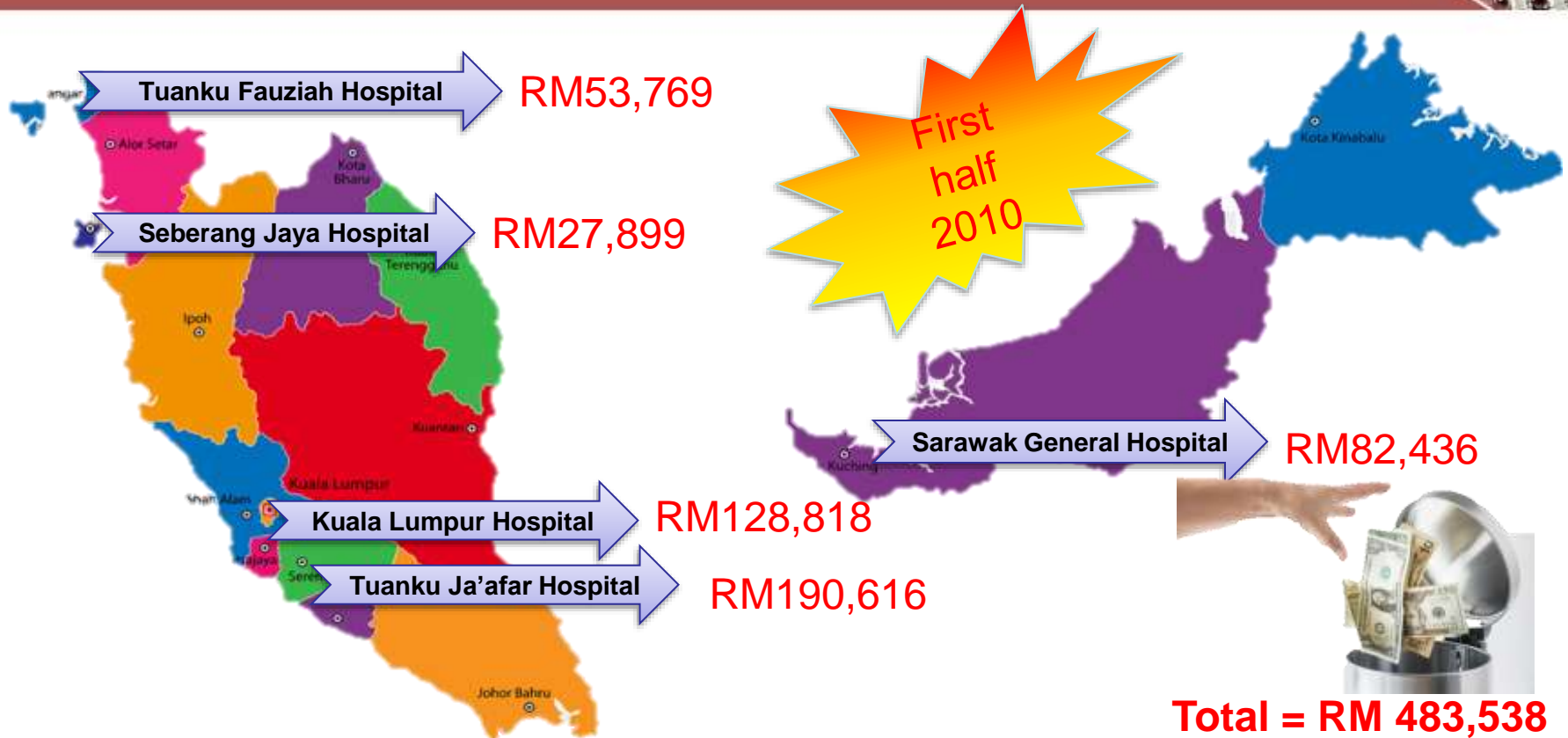


**Return  
Unwanted  
Medicines**

Patients can return  
unused or excess  
medicines for **safe  
disposal** by MOH

In 2010, the Pharmaceutical Services Division, Ministry of Health Malaysia (MOH) has implemented the Return Your Medicines Program. Through this program, patients can return their unused or excess medicines kept at home for safe disposal by MOH.

# LITERATURE REVIEW



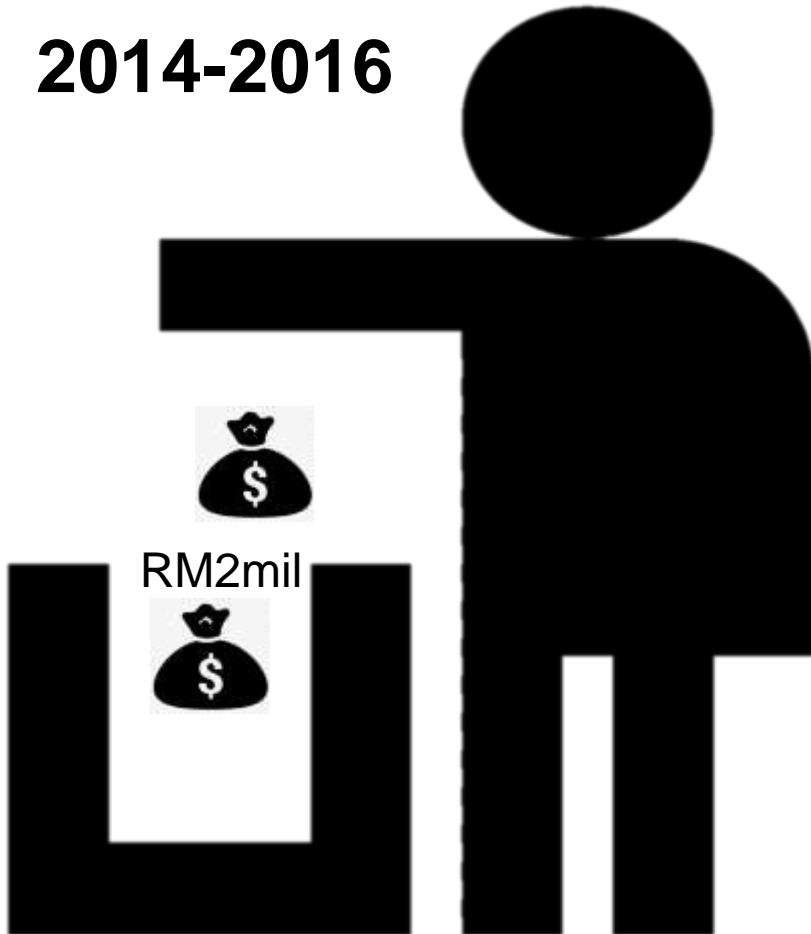
There are 135 hospitals in the country with the ministry **spending RM1.6bil on medicine in 2010**. The medicine returned to the pharmacy at Kuala Lumpur Hospital for the first half of the year was valued at **RM128,818** while at the Sarawak General Hospital, it was valued at **RM82,436**. The returned medicine last year at Seberang Jaya Hospital in Penang, Tuanku Fauziah Hospital in Perlis and Tuanku Ja'afar Hospital in Seremban was valued at **RM27,899**, **RM53,769** and **RM190,616** respectively.

Datuk Eisah A. Rahman, the former ministry's senior director of pharmaceutical services, said the figures alone reflect the amount of medicine wasted.

# LITERATURE REVIEW



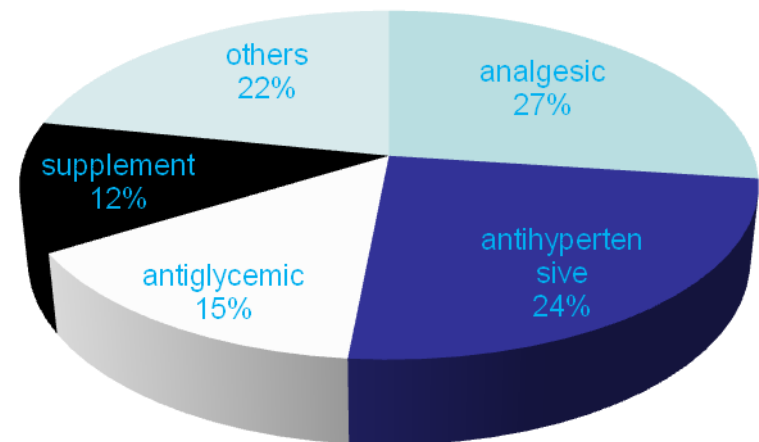
2014-2016



The Health Ministry has disposed of nearly RM2mil worth of expired or spoilt drugs and medicines over a two-year period from 2014

<https://www.thestar.com.my/news/nation/2016/12/27/ministry-destroys-rm2mil-worth-of-expired-meds/#F1o66EM6M1WgJE6r.99>

## Unused medications



The most common unused medication were analgesics (27.1%), antihypertensive (24.4%), antiglycemic (14.7%) and supplements (12%)

Yang SL, Tan SL, Goh QL, Liao SY. Utilization of Ministry of Health Medication Return Programme, Knowledge and Disposal Practice of Unused Medication in Malaysia. J Pharm Pract Community Med. 2018;4(1):7-11



# LITERATURE REVIEW



Death of patient



Change in prescription



Did not see a need for continuing medication following a therapy change



Repeat filling of prescriptions without assessing the amount at hand



Perception of an improvement of their conditions

Death of the patient, change in prescription, repeat filling of prescriptions without assessing the amount at hand were identified as major reasons why medicines are no longer wanted and expired unused. Furthermore, some patients did not see a need for continuing medication following a therapy change by the doctor or after the subjective perception of an improvement of their conditions

# PROBLEM ANALYSIS



## What

- High number of return analgesic

## Why

- Death of patient
- Discontinuation of the treatment
- Repeat filling of prescriptions without assessing the amount at hand
- Compliance issues

## Where

- Outpatient Pharmacy Department, Institut Kanser Negara

## Who

- Out-patient

## When

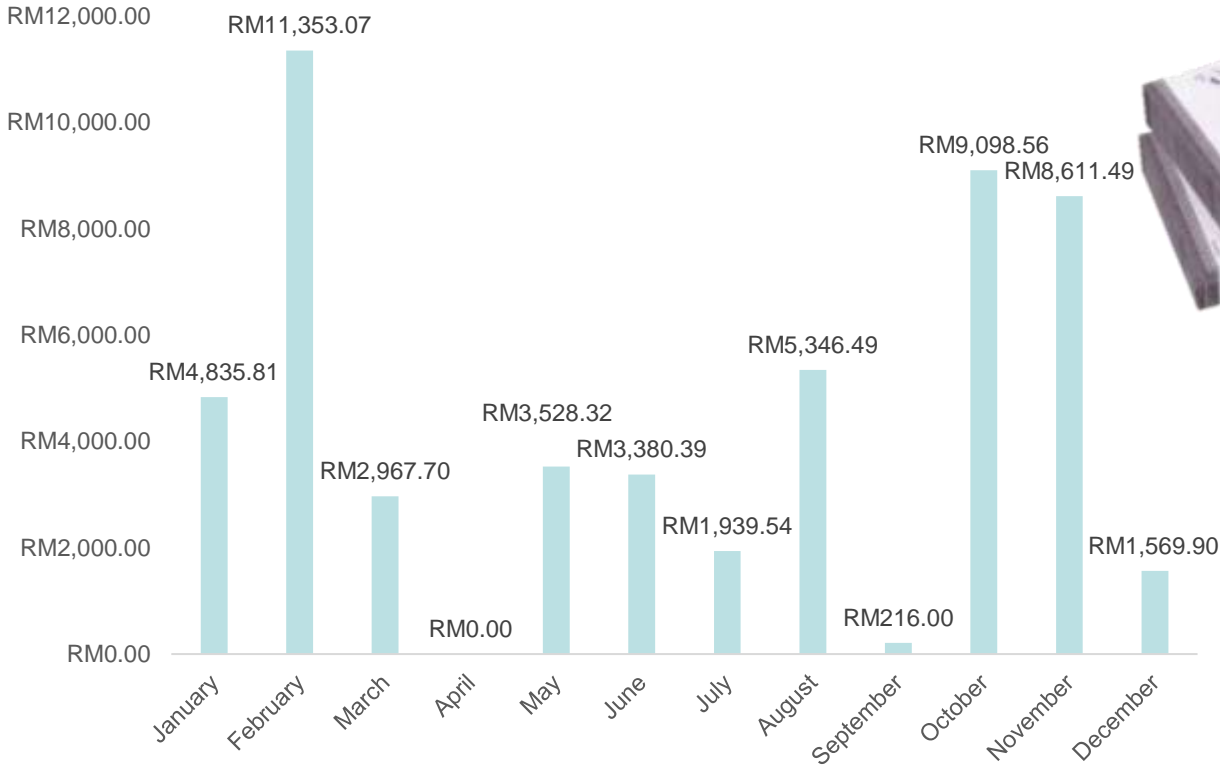
- During follow up or hospitalization

# TERMS AND DEFINITIONS



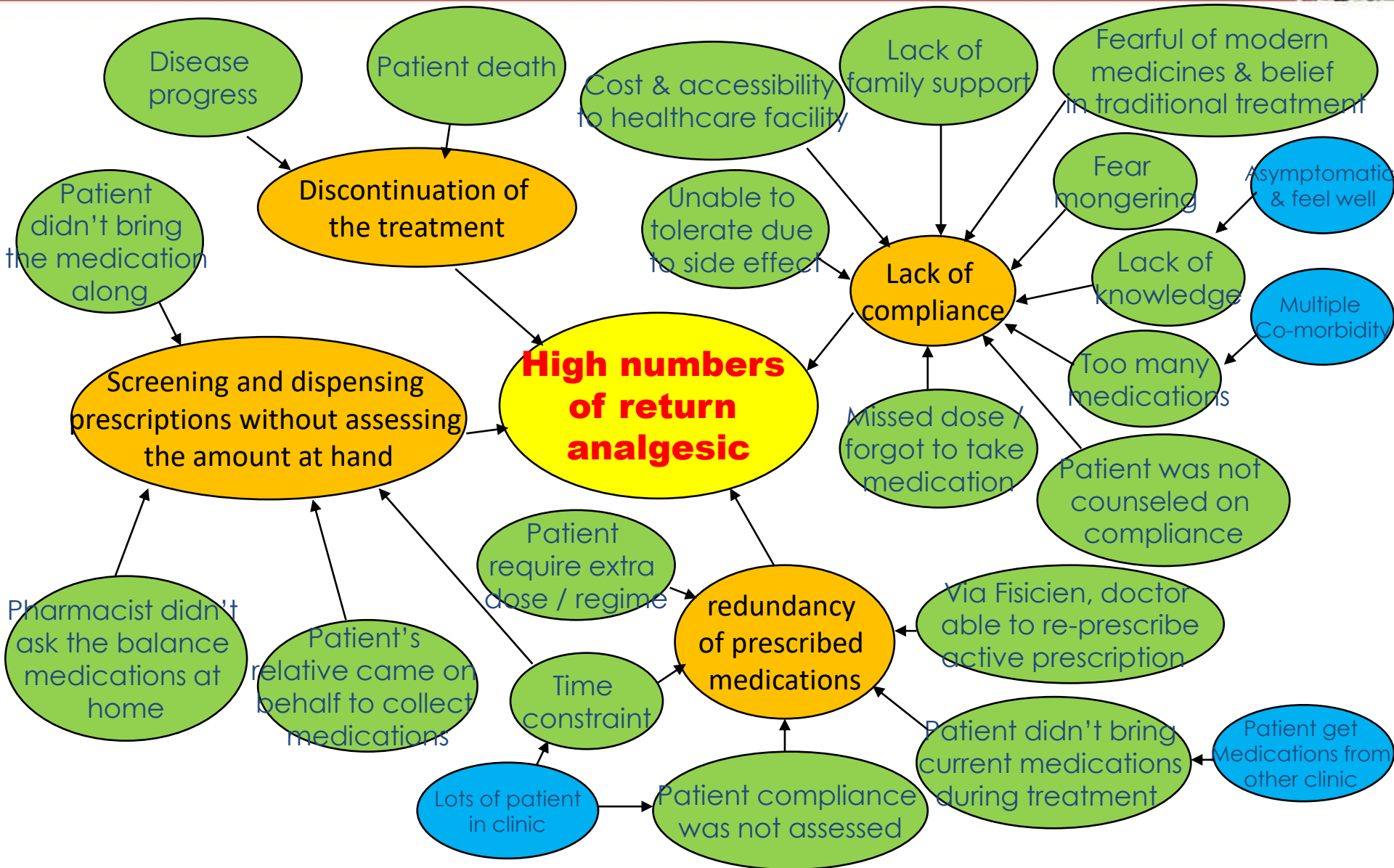
Term	Definition
<b>Return medications</b>	<p><i>A program by Pharmaceutical Services Division, Ministry of Health Malaysia (MOH), where patients can return their unused or excess medicines kept at home for safe disposal by MOH</i></p> <p>(www.pharmacy.gov.my)</p>
	<p><b>Return medications are return to Out Patient Pharmacy in Institut Kanser Negara and to be dispose according to regulation.</b></p>
<b>Non formulary</b>	<p><i>Drugs that are not included in the list of preferred medications that a committee of pharmacists and doctors deems to be the safest, most effective and most economical in IKN</i></p> <p><a href="https://definitions.uslegal.com/n/non-formulary-drugs/">https://definitions.uslegal.com/n/non-formulary-drugs/</a></p>

# RETURN ANALGESIC MEDICATIONS IN 2018

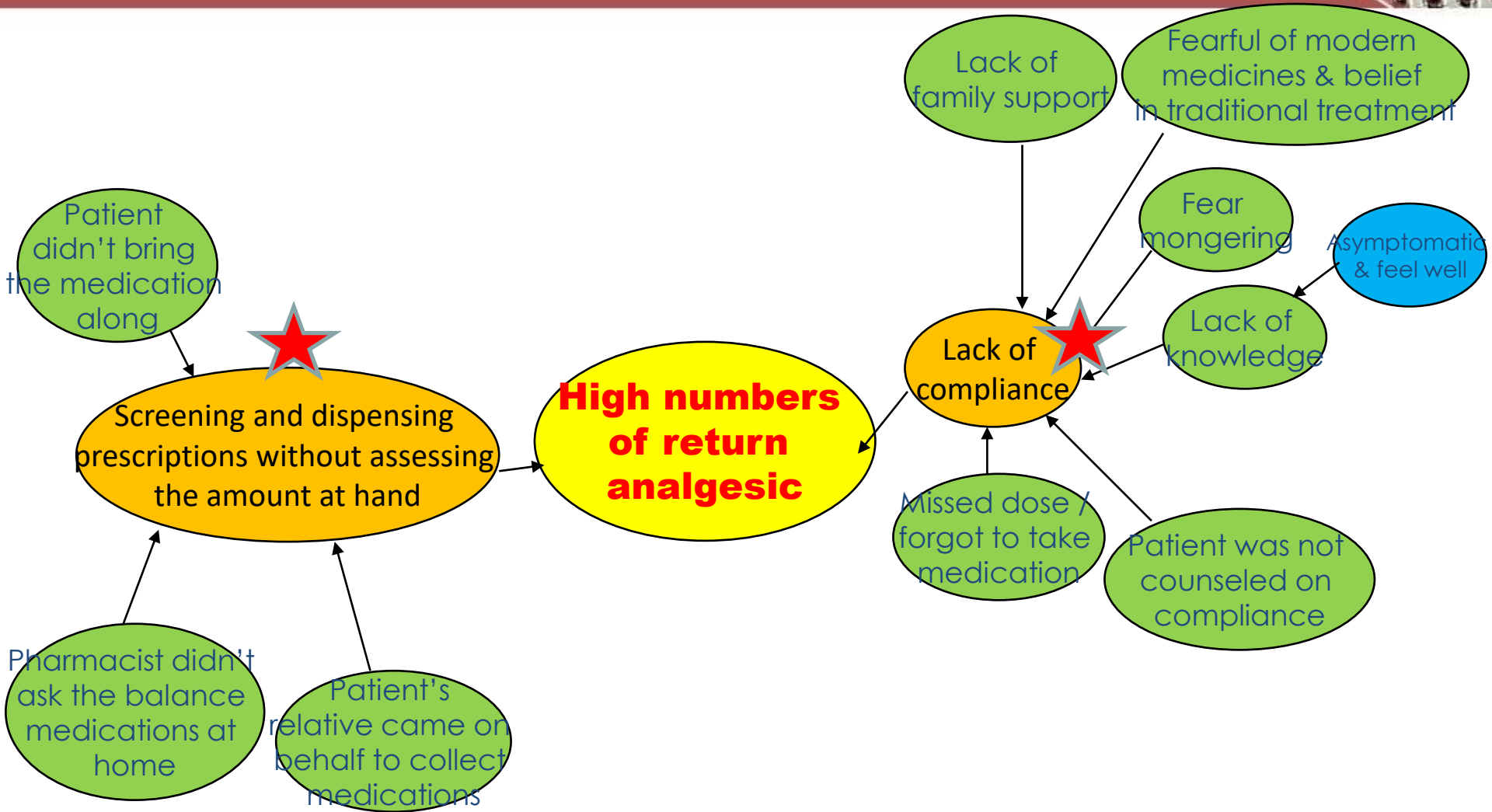


Total value of return medications in IKN (2018) was **RM52,487.27**

# CAUSE-EFFECT DIAGRAM



# CAUSE-EFFECT DIAGRAM



# STUDY OBJECTIVES



## General Objective

Reducing return analgesic medications in Outpatient Pharmacy Department of Institut Kanser Negara

## Specific Objectives:

1. To **determine the incidence** of return medications in Outpatient Pharmacy Department of Institut Kanser Negara
2. To identify the **contributing factors** of high return medications in Outpatient Pharmacy Department of Institut Kanser Negara
3. To formulate and **implement** proper remedial action
4. To evaluate the **effectiveness** of remedial action

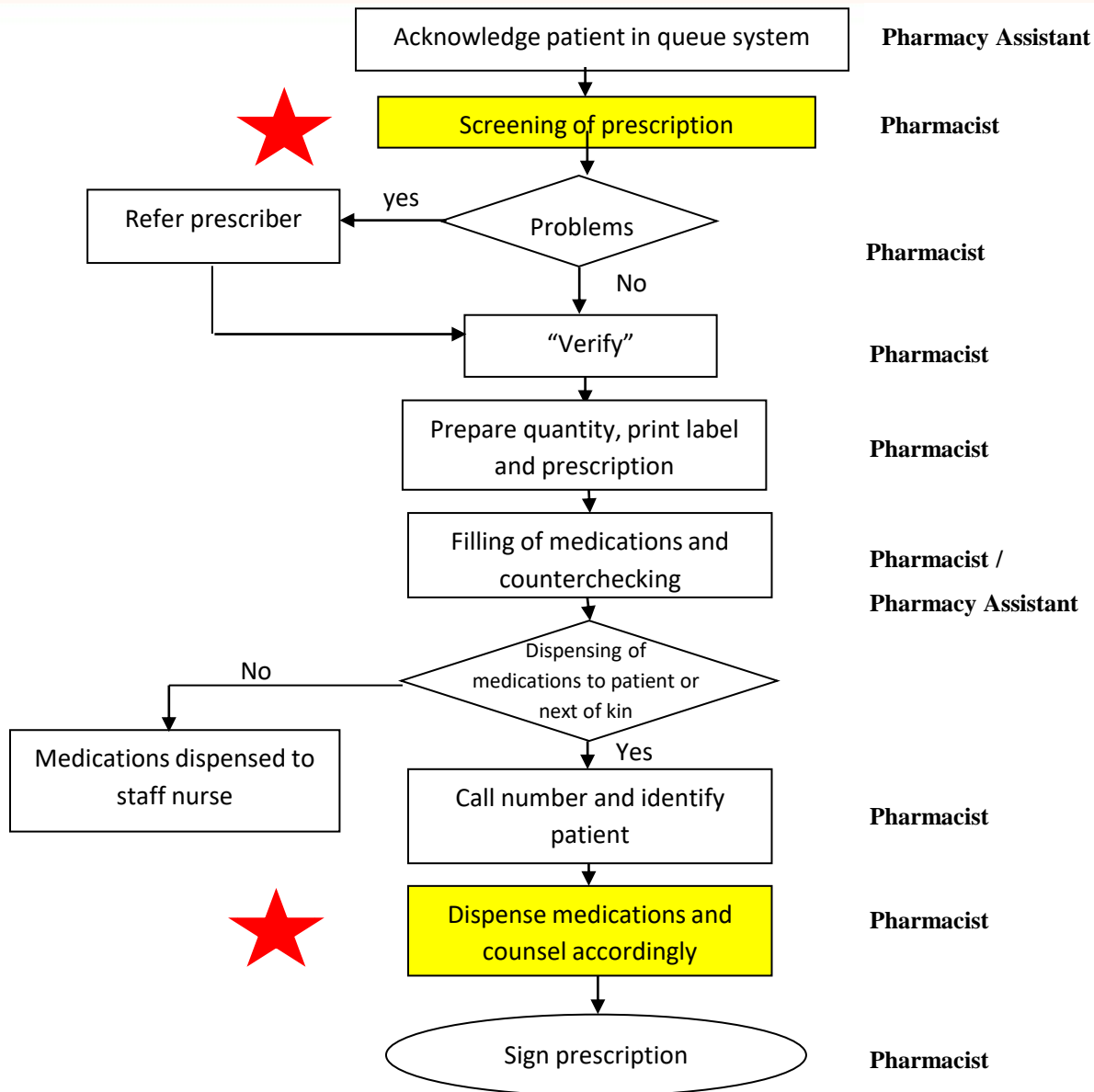


# **KEY MEASUREMENTS FOR IMPROVEMENT**





# PROCESS OF CARE



# MODEL OF GOOD CARE



Process	Criteria	Standard (Percentage)	Pre-remedial	Post-remedial	
				1 <sup>st</sup> Cycle	2 <sup>nd</sup> Cycle
Screening of prescription	<ul style="list-style-type: none"> <li>Screen for 5R by pharmacists:                             <ul style="list-style-type: none"> <li>a) Right patient</li> <li>b) Right drug</li> <li>c) Right dose</li> <li>d) Right route</li> <li>e) Right time</li> </ul> </li> </ul>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
	<ul style="list-style-type: none"> <li>Enquire regarding balance medication at home</li> </ul>	<b>100.00%</b>	<b>78.60%</b>	<b>85.70%</b>	<b>70.00%</b>
	<ul style="list-style-type: none"> <li>Check last supply of medications in EMR</li> </ul>	<b>100.00%</b>	<b>50.00%</b>	<b>78.60%</b>	<b>90.00%</b>
Dispense medications and counsel accordingly	<ul style="list-style-type: none"> <li>Advise patient to comply to medications</li> </ul>	<b>100%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
	<ul style="list-style-type: none"> <li>Reconfirm regarding balance medication at home</li> </ul>	<b>100%</b>	<b>71.40%</b>	<b>84.70%</b>	<b>90.00%</b>

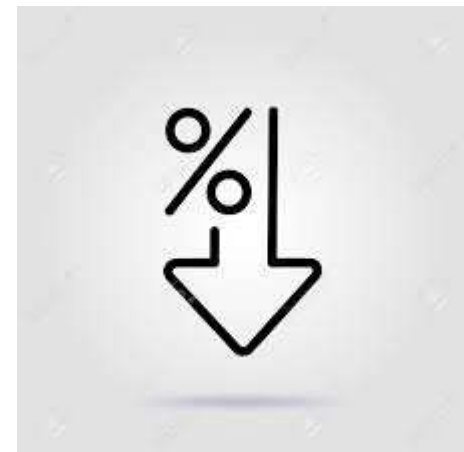
# INDICATOR AND STANDARD



<b>INDICATOR</b>	<b>Percentage of return analgesic</b>
<b>FORMULA</b>	$\frac{\text{Number of Analgesic return}}{\text{Total of Analgesic dispensed}} \times 100\%$
<b>STANDARD</b>	<b>30% reduction</b>

Over 1/3 of waste due to return medications to pharmacy can be prevented

*Bekker C. L. etal, International Journal of Clinical Pharmacy (2018) 40:704-711*





# **PROCESS OF GATHERING INFORMATION**



# METHODOLOGY



## Study Design

Prospective study

## Sampling Technique

Universal sampling

## Inclusion Criteria

Return analgesic received in Outpatient IKN

## Study Sample

Return analgesic by patient at Outpatient Pharmacy

## Data Collection Technique

“Borang maklumbalas pemulangan ubat”

## Exclusion Criteria

Non formulary, non analgesic return medications



# **DATA ANALYSIS & INTERPRETATION (VERIFICATION STUDY)**



# VERIFICATION PHASE





## Verification Study

To determine the **incidence of return analgesic** in Outpatient Pharmacy Department (OPD) of Institut Kanser Negara

To identify the **contributing factors** of high return medications in Outpatient Pharmacy Department of Institut Kanser Negara



A verification study was done in IKN from **01/01/2019** till **30/04/2019**



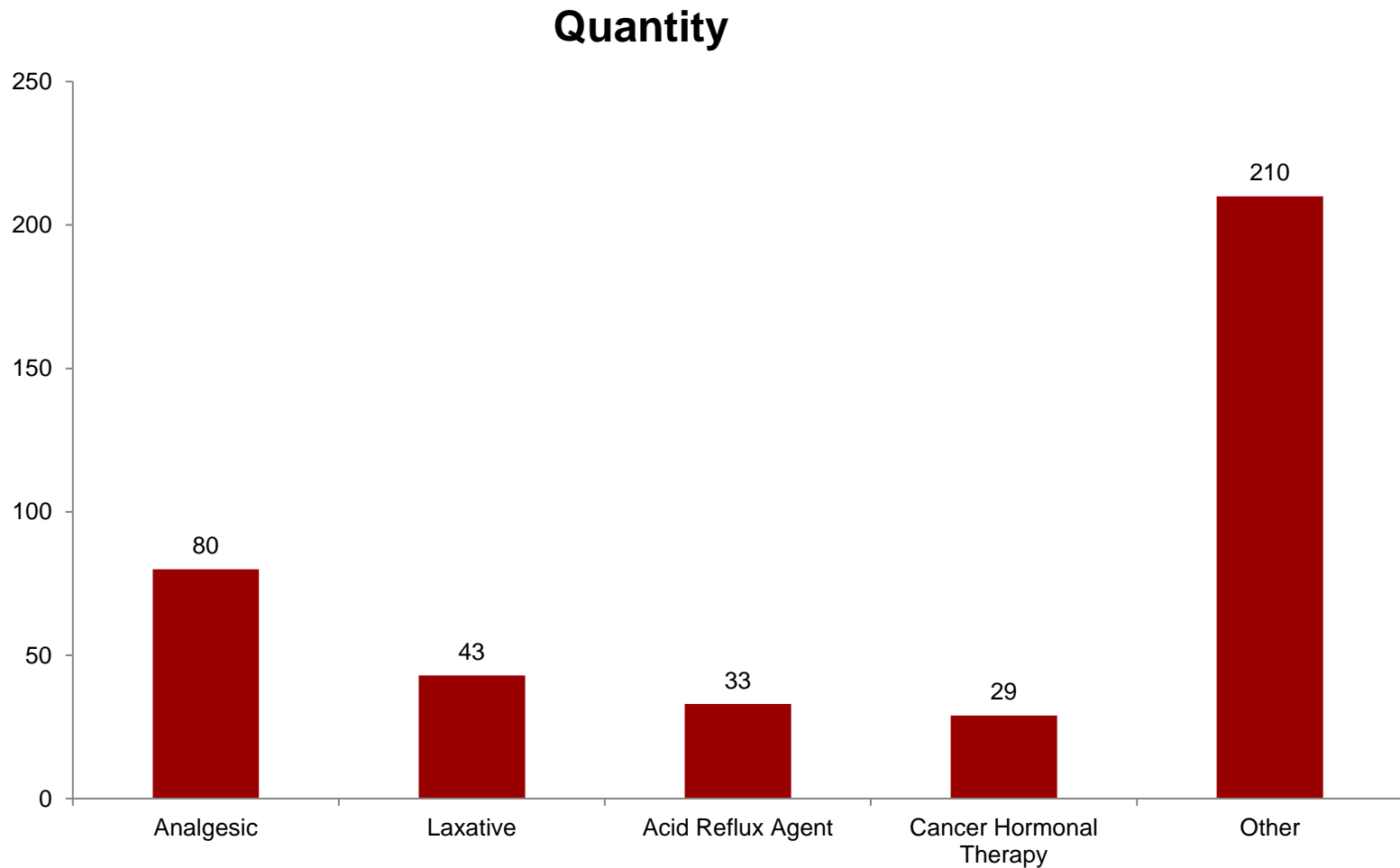
**61 patients** had return their medications during this periods



The values of those return medications was **RM27,630.09**



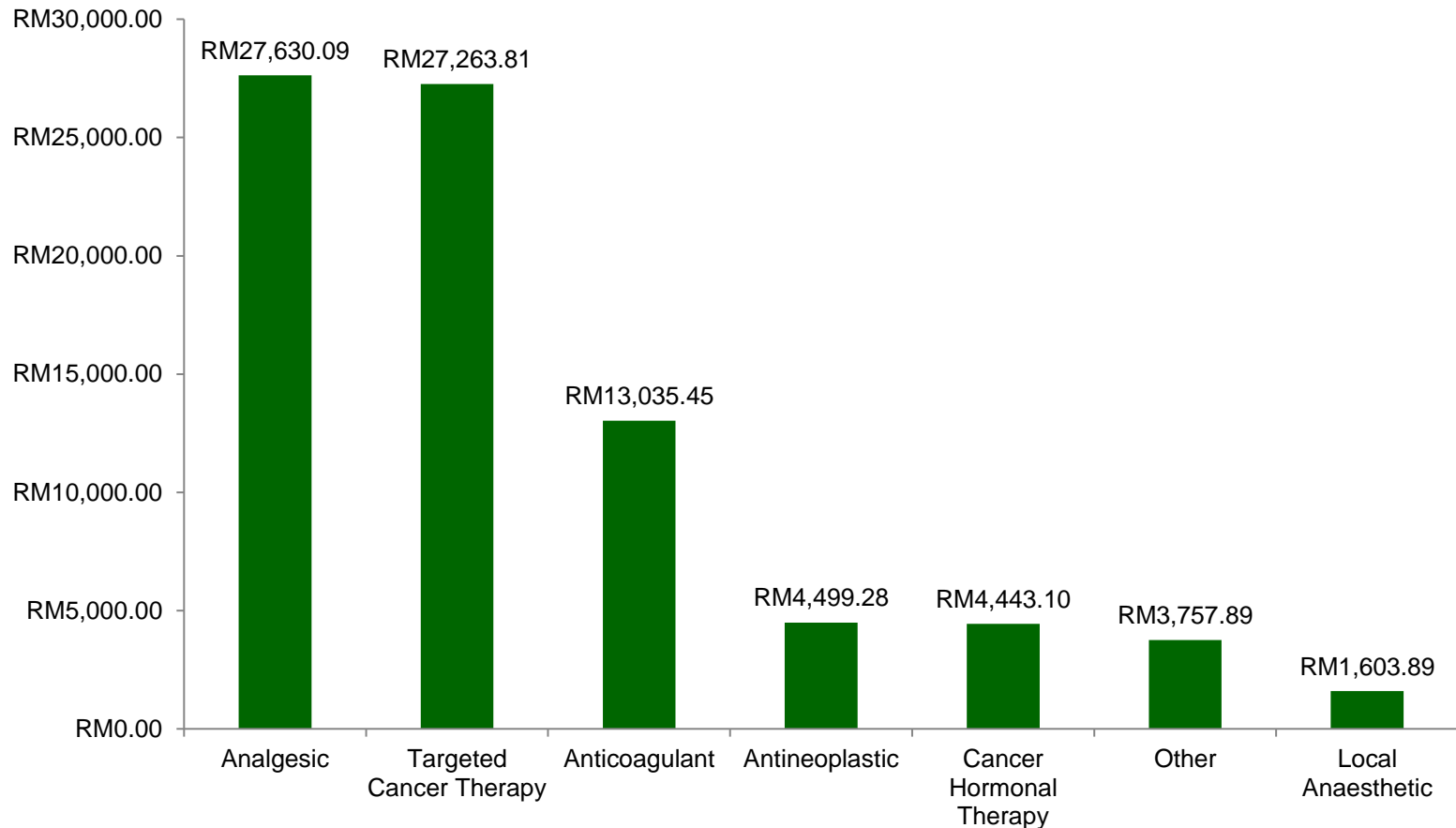
# PERCENTAGE OF MEDICATIONS RETURN (QUANTITY)



# PERCENTAGE OF MEDICATIONS RETURN (VALUES)



## Values



# REASONS FOR RETURN



Reasons	Percentage
Expired / extra stock / unused	60%
Change of treatment / stop medications	24%
Allergy / side effect	8%
Non compliance	4%
Deceased	2%
Others	2%

**WHY?**





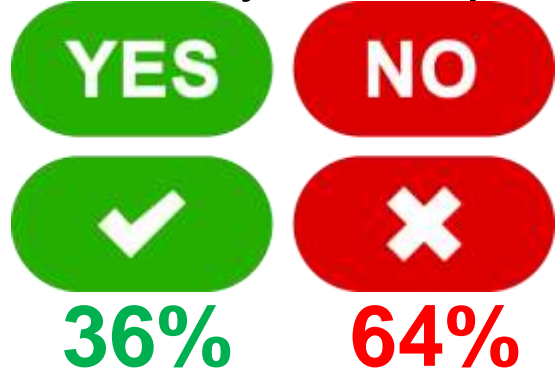
**DID YOU KNOW?**



...?



Return medications cant be reuse for another patient as we cant ascertain the quality and efficacy of the products



# INTERVENTION PHASE



An intervention phase was done in IKN from

**01/10/2019** till  
**31/01/2020**

To formulate and **implement** proper remedial action

# STRATEGY TO TACKLE THE ISSUES

## Creating awareness

- Replica of returned medications
- Flyers / Pamphlets
- Poster exhibition
- Active engagement of Pharmacists and Patients



## Medication reconciliation

- Counseling on medications upon dispensing



Every Time you Come For  
An Appointment,  
Remember to...

**BYOB**  
Bring Your  
Own Bottles

Accurate and  
Up-to-Date  
Recording of  
the Medications  
& Supplements  
You are Taking is Vital  
for Your Safe  
and Effective Care!

**GREATER**  
Medical  
&  
Surgical  
Services  
**NEBRASKA**

A SERVICE OF NEBRASKA STATE BOARD OF PHARMACY

# REPLICA OF RETURN MEDICATIONS



Work in progress



Bottle filled with return medications

# POSTERS EXHIBITION



**Do you know that medication wastage costs millions of ringgit annually?**

---

**HOW CAN YOU HELP?**

- Take a look at your medicines to see what you actually need
- Only collect the medicines you need
- Always bring your medicines with you to the hospital

**Play your part to reduce medication wastage now!**

PHARMACY DEPARTMENT  
NATIONAL CANCER INSTITUTE, PUTRAJAYA

Poster for display (English)



**Tahukah anda pembaziran ubat mencecah kos berjuta-juta ringgit setiap tahun?**

---

**BAGAIMANA ANDA BOLEH MEMBANTU?**

- Semak ubat yang anda perlukan bekalan
- Ambil ubat yang anda perlu sahaja dari kaunter farmasi
- Sentiasa bawa ubat anda semasa ke hospital

**Jom mainkan peranan untuk elakkan pembaziran ubat!**

JABATAN FARMASI  
INSTITUT KANSER NEGARA, PUTRAJAYA

Poster for display (Bahasa Malaysia)



# POSTERS EXHIBITION



**DID YOU KNOW?**

Setiap orang  
memainkan perannya  
mengurangkan pembaziran  
Apakah yang anda lakukan?

#Reducewastage  
#Elakkanpembaziran

*"If you are not part of the solution, consider that you may be part of the problem."*

Ambil ubat pada masa yang ditetapkan

Ambil ubat **KEPUNYAAN ANDA** sahaja

Pastikan yang anda ambil adalah

**DID YOU KNOW?**

Medicine unused is a waste of medicine waste  
Don't be a hoarder, keep your medicine

In 2017, Government has spent a total **RM 2.38 billion** for medicines which included painkillers, cancer treatments

Don't keep medications "just in case"

Set a time every month to check your stock of existing medications

Collect medications only when you need them

Adapted from: Malaysian Statistics on Medicines, 2011-2012 Pharmacy Programme Annual Report 2013

**UNUSED MEDICATIONS are a WASTE OF RESOURCES and a RISK TO OUR ENVIRONMENT**

*What is the impact of unused medications?*

To **PEOPLE / ANIMALS**:  
Health hazard from accidental ingestion

To the **ECONOMY**:  
Waste of public resources


To our **PLANET**:  
Global warming and contaminated water

# INFORMATION FLIPBOOK



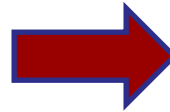
Tahukah anda berapa jumlah ubat yang dipulang kerana tidak digunakan?

Do you know how much value of the unused medicines that were returned?



Buka muka surat seterusnya untuk jawapan

Flip me to know the answer




RM 133,473.43  
(Jan – Apr 2019)



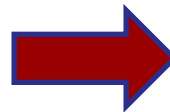
Adakah ubat yang dipulangkan akan digunakan semula untuk pesakit yang lain?

Does the returned medicines will be use for another patients?




Buka muka surat seterusnya untuk jawapan

Flip me to know the answer

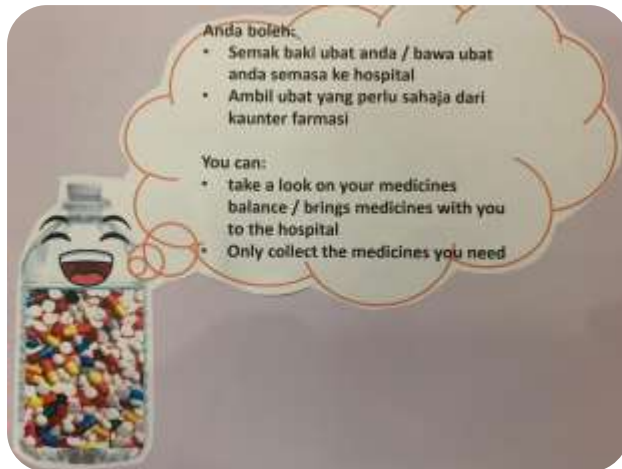
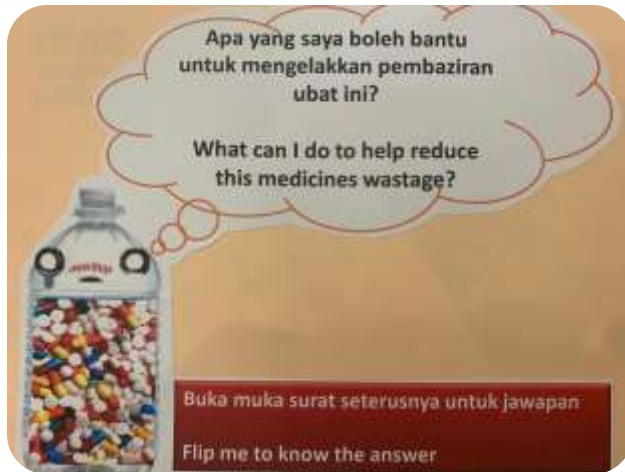


**TIDAK**, Ubat yang dipulangkan akan dilupuskan kerana keselamatan ubat tidak dapat dijamin

**NO**, Returned medicines will be dispose as the integrity of the medications cant be guaranteed



# EXHIBITION DISPLAY

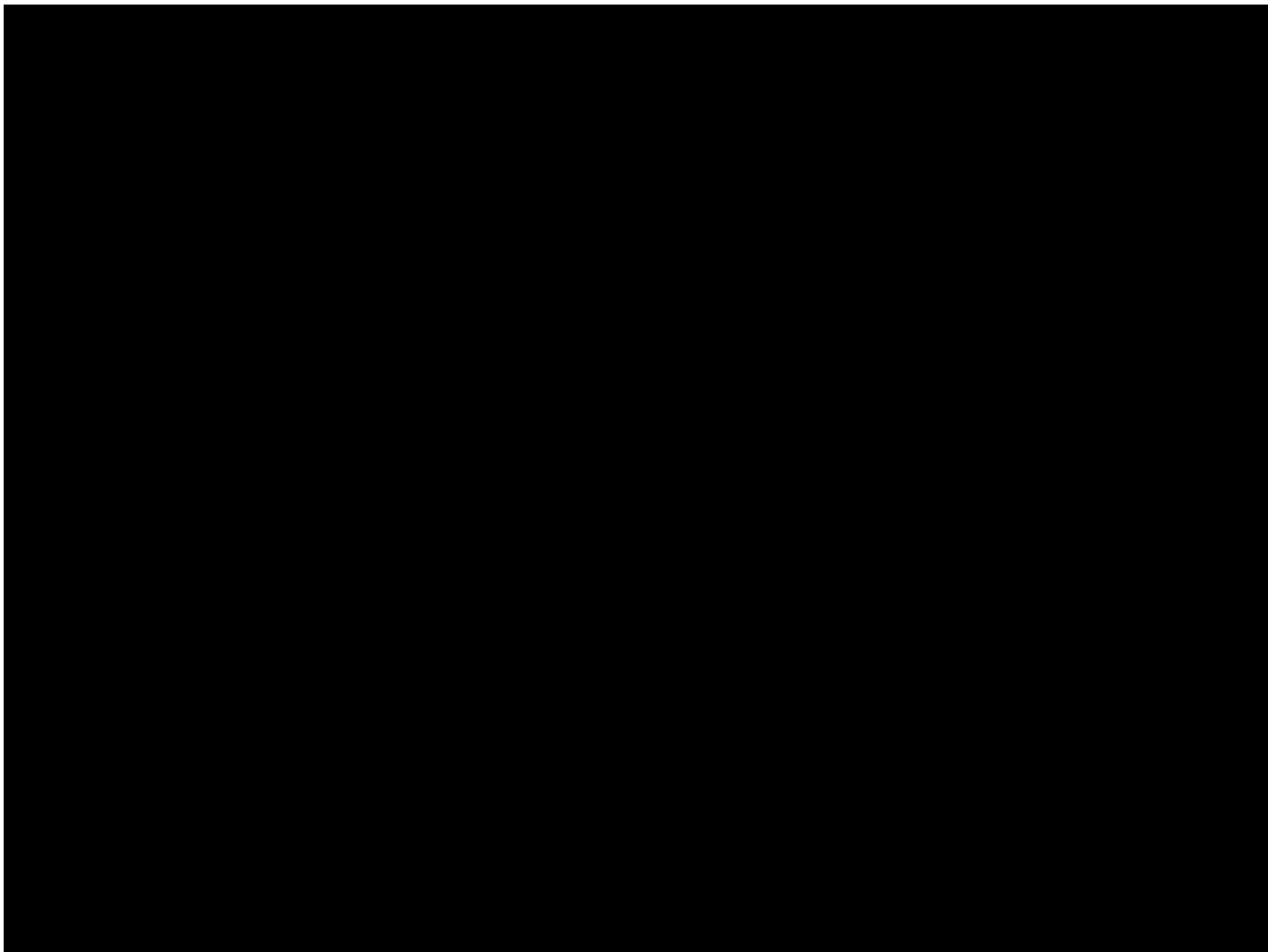


Information Flipbook



Final Exhibition Display

# INFORMATION FLIPBOOK



# ENGAGEMENT SESSION WITH AUDIENCE



Exhibition Display 2.0



Pledge board



Actively engaging with target audience



# PARTICIPATION IN “SAMBUTAN HARI KANSER SEDUNIA IKN”



# COUNSELING CHECKLIST FOR PHARMACISTS



Medications reconciliation

# EVALUATION PHASE



An evaluation phase was done in IKN from **01/02/2020** till **31/05/2020**

To evaluate the **effectiveness** of remedial action



# DATA ANALYSIS



**RM 27,503.37**

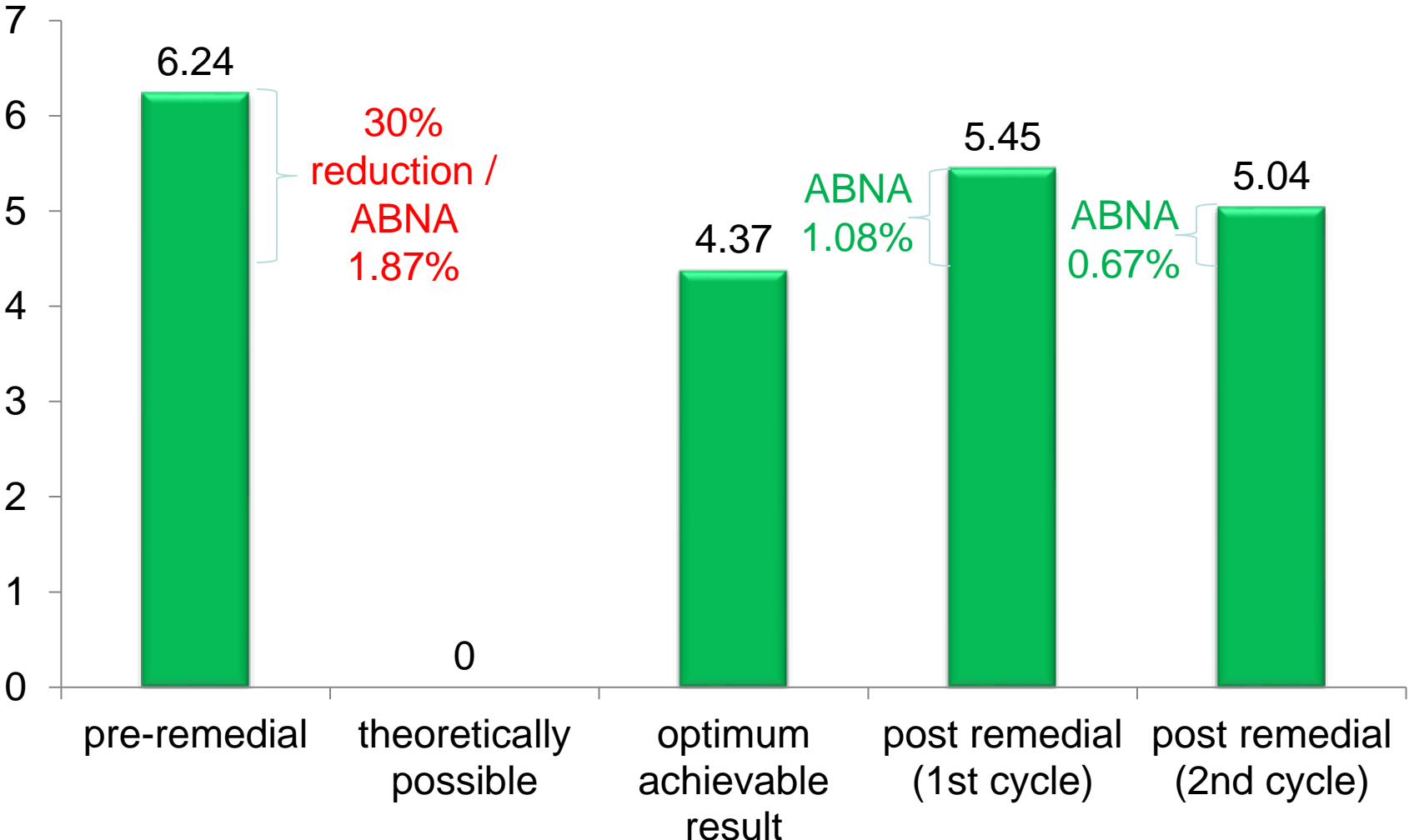


**RM 21,559.48**



**↓ 21%**

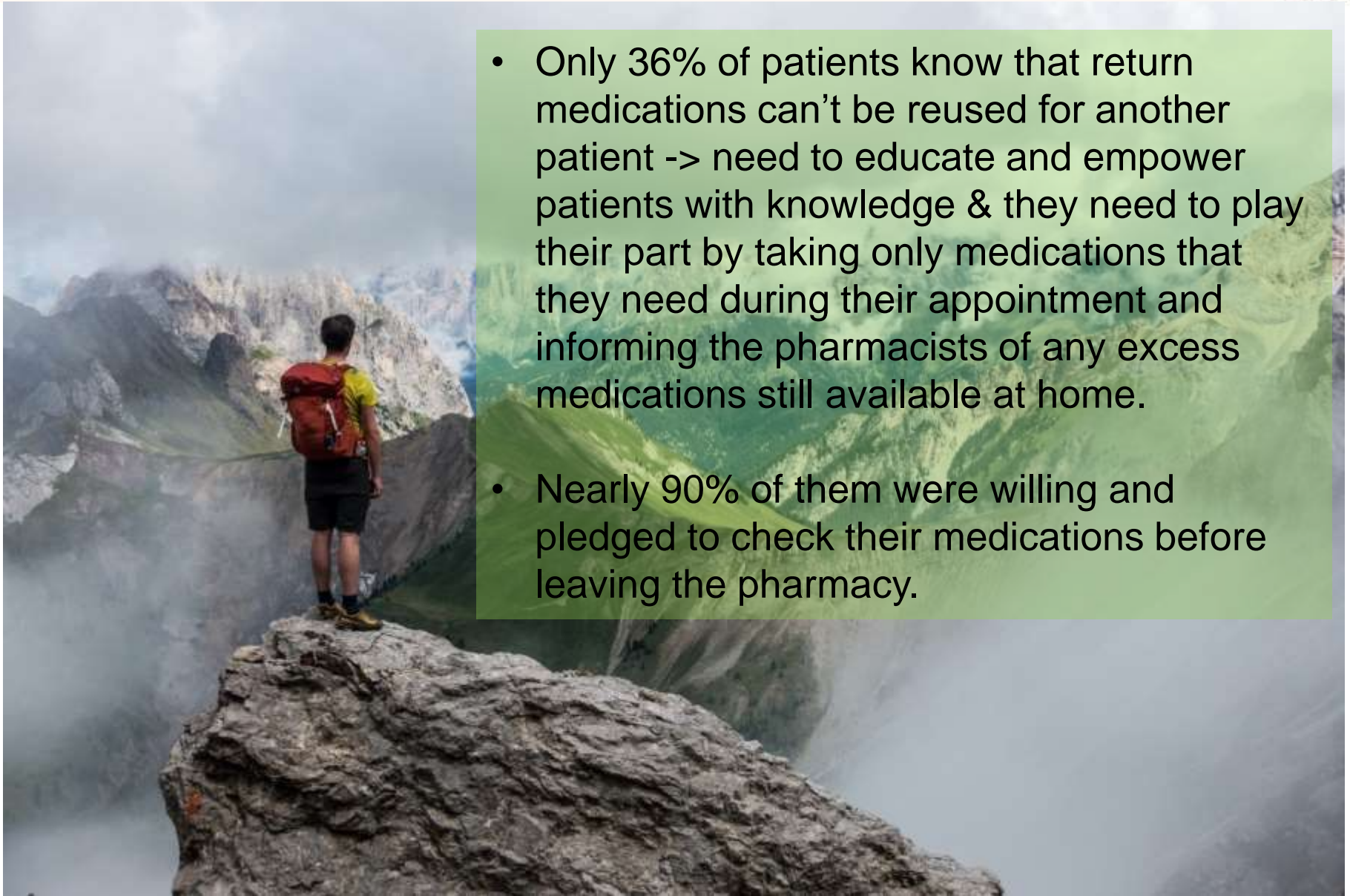
# DATA ANALYSIS



# LESSONS LEARNED



- Only 36% of patients know that return medications can't be reused for another patient -> need to educate and empower patients with knowledge & they need to play their part by taking only medications that they need during their appointment and informing the pharmacists of any excess medications still available at home.
- Nearly 90% of them were willing and pledged to check their medications before leaving the pharmacy.



# CONCLUSION AND NEXT STEPS



This study managed to reduce 21% of the returned analgesic medications in OPD of IKN. Although earlier target of 30% reduction was not achieved, more out of the box solutions can be used to complement the conventional solutions to achieve it.

- This study can be done in other healthcare facilities that face the same issue of returned medications. This study also can be done for other groups of medications and not limited to analgesic medications.



# CONCLUSION AND NEXT STEPS



- In four months post-remedial study, we managed to save RM5,943.89 from the reduction of returned analgesic medications or in average RM17,831.67 in a year's time. From this saving, we can increase the available funding for other medications expenditure.

# REFERENCES



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2. Program Perkhidmatan Farmasi [Internet]. 1999 [cited 20 July 2021]. Available from: <https://www.pharmacy.gov.my/v2/ms>
3. 'Medication Programme' aims to cut waste at govt hospitals [Internet]. 2011 [cited 20 July 2021]. Available from: <https://www.thestar.com.my/news/nation/2011/08/14/medication-programme-aims-to-cut-waste-at-govt-hospitals/#2pxlibgdvfkGYCFW.99>
4. Ministry destroys RM2mil worth of expired meds [Internet]. 2016 [cited 20 July 2021]. Available from: <https://www.thestar.com.my/news/nation/2016/12/27/ministry-destroys-rm2mil-worth-of-expired-meds/#F1o66EM6M1WgJE6r.99>
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6. Lim MT. Disposal practices of unused and unwanted medications among patients in a tertiary hospital. Education in Medicine Journal. 2016;8(3):49–59. <http://dx.doi.org/10.5959/eimj.v8i3.453>
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*Thank You*

