

# REDUCING NEAR-MISS MEDICATION FILLING ERROR IN HEALTH CLINICS IN FEDERAL TERRITORY OF KUALA LUMPUR & PUTRAJAYA HEALTH DEPARTMENT (JKWP&P)



JABATAN KESIHATAN WP KUALA LUMPUR DAN PUTRAJAYA

PP-22

Min Wei C<sup>1</sup>, Ahmad Faiz MR<sup>2</sup>, Norsyazana AH<sup>3</sup>, Siti Juwahir J<sup>4</sup>, Nurul Najwa MI<sup>5</sup>, Jia Xin N<sup>6</sup>, Revathy K<sup>7</sup>, Segeran<sup>2</sup>, Norfarhana M, Nor Sohailla AJ<sup>8</sup>, Nazirah Z<sup>8</sup>, Maisarah A<sup>9</sup>

<sup>1</sup>Pharmacy Department, Hospital Rehabilitasi Cheras  
<sup>2</sup>Pharmacy Services Division, Federal Territory of Kuala Lumpur & Putrajaya Health Department  
<sup>3</sup>Pharmacy Department, Putrajaya Presint 9 Health Clinic, Kuala Lumpur  
<sup>4</sup>Pharmacy Department, Bandar Tun Razak Health Clinic, Kuala Lumpur  
<sup>5</sup>Pharmacy Department, Tanglin Health Clinic, Kuala Lumpur  
<sup>6</sup>Pharmacy Department, Setapak Health Clinic, Kuala Lumpur  
<sup>7</sup>Pharmacy Department, Jinjang Health Clinic, Kuala Lumpur  
<sup>8</sup>Titiwangsa Health Office, Federal Territory of Kuala Lumpur & Putrajaya Health Department  
<sup>9</sup>Pharmacy Department, Putrajaya Hospital

## 1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

### 1.1 Problem Prioritization

No	Problem	S	M	A	R	T	Score
1	Increase percentage of medication return by patients	25	24	34	21	27	131
2	Increasing number of uncollected medication through VAS.	36	31	36	22	20	145
3	Long waiting time for patients to collect medications	44	42	42	38	42	208
4	Increase number of medication filling error in health clinics	50	45	42	42	46	225
5	Lack of awareness in reporting medication error	33	40	36	33	35	177

SCORE	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree

Score : 1 – 5 Group members : 10

### 1.2 Justification

- S** Near-miss medication errors had been increasing from 538 reports in 2019 to 1,791 reports in 2021 (332.9%) in healthcare facilities under JKWP&P.
- M** Out of 1,721 medication errors, 42% was contributed by medication filling.
- A** Incidences of filling error is captured during counter checking process and reported in statistics, therefore easily measurable
- R** Medication error contributed by erroneous filling will lead to treatment failure, increase cost of treatment, increase morbidity and mortality rate<sup>1</sup>
- T** Remedial action can be implemented in the pharmacy using available resources
- Remedial actions can be carried out within the allocated time of 2 years

### 1.3 Introduction / Literature Review

- In a study conducted in Norway, only 7% were correctly filled among 192 of prescription charted; 14% had errors that could have led to serious harm and 79% had errors that posed minor potential health risks<sup>2</sup>.
- 'Look-alike, sound-alike' (LASA) medicines are associated with dispensing errors. Environmental factors contributing to such errors, include distractions during dispensing; workflow controls should minimize the 'human factors' element of errors<sup>3</sup>.
- Factors identified contributing to medication filling error including unsystematic medication arrangement, LASA and not adhering to good practices.
- Human factors reported are emotional stress, lack of motivation due to poor staff supporting system, high workload and ineffective communication among staffs<sup>4</sup>.

### 1.4 Terms And Definition

Term	Definition
<b>Filling Error</b>	Medication error either actual or near miss resulted from the process of filling and labelling of the medication. The process of filling includes choosing the right medication, the right strength, in correct quantity and appropriate expiry to cover the duration of the supply. The process of labelling includes writing manual labels and pasting on the correct medicine.
<b>Actual Error</b>	Medication error occurred and reached the patient. (Guideline On Medication Error Reporting System, Second Edition, 2019)
<b>Near-miss error</b>	Medication error that has the potential to cause an adverse event (patient harm) but did not reach the patient because of chance or because it is intercepted in the medication use process. (Guideline On Medication Error Reporting System, Second Edition, 2019)
<b>PhIS</b>	Pharmacy Information System.
<b>Transcribing</b>	Process of data transferring from manual prescription into PhIS in order to generate the label and for data mining purposes.
<b>Centralize Quality Dispensing Control (CQDC)</b>	A counter-checking system whereby the prepared medicine are counter-checked before they are handed over to the dispensing counters. (Manual For QAP Indicators 2021, Pharmaceutical Service Programme)

### 1.5 Problem Analysis



### 1.6 Objectives

#### General Objective

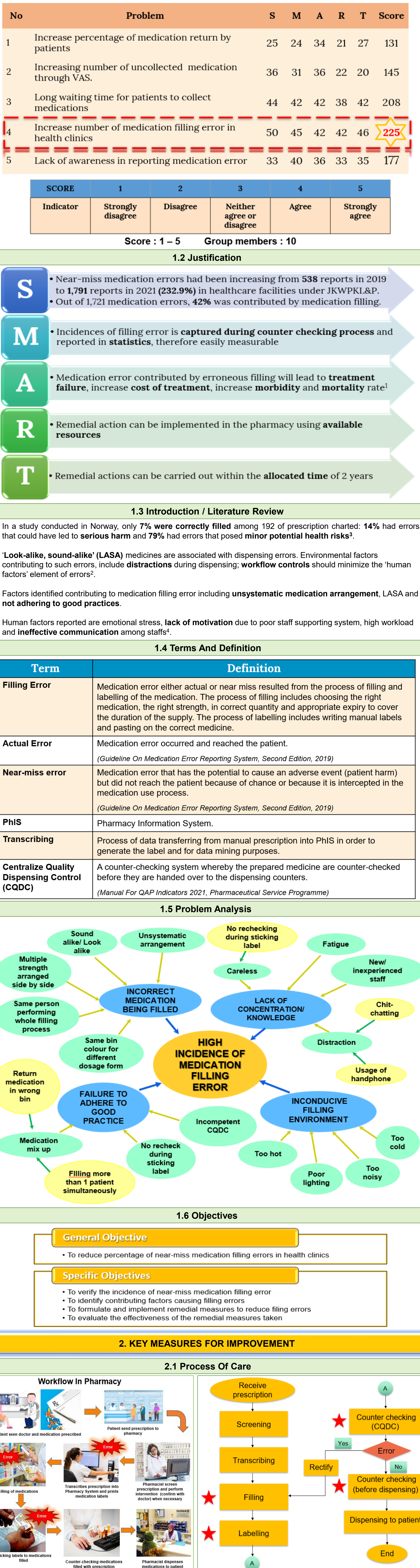
- To reduce percentage of near-miss medication filling errors in health clinics

#### Specific Objectives

- To verify the incidence of near-miss medication filling error
- To identify contributing factors causing filling errors
- To formulate and implement remedial measures to reduce filing errors
- To evaluate the effectiveness of the remedial measures taken

## 2. KEY MEASURES FOR IMPROVEMENT

### 2.1 Process Of Care



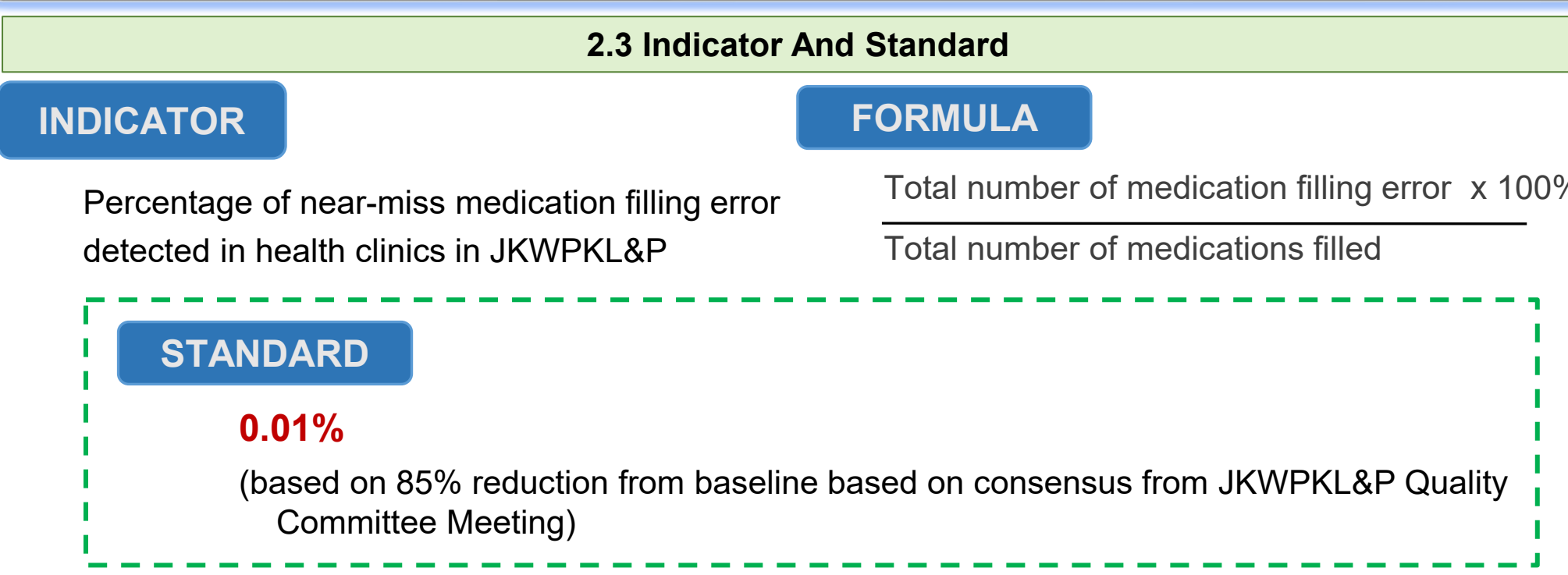
### 9. ACKNOWLEDGEMENT

We would like to thank the Deputy State Director of Health (Pharmacy), Pharmacy Services Division of Kuala Lumpur & Putrajaya Health Department for supporting this project. Gratitude to district health pharmacists and all pharmacy personnels in health clinics for their commitment, support and involvement.

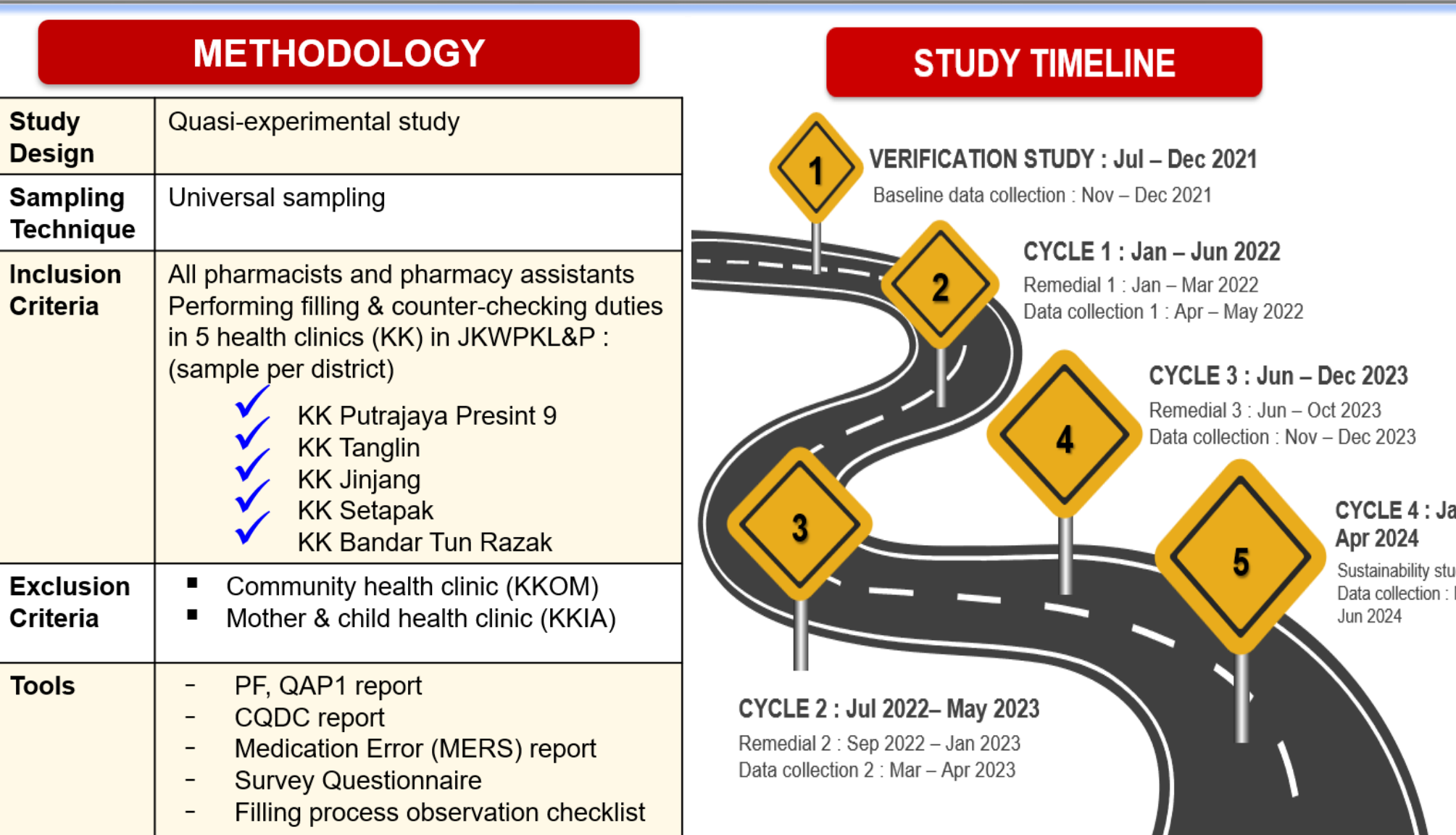
### 10. REFERENCES

- Samsiah, A., Othman, N., Jamshed, S., Hassali, M. A. & Wan-Mohama, W. N. (2016). Medication errors reported to the National Medication Error Reporting System in Malaysia: a 4-year retrospective review (2009 to 2012). Eur J Clin Pharmacol. DOI: 10.1007/s00228-016-2126-x
- Emmett, L. M. et al. Look-alike and sound-alike medicines: risks and solutions. Int J Clin Pharm 2012; 34:4-8
- Tisdak, N. L. Erroneous and unsatisfactory filling in drug charts – a potential source of medication error. 2004 Sep 9;124 (17): 2259-60.
- Rahim, F. A. et al. Categorizing and understanding medication errors in hospital pharmacy in relation to human factors. Saudi Pharmaceutical Journal 28 (2020) 1674–1685

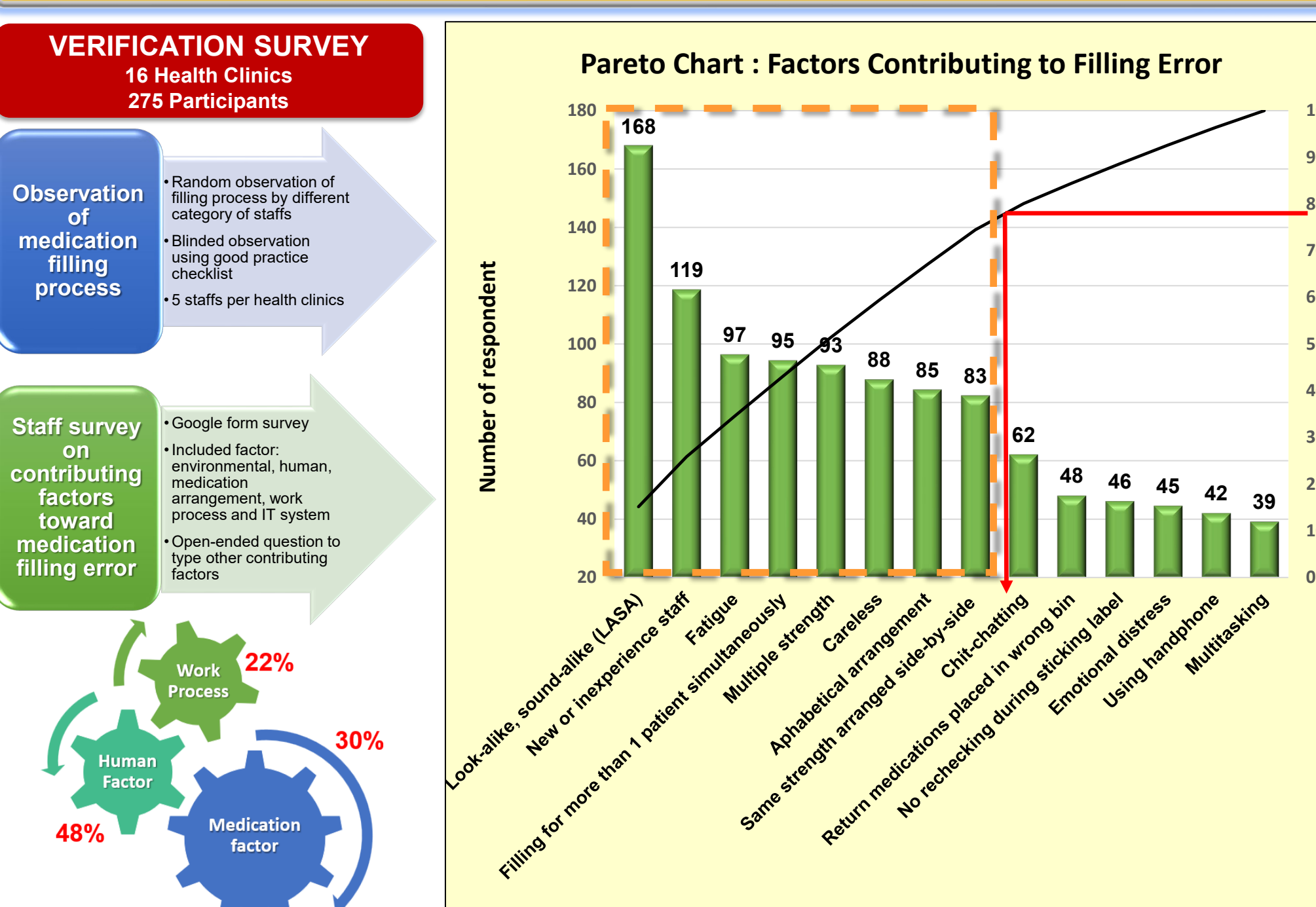
## 2.3 Indicator And Standard



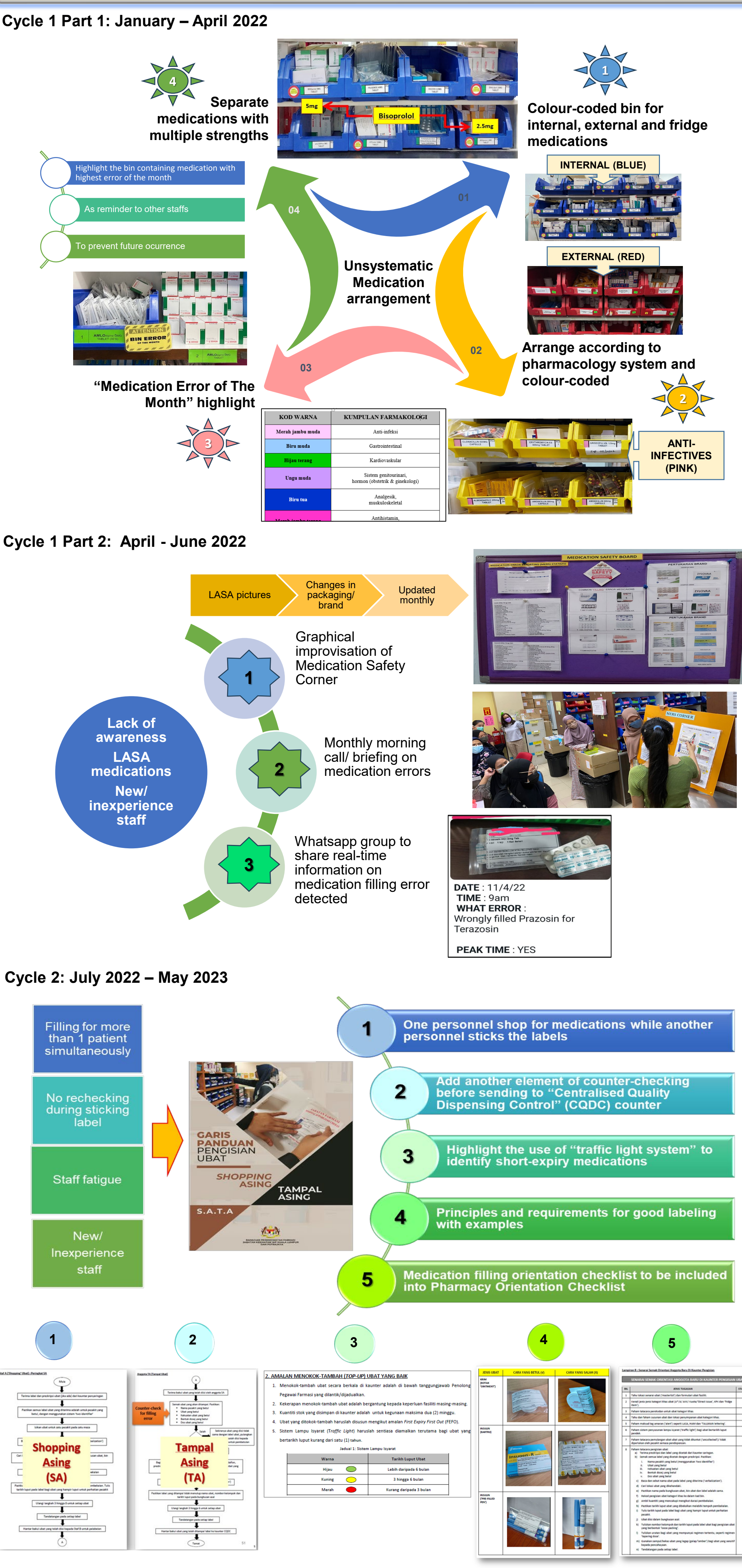
## 3. PROCESS OF GATHERING INFORMATION



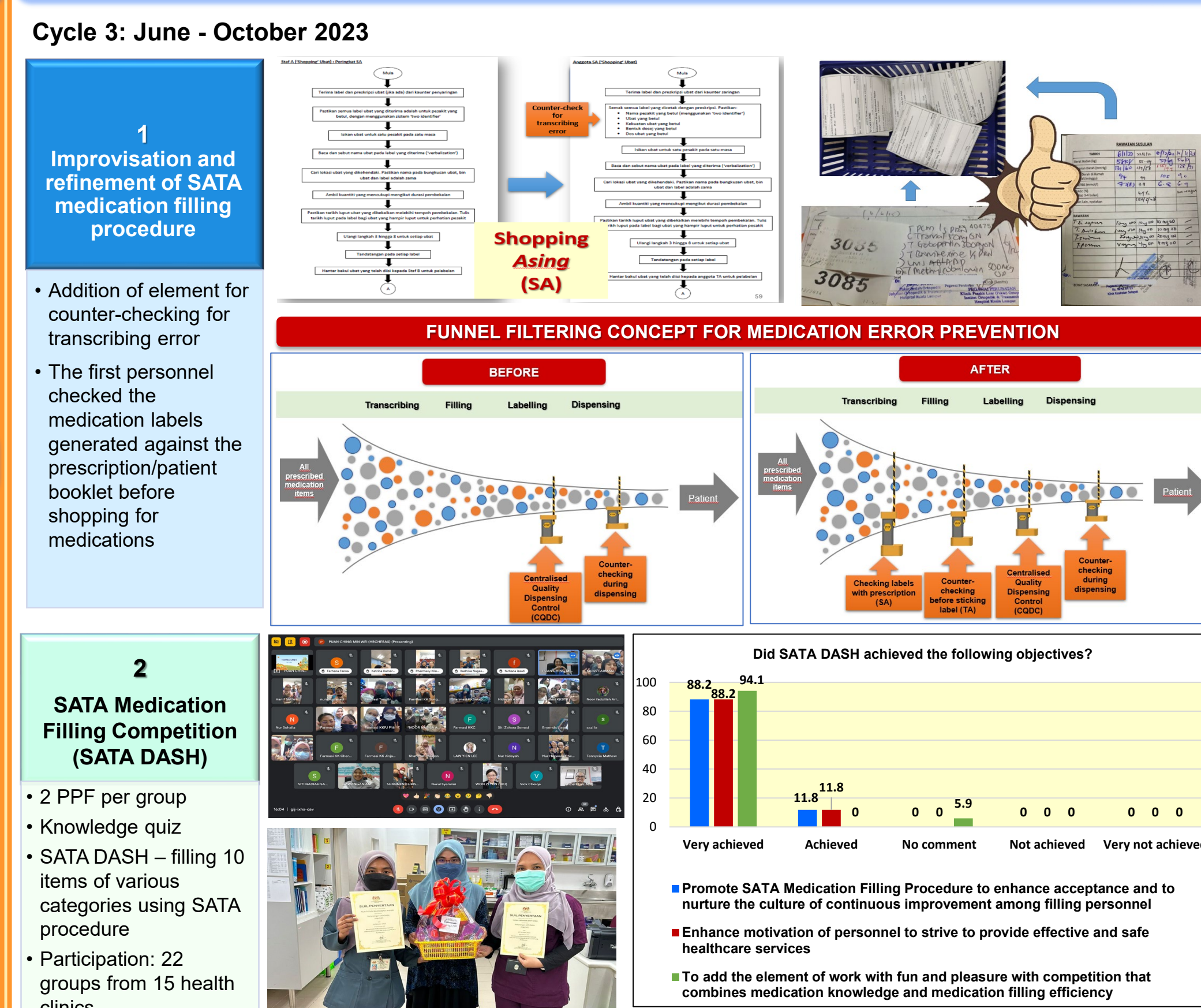
## 4. ANALYSIS AND INTERPRETATION



## 5. STRATEGIES FOR CHANGE



## 5. STRATEGIES FOR CHANGE

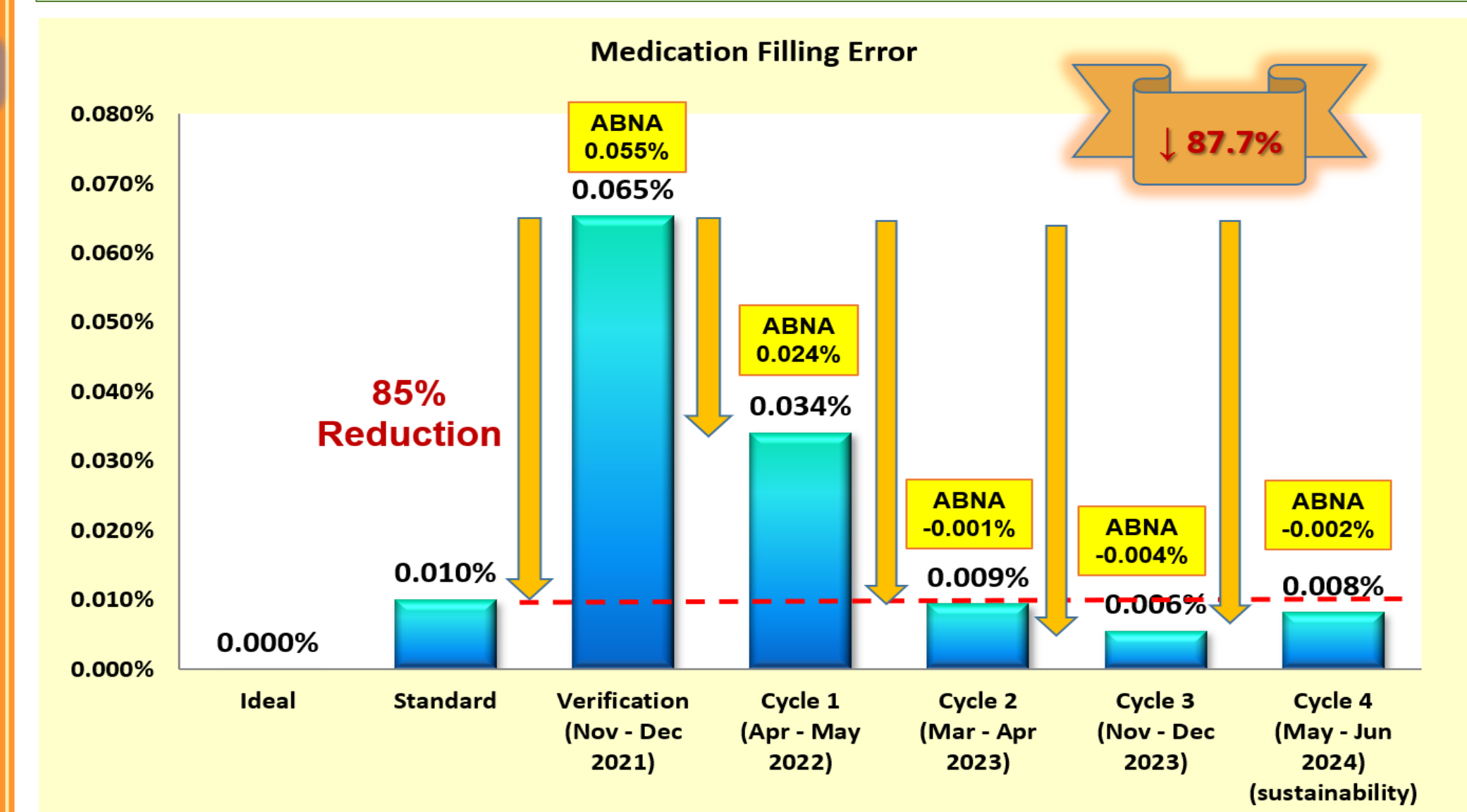


## 6. EFFECTS OF CHANGE

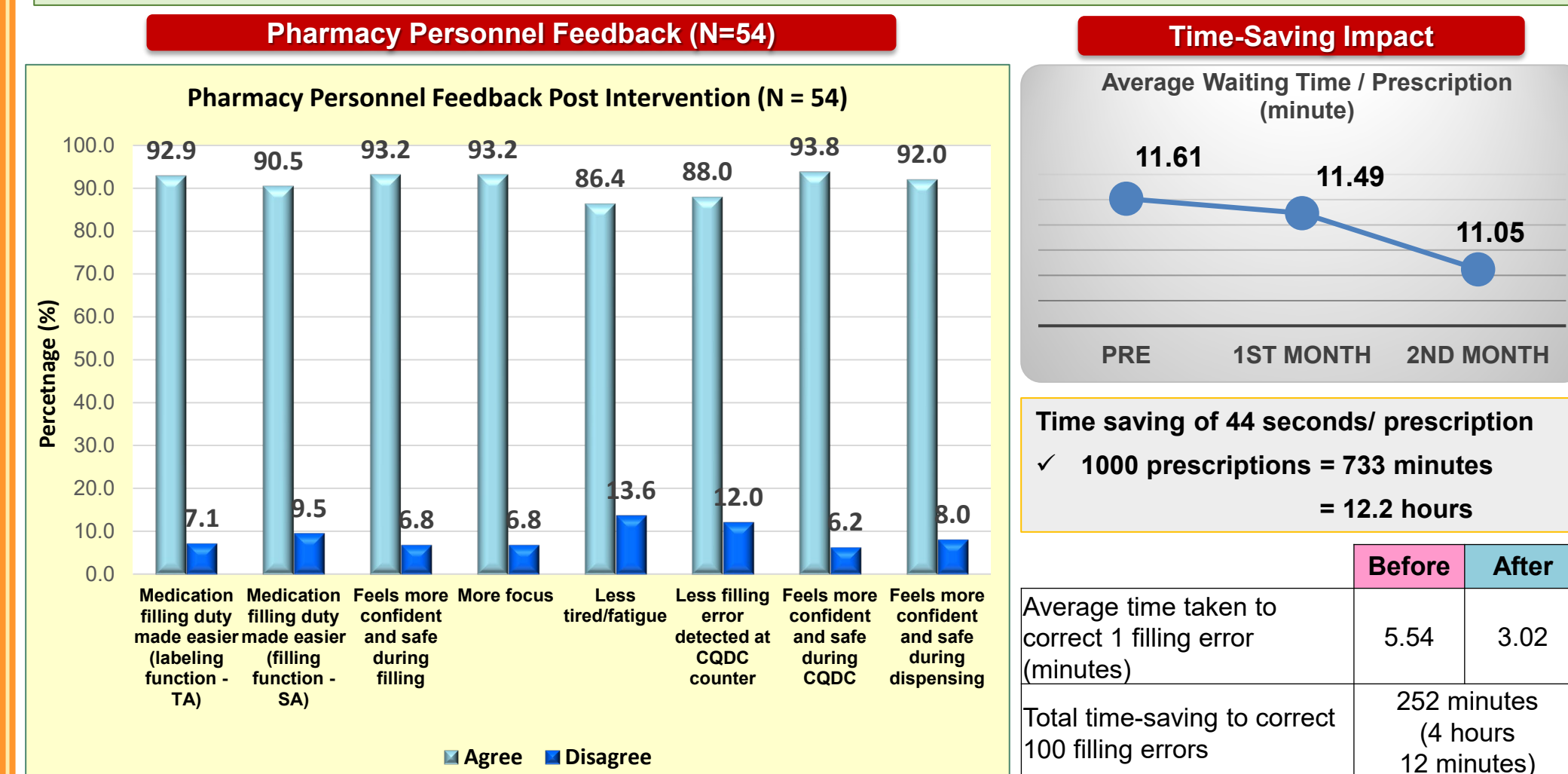
**6.1 Conformity To Model Of Good Care**

No	Processes	Criteria	Standard	Verification	Cycle 1	Cycle 2	Cycle 3	Cycle 4
1	Filling	a) Ensure correct medication taken: right medication, right strength, right dosage form	100%	100%	100%	100%	100%	100%
2	Labelling	a) Read label twice before sticking on medication, b) Stick label individually, one patient at a time, c) Ensure the label does not cover the name of medication, d) Cross checking label against medication again before sending for CQDC	100%	100%	100%	100%	100%	100%
3	Counter-checking (CQDC)	Ensure correct medication filled and labelled: right patient, right medication, right strength, right dosage form, right quantity, right expiry	100%	100%	100%	100%	100%	100%
4	Dispensing to patient	Ensure correct medication being dispensed: right patient, right medication, right strength, right dosage form	100%	100%	100%	100%	100%	100%

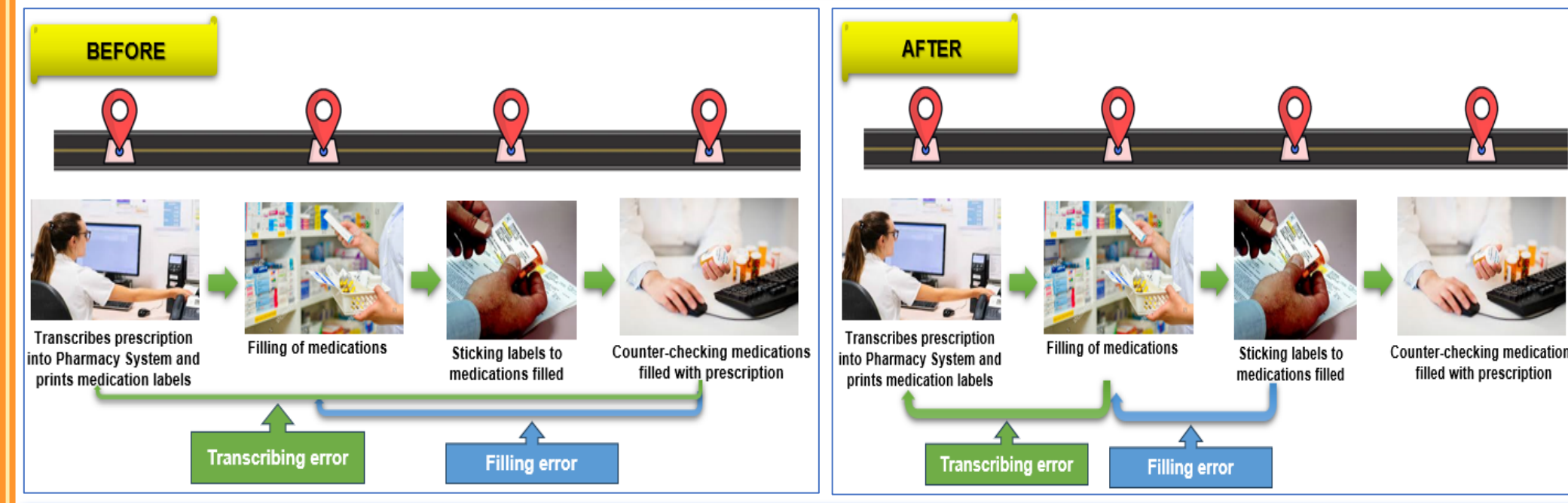
### 6.2 Achievable Benefit Not Achieved (ABNA)



### 6.3. OTHER IMPACTS OF THE PROJECT



### Time-Saving Mechanism



## 7. LESSONS LEARNT

- Effective communication with staffs from different health clinics
- Feedback mechanisms from staffs from health clinics
- Support and commitment from top management and team members
- Motivation to staffs to promote enjoyable working experience

## 8. THE NEXT STEP

