



INTRODUCTION

E-appointment system for walk-in patients plays an important role for crowd control in Klinik Kesihatan. Low usage of e-appointment system among walk-in patients leads to unpredictable waiting time and eventually causing poor satisfaction among patients and health care workers¹.

1 SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

1.1 PROBLEM PRIORITIZATION

No	PROBLEMS	S	M	A	R	T	TOTAL
1.	Low usage of e-appointment system among walk-in patients to Klinik Kesihatan	31	24	29	24	26	134
2.	Poor public awareness about clinic appointment system (BookDoc App)	15	15	20	15	15	80
3.	Increase number of patients during peak operational clinic hours post covid pandemic	24	20	25	15	15	99
4.	Lack of secondary triaging system at Klinik Kesihatan	27	15	25	20	22	109
5.	Ineffective patients' record management at Klinik Kesihatan (OPD cards)	20	22	27	20	18	107

Voting – according to 'SMART' Criteria Number of group members- 11 Rating scale: 1= low, 2= medium, 3= high

1.2 LITERATURE REVIEW

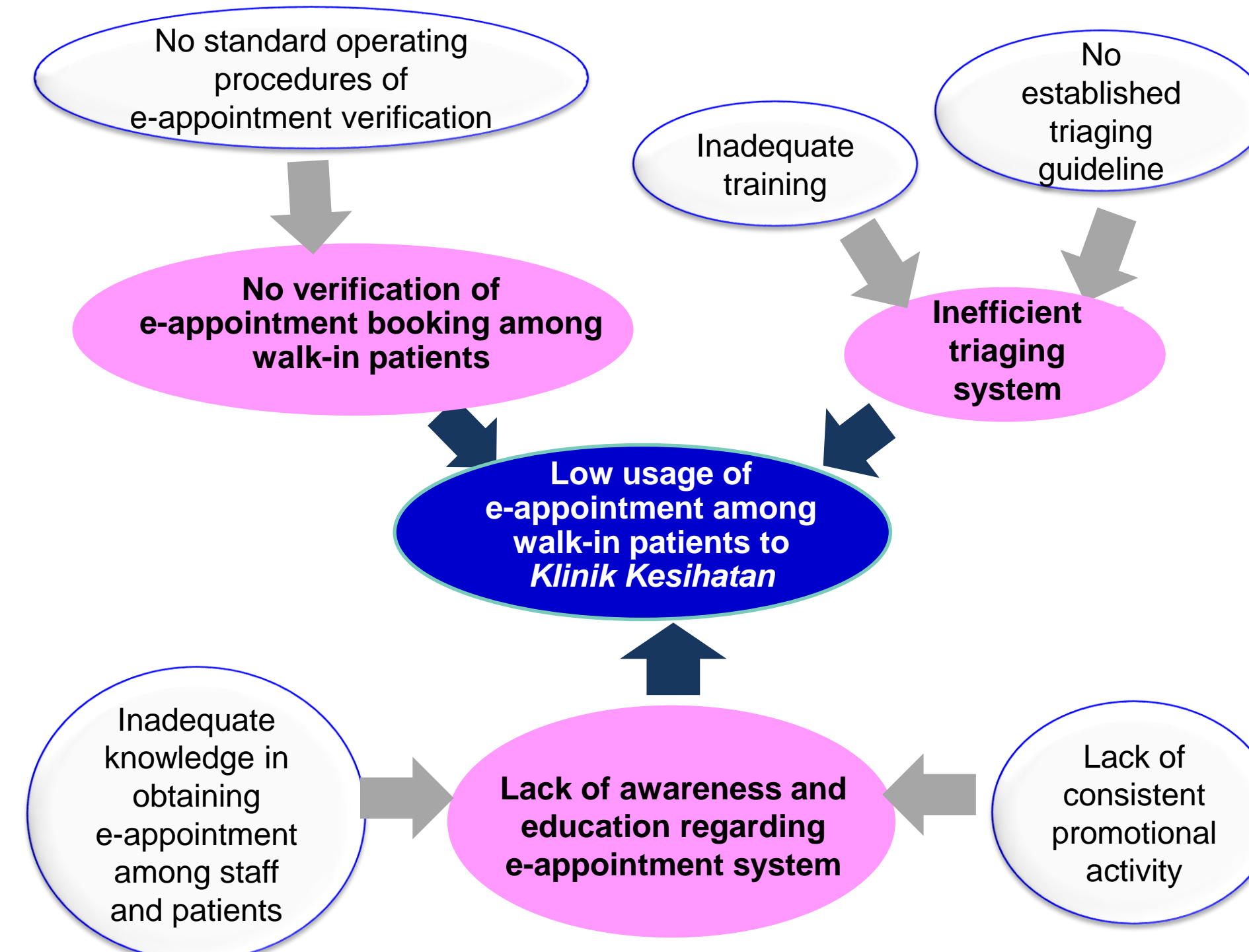
- Walk-in patients to Klinik Kesihatan in Penang Island accounted for about 22.2% of daily clinic attendance. More than 90% of walk-in patients attended Klinik Kesihatan without making an e-appointment⁶.
- Implementing web-based medical scheduling systems reduce no-show rate and waiting time for patients. It streamlined work operation and improved efficiency¹.

1.3 PROBLEM STATEMENT

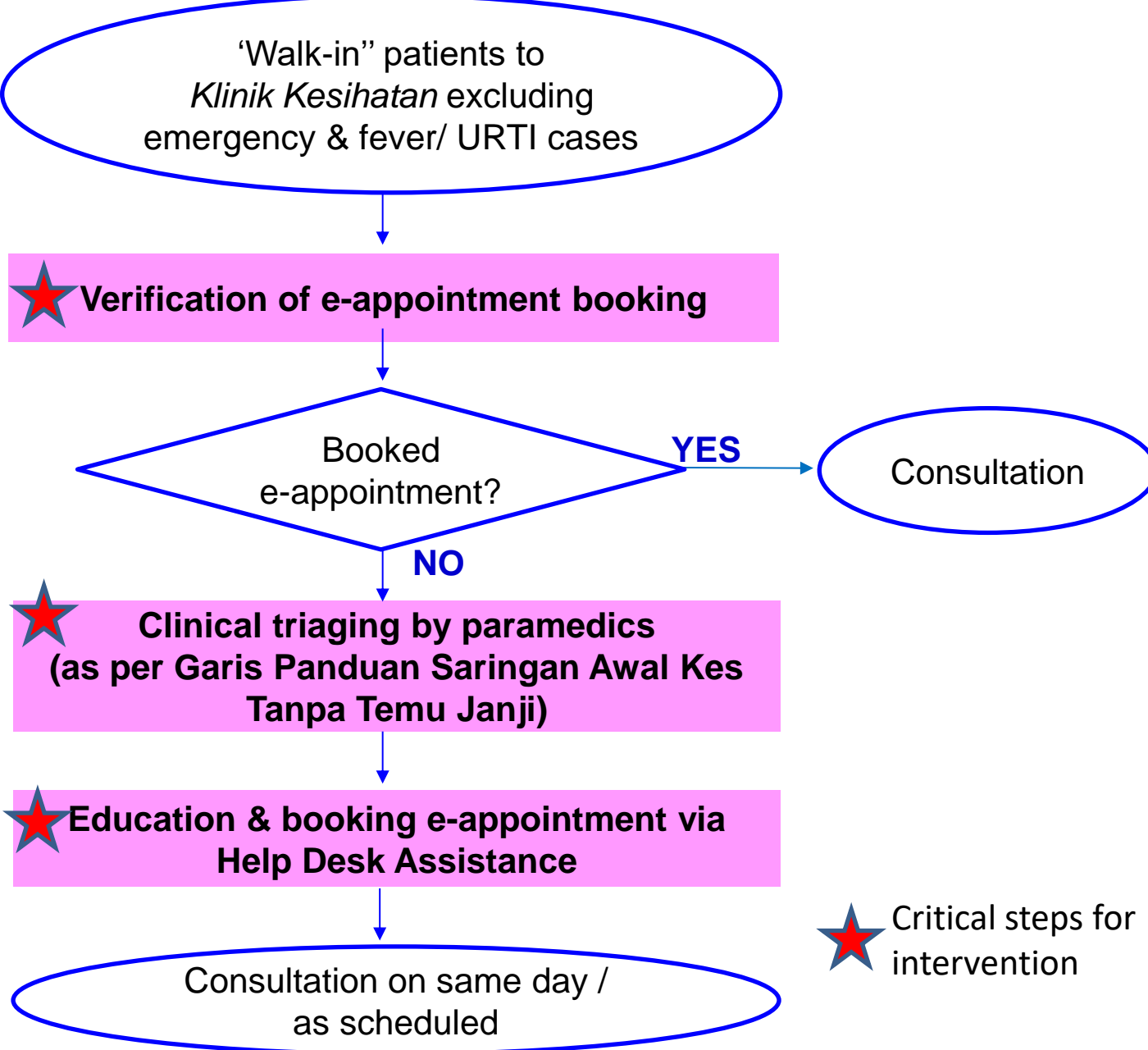
- The underutilization of the e-appointment system by walk-in patients leads to clinic overcrowding and unpredictable wait times, ultimately causing dissatisfaction among both patients and healthcare workers.
- We hope to increase the usage of e-appointment system among walk-in patients to Klinik Kesihatan.

2 KEY MEASUREMENT FOR IMPROVEMENT

2.1 PROBLEM ANALYSIS CHART



2.2 PROCESS OF CARE



2.3 OBJECTIVES

- GENERAL OBJECTIVE**
To increase the usage of e-appointment among walk-in patients to Klinik Kesihatan
- SPECIFIC OBJECTIVES**
- To verify the percentage of walk-in patients with e-appointment to Klinik Kesihatan
 - To identify the contributing factors of low percentage of walk-in patients with e-appointment to Klinik Kesihatan
 - To implement appropriate remedial measures
 - To evaluate the effectiveness of remedial measures

2.4 INDICATOR

Percentage of walk-in patients with e-appointment to Klinik Kesihatan = $\frac{\text{Number of walk-in patients presenting with e-appointment}}{\text{Total number of walk in patients}} \times 100\%$

STANDARD >50%*
*Group consensus based on average of 21% e-appointment user¹ and 75% of MySejahtera user²

2.5 MODEL OF GOOD CARE

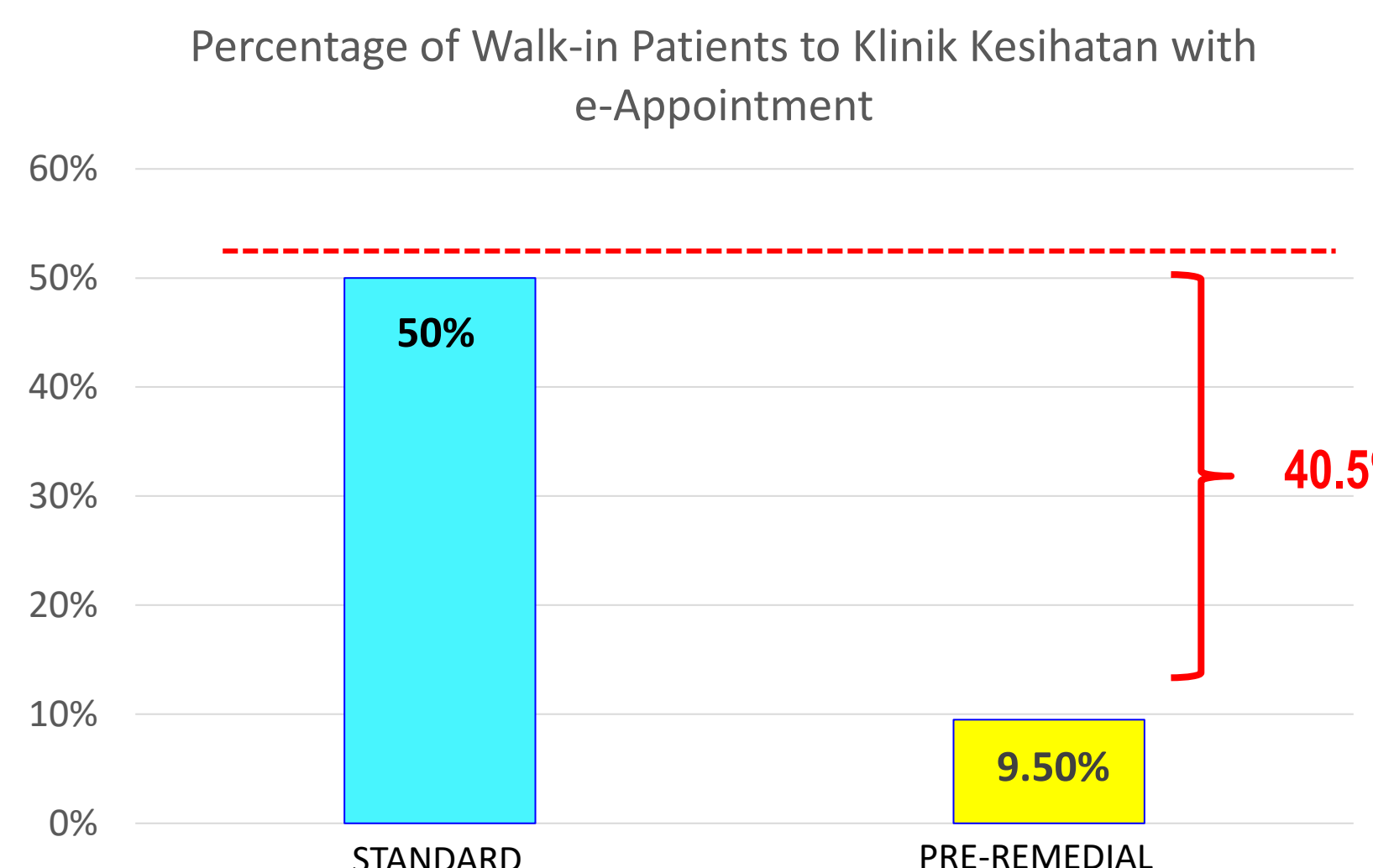
Critical Step	Criteria	Standard	Pre remedial	Result (Phase 1)	Result (Phase 2)
1	Verification of e-appointment booking	100%	0%	100%↑	100%↑
2	Clinical triaging PRIMARY TRIAGE: • To triage all walk-in patients for appointment according to clinical urgency • To ensure all triaging is documented SECONDARY TRIAGE: • To do further assessment for patients with Category 2* or Category 3* symptoms using Secondary Triaging Clerking form	100%	0%	0%	100%↑
3	Education & booking e-appointment • Staff at Help Desk to assist walk-in patients without e-appointment • To ensure all walk-in patients have e-appointment booking done or reserved clinical slots • To improve knowledge of healthcare workers using knowledge assessment questionnaire	100%	0%	94%↑	100%↑
		Mean score 80%	0%	0%	Pre: 50% Post: 83.6%↑

3 PROCESS OF GATHERING INFORMATION

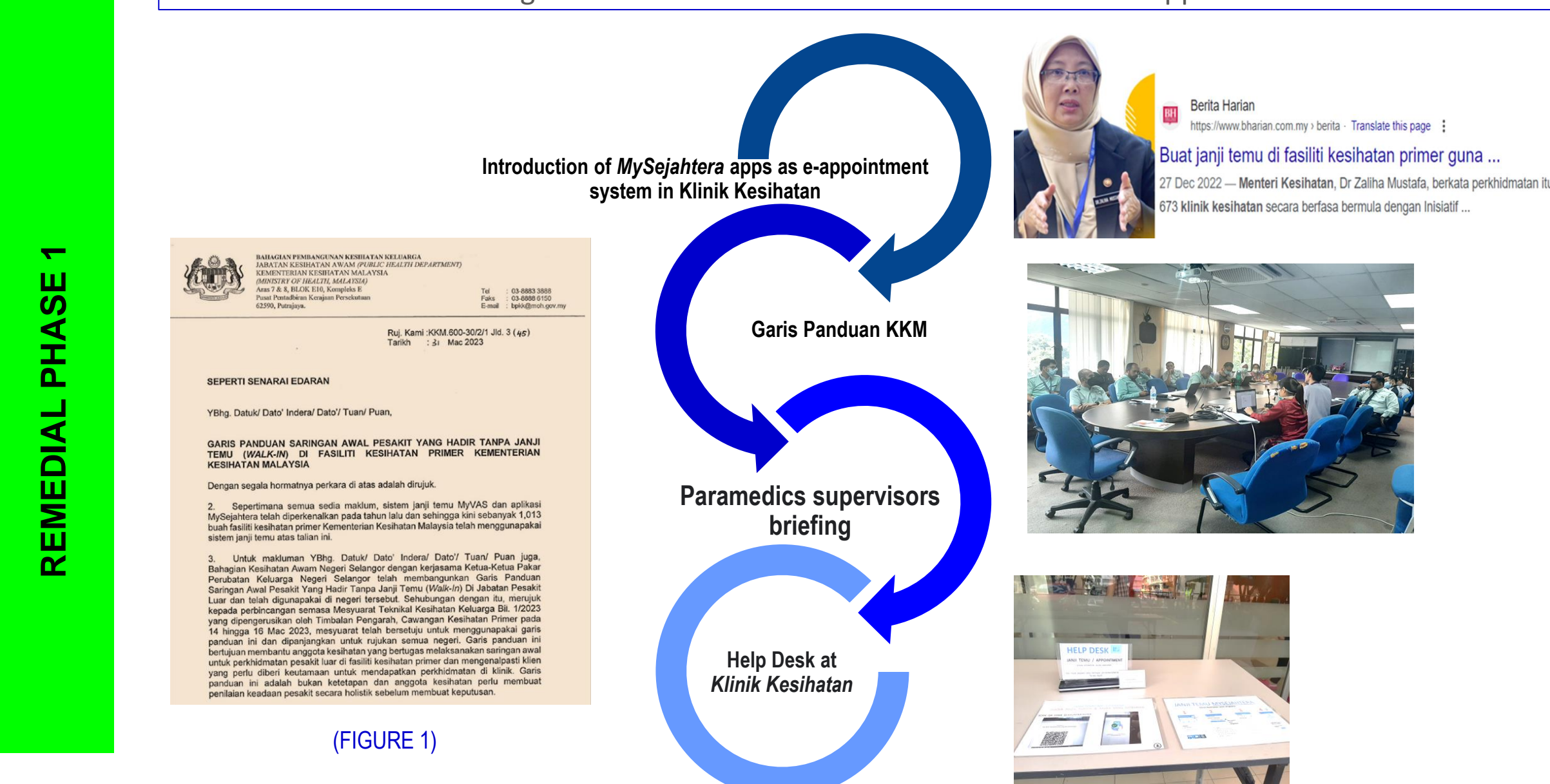
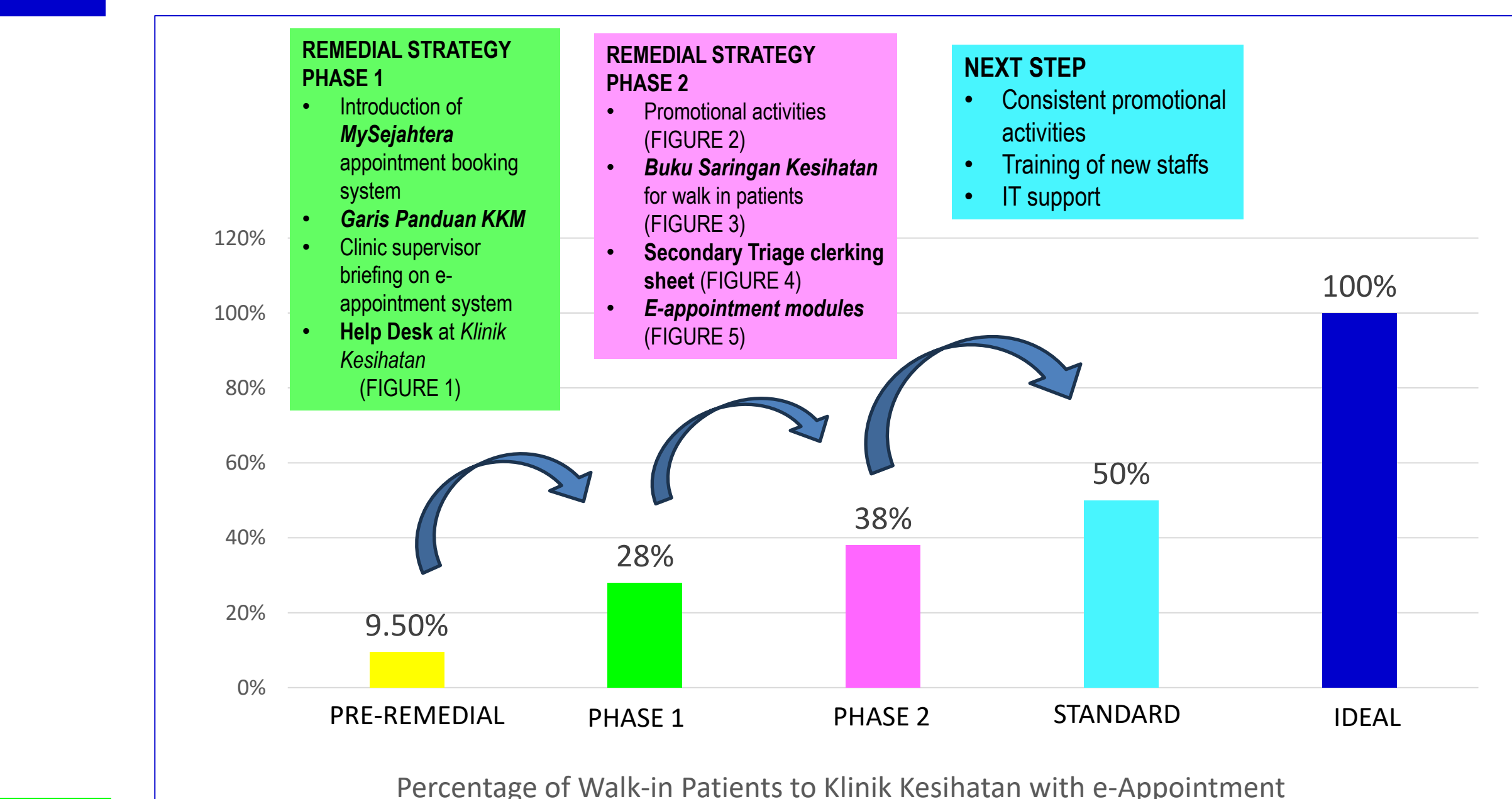
Type of study	Cross sectional study
Study period	<ul style="list-style-type: none"> Pre-remedial phase (1 Oct 2022 – 14 November 2022) Remedial Phase 1 Post remedial Phase 1 (7 – 20 June 2023) Remedial Phase 2 Post remedial Phase 2 (12 – 25 January 2024)
Study population	All patients walk-in to Klinik Kesihatan
Sampling technique	Universal sampling
Inclusion Criteria	All walk-in outpatients to 10 Klinik Kesihatan in Penang Island (Timur Laut & Barat Daya districts)
Exclusion Criteria	<ul style="list-style-type: none"> Emergency or urgent cases Fever and URTI cases
Sampling Tools	<ul style="list-style-type: none"> Patient registration record system Questionnaires (2 sets – patients with e-appointment & patients without e-appointment) Knowledge assessment questionnaires (pre and post modules training for clinic staff)

The study was conducted from October 2022 to January 2024 through universal sampling. A total of 2 cycles were performed. The sampling tools include patient registration record system, knowledge assessment questionnaires on e-appointment among all walk-in patients and staffs

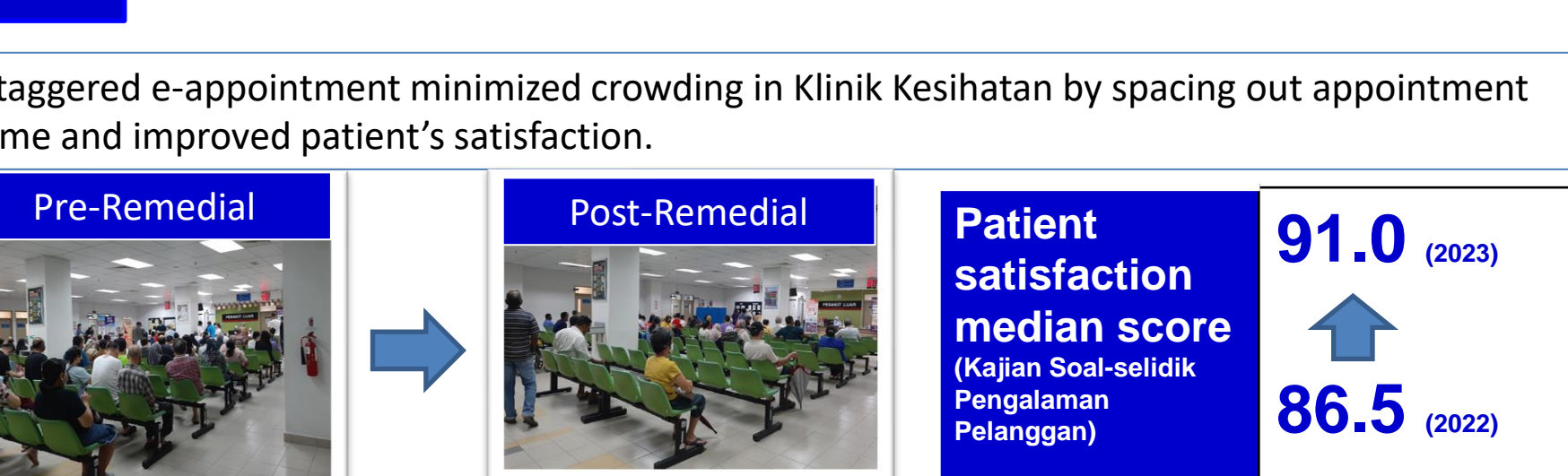
4 ANALYSIS AND INTERPRETATION



5 STRATEGY FOR CHANGE



6 EFFECT OF CHANGE



Staggered e-appointment minimized crowding in Klinik Kesihatan by spacing out appointment time and improved patient's satisfaction.

Patient satisfaction median score (Kajian Soal-selidik Pengalaman Pelanggan)
 91.0 (2023)
 86.5 (2022)

7 THE NEXT STEP

Consistent promotional activities about benefits of e-appointment system and training of new staff on the e-appointment module to ensure the sustainability of the improvement.