

## **Project Title**

Improving the “Time-to-diagnosis” for patients presenting with Gross Hematuria

## **Project Lead and Members**

Project lead: Lau Weida

Project members: Dinesh Sirisena, Lin Xiao Yan, Lim Hui Yee Ester, Marcus Chow,  
Nilufer Banu Bte Aslam, Low Seow Siang

## **Organisation(s) Involved**

Khoo Teck Puat Hospital

## **Healthcare Family Group(s) Involved in this Project**

Medical, Allied Health

## **Applicable Specialty or Discipline**

Urology

## **Project Period**

Start date: not indicated

Completed date: not indicated

## **Aims**

Within a 6-month period, to increase the proportion of patients who gets flexible cystoscopy within 21-days of referral for gross hematuria to Urology clinic (“time-to-diagnosis”) from a baseline of 20% to 100%.

## **Background**

See poster appended/below

## **Methods**

See poster appended/below

### **Results**

See poster appended/below

### **Conclusion**

See poster appended/below

### **Project Category**

Care Continuum

Acute Care

### **Keywords**

Cystoscopy, Gross Hematuria, Urology Clinic, Bladder Cancer, Tumor Grade, Prognosis

### **Name and Email of Project Contact Person(s)**

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## Mission Statement

"Within a 6-month period, to increase the proportion of patients who gets **flexible cystoscopy** within **21-days** of referral for **gross hematuria** to Urology clinic ("time-to-diagnosis") from a **baseline of 20% to 100%.**"

**Definition:**

"Time-to-diagnosis" = duration from referral to Urology clinic for gross hematuria to flexible cystoscopy

## Team Members

Name	Designation	Department	Role in this project
1. Dr Lau Weida	Consultant	Urology	Leader
2. Dr Dinesh Sirisena	Consultant	Orthopaedics	Co-Leader
3. Ms Lin Xiao Yan	Assistant Nurse Clinician	Urology clinic	Member
4. Ms Lim Hui Yee Esther	Senior Executive	Operations Admin	Member
5. Dr Marcus Chow	Chief Resident	Urology	Member
6. Ms Nilufer Banu Bte Aslam	Senior Triage Specialist	Customer Contact Centre	Member
7. Dr Loh Seow Siang	Sr Consultant	Emergency Medicine	Facilitator

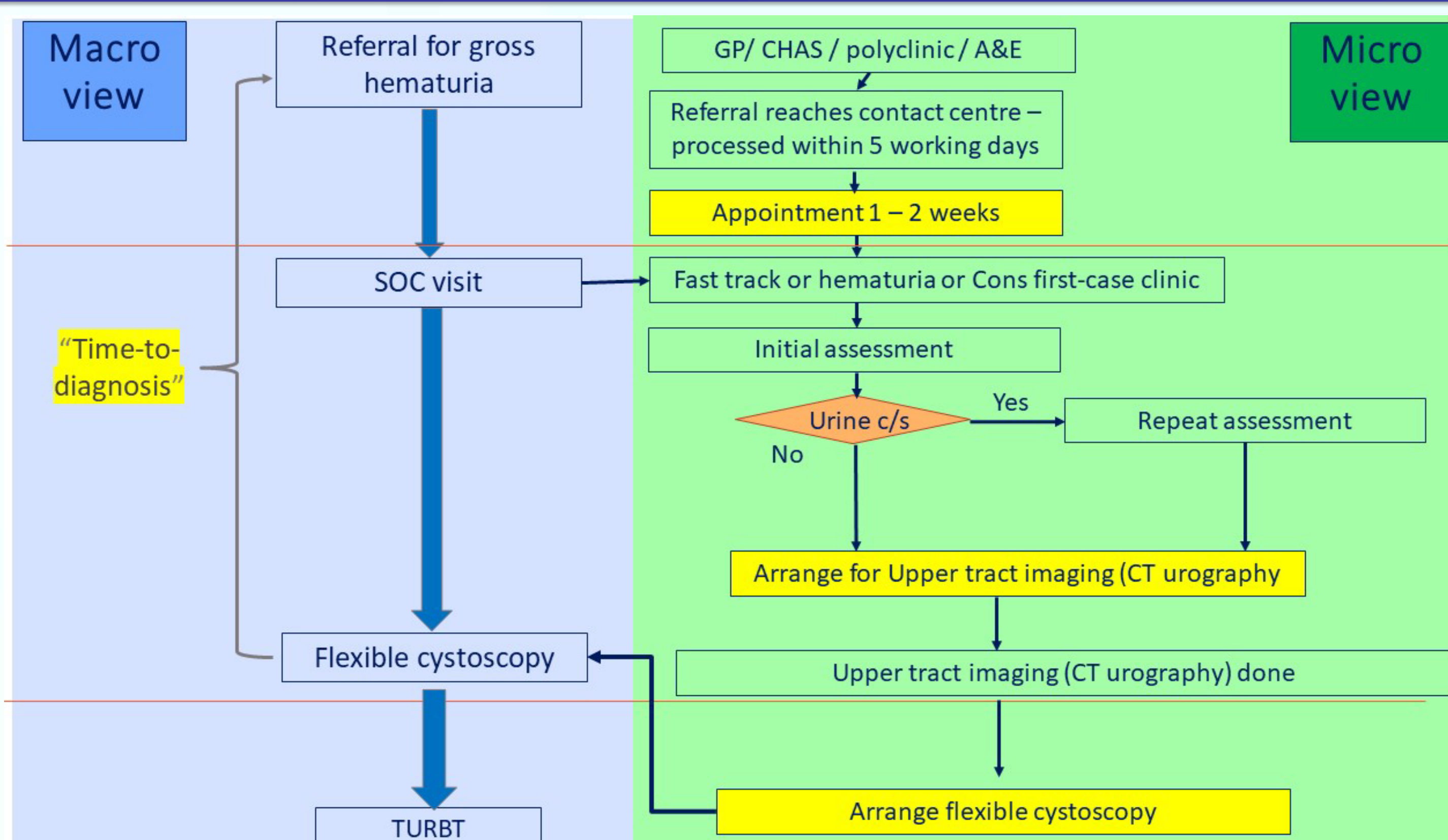
## Evidence for a Problem Worth Solving

- Gross hematuria is the most important presenting symptom for bladder cancer
- A delay in the diagnosis of bladder cancer increased the risk of death from disease independent or disease stage of tumor grade
- A delay between the onset of symptoms and patient presentation to the GP was associated with a poorer prognosis and higher stage bladder cancer (5).

## Current Performance of a Process

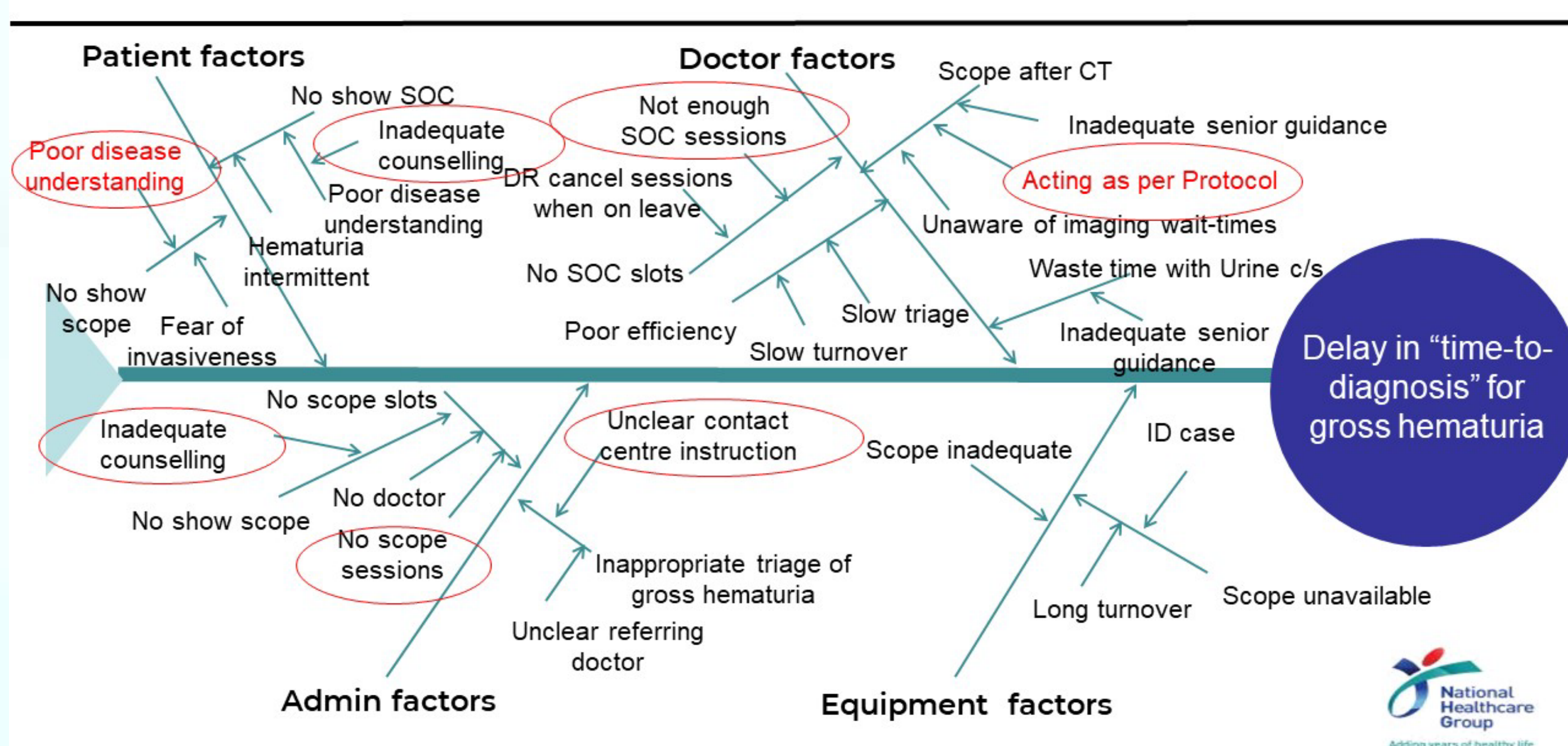
	KTPH	NHS (UK)
"Time-to-diagnosis" (days)	58	21
"Time-to-treatment" (days)	72	43

## Flow Chart of Process

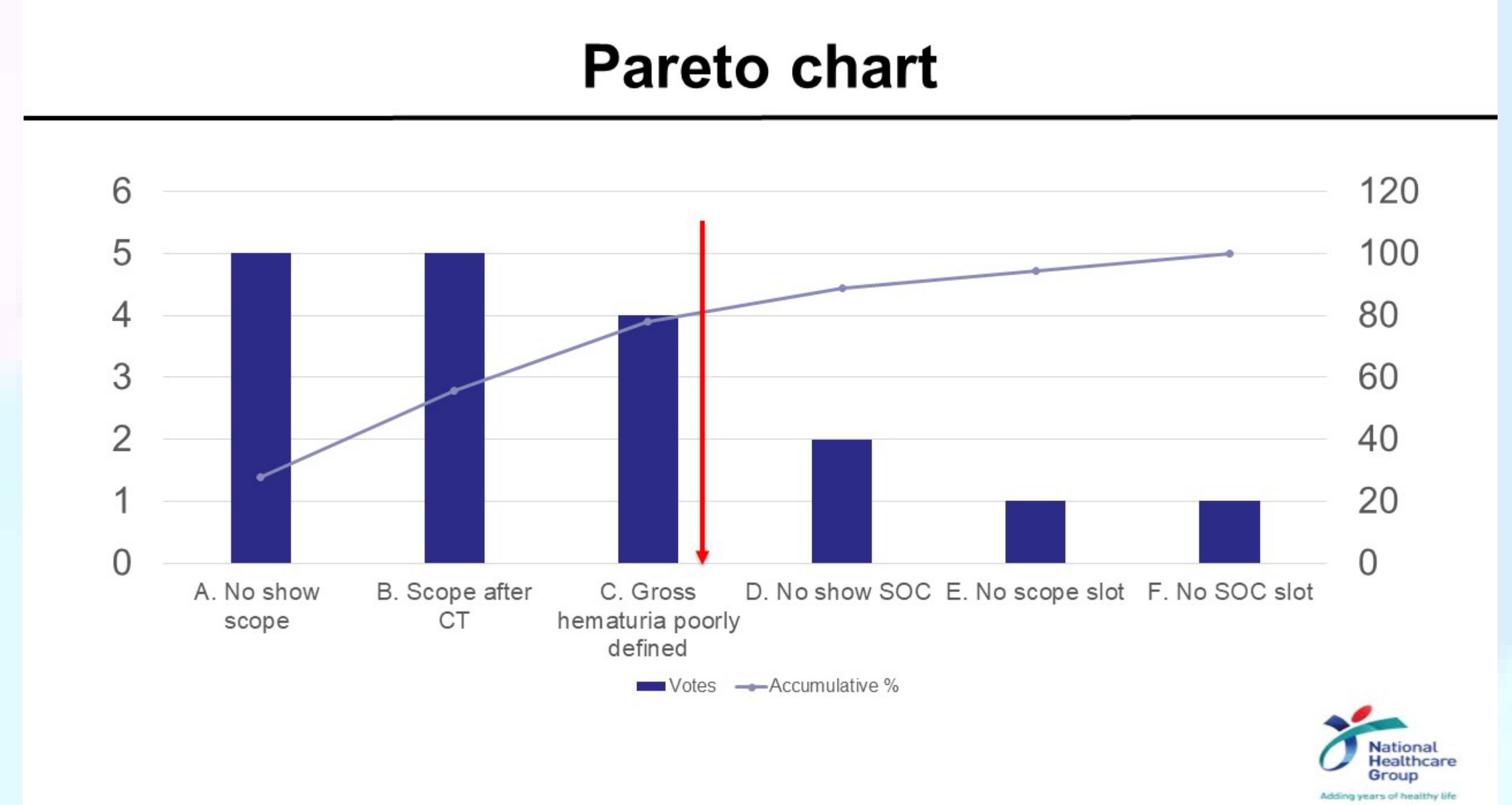


## Cause and Effect Diagram

### Fishbone Diagram



## Pareto Chart

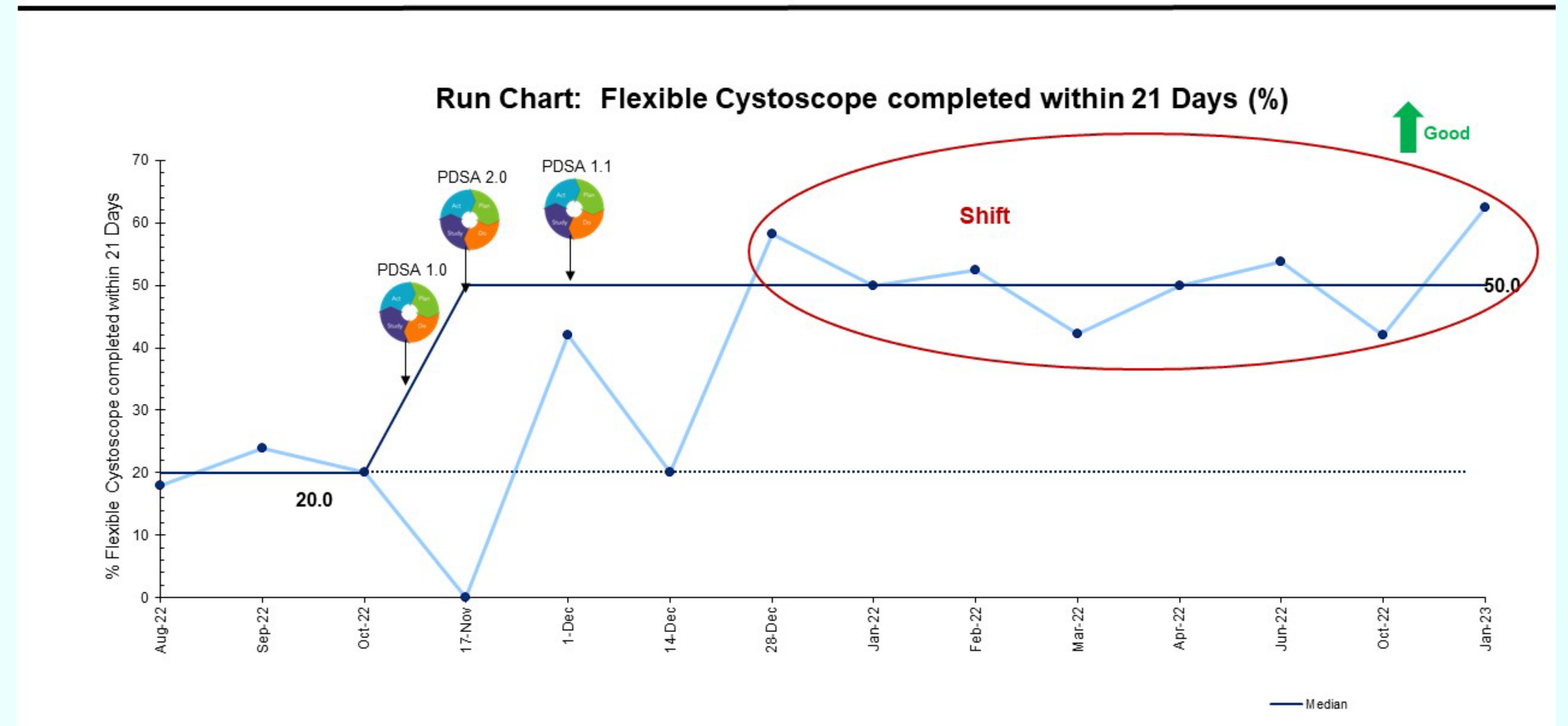


## Implementation

CAUSE / PROBLEM (refer to Pareto Chart)	INTERVENTION	DATE OF IMPLEMENTATION
No Show Scope due to Poor Disease Understanding	PDSA 1.0: Targeted pre-scope counselling addressing "no show" reasons	3 Nov to 16 Nov 2021
	PDSA 1.1: Stop admin rebooking by junior doctors and nurses	1 Dec to 14 Dec 2021
Scope after CT Protocol	PDSA - 2: Change from CT urography first to flexible cystoscopy first	17 Nov to 1 Dec 2021
Inappropriate triage due to unclear contact centre instructions	TBC	TBC

## Results

### Run Chart (Primary Outcome ): Flexible Cystoscope completed within 21 Days



## Cost Savings

	Before intervention	After intervention
No show rate	34.5%	16.9%
Number of slots gained per year	0	312

## Problems Encountered

Domain	Lessons learnt
Problem recognition	• Compare department outcomes with MOH/International data
Problem solving	• Involve all stakeholders • Following the CPIP workflow: Process mapping (flowchart) / Ishikawa chart / Pareto
PDSA	• Doctors-Nurse play an important role in patient disease understanding – "no-shows" • Debunking myths with evidence help organizational change in management protocols
Outcome	• To analyze process measures, outcomes measures, and economic measures

## Strategies to Sustain

- MO orientation programme
  - Incorporate gross hematuria topic into MO orientation and education programme, to be taught early in the posting
- Clinic re-organization
  - Fast-track clinic and hematuria clinic for protocolized management of hematuria as per guidelines and as per CPIP interventions