

### **Project Title**

Change of Outpatient Workflow in Endoscopy

### **Project Lead and Members**

Project lead: Zhang Rong

Project members: Liu Guoai, Xing Lijia

### **Organisation(s) Involved**

Ng Teng Fong General Hospital

### **Healthcare Family Group Involved in this Project**

Nursing

### **Applicable Specialty or Discipline**

Gastroenterology

### **Aims**

The Endoscopy team intends to reduce average length of bed occupancy from 181 minutes to 130 minutes through reducing unnecessary pre-procedure bed occupying by January 2021 so as to optimize effective utilisation of bed and streamline work process.

### **Background**

See poster appended/ below

### **Methods**

See poster appended/ below

### **Results**

See poster appended/ below

### **Lessons Learnt**

Effective communication, team collaboration and adapting proper model for improvement is paramount to achieve sustainable change.

### **Conclusion**

See poster appended/ below

### **Project Category**

Care & Process Redesign

Quality Improvement, Workflow Redesign

### **Keywords**

Outpatient Endoscopy, Workflow redesign, Length of bed occupancy

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# CHANGE OF OUTPATIENT WORKFLOW IN ENDOSCOPY

- SAFETY
- QUALITY
- PATIENT EXPERIENCE
- PRODUCTIVITY
- COST

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## Define Problem, Set Aim

### Problem/Opportunity for Improvement

From April to August 2020, the average length of bed occupancy was 181 minutes per patient with 68 minutes pre-procedure bed occupancy. This led to insufficient beds to turnaround, decreased productivity and operational efficiency.

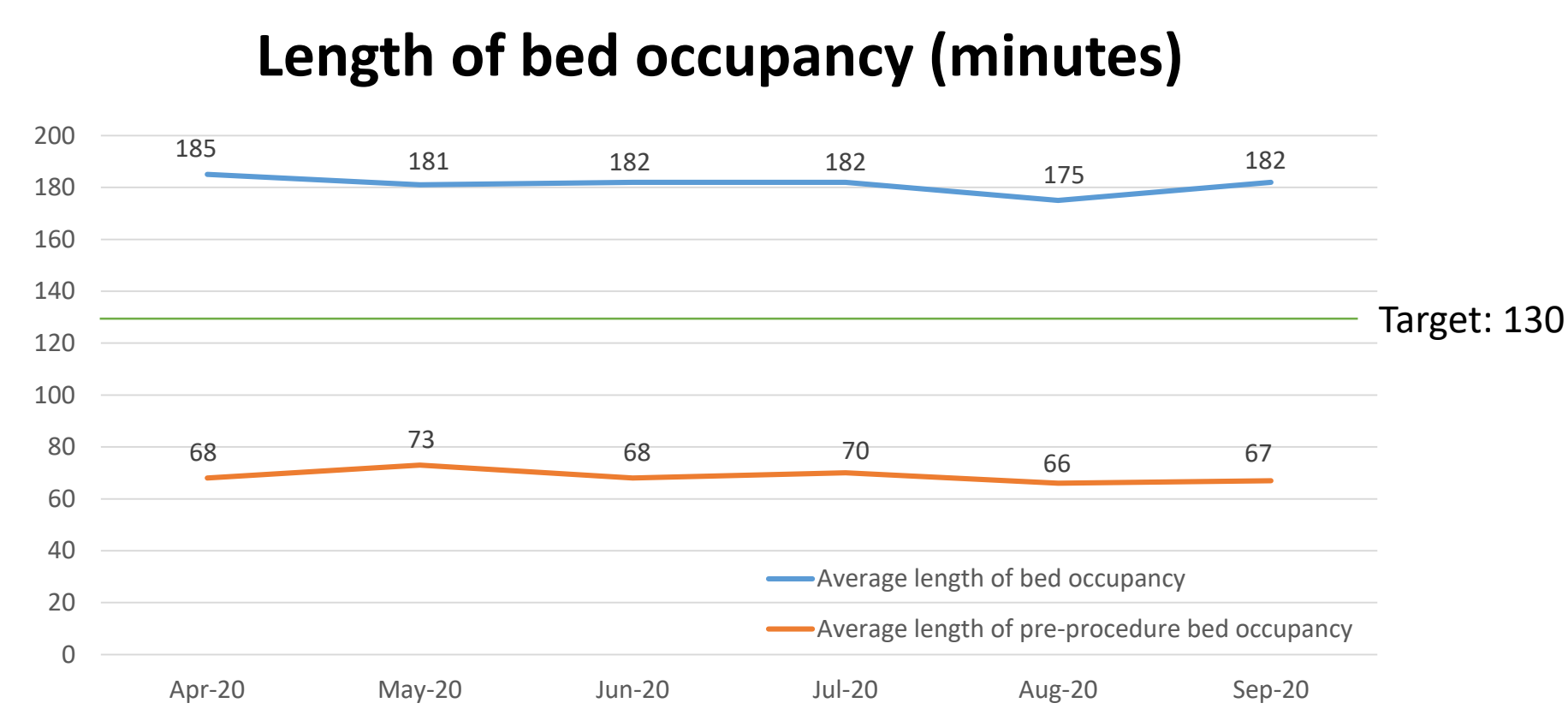
### Aim

The Endoscopy team intends to reduce average length of bed occupancy from 181 minutes to 130 minutes through reducing unnecessary pre-procedure bed occupying by January 2021 so as to optimize effective utilisation of bed and streamline work process.

## Establish Measures

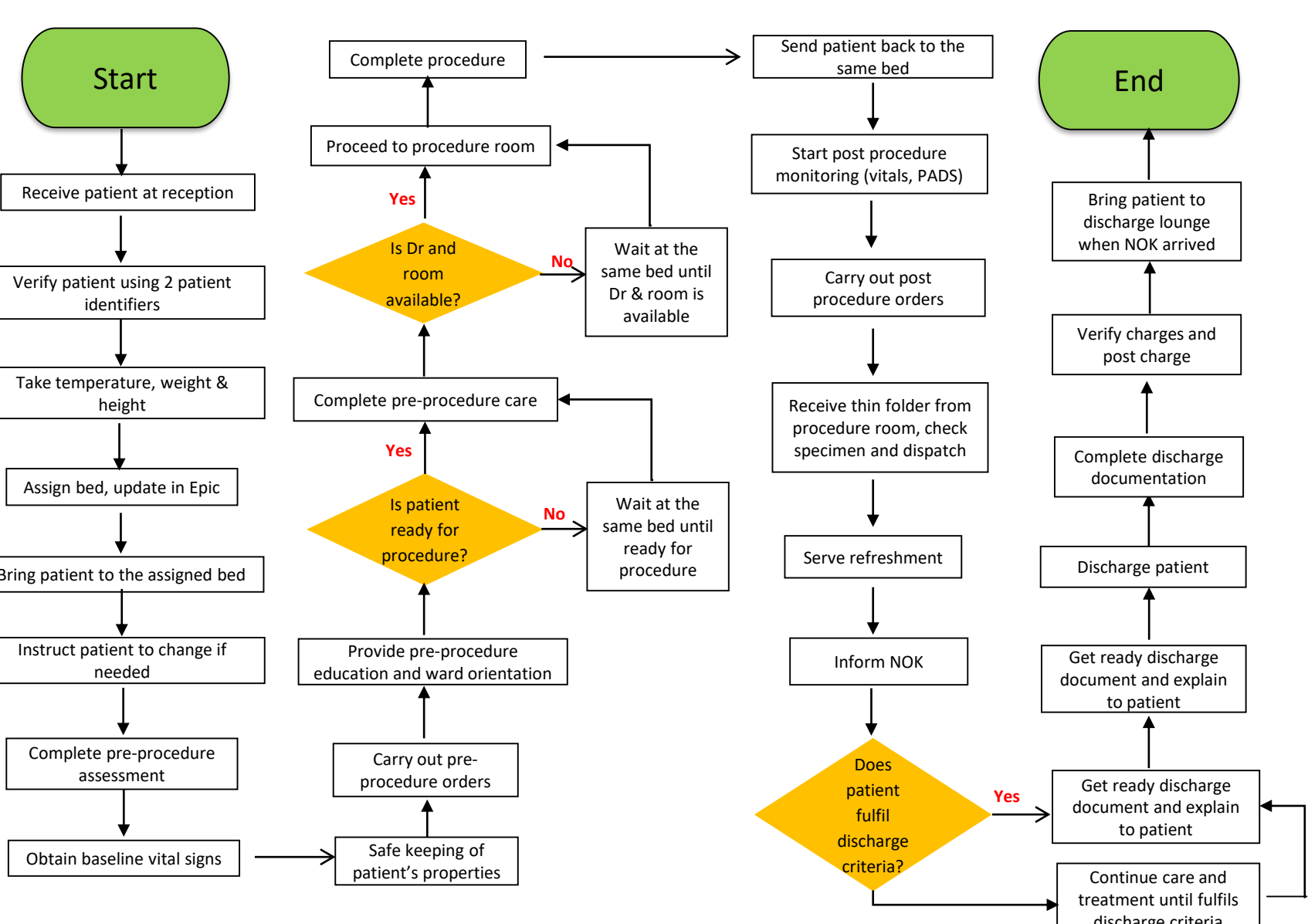
### What was your performance before interventions?

Outcome measure:

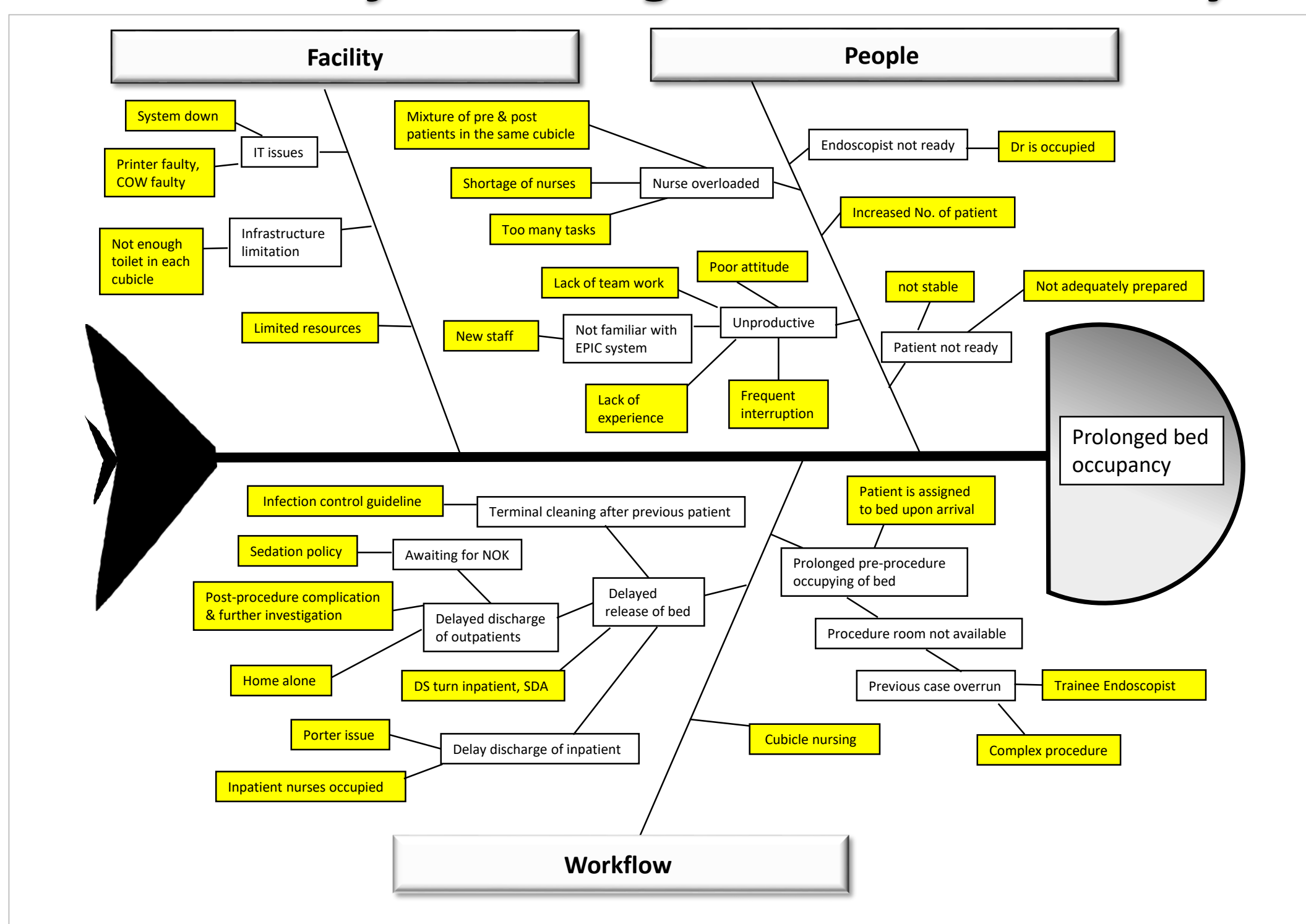


## Analyze Problem

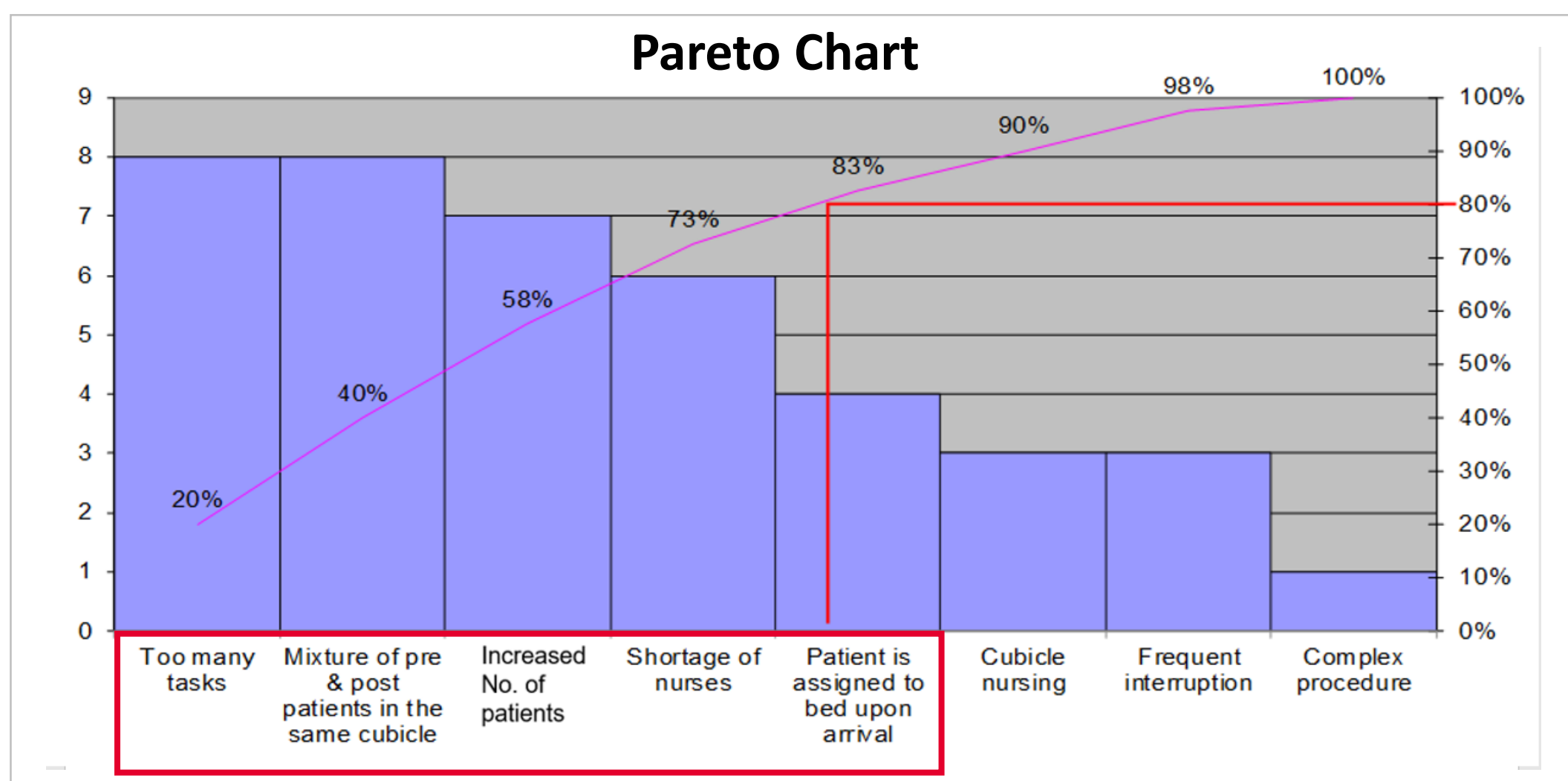
### Endoscopy outpatient workflow:



### 26 root causes identified through Route Cause Analysis:



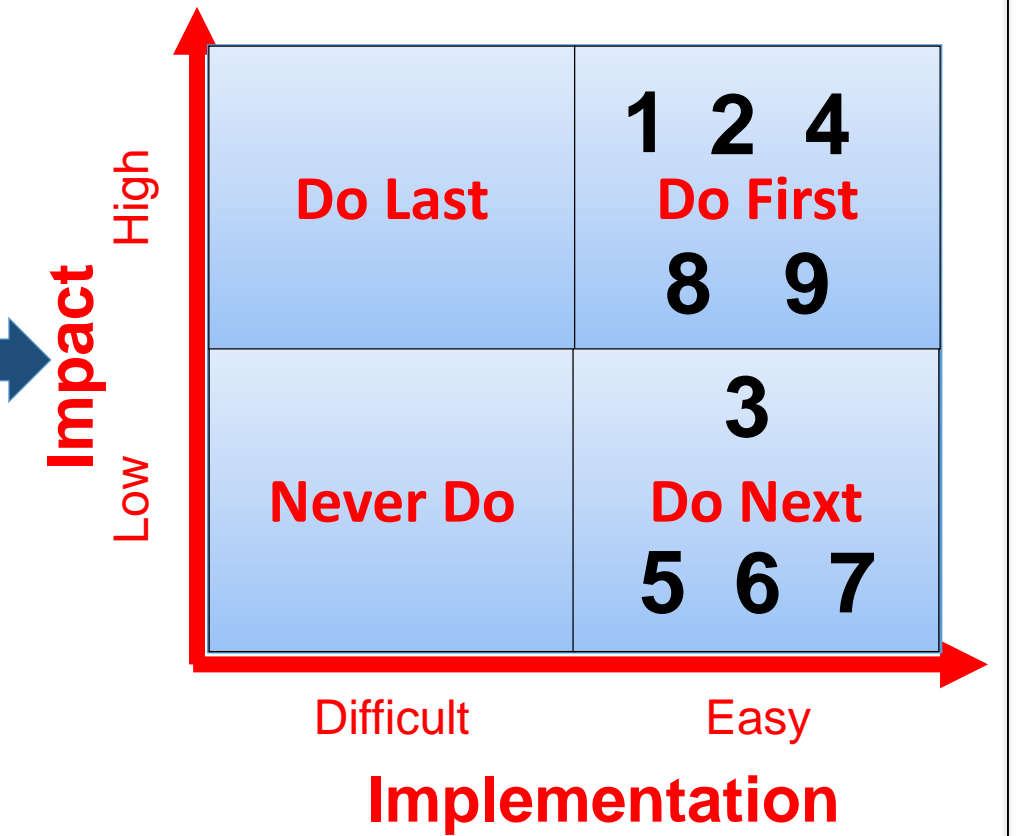
### Pareto Chart



## Select Changes

### Probable solutions

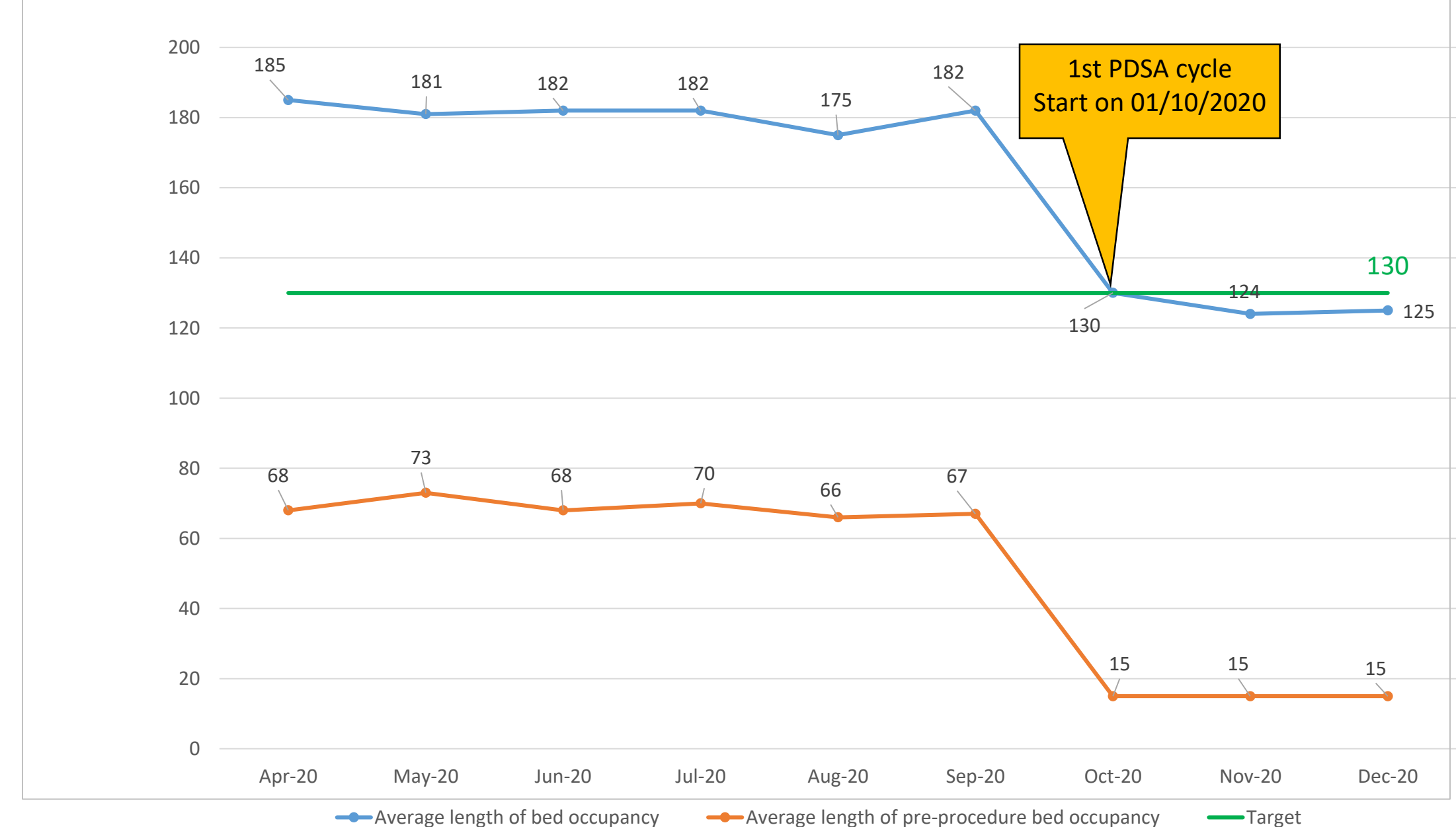
Root causes	Potential Solutions
I. Too many tasks	1 Segregation of pre & post procedure patients
	2 Division of tasks and responsibilities
	3 Increase manpower
II. Mixture of pre & post patients	4 Segregation of pre & post procedure patients
III. Increased No. of patients	5 Control maximum No. of cases per slot
IV. Shortage of nurses	6 Recruit more nurses
	7 Job redesign
V. Patient is assigned to bed upon arrival	8 Keep patient at waiting area
	9 Assign patient to bed 10 minutes before procedure



## Test & Implement Changes

CYCLE	PLAN	DO	STUDY	ACT
1	Establish "New Workflow" to segregate pre and post patients	<ul style="list-style-type: none"> <li>Set up Pre-procedure waiting area</li> <li>Completed pre-procedure tasks in pre-procedure waiting area</li> <li>Kept patients at pre-procedure area while waiting</li> <li>Assigned patient to bed 10 minutes before procedure</li> <li>Post-procedure, patient returned to the same bed till discharge</li> </ul>	<p>Average length of pre-procedure bed occupancy was reduced to 15 minutes</p>	To adopt the change and implement
	Educate staff on new workflow	<ul style="list-style-type: none"> <li>Defined roles and responsibilities of pre and post procedure nurse</li> <li>Streamlined workflow on managing high risk and infectious cases</li> </ul>	<p>The new workflow allows more flexibility in nursing manpower allocation. Staff survey showed that more than 75% of staff are satisfied with new workflow</p>	

### Length of bed occupancy (minutes)



## Spread Changes, Learning Points

Recognizing the weak point in workflow is crucial in developing smoothest possible process for patients as well as staff. The new workflow facilitates fast turnover, optimizes utilization of resources and promotes operational efficiency especially when census are high. Staff satisfaction also improved through clear division of tasks and responsibilities.

Effective communication, team collaboration and adapting proper model for improvement is paramount to achieve sustainable change.