



The Ministry of Public Service, Administrative and Institutional Reforms
in collaboration with the
National Productivity and Competitiveness Council

SMART PROCESS MANUAL 2022

*For a professional
Public Service committed
to Excellence*



PART 3 Case Studies



Example of an online
application on a Public Portal

What is a process?

Every Process has

- Start point
- Steps
- Customers
- Process owner
- Key results intended
- Control Points
- Process measures
- End Point

Mapping the Online application for vacancies in the Public service

Input	Steps in the process	Output
Availability of suitable vacancy to apply	<p>Deciding to select a career in the Public</p> <ol style="list-style-type: none"> 1. Logging on to the online portal 2. Searching and finding a suitable vacancy 3. Understanding job-role requirements and qualification needs 4. Entering personal information 5. Adding qualifications 6. Adding employment history 7. Uploading supporting documents 8. Submitting application 9. Receiving printed copy and acknowledgement 	Completed application with candidate's full particulars saved and acknowledged

Mapping the Online application for vacancies in the Public Service

Start Point

- The **start point** is triggered by a prospective applicant when he/she decides to make an application using the Public portal.
- This application is made in response to a notification for vacancy on the press or other means including search from the Public portal itself.

End Point

- The **end point** is when the application is submitted on the portal and the applicant has received an acknowledgement.

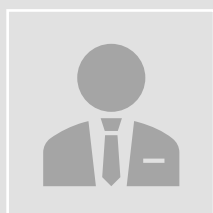
Mapping the Online application for vacancies in the Public Service

Deciding	Deciding to select a career in the Public Service
Logging	Logging on to the online portal
Searching and finding	Searching and finding a suitable vacancy
Understanding	Understanding job-role requirements and qualification needs
Entering	Entering personal information
Adding	Adding qualifications
Adding	Adding employment history
Uploading	Uploading supporting documents
Submitting	Submitting application
Receiving	Receiving printed copy and acknowledgement

Mapping the Online application for vacancies in the Public Service

Intended end Results	The submitted application is saved and notified to respective Sections/Units for review and considering the next steps in the selection and recruitment processes. This end result must be achieved every time.
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Mapping the Online application for vacancies in the Public Service



The **managing point** is the record maintained of all applications received from prospective applicants irrespective of the status of completeness.



The process offers a few **control points** that ensure quality of output. For instance, the system prompts the user to upload all required attachments prior to accepting the final submission. This is to ensure that the application is submitted with all required documents.



Control point may also include internal checks of the application to measure how far the applicants' credentials meet the job requirements. This may be logically programmed into the portal interface and may also include that the deadline for submission has been reached.

Mapping the Online application for vacancies in the Public Service

Owner of the process

- He/she who is in charge of recruitment process must ensure quality and timely delivery of service.

Customers

- Public bodies who expect recruiting the right person within a given time period.
- Job Seekers are also customers to the process. They expect:
 - ease of searching for suitable vacancies;
 - accuracy of information contained on the portal;
 - easy and quick way to apply for a given vacancy;
 - availability of the website – a 24/7 service; and
 - uninterrupted service during the application process.

Mapping the Online application for vacancies in the Public Service

Possible process performance measures

- Time to log-in
- Time for screen changes to happen and navigate as desired
- Quickness of acknowledgement and its receipt
- Progression of the application and
- Ease of generating reports for all stakeholders



Case Study of XYZ Hospital



The case study illustrates how the ‘handling of outpatients process in XYZ Hospital’ was re-engineered to be ‘smarter’ using the 6- step enablement approach described in this manual

Current Situation

Several cases filed in the media for bad patient service

High number of patients waiting outside the hospital

Average waiting time per patient before they receive treatment is 2 hours

Non-availability of staff: staff who are on leave are not replaced

Inadequate doctors to attend to patients

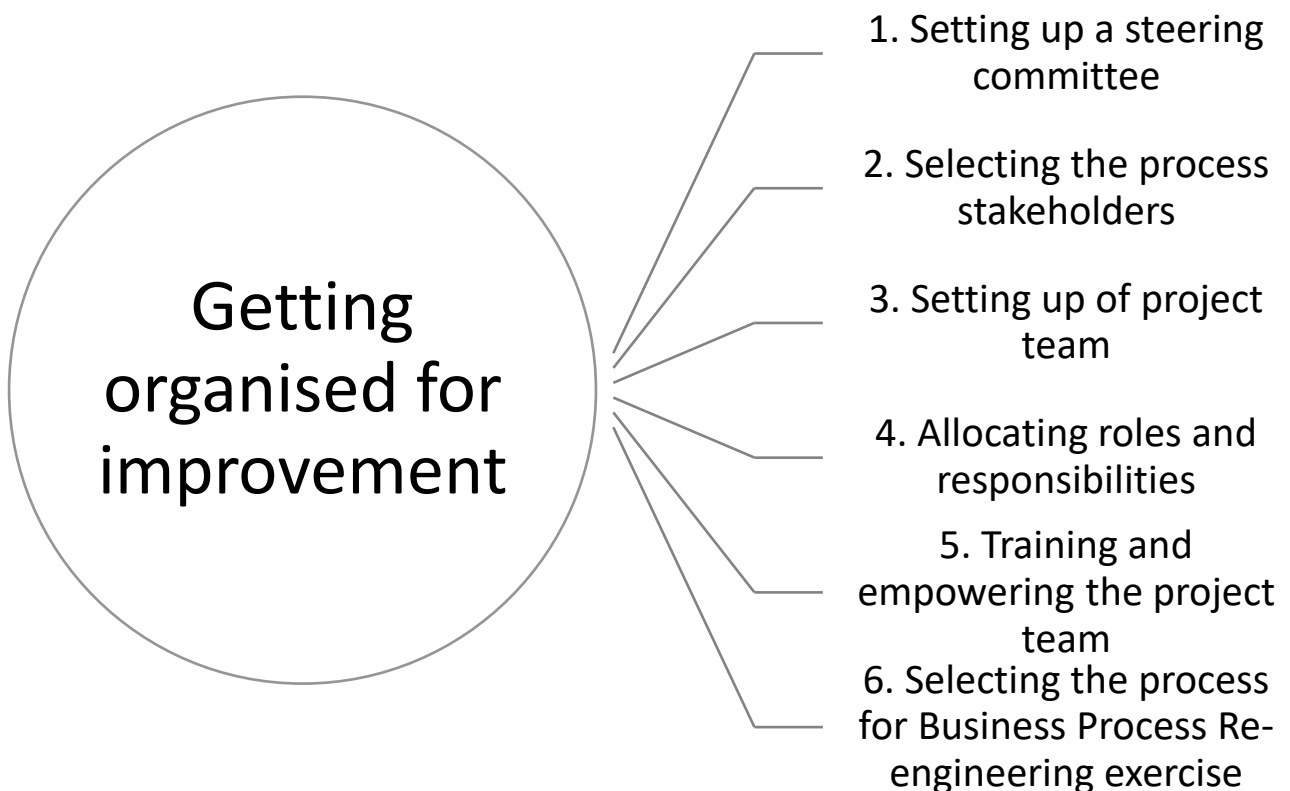
Medicines prescribed by doctors are often not available

Multiple hand-offs: patients have to move from one place to another during the process

In general, both patients and staff of the hospital are unsatisfied with the service being offered.

How did the team get organised for improvement?

1. A Steering Committee was set up at the level of the hospital
2. The Accident and Emergency Unit was selected as the main process to be improved
3. A project team was set up to manage the project
4. Roles and responsibilities were distributed
5. A training was organised to ensure same level of information



Steering Committee

SN	Member Name	Job Title	Organisation
1.	ABC	Director of hospital	Head office
2.	ASD	Head of department	A&E
3.	QWE	Superintendent	Head office
4.	ASF	Head Nurse	Head office
5.	TYH	Senior Doctor	A&E

Project team

SN	Name of Team Member	Role	Role	Responsibility
1	Dr X	(Medical Superintendent)	Team lead	Spearhead the project
2	Dr Y	(Assistant Medical Superintendent)	Member	Provides assistance to project lead
3	DR Z	(Doctor)	Member	Collect Data
4	MR U	Nursing	Member	Collect data
5	MR R	Nursing	Member	Collect Data

RACI

	Dr X	Dr Y	Dr Z	MR U	MR R	Key
Define and measure focus area	I	C	A	R	R	R- responsible
Measure and collect data	I	I	C	A	R	A- Accountable
Map OFI	I	A	C	C	R	C- Consulted
Implement solutions	C	R	R	R	R	I- Informed

Selection of the process for BPR

General Medicine	
General Surgery	Oncology
Orthopaedics Surgery	Burns Unit
Plastic Surgery	Psychiatric
Gynecology and Obstetrics	Lithotripsy
Pediatrics	Pathology
Nursery	Dentistry
Neonatal Intensive Care	Hemodialysis
Cardiology	Accident and Emergency Dept.
Radiology	Intensive care Medical and Surgical
Chest diseases OPD	Dermatology OPD
Paramedical services	
Central Laboratory	Virology Department
Blood Bank	Speech Therapy (at ENT Centre)
School of Nursing	Occupational Therapy (at ENT Centre)
Physiotherapy Department	X-Ray
Medical Social Services	C A T Scan
Dietician	

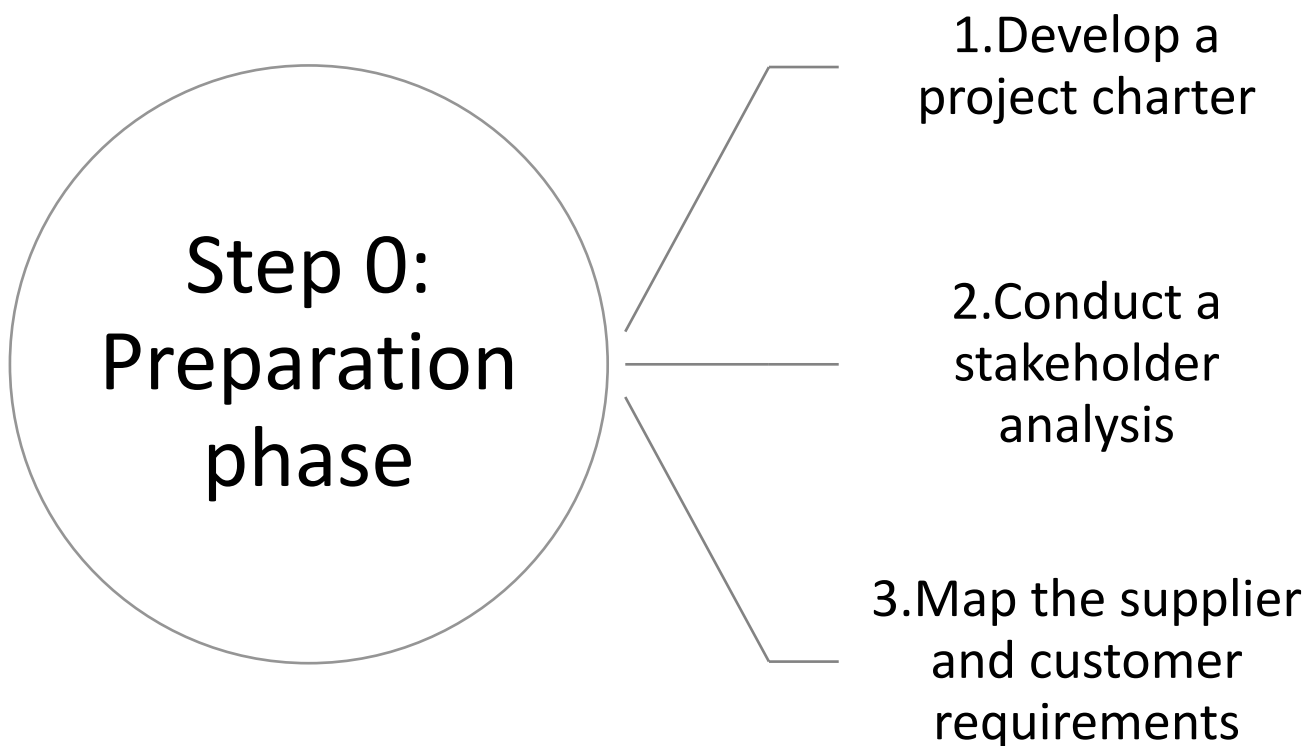
Selection of the process for BPR

Process name	Ineffective and inefficient in fulfilling its intended purpose	At a risk of failing	Not meeting its needs or the needs of the Government	Not meeting the defined performance requirement (Speed, cost, quality, Delivery, Safety)	Employees confused how to do the work	Cumbersome and causing delays in responses
A & E	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

A & E was selected to be reviewed

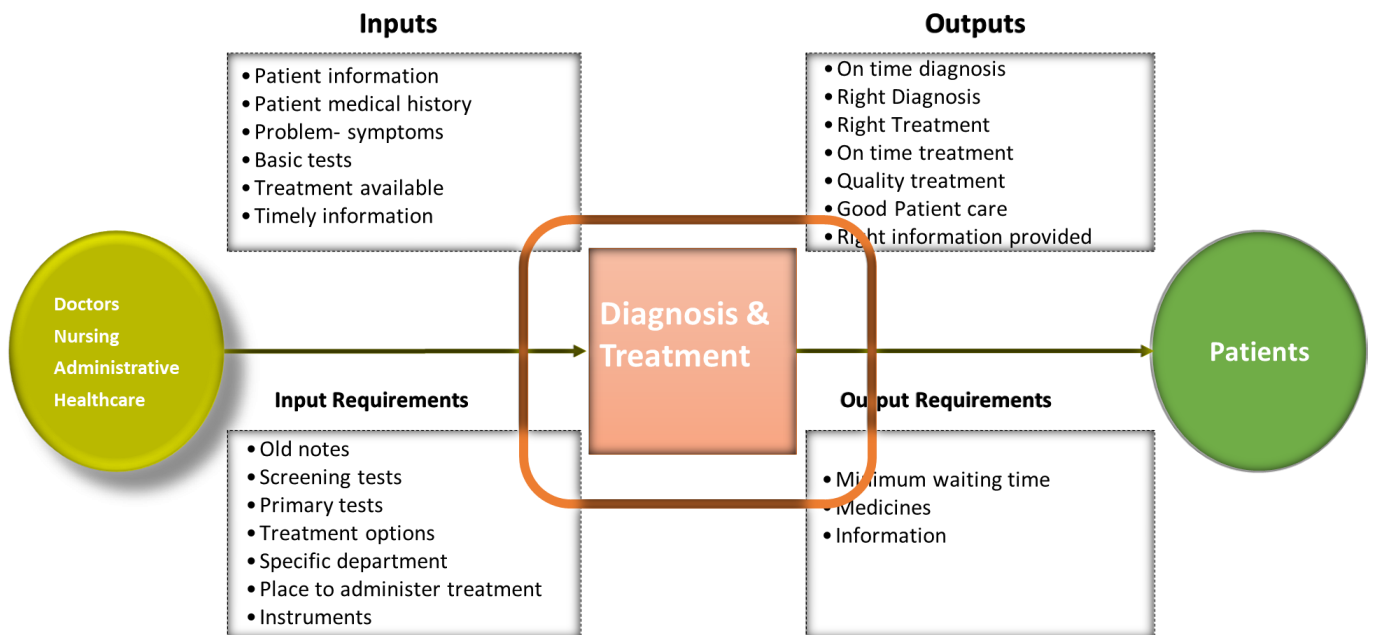
Step 0- Preparation

1. The team built a SIPOC to analyse the suppliers, customers and their requirements
2. The team also mapped a high-level process to understand the key processes for improvement



Step 0- Preparation

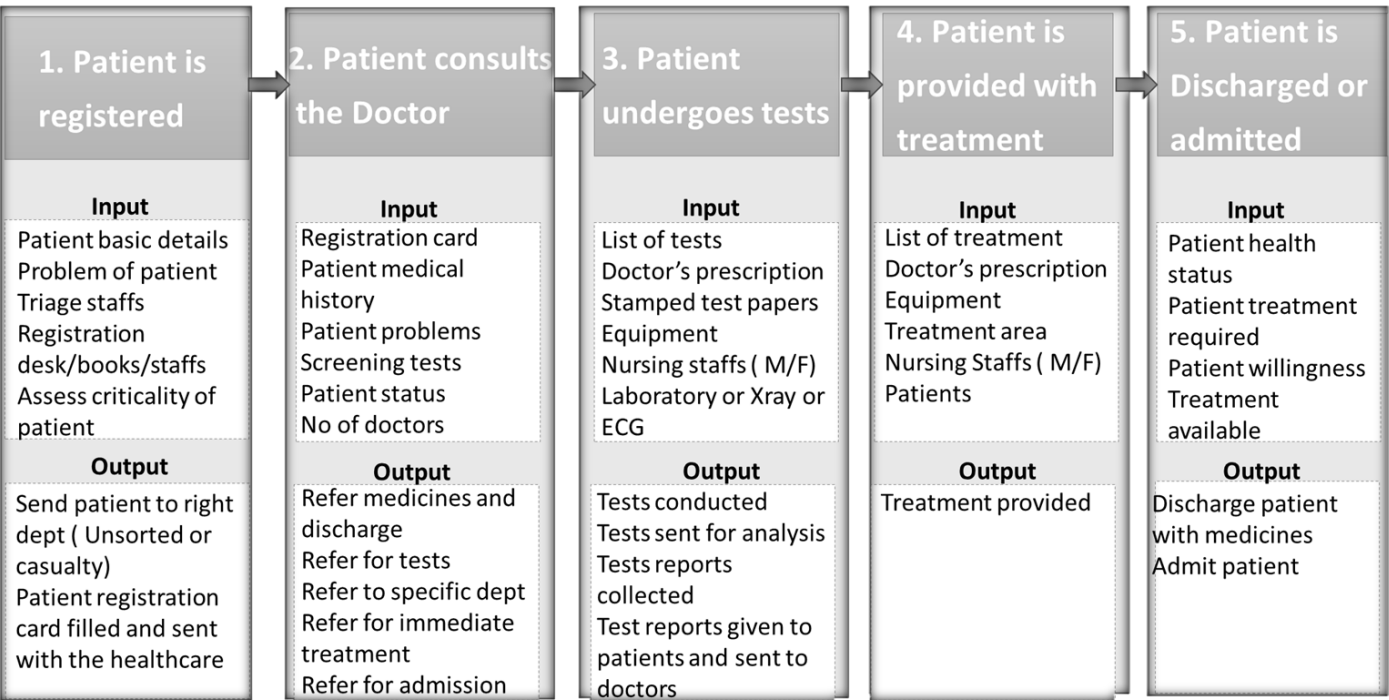
A SIPOC was drafted to understand the big picture at the A & E Department



Step 0- Preparation

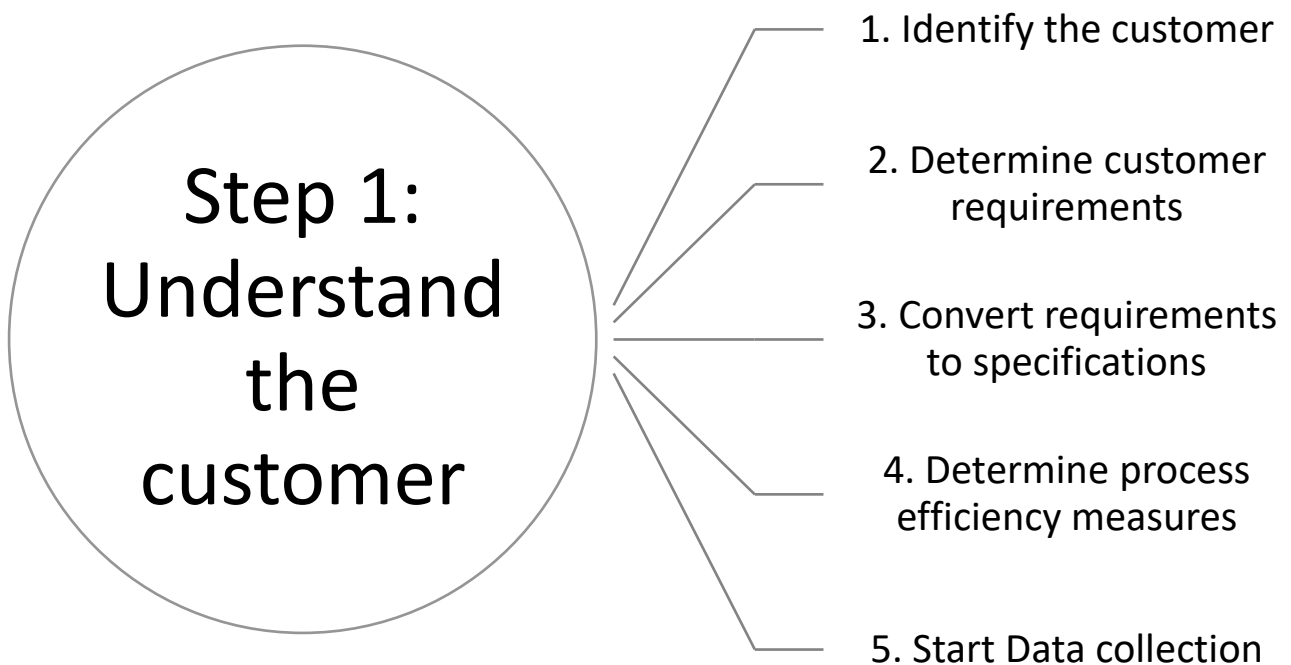
A High-Level Process Map (HLPM) was used to understand how the hospital provides diagnosis and treatments to the patients. The HLPM was used to

- 1. Define the important subprocesses
- 2. Understand the input and output of each sub-process
- 3. Map the flow of the patient throughout the sub-processes



Step 1- Understand the customer

1. The key customers were identified
2. A survey was conducted to capture their requirements
3. The requirements were converted to process measures
4. The availability of existing data was analysed
5. A data collection plan was put in place



Capturing the voice of the customer

Results of Survey conducted

Patients' requirements

- Least waiting time even during peak visiting hours at the hospital
- Quick access to specialist depending on health condition - necessary prioritisation in queue as might be needed
- Less hand-offs from one place to another-preferably a single window service wherever possible
- Special care for persons with disabilities
- Post visit consultations over the phone to avoid a second visit unless absolutely required due to underlying conditions
- No admission unless necessary
- Access to desired doctor or equivalent

Staff and management

- Sufficient sanity breaks in the working shifts
- Relevant technology to provide improved service
- Good customer service and public appreciation

Converting Voice of Customer to Process measures (In red)

Patients' requirements

- Least **waiting time** even during peak visiting hours at the hospital. **"Time to See Generalist", "Cycle Time", Number of people in queue, "Time for sub-processes" etc.**
- Quick access to specialist depending on health condition-necessary prioritisation in queue as might be needed. **"Waiting time to meet specialist"**
- Less hand-offs from one place to another-preferably a single window service wherever possible. **"Number of handoffs"**
- Post visit consultations over the phone to avoid a second visit unless absolutely required due to underlying conditions. **"Number of return visits"**
- No admission unless necessary. **"Number of admissions"**
- Access to desired doctor or equivalent. **" Right treatment first time"**

Staff and management

- Sufficient sanity breaks in the working shifts.
- Relevant technology to provide improved service. **"Speed to process data= lead time"**
- Good customer service and public appreciation" **Customer service ratings"**

Data Collection And Availability of Data

Key metrics per station						
Metrics	Triage	Registration	Healthcare assistant	Doctors	Nursing- test area	Nursing - treatment
Number and % of patients	No of tickets issued	No of patients registered	No of patients sent per doctor	No of patients seen per doctors	No of tests conducted	No of patients receiving treatment
				No of doctors present		No of treatment available
				No of patients referred for tests		
			No of patients sent for screening	No of patients referred for treatment	No of patients conducting more than one tests	No of patients receiving more than one treatment
				No of patients referred to other dept		
Time taken	Time taken to consult a patient	Time taken to register a patient	Time taken to consult a patient	Time taken to consult a patient	Time taken per test	Time taken per treatment

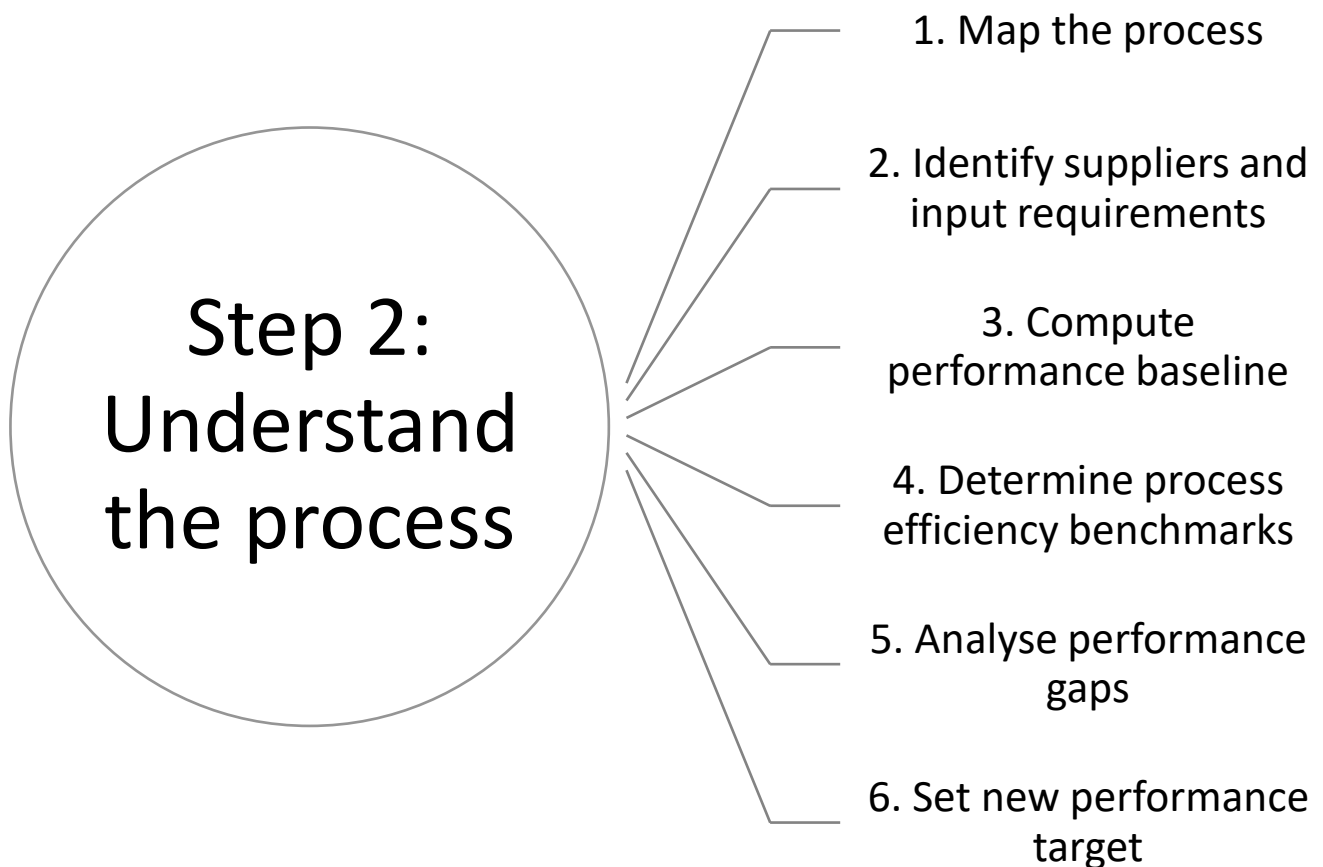
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				No of patients referred for tests		
			No of patients sent for screening	No of patients referred for treatment	No of patients conducting more than one tests	No of patients receiving more than one treatment
				No of patients referred to other dept		
Time Stamps	Time taken to consult a patient	Time taken to register a patient	Time taken to consult a patient	Time taken to consult a patient	Time taken per test	Time taken per treatment

Available from Records

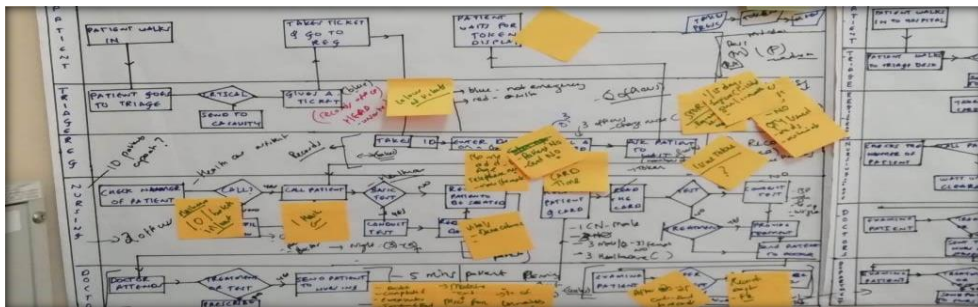
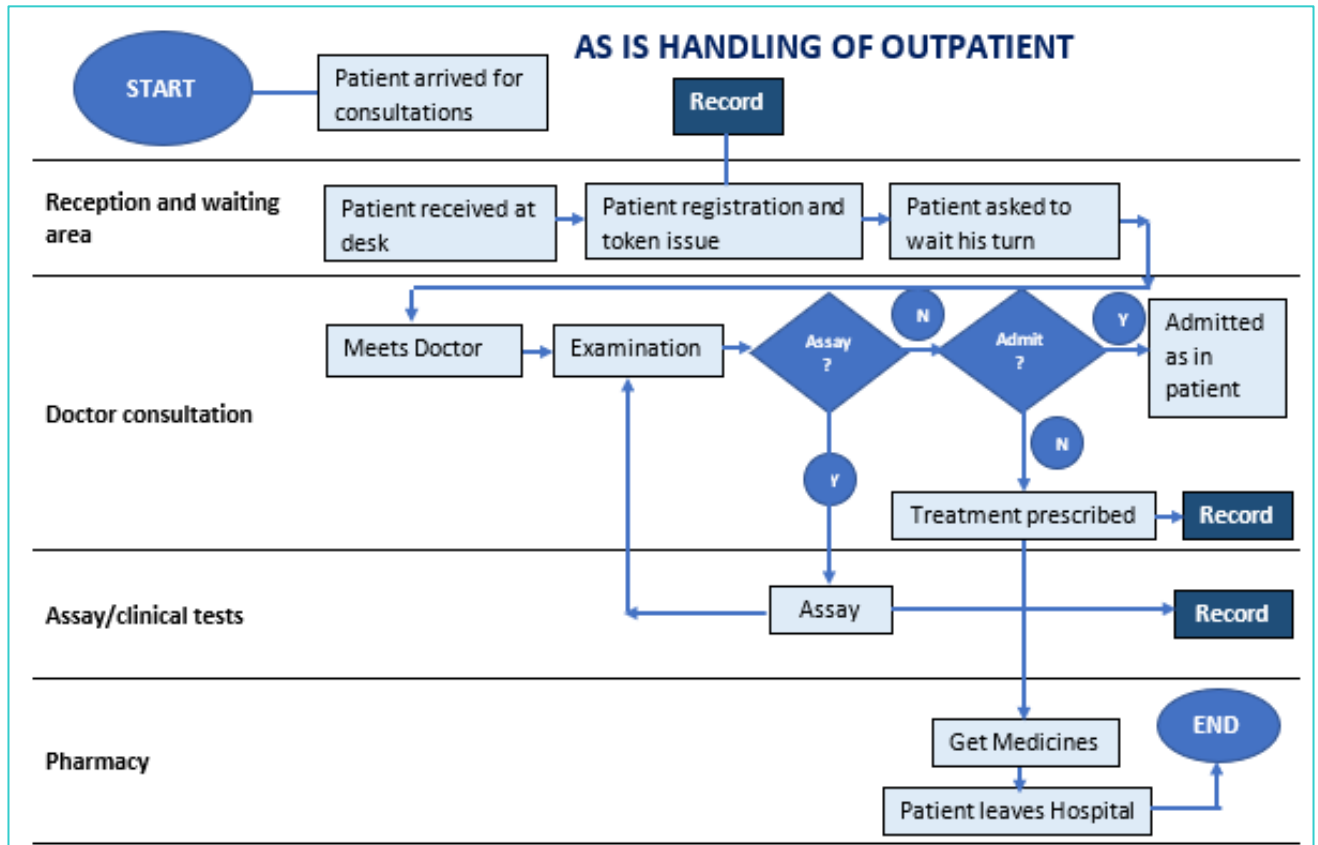
Not available - to be collected

Step 2- Understand the process

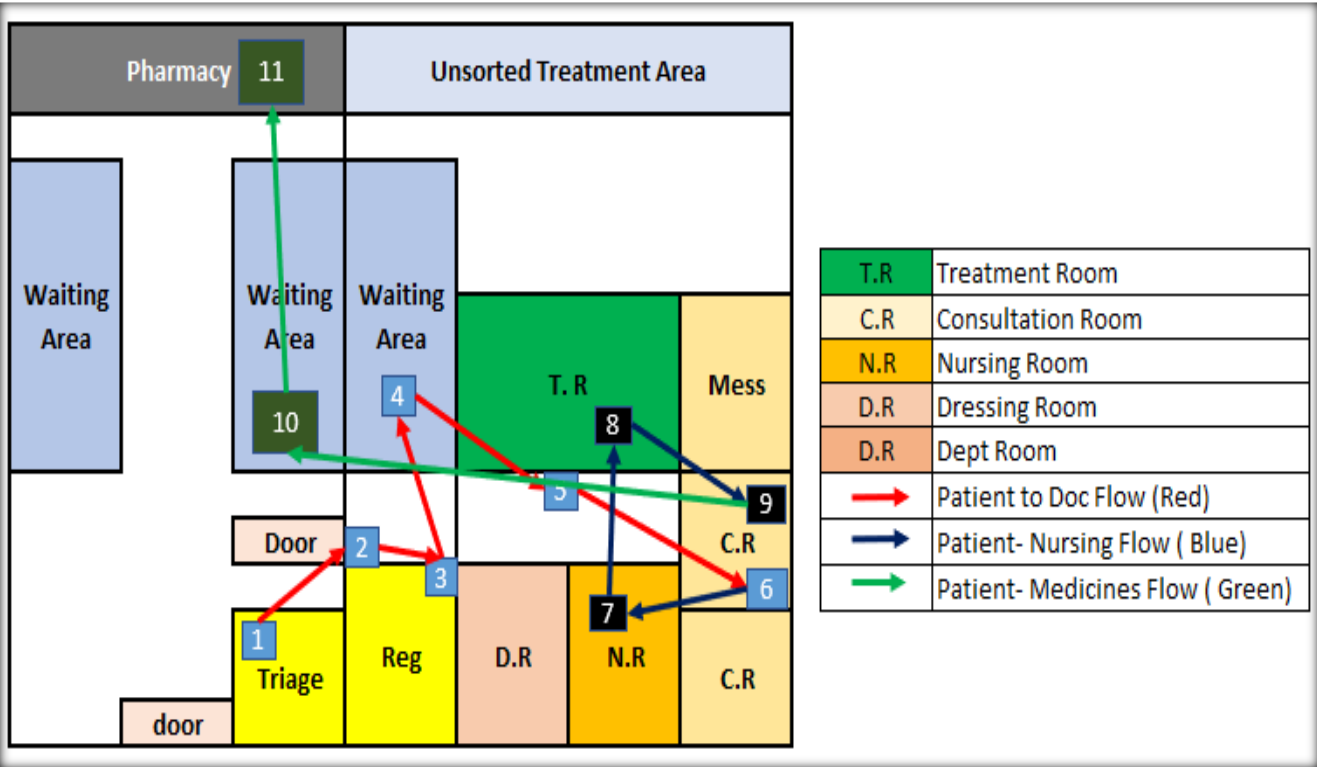
1. The process was mapped
2. The flow of patient was drawn
3. The Flow of information was also mapped
4. A time and motion study was conducted to measure the key process measures
5. A data collection plan was put in place



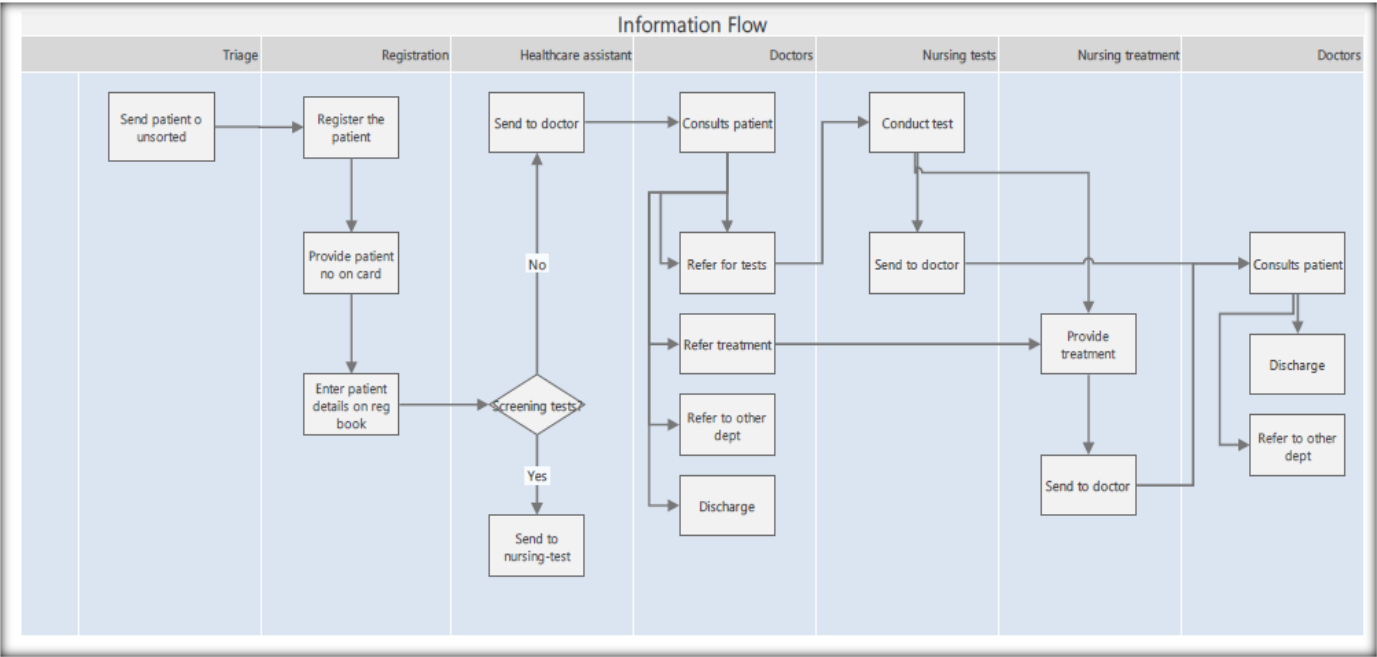
Process Map



Flow of Patient



Flow of Information



Data Collection Plan

- The data collection period: 12th April to 15 June 2019
- Sample Size Collected: 100%

Date:																							
Dept:																							
Room No:																							
Consultation room:																							
Shift timing:																							
Patient no	Visit no	Released with medicines	Referred for test							Referred to dept							Referred for treatment					Others	
			GR	BP	SPO ₂	T	WT	BLOOD	X RAY	ECG	OTHERS	MED	OS	SS	GYNAE	CARD	RT	OTHE RS	INJECT	INFUSE	DRESSING		NEBULISE
1																							
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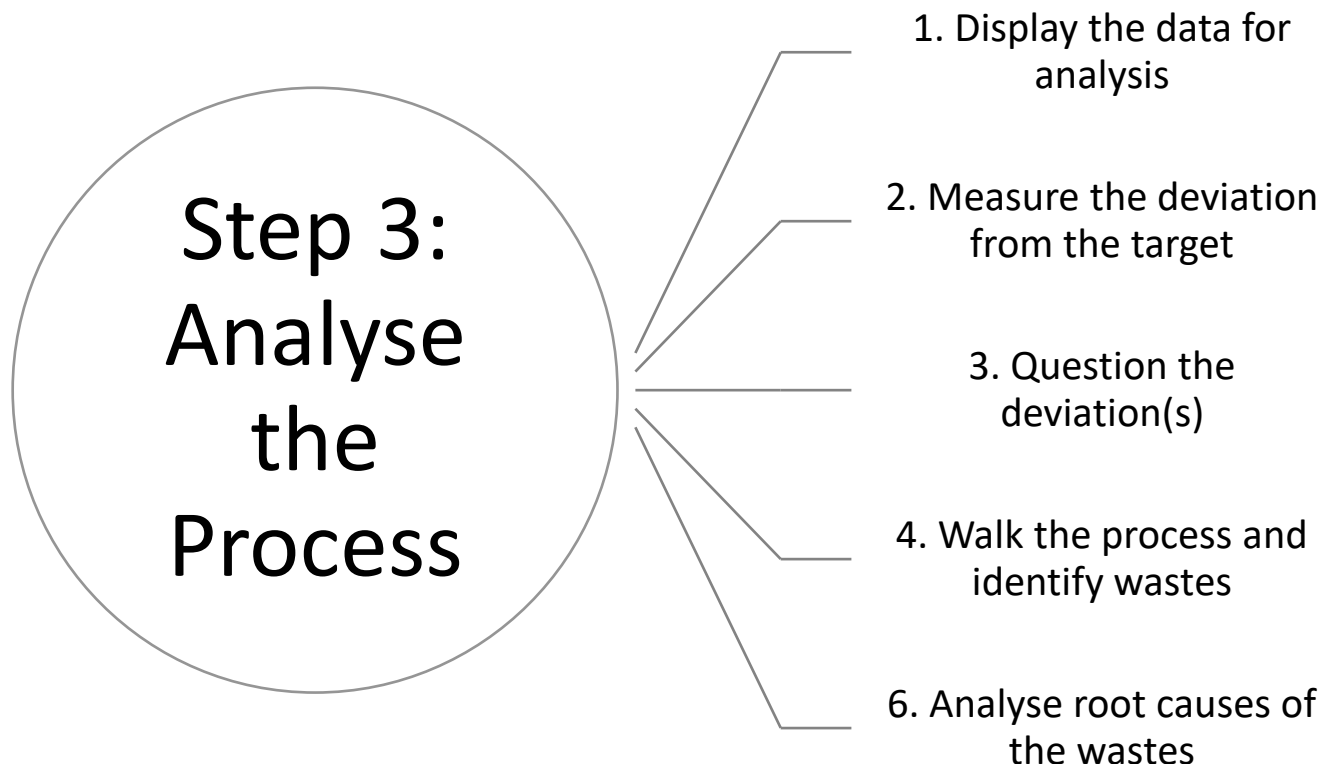
Data collection
Sheet 1

Date:																				
Dept & Room No:																				
Shift timings:																				
Number of staffs:																				
Patient no	Visit no	Tests conducted								Treatment						MC stamped	Test papers stamped	Follow with lab attendant	Others	
		GR	BP	SPO ₂	T	WT	Blood	Urine	Others	Dressing	Injections	Infusion	Bandage	Nebuliser	Others					
1																				
2																				
3																				
4																				
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9																				
10																				
11																				
12																				

Data collection
Sheet 2

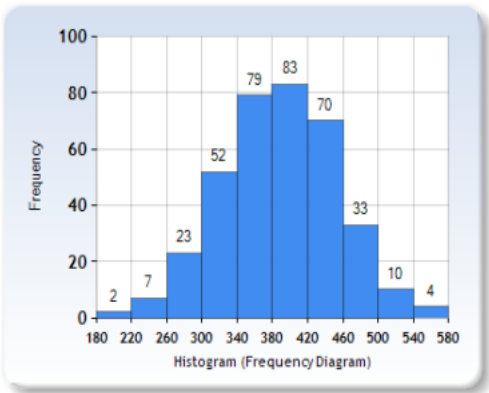
Step 3- Analyse the process

1. Collected data was compiled
2. Data analytics and stratification was conducted from weekly to daily to hourly per station
3. Key analytics were drawn from the data
4. Wastes were identified in the process

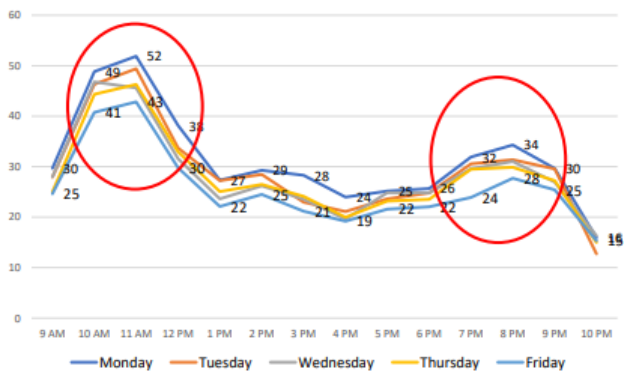


Data Analysis and Display

No of patients registered per day from Jan 2018- Dec 2018



No of registration during weekdays



Time	Min range of average	Average no of patients reg per hour	Maximum of average	Probability no of patients registered is below the minimum range	Probability no of patients falls within this range	Probability no of patients is greater than this range
9 AM	14	25	35	6%	82%	12%
10 AM	28	41	52	12%	66%	21%
11 AM	30	43	60	14%	76%	10%
12 PM	24	32	45	16%	74%	9%
1 PM	16	26	34	7%	80%	13%
2 PM	18	27	33	7%	73%	20%
3 PM	15	25	30	6%	91%	10%
4 PM	14	22	29	6%	88%	6%
5 PM	18	24	30	14%	68%	18%
6 PM	15	24	30	6%	72%	22%
7 PM	21	28	35	4%	90%	7%
8 PM	16	29	40	6%	81%	13%
9 PM	20	26	32	22%	55%	23%
10 PM	12	15	20	26%	59%	15%

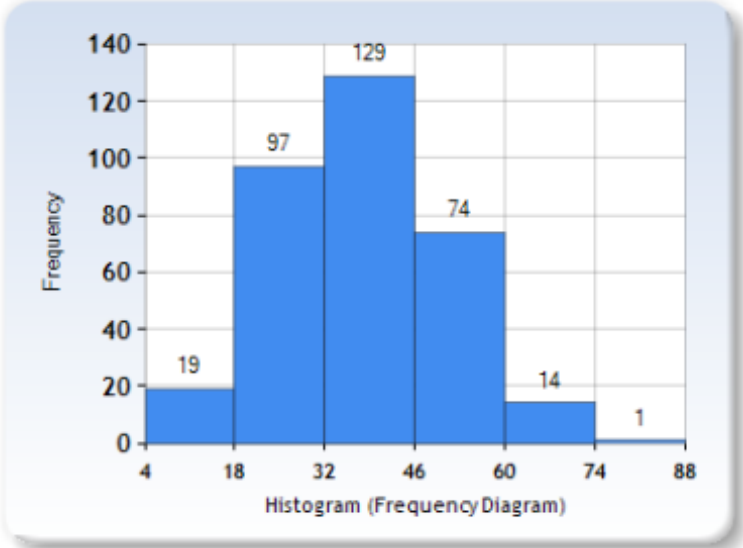
Data Analysis and Display

Date	No of patients attended	% refer for tests	% refer for treatment	% refer for admin	% refer to other dept
18-03-19	459	45%	14%	15%	8%
19-03-19	463	64%	29%	11%	23%
20-03-19	407	61%	32%	17%	14%
21-03-19	419	61%	13%	16%	14%
22-03-19	382	68%	20%	15%	15%
23-03-19	328	48%	16%	6%	8%
24-03-19	367	61%	17%	5%	7%
25-03-19	437	29%	11%	4%	4%
26-03-19	418	42%	9%	5%	13%
27-03-19	438	43%	11%	6%	7%
28-03-19	381	86%	24%	26%	12%
29-03-19	338	30%	5%	3%	6%

% refer for tests	% refer for treatment	% refer for admin	% refer to other dept
53%	17%	11%	12%

Frequency Table	
Class	Count
4-17	19
18-31	97
32-45	129
46-59	74
60-73	14
74-87	1

Your Histogram	
Mean	37.1497
Standard Deviation (s)	13.13576
Skewness	0.16788
Kurtosis	-0.31501
Lowest Score	4
Highest Score	78
Distribution Range	74
Total Number of Scores	334
Number of Distinct Scores	61
Lowest Class Value	4
Highest Class Value	87
Number of Classes	6
Class Range	14



Key Findings drawn

- On an average 550 patients attended outpatient services on a daily basis including 23 % who have prior appointment. There is a rush in the department which can be chaotic during peak times.
- On an average, patients spend 275 minutes in the department, out of which only 56 minutes is value-added. The rest of the time, the patient is either waiting or making unnecessary movements.
- On an average 250 patients get referred to specialist assistance and/or admitted for longer-term treatment in the hospital. The remaining 300 are provided treatment and advice in the outpatient department on the same day. 13% of them have to return for consultations or to have telephonic review with the attending doctor.
- About 65% of patients required clinical tests to be performed post initial diagnosis and before prescriptive medication. Awaiting clinical test results constitute 70% of the waiting time indicated as above.
- There are 8 consultation rooms but only 6 doctors are generally on duty.
- The process flow in the different working stations differ leading to longer waiting time for some patients. The situation is worsened during peak times or when staff are absent and there is no replacement.

Waste Identified

1. Patients lack visual guidance information where to go. (NON-UTILISED TALENTS)
2. There is a limited space in the casualty area. (INVENTORY)
3. There is a minimum waiting time of 2 hours for the reports to come from the laboratory. (WAITING)
4. Usually the attendants have to take the blood sample from the casualty area to the laboratory and the reports back to the casualty area. (MOTION + TRANSPORTATION)
5. The nursing staffs have to follow up with the laboratory staffs. (NON-UTILISED TALENTS)
6. Number of walk-in queries on the nursing staffs is quite high. (EXCESSIVE PROCESSING)
7. There is a minimum waiting time of 45 minutes prior to seeing a second doctor. (HAND OFF)
8. Around 150 patients are for Xray area. They add up to the flow in the corridor. (INVENTORY)
9. Blood test papers have to stamped in Room 1 before patient can go to room 3 for conducting the tests. (MOTION + TRANSPORTATION)
10. There are only 5 beds in the observation room which is in room 7. (LIMITED CAPACITY)
11. People often have to wait for admission sitting in wheelchairs or in the waiting area. The usual waiting time before getting admitted is around 5-6 hours. (WAITING)
12. Nursing staffs from Room 1 need to do multiple follow ups for the patients and often they have to cater to the queries of the patient and their relatives. (EXCESSIVE PROCESSING)
13. Admission procedures are manual and time consuming. (EXCESSIVE PROCESSING)
14. Beds are not available most of the time. (OVERPRODUCTION)

Performance Targets

Key performance targets set

- Average waiting time per patient before he/ she meets the doctor: not exceeding 15 minutes
- Number of stations patient moves to before allowed to leave: less than 3
- Adequate stock of medicines: nil medicine stock-outs
- Availability of diagnostic services: no return patients due to non- availability of diagnostic services

Step 4 and Step 5

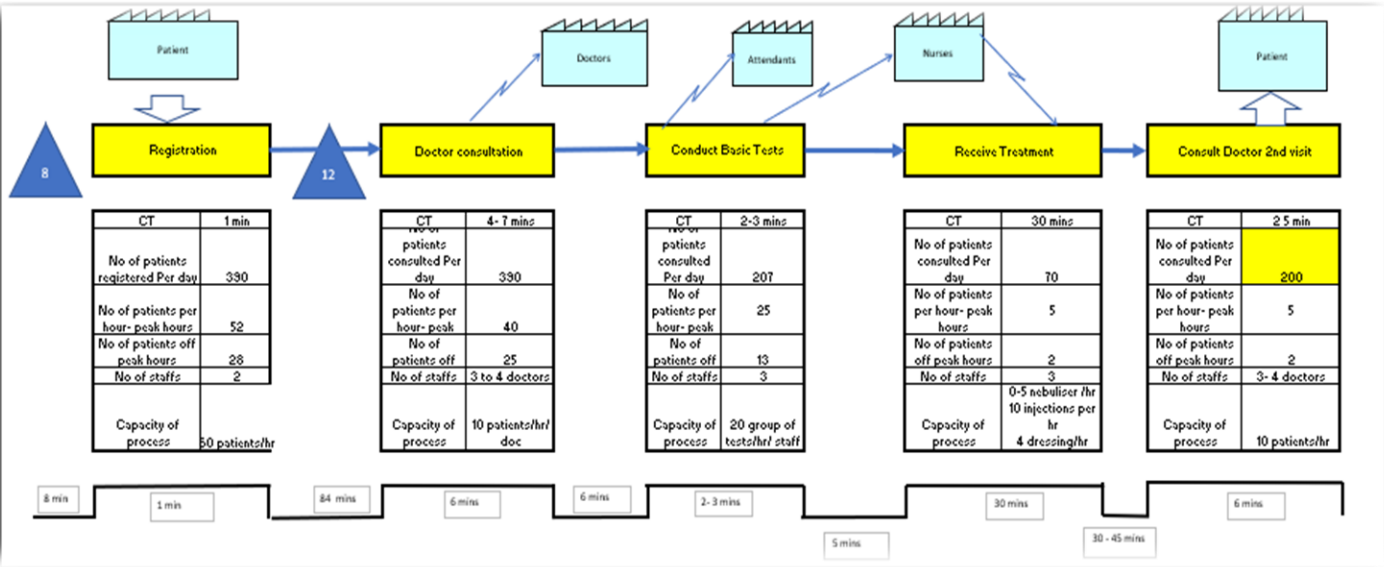
Step 4: Improve the Process

1. Use the value stream map to improve
2. Identify quick wins
3. Redesign, repair or replace the process
4. Selecting the best BPR method

Step 5: Pilot the process

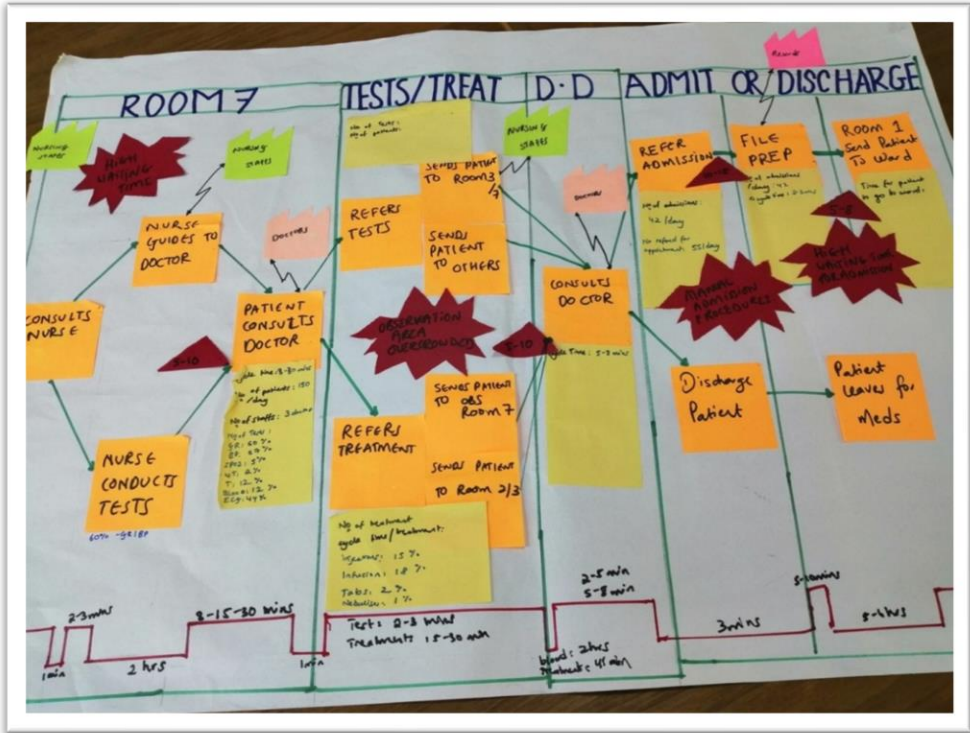
1. Document the new process
2. Install test changes
3. Conduct a simulation test
4. Pilot the new process
5. Analyse the impact on operation
6. Check if set goals are met

Step 4- AS IS PROCESS

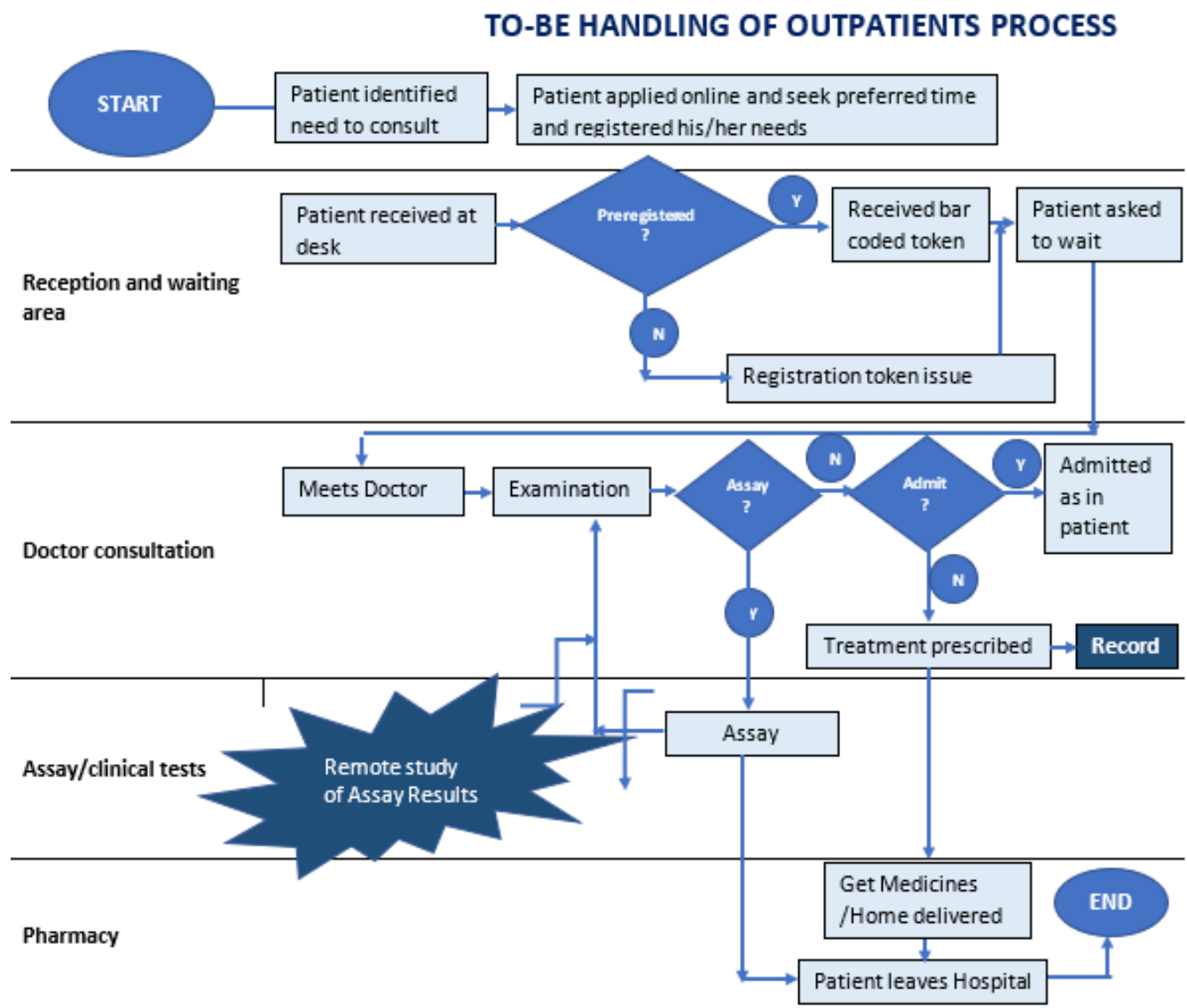


Total no of patients per day	390 ± 58
Total Value added time	46 mins
Total Non Value Added Time	148 mins
Takt time	26 patients per hour
Efficiency	31%

Step 4- Value Stream Map



Redesign Process

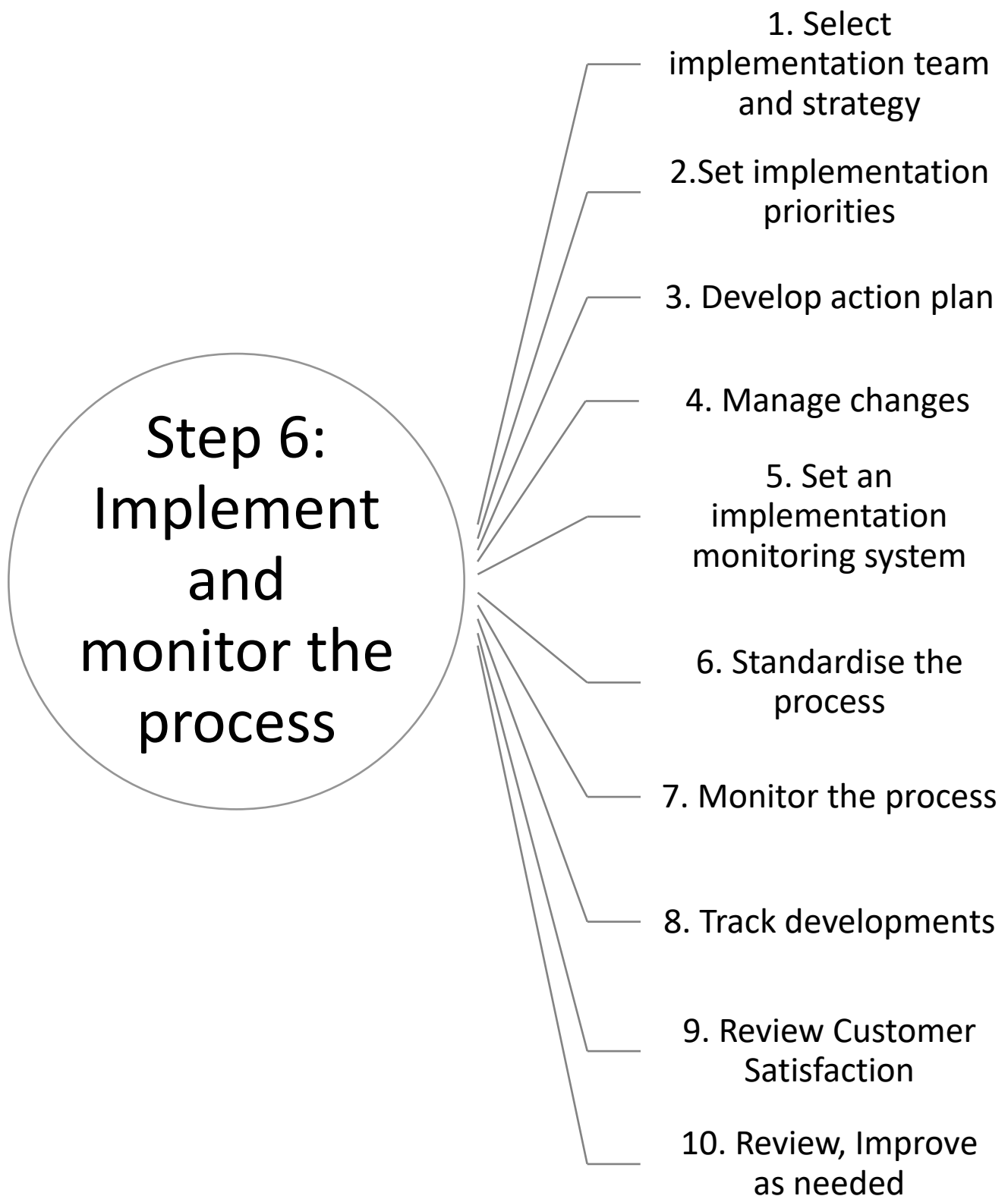


Improvement and Implementation

Complete end-to-end ICT enablement was extended to all departments in outpatient area and patient relationship management. Key changes implemented are:

- Appropriate software was developed and the relevant equipment was made available at different stations.
- Barcoded priority tokens were issued to patients.
- Staff across the department were trained to use computer screens, scanners and handheld devices. Extensive data entry was required only for the below areas:
 - ✓ Reception at the time of patient registration
 - ✓ Doctors when advising the treatment protocols and prescribing the medicines
 - ✓ Assay result recording at clinical test stations
- Advance information on forthcoming (or next) patient's needs are sent before the arrival of the patient so that staff in each unit can be better prepared to reduce waiting time e.g., pharmacy was able to prepare medicine kits for the next patient arriving with the doctor's prescription.
- Better coordination between doctor and pharmacy and better internal coordination between pharmacy and procurement helped remove stock-outs completely and eliminated the need for patients to return again for medicine or go elsewhere.
- Sign boards were created to correctly guide patients requiring moving from place to place.

Doctors were advised to take the responsibility for advising the patients on where to go next rather than nurses and/or receptionist.



Key Results Obtained

Key results

Patients: the average inflow of patients increased from 550 to 620 daily

Online registration: Patients could register online and were using these facilities. As a result of pre-appointed schedules, 65% of patients had to wait less than 10 minutes in the waiting area before the doctor called them.

Assay reports were delivered online to respective doctors resulting in speedier service, lesser waiting time for patients and reduced crowding in the outpatient area.

Zero waiting time to collect prescribed medicines. In the event medicines were not available, a message was sent to patients advising them when they could collect it. Home delivery was also made possible if so desired by the patient.

Maximum number of hand-offs decreased to 2 for patients not requiring admission for prolonged treatment.



Case Study of Citizen Support Portal, Prime Minister's Office

Current Situation (Before April 2017)

There is no formal mechanism to address complaints and suggestions emanating from the Citizens



This created a lot of frustration among citizens as well as the perception that people were not treated fairly and equally

Solution proposed

A customised off-the-shelf online Citizen Support Portal (CSP) was introduced. The CSP has brought a transformational change in the manner Government handles complaints and suggestions

Redesigned Process

Step 1: The Citizen enters the web site address www.csu.mu to record a complaint or suggestion or walks in one of the 35 Citizen Advice Bureau (CAB) or 95 Post Offices. A unique ticket number is provided to the complainant via SMS notification or email.

Step 2: The ticket is automatically channelled to the CAB specified on the online application form which thereafter transfers electronically the ticket to the respective Government body.

Step 3: A high ranking officer (Department Supervisor) in the concerned Government entity takes ownership of the ticket and can personally address the issue or assign it to his subordinate (Department Officer).

The ticket can be reassigned to another Department Officer or transferred electronically to another Government entity.

Step 4: The CAB officers, CSU and other public officers can monitor, query officers or post an internal note on the CSP during the processing of the ticket.

Step 5: The CSP provides for the citizen to be informed by email during the processing phase of the ticket.

Steps 6 & 7: The Citizen can at any time check the status of the ticket through the ticket number. Once a ticket is closed, the Citizen is invited to fill in a feedback form to rate the level of service.

Key Results

Key Results

- The CSP has heralded a transformational reform across the Public Sector and has redefined the ecosystem existing between processes, people and technology.
- The management of complaints in Government has now shifted from a 9-to-4-time frame to a round-the-clock service.
- The CSP also includes new features to allow those with disabilities particularly those who are visually impaired to use the portal in a seamless manner.
- Drastic reduction in time taken to address complaints and suggestions
- More than 80% complaints resolved in a set timeframe
- Citizen satisfaction
- Data Analytics for evidence-based policy formulation
- Close monitoring of complaints received at different levels of Government