

Improving Patient Accessibility By Reducing Waiting Time for Sleep Deprived EEG (SDE) in a Tertiary Care Hospital: An Essential Healthcare Quality Dimension



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Problem Statement:

- SDE is a very sensitive test for the early diagnosis of Temporal Lobe Epilepsy (TLE) and Juvenile Myoclonic Epilepsy (JME). Long waiting time for appointment of this test leads to delay in diagnosis and surgical treatment, if required. Average waiting time for SDE was around 12 weeks.

Project's Mission:

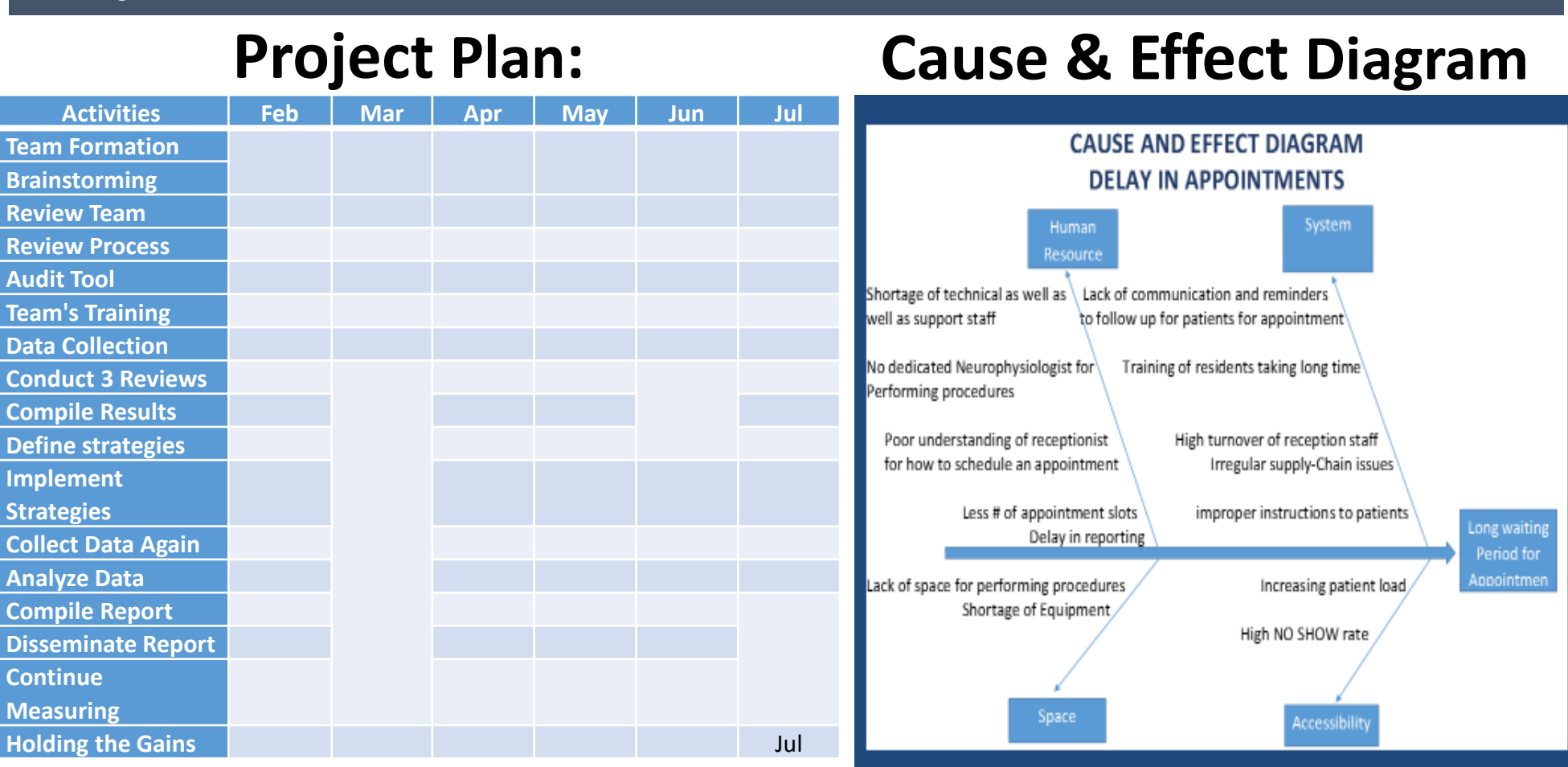
- Reduce turnaround time for the appointment of SDE procedure from 12 weeks to less than 2 week to ensure the quick diagnosis, which will help physician to start the treatment early

Project's Methodology:

- To identify time taken by different components of procedure and analyze the root cause for delay.
- Use Organizational Continuous Quality Improvement Model of Plan-Do-Study-Act (PDSA), as defined and described in Quality Improvement and Patient Safety Program

Project Timelines: February 2018 – July 2018

Project's Plan (PDSA):



Project's Do's (PDSA):

Formation Of Project Team:

- A project team was formed and started its planning in December 2017 after the process improvement exercise was done.

Brainstorming To List Down The Possible Causes:

- The team met many times as required to brainstorm to chalk down the possible causes of the delay. Cause and effect (fish Bone Diagram) was used

Flowchart Of The Process:

- A detail flowchart of the process was developed to identify retrospective / prospective synaptic all data collection points.

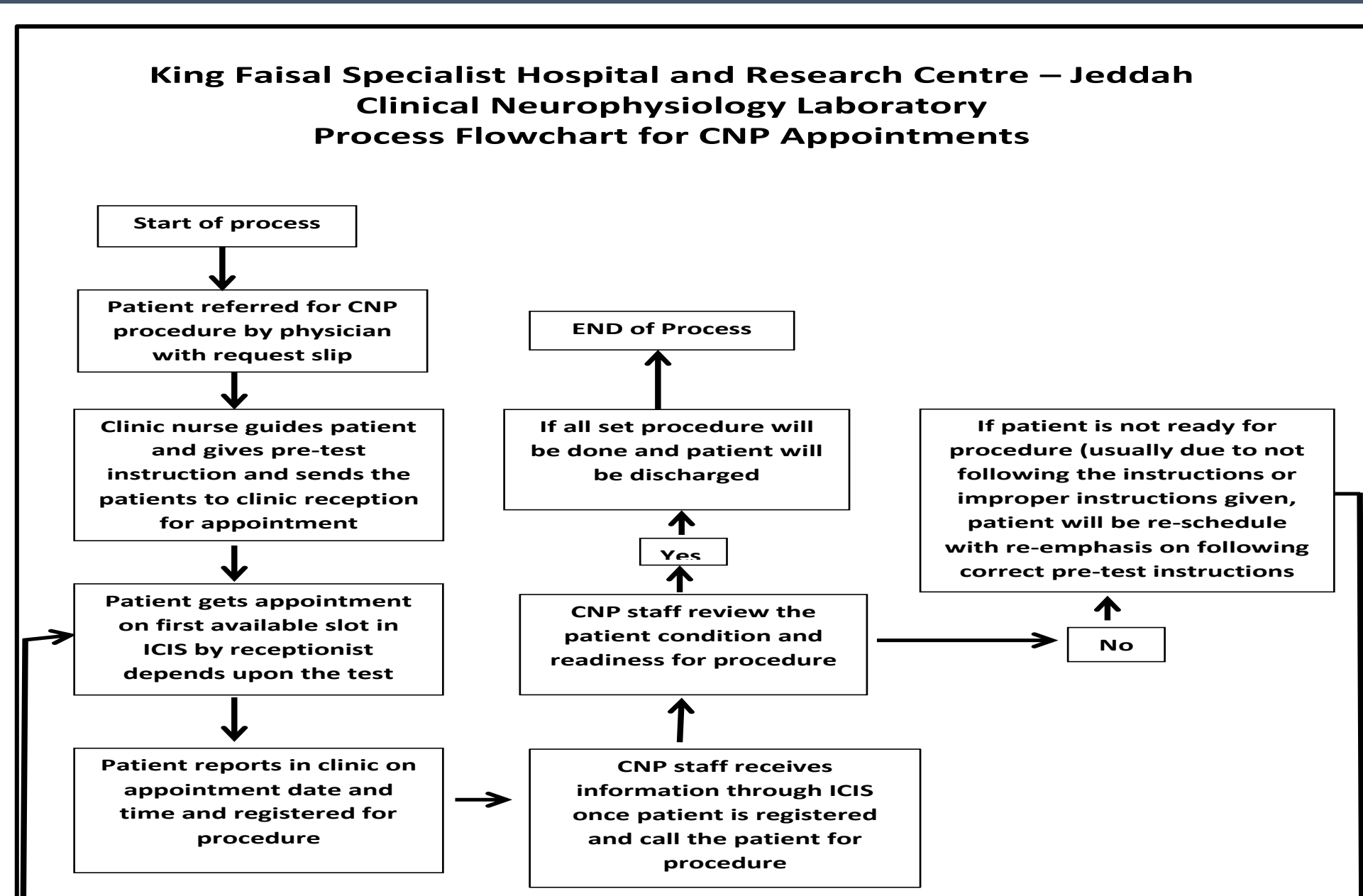
Develop Audit Tool:

- Maximum data was derived from Oracle and as required further data collected on XL sheet and analyzed on SPSS and XL statistical tools in line with JCIA Standards for data validation purpose

Designing Of Review Process:

- A documented review process was established to define sampling methodology, review procedure and duration of review cycles.

Flow Chart of the Process:



Training of Review Team (PDSA):

- The review team was given appropriate orientation and training to the audit tool standards using demonstration of standards, intents and measurable elements.

Project Study (PDSA):

Data Collection:

- One month data was collected for review. This was further extended for another month to achieve minimum sample of 10 % of cumulative volume of last year.

Baseline Reviews:

- Three baseline reviews were conducted in March 2018 to identify the baseline level of non conformance and its causes.

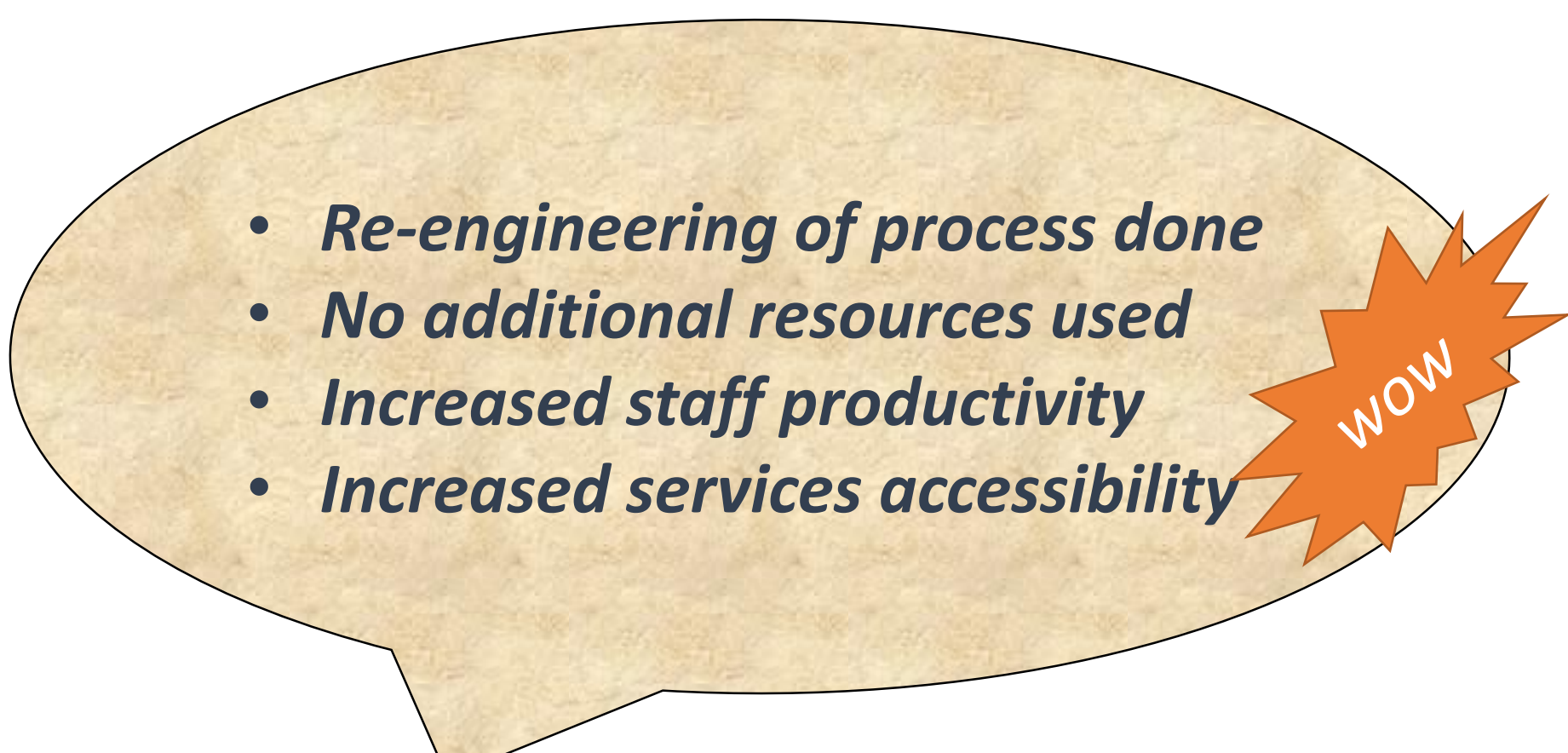
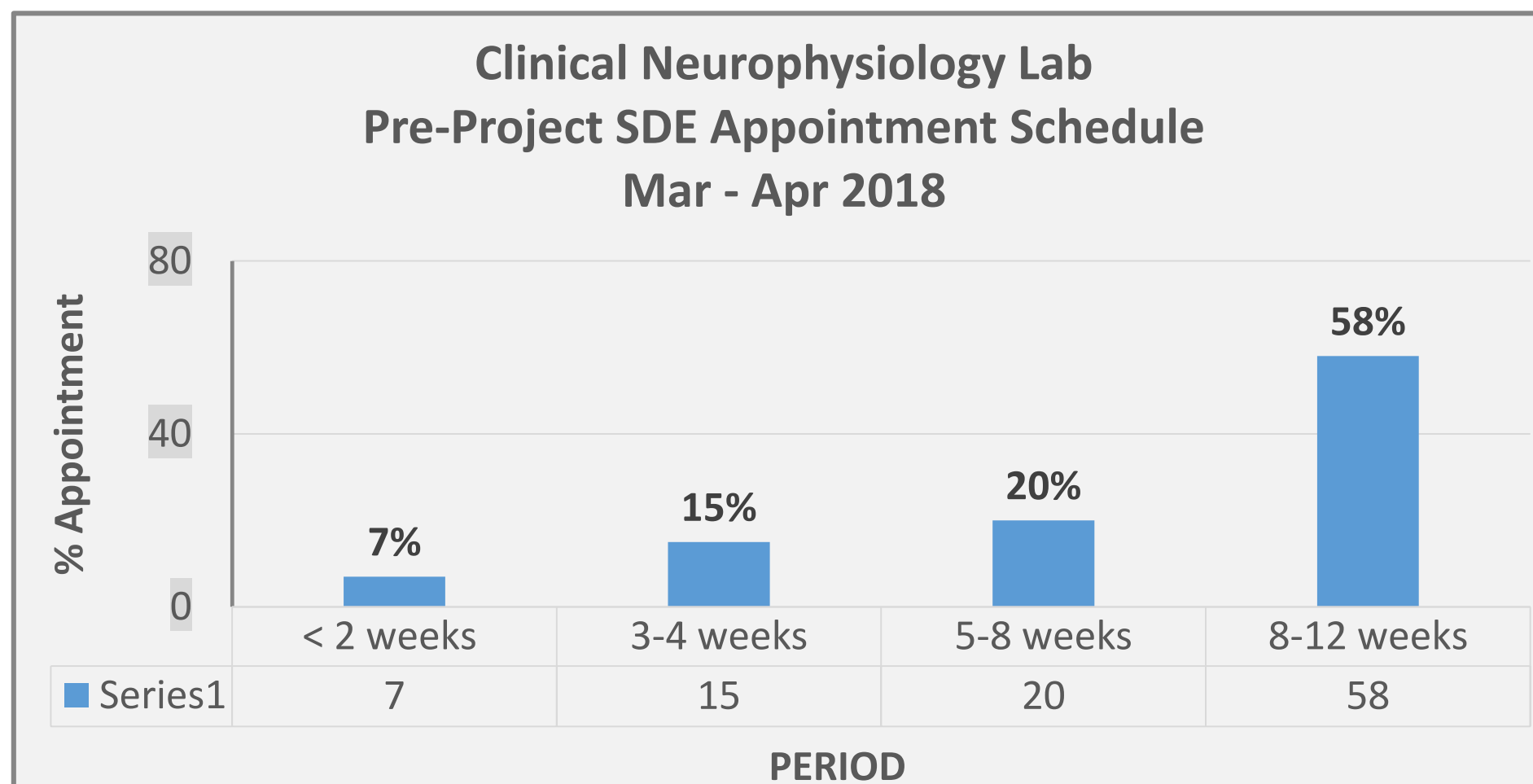
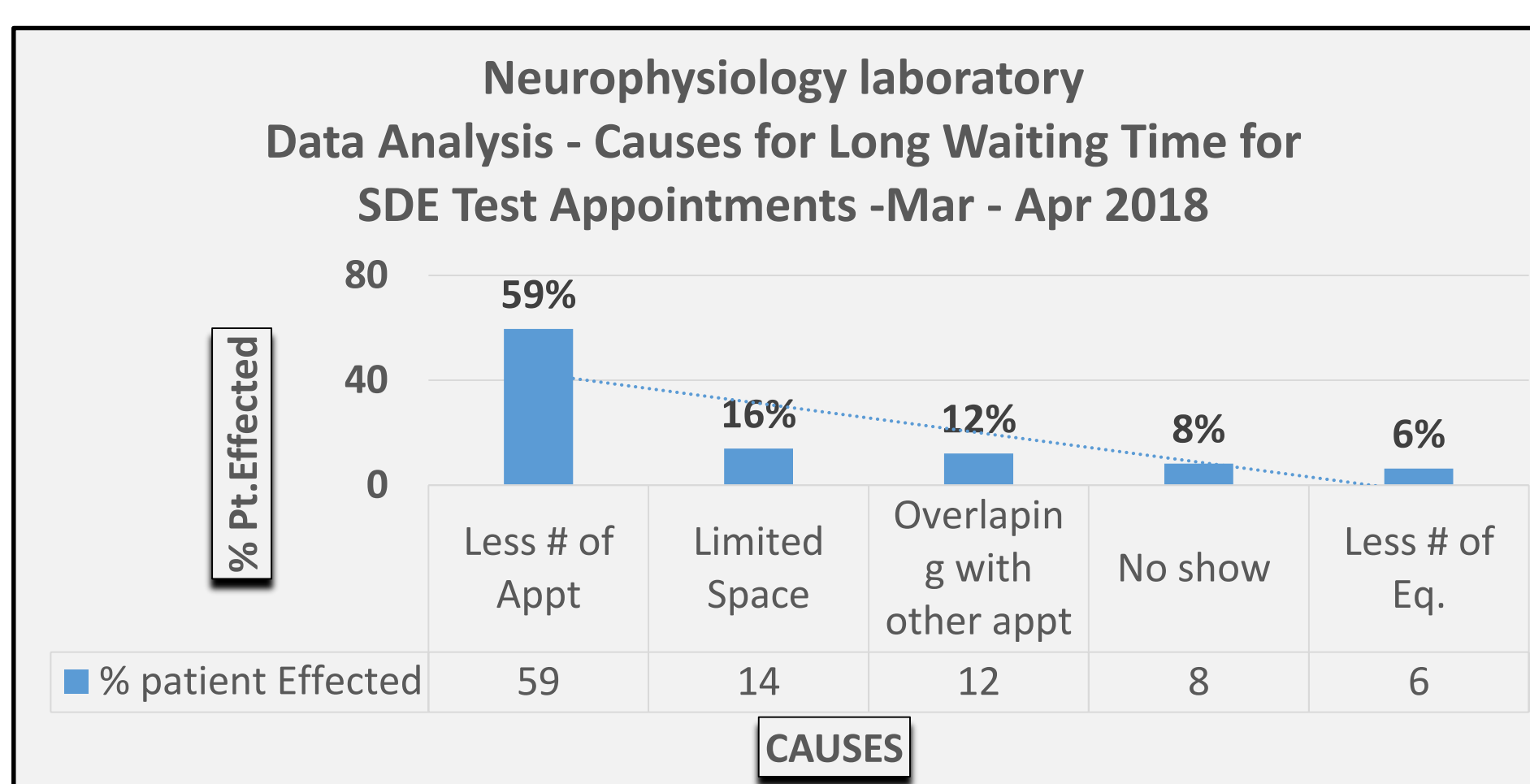
Indicator Monitor:

- More than 90% appointments should be available within two weeks after submission of request

Data Collection Points:

- Clinic visit - Request submission
- Request submission - Appt. given

Pre-Project Data:



CREDITS OF ACHIEVEMENTS:

Review Period	Improvement in Appointment Lead Time (April-June 2018)			
	< 2 weeks	3-4 weeks	5-8 weeks	9-12 weeks
2 Weeks	26%	31%	28%	15%
4 Weeks	54%	21%	14%	11%
8 Weeks	76%	11%	7%	6%

Lessons learnt:

- The most important observation from this exercise shows that great improvement can be made through an interdisciplinary team approach keeping patients as our focus.

- Our plan is to conduct a detailed and thorough patient flow analysis including redesigning the clinic space to further improve patient throughput.

Message for others:

- Always look for room for improvement for the sake of patient safety and quality and work with your interdisciplinary teams involving all the stakeholders.

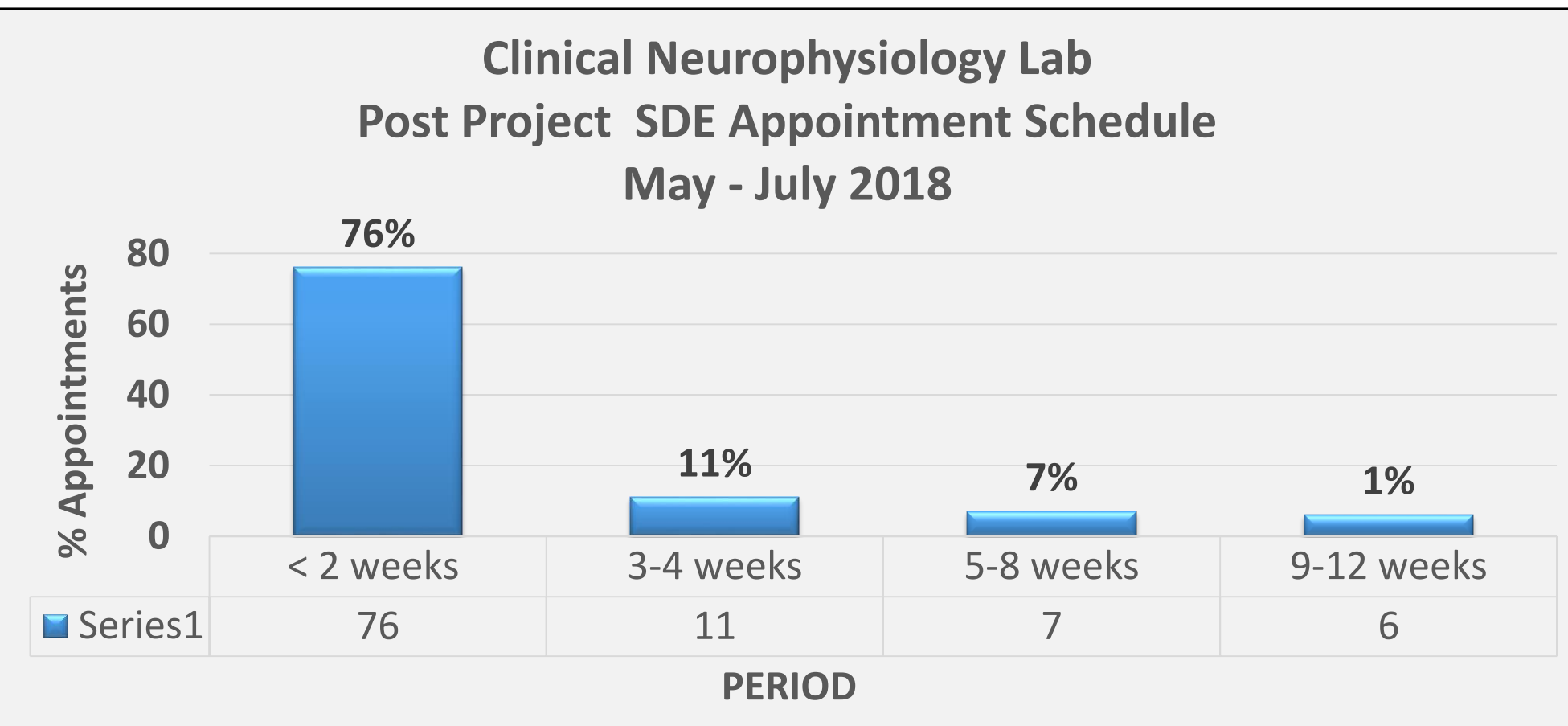
- Small changes can result in significant gains.

Project's Actions (PDSA):

Define and Implement Strategies for Remedies:

- After prospective data analysis of SDE appointments from March – April 2018, Pareto Analysis (80/20) rule was used to target the core issues causing long waiting for SDE test appointments and following strategies were implemented to start collecting data to analyze the outcome.
- Major Strategies were:**
 - Revised appointment schedule to increase slots from 2 per week to 6 per week.
 - Initiation of dedicated SDE clinics to accommodate more patients
 - Revised SDE recording protocol by engaging Consultants to streamlining the process and better communication between physician and patient for test preparations.
 - Patients with long waiting period were called in new clinics to bring waiting period down.
 - Referring physicians were contacted to make them aware about new initiated clinics
 - Reminding the patient for appointment and test preparation was manually controlled in this period to reduce NO SHOW and Re- Scheduling patient.
 - Senior Technologist was assigned to liaison with Neurosciences clinics for accommodating walk-in patients and out station patients on same day.
 - Staggering hours service was introduced to accommodate Inpatients in late hours and accommodate SDE patients in morning shift.
 - Most importantly all staff was motivated and taken on board with management to achieve this target.
 - Cross training of staff was started to make them supportive to each other

Post-Project Data:



Spin Off Benefits:

Project Measurable indicator(s)	Data before Project	Data after Project	% Improvement
IN TERMS OF ZERO HARM			
Re-Scheduling Patients	21%	0	100%
No Show Rate	32%	8	75%
Collateral benefits			
Patient satisfaction	68%	96%	41% Improved
Test volumes	8/month	24/month	200 % increased
Revenue (in SR)	180 K	540 K	360 K

Recommendations for Holding the Gains:

- Vigilant and flexible appointment schedule
- Effective technical staff workload management
- Use of staggering hours duties to increase productivity
- Create more space for clinical activities in existing Lab by relocating non procedural activities



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