Singapore Healthcare Management 2016

Khoo Teck Puat Hospital
Alexandra Health

The Use of Lean 5S Approach in Continuous Remodelling of Eye Service Transference (CREST) – the A&E Eye Consultation Room Experience

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Background

The **Eye Consultation Room (ECR)** at Acute & Emergency (A&E) area was relocated to make way for the increasing general workload. The ECR posed several challenges: it was **not designed for sub-specialty use**; it was **shared with Ears Nose & Throat (ENT) service**; and it was **isolated in a remote location**.

Methodology

The stakeholders (A&E, Ophthalmology & Operations) brainstormed to derive at the collective solutions, **Continuous Remodelling of Eye Service Transference (CREST)**. CREST involved using **Lean 5S principles** to re-design the patient workflow and ECR.

A **spaghetti diagram** (Figure 1) was used to identify redundant & excessive movements in the old setup; while **value stream mapping** (VSM, Figure 2) was performed to identify bottlenecks, remove mudas and optimise value-add processes.

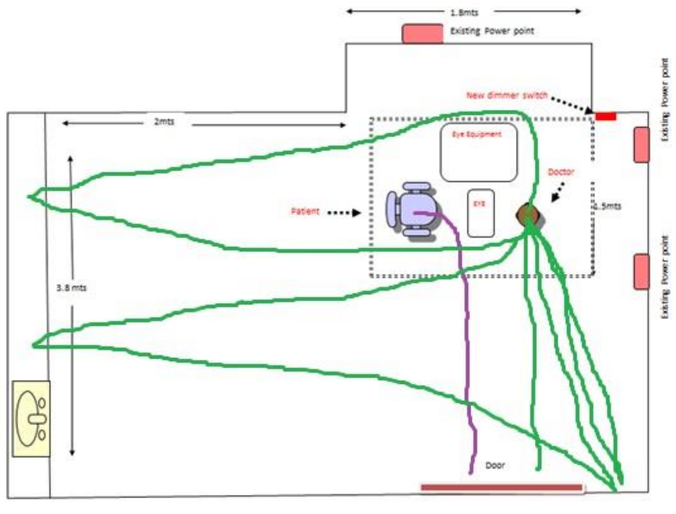


Figure 1. Spaghetti Diagram (before CREST)

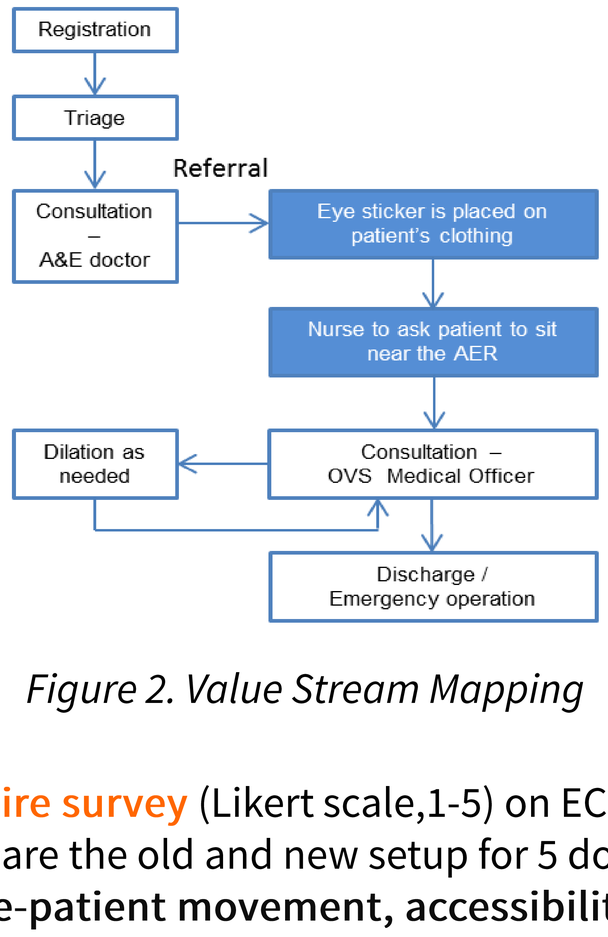


Figure 2. Value Stream Mapping

A **questionnaire survey** (Likert scale,1-5) on ECR users was done to compare the old and new setup for 5 domains (**doctor-nurse-patient movement, accessibility, functionality, examination and safety**).

Results

The **mean satisfaction score** for users (n=16) was higher with the **new ECR (3.64±0.80)** compared to the **old ECR (2.81±1.03, p=0.0172,t-test)**. The domains scores for **doctor-nurse-patient movement, accessibility and safety** were also higher for **new ECR (p<0.05).** CREST resulted in the following waste reduction:

1. Spaghetti diagram & patient identifier stickers reduced motion & transportation of both **patient** & **doctor** (Figure 3)

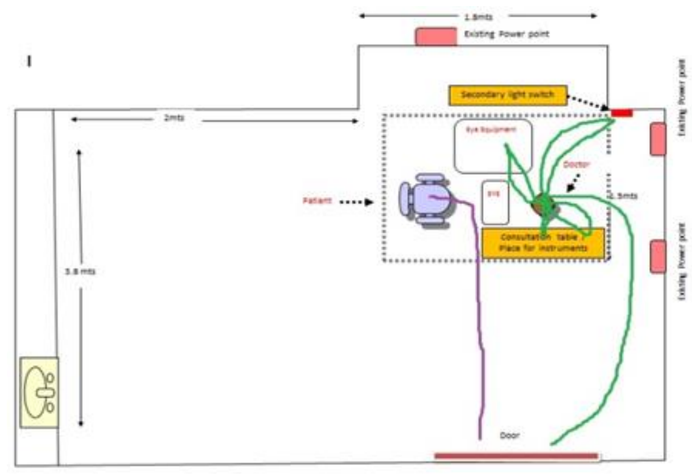
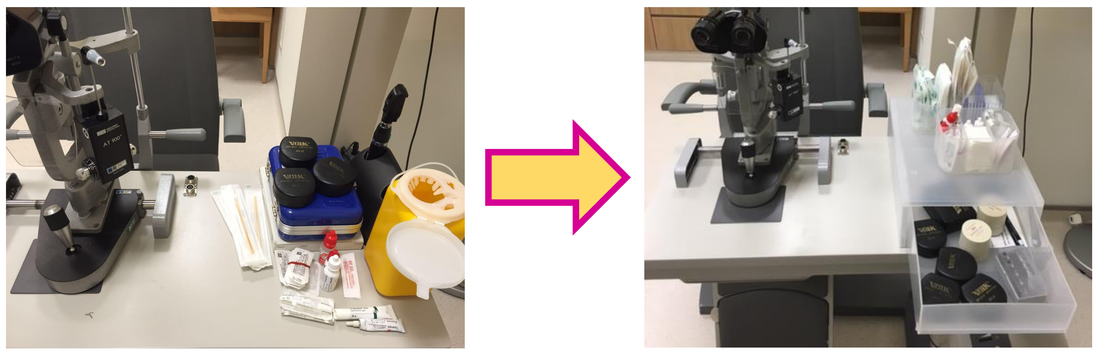


Figure 3. Spaghetti Diagram (after CREST)

2. Categorising and standardising consumables minimised inventory waste.



Seiri (Sort) - Identification of rarely-used Items on the examination table causing cluttering.

Seiketsu (Standardising) - Lenses are now grouped properly kept in a drawer that is easily accessible to the OVS MO.

3. Remodeling the ECR setup reduced patient & doctor movement:

4. Work process VSM reduced over-processing.

5. 5S principles maintained ECR efficiency.

Conclusion

❖Applying **lean 5S principles** in the workplace can contribute to **waste reduction**, **cost savings** and **enhanced patient safety**.