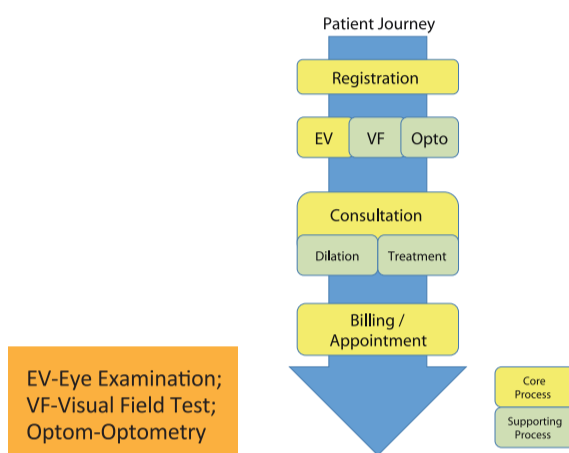


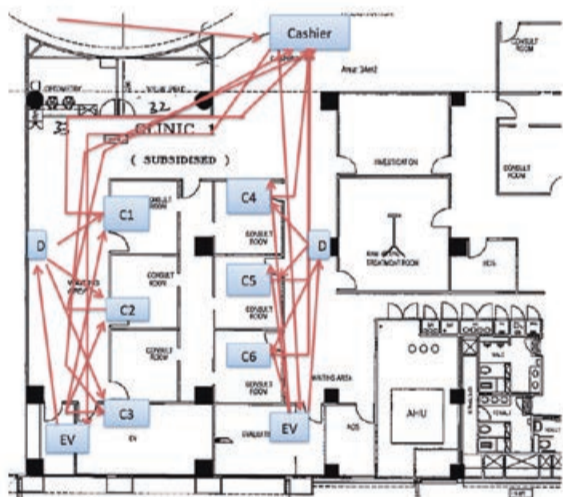
BACKGROUND

Singapore National Eye Centre (SNEC) is an ambulatory facility attending to close to 275,000 outpatient visits annually. Clinic 1 is one of the high volume SOC's in SNEC which can see over 300 patients a day. The existing layout of the clinic was not designed for such high volume and patients have to go round the clinic many times finding the next service point, often crisscrossing their routes, much like navigating through a maze within the same clinic which caused confusion and inconvenience to patients.

Common Patient's Journey is shown in the chart below



Spaghetti Diagram Based on common Patient Tracks (Before Renovation)



AIM

Optimising clinic space and flow by adopting Design Thinking Concept to improve patient journey time and experience in the busiest clinic in the Centre.

METHODS

Adopting **Design Thinking Concept** of *Dream, Discover, Identify, Prototype* and *Design*, a cross-functional team was formed prior to the commencement of the renovation project. Design Thinking is a human-centered problem solving concept with an emphasis on collaboration, creativity and empathy. The key to the process is empathising the user's (patient's) needs to solve the problem. The collaboration aspect is achieved through the cross-functional team comprising members from Operations, Nursing and Quality Service Department.



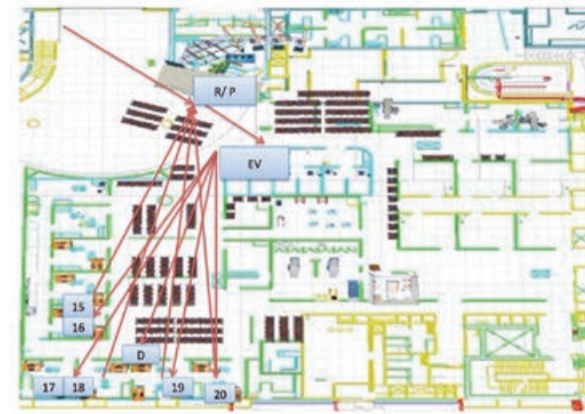
Dream > Discover > Identify > Prototype > Design

In **Dream** stage, team members were tasked to list down what they wished to have in the clinic that would make a difference and delight both patients and staff. In **Discover** stage, members took stock of what was currently provided and did some "self-reflection" on existing conditions. In **Identify** stage, members started to recognise areas that would require fixing and improving. In **Prototype** stage, sketches, layout plans and mock-ups were planned and constructed for brainstorming, gathering feedback and tests. In the final **Design** stage, the layout was finalized and drawn up complete with proposed signage and other fittings before executing.

RESULT

The project was successfully completed in February 2012.

Spaghetti Diagram Based on Common Patient Tracks (After Renovation)



Based on the most common Patient Flow, a patient and caregiver now travel **travel 126 meters instead of 163 meters a 22.7% shorter distance**. Way finding is much easier with patients commenting "Maze No More!" Overall Excellent Rating before and after clinic renovations from patient survey showed an improvement of 25% from 33% to 58%.

Typical New Patient flow distance measured

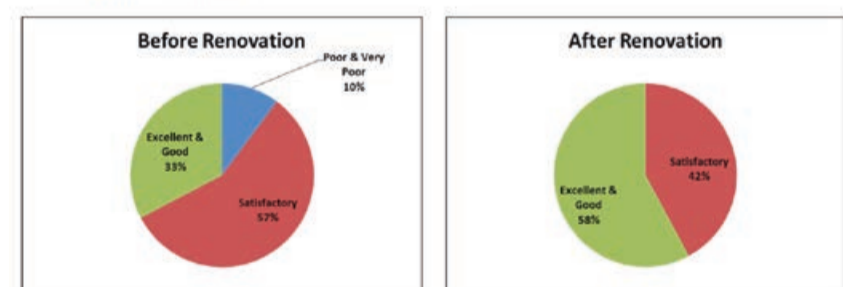
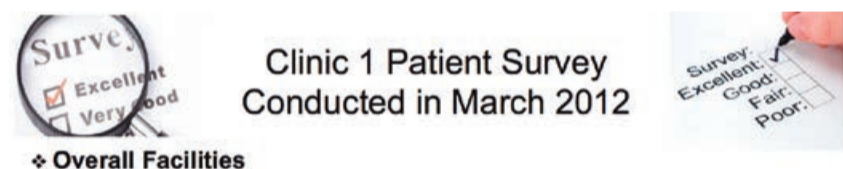
Patients	Previous Distance Travelled	New Distance Travelled (Variance)	Variance (%) {Reduction}
Based on New Patient Flow (Type A)*	163m	126m	37m (22.7%)

*Entrance -> Registration-> EV-> Consultation -> Dilation-> Consultation-> Payment

Footnote:

New Patients: 5 different common Patient Flows
Follow up Patients: 6 different common Patient Flows

Patient care was not disrupted or compromised during the renovation despite this being the busiest clinic in SNEC.



CONCLUSIONS

This project demonstrated the effectiveness and systematic approach of Design Thinking which the team adopted to optimise the Clinic space and flow prior to undertaking the clinic renovation project. It helped the team to take a systems view of the clinic space, various service points and processes to come up with an optimal layout and flow which also resulted in maximizing the space available thereby increasing the clinic capacity.

CAPACITY GROWTH

Descriptions	Before Renovation	After Renovation	Increase (%)
Consultation	6	9	3 (50%)
Evaluation Lanes	4	6	2 (50%)
Dilation Room	0	1	1
Education Room	0	1	1
Waiting Area (Sitting Capacity)	244	330	86 (35%)
Total Floor Area(sq.m)	777	919	142 (18.3%)

The results achieved not only improved the overall patient satisfaction levels but also staff satisfaction. The Design Thinking methodology led to overall better outcomes. The collaborative aspect applied in managing this project has also resulted in a stronger working relationship established during the numerous project planning meetings and throughout the project execution phase. The various teams in SNEC comprising Clinicians, Nurses, Quality Service and Operations staff worked and collaborated seamlessly which otherwise might not occur if the renovations project was pursued by Operations Department in a silo manner.