Project Title

Evaluation of Hospital Clinical Facility Adjacency for Optimal Sitting of Services

Project Lead and Members

- Choo Ee Leen
- Joel Lee

Organisation(s) Involved

National University Hospital

Healthcare Family Group Involved in this Project

Healthcare Administration

Specialty or Discipline

Corporate Planning & Development, Facilities Management

Aims

- Adopt an evidence-based quantitative approach to evaluate facility adjacency needs
- Review the robustness of current layout
- Inform future healthcare facility design for optimal siting of services at NUH

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

See poster appended / below

Conclusion

See poster appended / below

Additional Information

Singapore Healthcare Management (SHM) Conference 2021 – Shortlisted Project (Operations Category)

Project Category

Care & Process Redesign, Value Based Care, Patient Satisfaction, Productivity, Cost Saving, Operational Management, Data Analytics, Build Environment, Facilities Management Improvement, Technology, Data Analytics, Analytics, Applied / Translational Research, Quantitative Research

Keywords

Tableau, Layout, Facility Design

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Evaluation of Hospital Clinical Facility Adjacency for Optimal Siting of Services

Singapore Healthcare Management 2021

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National University Hospital

Introduction

Proper facility adjacency contributes to

- better patient care management,
- shorter travel distances,
- better wayfinding,
- improved patient/ staff experience, and
- reduced operation costs.

Objective

- Adopt an evidence-based quantitative approach to evaluate facility adjacency needs
- Review the robustness of current layout and
- Inform future healthcare facility design for optimal siting of services at NUH.

Methodology

CY2019 data was extracted from SAP

Number of patient movements between facilities was used as an indicator for facility adjacency

Movements captured are for unique patients with moves, that occurred between sequential locations made within the same day

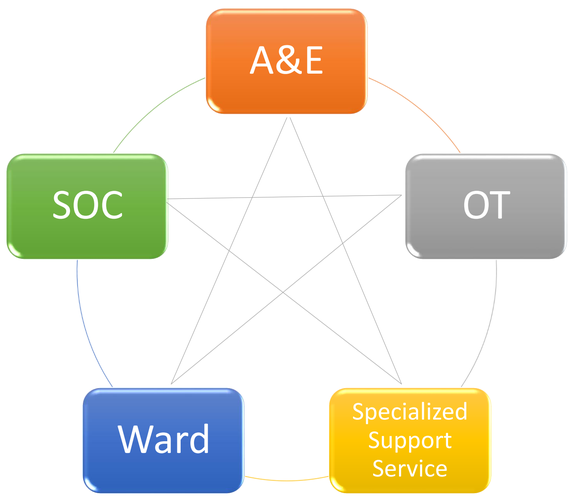
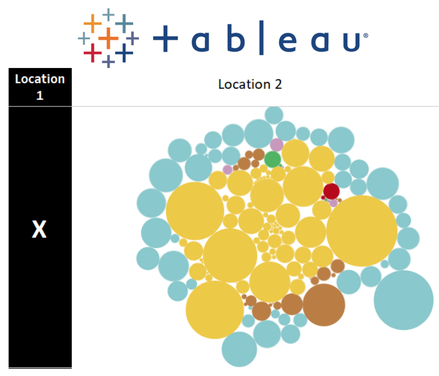


Tableau was used to visualize the magnitude of movements between (type of) locations and disciplines

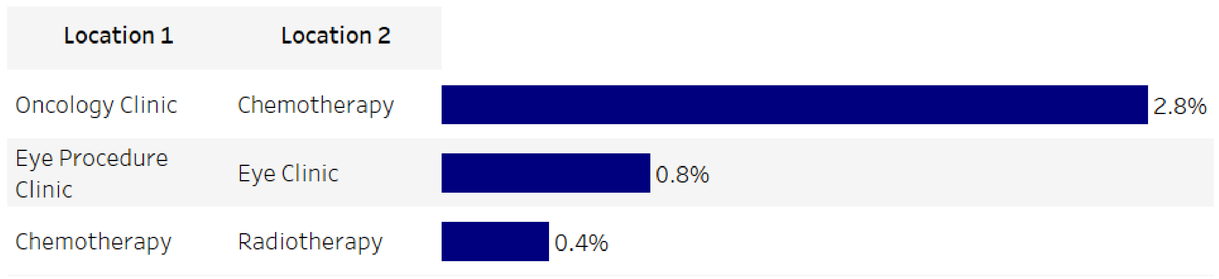


Results

1) Top 5 pairs of location types

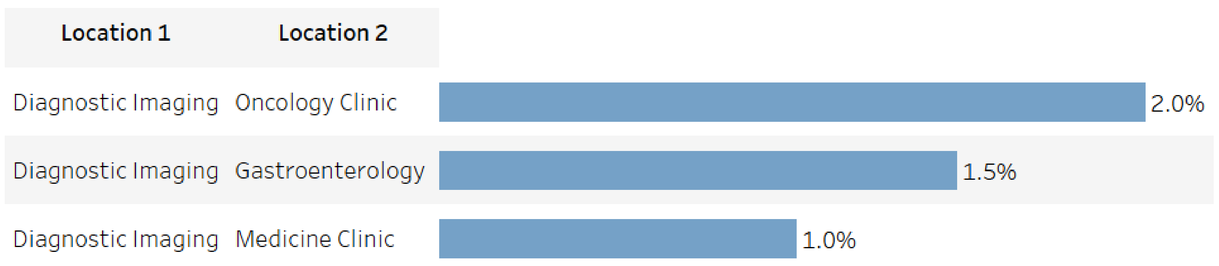
(based on proportion of total patient movements)

2) Between SOCs (Top 3)

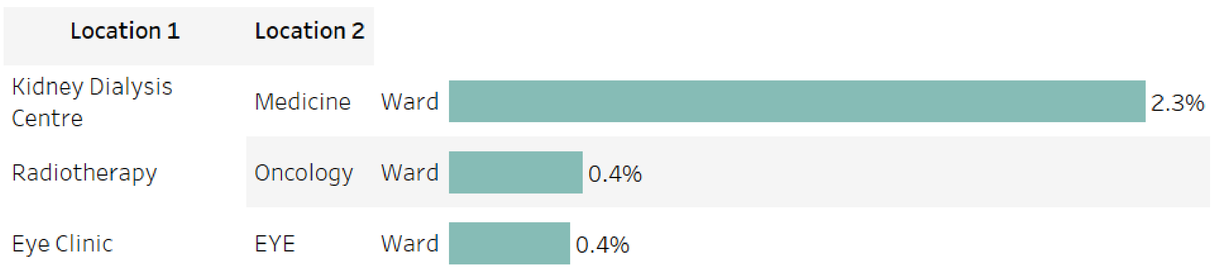


Highest movements are within facilities of the same discipline e.g. oncology clinic and treatment.

3) Diagnostic Imaging & SOCs (Top 3)



4) Between SOCs & wards (Top 3)



5) For **A&E**, a high number of movements was noted to/ from OT (0.8%), as well as Eye (0.4%) and Medicine SOCs (0.1%).

Conclusion

Using only 1 set of data and methodology, the data analysis proved useful to show that:

- Facilities with a higher volume of movements between them may indicate a higher need to be located near to each other for better coordination of patient care and efficient operations,
- Further studies into facilities' capacity, point-to-point distance, processes, is needed to balance with other needs, such as clinical urgency, resource management etc.