INPATIENT LONGSTAYER DASHBOARD FOR DAILY INFLIGHT REVIEW AND IMPROVING PRODUCTIVITY

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Aim (Project Background)

The Average Length of Stay is widely used as a measure of operational efficiency of hospitals. Identifying and proactively managing care and discharge of long staying patients can help reduce the hospital's overall ALOS.

The CGH decongestion committee periodically reviews inpatient Long Stayer (LS) data and efficiency of the inpatient flow process. Current daily data extractions and analysis report of long stayer patients (LOS >= 30 days) were tedious and resource intensive. The need to automate the LS report was discussed with the stakeholders and it was agreed to design an in-house dynamic dashboard with an enhanced user experience.

Designing and building of a daily inflight and historical dashboard facilitates prompt nursing and management action, and identifies areas of improvements for the decongestion team.

Changes (Methods)

Reasons for long staying patients can be broadly classified as following
1. Clinically complex cases – Patients meeting acute and rehabilitative care criteria where long stay is medically necessary and appropriate.
2. Post Acute Long Care planning – Patients who need long term care and are waiting for bed in local nursing home.
3. Social Reasons – Issues arising from social reasons like family, insurance or others.

It is imperative that we first understand the characteristics of the long staying patients discharged from CGH during the period from January 2015 to December 2017. A historic dashboard was created for this purpose.

Following are the some insights from the historical dashboard analysis:
1. 44.6% of Long Staying Patients have MSS Referrals. Care Planning (PS) is the most common MSS service.
2. Patients above 61 years of age have higher probability of being a long staying patient.
3. Pneumonia was most common diagnosis amongst long stayers.

CGH Long Stayer working group reviews the patient cases on weekly basis. An inflight dashboard was needed for driving action to expedite discharges of long stayers. Ability to drill down to doctor level was a critical feature required in dashboard.

Measures (Results , Outcomes and Figures)

Date integration from various source systems have a daily refresh via OBIEE with the specific details of LS patients such as wards, speciality, care provider with individual patient details. This allows users to review and take prompt decisions at the point of care. Additionally, quick design updates are done by in-house data team and secure access are allocated to authorised staff via a sharepoint platform with the flexibility to export relevant data. Data import from MSW system is planned for next phase enhancement.

Data Sources (Historic and Inflight)
1. Daily Inflight Patient report from SAP
2. Admissions, Discharges and Transfers SAP reports for year 2017
3. Functional BOR from ED Dashboard
4. CGH table of Beds-in-service
5. Social Work Information Systems

Visualizations
1. Summary of long Staying patient distribution across locations
2. Top 5 Physicians by number of long staying patients
3. Top 5 Specialties by number of long staying patients
4. Top 5 Diagnosis Codes by number of cases
5. Age Profile of long staying patients
6. Summary and Details of Bed Occupancy Rate Across Locations and Wards
7. Functional BOR
8. Case History of long staying patients
9. Review Inflight early re-admitter cases
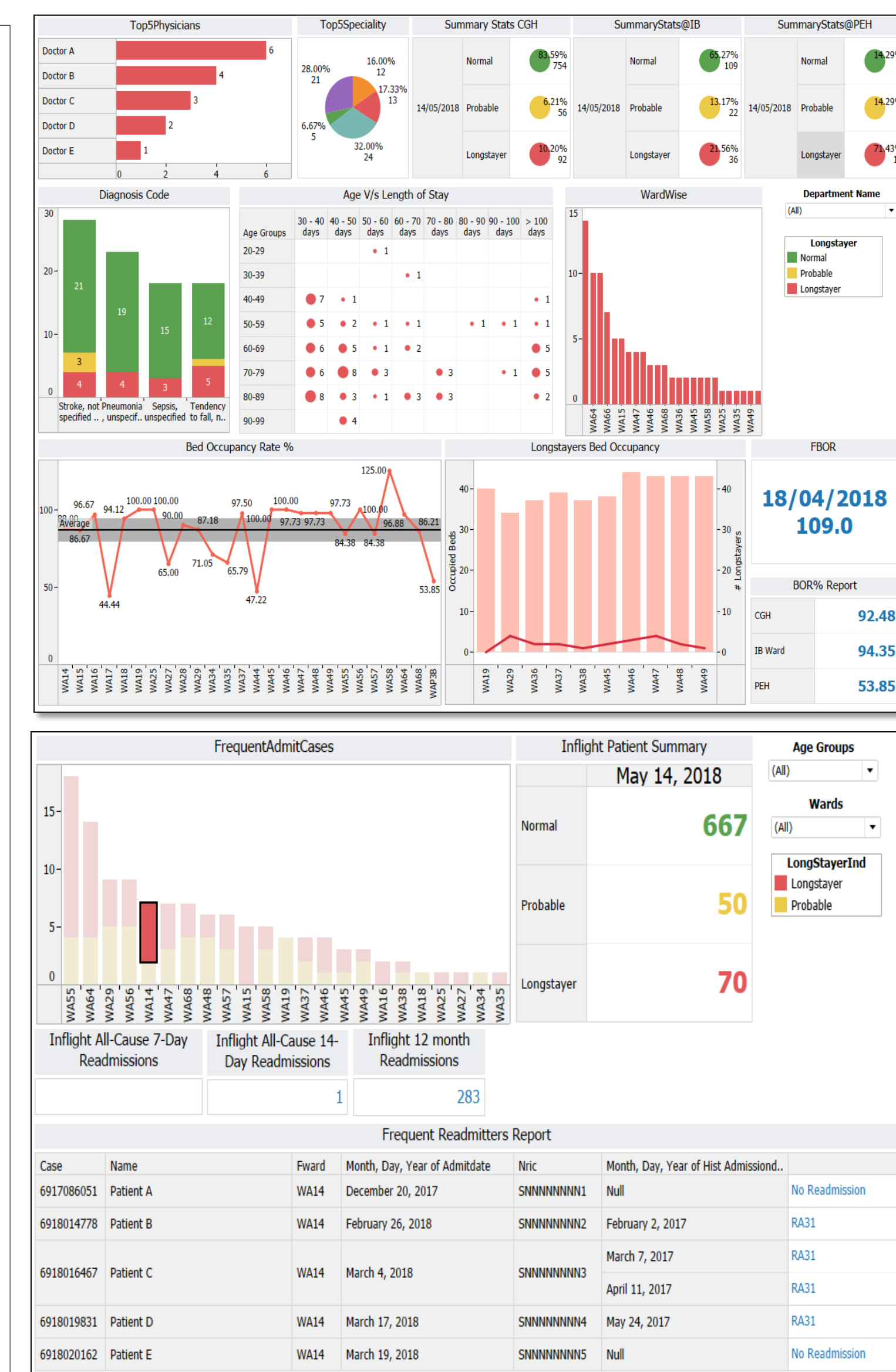
Actionable Intelligence

1. Where are our long staying inpatients located?
2. What is the age profile of current inflight long staying patients?
3. Who is the care team doctor and the case history of a long staying patient?
4. Is my BOR impacted by long staying patients? Can I right site these patients?
5. Can I initiate MSS intervention earlier to reduce the length of stay of my patient?

Next Steps

1. Integrated Nurse's workflow to review and track their actions for long staying patients.
2. Usability for MSW staff for weekly submissions to MOH.

Conclusion

The LS Dashboard helped to optimize the data collation process and automate weekly and monthly LS reports, resulting in productivity gains for DMI and Nursing Team. The new inflight LS dashboard enables quicker refresh of daily inflight patient data along with significant time savings of 90 mins per day. Inflight Long Staying Patient dashboard, along with Frequent Admitter dashboard, results in prompt action from care team and significant time savings of approximate 90 mins per day for the Nursing Tteam.

Overall annualized FTE savings is estimated to be 1.2 FTE for DMI and Nursing Team. With ZERO capital cost incurred to design and build this tool, the dynamic visualization dashboard is a cost effective decision support solution for the decongestion workgroup and inpatient care teams.

Long stayer dashboard has enhanced user experience for the decongestion team by automating the reporting for periodic review of long stayers.