Amazing Makeover of Bed Status Dashboard

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Special thanks to stakeholders who helped to launch or provided inputs for the dashboard:
CMB, Chairmen of Clinical Divisions, CN, Clinical HODs and Communications

Background

The Bed Management Unit (BMU) performs daily bed assignment and monitors bed demand and supply to assess impact on bed wait time. To this end, real time bed data is collated at fixed points in time daily to take stock of current bed situation and to alert stakeholders when action needs to be taken to alleviate bed crunch or prolonged bed wait time. Previously, BMU had to refer to multiple sources for bed data such as the bed census, SCM-ED and SAP to assess the bed situation, and thereafter manually update the stakeholders if necessary. The previous dashboard provided limited information on bed situation.
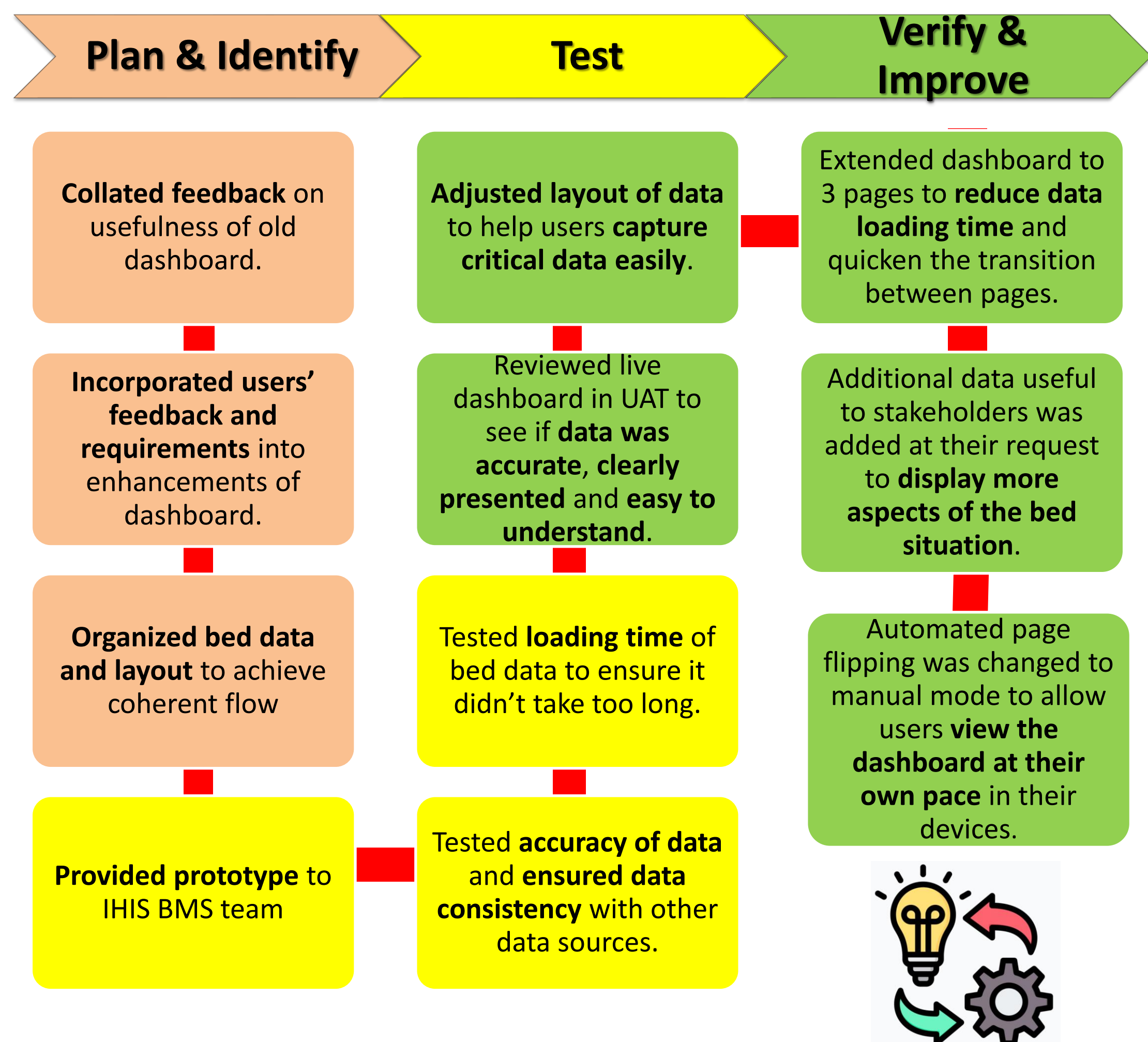
Aim

✓ Easy access and quick appreciation of real-time bed situation for all stakeholders.
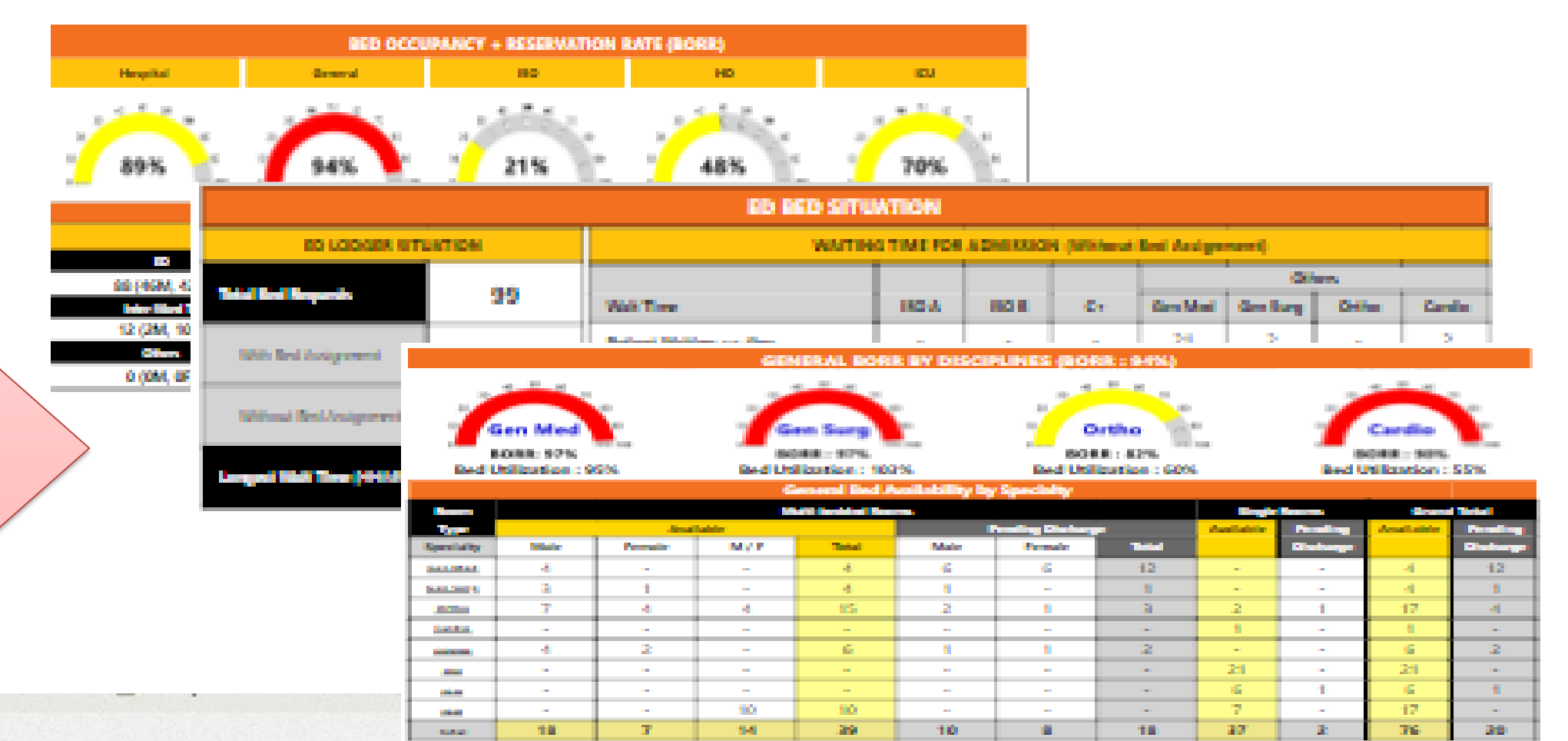✓ Improved work efficiency for BMU.

Solution

Revamp the current dashboard by providing more comprehensive bed information – a one-stop visual display of important and organized bed information, easily accessible by all stakeholders.

Methodology

Plan & Identify

- Collated feedback on usefulness of old dashboard.
- Incorporated users' feedback and requirements into enhancements of dashboard.
- Organized bed data and layout to achieve coherent flow
- Provided prototype to IHIS BMS team

Test

- Adjusted layout of data to help users **capture critical data easily**.
- Reviewed live dashboard in UAT to see if **data was accurate, clearly presented and easy to understand.**
- Tested **loading time** of bed data to ensure it didn't take too long.
- Tested **accuracy of data** and **ensured data consistency** with other data sources.

Verify & Improve

- Extended dashboard to 3 pages to **reduce data loading time** and quicken the transition between pages.
- Additional data useful to stakeholders was added at their request to **display more aspects of the bed situation.**
- Automated page flipping was changed to manual mode to allow users **view the dashboard at their own pace** in their devices.

3-page dashboard with pertinent information including:
1. Bed Occupancy Rate, Bed Demand & Pending Discharge
2. ED Lodger Situation
3. Bed Availability by Specialty

Easily accessible via Infopedia
Went live on 24 May 2022.

Scalability

- Requested IHIS BMS Team to avoid hard coding for the dashboard as bed assignment workflows are always evolving. This is to **allow shorter lead time** to change bed data logic.
- Trending charts will also be added to cater to the needs of HODs and Senior Management.

Results

Time Saving

Improved productivity with **elimination of manual collation** of bed stats for assessment of bed situation.

135min/day
equivalent to ~0.3 FTE (PSA) or ~$11,500 / year

100%
reduction in data error due to manual collection

Quick Insights

- Bed Status Dashboard is available on intranet main page that **easily accessible by all stakeholders.**
- Stakeholders are able to **self-help** to access real-time data to **take timely action to ease bed crunch** and **manage patients' expectation regarding bed wait time**.
- Stakeholders found the revamped dashboard useful and requested to **make it accessible** to teams on the ground. It has been uploaded to SKH Infopedia home page and will be made available at the office of clinical departments, including A&E, on wall-mount TVs. Fewer ad-hoc requests for bed information were also received from stakeholders.

Staff Satisfaction

With **savings in time and effort** for BMU, staff no longer need to worry about errors or race against time to collate real time stats for quick bed situation assessment, thus achieving more staff satisfaction and joy at work!

Conclusion

The management of hospital beds is a crucial element in the overall hospital operations and all departments are in some way dependent on bed availability. Having a highly accessible Real-time Bed Status Dashboard empowers all levels of staff and stakeholders to be able to make informed and timely decision that can impact bed availability and overall patient flow. It is built as a tool to bridge communications on bed availability – real-time, 24/7 – so as to pull all stakeholders together for collective efforts in managing hospital bed crunch situation. The dashboard is a practical solution, meets the aim and relatively inexpensive to implement.