Specifications for capacity at a glance screens

Specifications help establish business as usual

The purpose of this document is to provide a detailed description of the requirements for the design and function of capacity at a glance screens. Benefits and underpinning assumptions will also be outlined.

The screens are only effective if you use them. For that reason the following describes specifics on displaying the data and what needs to be included.

Capacity at a glance screens are operational dashboards

Capacity at a glance screens are operational dashboards. They display real time data on care capacity and patient demand. Care capacity refers to beds, clinical hours available to provide care, staff and skills mix. Patient demand refers to beds and hours of care needed (or acuity).

There are usually at least three dedicated screens in the integrated operations centre. These screens displaying all inpatient areas (ward, units and perioperative department) and the emergency department. Dedicated screens are also located in every clinical area. The exact number and design of the screens will vary depending on DHB size and complexity of service. Business case development for capital expenditure will be DHB specific.

Screens make visible the current state and provide early warning of variance

Critical to effective hospital operations is care capacity demand management. To be effective in managing the hospital operations, the capacity at a glance screens need to be located in the operation centres and clinical areas. This way all staff can see what the current care capacity state is and what is coming. Depending on design, staff can also customise the view for further information.

Information on patient outliers helps them to be repatriated or found by the medical and allied teams. Visibility of emergency department and surgical cases means surges in patient numbers can be predicted before they arrive on the ward. Nursing hours variance (recalculated to take into consideration admissions, discharges and transfers) provides an accurate picture of care capacity. The variance indicator traffic light gives additional warning of early compromise.

With visibility comes the ability to make decisions and respond quickly. Screens can help organisations move towards a culture of mutual understanding and greater awareness of interdependencies across the hospital e.g. emergency department, perioperative department and inpatient areas. The screens are also useful for illustrating why particular decisions are made e.g. cancelling surgery due to lack of beds, negative variance and emergency department backlog. The goal is to reduce the impact of

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variance and ultimately safe guard the quality of patient care, the quality of the work environment and best use of health resources.

The screens are implemented in a planned and coordinated way

- CCDM governance is in place and has authority for endorsing implementation
- There are established lines of accountability and responsibility for implementation
- Business information and information technology services will prioritise the development and implementation of the capacity at a glance screens as per the CCDM programme plan
- Information technology system interfaces are functional
- The data being used for the capacity at a glance screens is accurate and complete
- Staff have education and training on the capacity at a glance screens
- The variance response management stocktake describes in detail the requirements for data display

Data display needs to be user friendly

Time spent planning the design and layout of the capacity at a glance screens will be time well spent. A dashboard with a poor layout won't get used. If that happens, you will be missing out on actionable opportunities. Here are some simple tips.

Design for the user

- The dashboard is a tool to be used throughout the shift
- Customise screens to the employees that use them, based on their job duties and responsibilities
- Make them specific to a single audience. This may mean you need three screens in the integrated operation centre e.g. inpatient wards/units, emergency and perioperative department or in clinical areas use a slide show.
- Refresh screens every 5 minutes so that the data enables up to date decision making

Keep the dashboard simple

- Display only the metrics that are essential i.e. that the user checks most frequently
- Keep the layout uncluttered (avoid cramming multiple symbols, charts and numbers onto one dashboard)
- Use muted colors
- Apply conditional colours appropriately e.g. green is good, orange average and red poor. Be aware that 10% of the population is colour blind.
- Keep everything at a glance, without the need for touch, scrolling, or clicks. Imagine if you had you had to scroll on the dashboard of your car to find out what speed you were going. Scrolling for data will not help you make rapid decisions.
- Be consistent
- Design dashboards, not reports

Make it read from left to right

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- For English speakers, the dashboard should read from left to right
- The eye naturally starts in the top left corner then across to the right, then down in a diagonal towards the lower left corner and across to the right again, in a Z shape
- The data checked most frequently should be at the upper left of the screen, with related data presented to the right and then below if more space is needed

Place related data sets near each other

- Highlight the most relevant information – don't place charts at random
- Make it logical and intuitive. Place related data sets near each other on the dashboard. For example the number of patients in a bed, patients not categorised, nursing hour's variance and the indicator score traffic light.
- Show the context – numbers only carry meaning within their context
- Show variations – don't make users do the math
- Leave the noise off – don't suggest relations that don't exist
- It's not just about displaying data, it's about understanding what the data *means*

Pick the right graphics

- Use appropriate charts, numbers and lists that help the data to be easily interpreted and understood
- Text and chart display needs to be large enough so that the data can be read easily from a distance
- Be clear. Acronyms are bad. Legends are good.
- Use chart axes consciously – start from zero
- Build rules that avoid false alerts

Enable drill down and reporting

- Enable drill down by shift and ward (and in some cases by patient). For example, why a ward has an orange traffic light for their variance indicator? What stage is a patient up to in the emergency department or perioperative department?
- Build reporting capability to track the variance indicator traffic lights overtime (date, time, frequency and duration)

Care capacity at a glance screens display care capacity and patient demand data

The variance response management stocktake describes in detail the data display requirements and includes (but is not limited to):

- The number of patients in a bed (including outliers) and in emergency department trolley bay or cubicles
- The number of acute and elective surgical cases
- The number of patients in emergency department accepted for admission
- The number of patients in emergency department based on triage
- Patient wait times in the emergency department (against the 6 hour target)
- Number of surgical cases requiring a bed postoperatively

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- Expected discharges
- Vacant beds
- The number of patients not categorised by ward/unit for the current and next three shifts
- Nursing hours variance (between what is supplied and what is needed) for the current and next three shifts
- The variance indicator score for each clinical area displayed as a traffic light

Capacity at a glance screens are only effective if you use them

- The capacity at a glance screens
  - Are fit for purpose
  - Are visible 24/7 to all staff
  - Are regularly monitored
  - Are used to inform decision making
  - Provide a focus for daily care capacity meetings
  - Are reviewed periodically for user acceptability
- There are regular opportunities to discuss variance indicators with staff
- Staff are engaged in identifying opportunities for improvement
- An improvement plan is developed from the data
- Concerns about care capacity outcomes are regularly reported and escalated (ad hoc, when needed) to the CCDM council

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