Creating a safe and calm hospital:
using data to improve patient flow

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Declaration of Interest

We acknowledge and thank the **Royal Melbourne Hospital** for supporting us to attend and present at the conference.

No other declarations of interest.

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Our care at a glance in 2023-24*

1881
Mental health inpatient admissions

255955
Mental health service contacts

143
Kidney transplants

16255
Planned surgeries

4284
Patients cared in RMH@Home

494
Arrivals by air

236,417
Specialist appointments (including telehealth)

87,442
Telehealth appointments

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*To be finalised

SLIDO

- Does your organisation use real time data to make decisions?

- Do you have good clinician engagement in access and flow?

- is it clear to all your staff when your demand exceeds capacity?

- Does your organisation link access and flow with quality and safety?

Passcode: dn3y6o

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RMH Access and Flow Strategy

Access and Flow – Strategy 2022 - 2025
A great place to work, a great place to receive care

Objective	Always be available for those who need our specialised services, and to meet the demands of our local community			
Priorities	Leverage our infrastructure to proactively meet demand and build capacity	Embed alternate care models to support appropriate hospital diversion	Retain and optimise our workforce to expand service availability	Optimise our data and systems to predict, monitor and manage capacity and demand
Goals	Make the best use of all our existing resources, facilities and infrastructure	Progress existing service improvement projects to encourage innovation & build people's capability	Expand staffing models to support the progression of care seven days a week and extended OOH	Support the development of our people's capability to better predict, monitor, and manage capacity and demand
	Plan for future demand and capacity requirements with a focus on the RMH rebuild & Arden St development	Further expand @home, virtual services and external partnerships to provide more care outside hospital walls	Implement strategies to sustain and retain staff to enable our people to work at the top of their scope	Establish the RMH Command Centre to provide central operational oversight of access and flow
	Undertake capital works to establish new capacity within our hospital	Establish new models of surgery optimisation and pathways to reduce elective surgery waiting lists and LOS	Pilot and implement novel roles (i.e. Physician Assistants, Navigators) to expand workforce availability	Define the patient sub specialties that RMH should be serving to realise our vision
		Establish the mental health crisis hub and other points of access for our local catchment		
Principles	**Organisational commitment**	**Accountability**	**STEP**	
Values	People first	Lead with kindness	Excellence together	

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RMH Digital Coordination Centre

- VIDEO – Welcome to the DCC

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Why did we need it?

- Increasing ED presentations
- Low % 10 am discharges
- Low weekend discharges
- Low confirmed discharges @0900
- Increased length of stay
- Frequent "red days"
- Patient deterioration incidents
- Staff dissatisfaction
- Patient experience

Deadly ambulance ramping at Victorian hospitals was on the rise before COVID-19, study finds

By Ashleigh Barraclough
Posted Thu 30 Jun 2022 at 12:13pm, updated Thu 30 Jun 2022 at 2:40pm

EMA Emergency Medicine Australasia

Original Research

Emergency department crowding and mortality for patients presenting to emergency departments in New Zealand

Peter G Jones ✉ Bert van der Werf

First published: 10 December 2020 | https://doi.org/10.1111/1742-6723.13699 | Citations: 11

Peter G Jones, PhD, Emergency Physician; Bert van der Werf, MSc, Statistician, Senior Research Fellow.

Victoria's hospital and ambulance system under record pressure, data shows

Posted Sat 30 Apr 2022 at 1:03pm, updated Sat 30 Apr 2022 at 4:59pm

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How did we become a Digital Health Service

Model for Improvement culture embedded
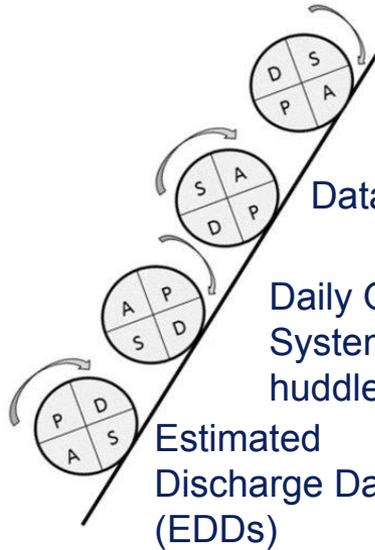
Transit Lounge, Progression of Care Navigators

Data / Dashboards

Daily Operating System – Tiered huddles

Estimated Discharge Dates (EDDs)

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The perfect partnership between Informatics and Operations
Real time actionable decisions

The Tools

- A range of new workflows, dashboards and reports to support the Digital Coordination Centre
- Developed by our Health Intelligence & EMR teams
- Scoped and validated by our operational experts to ensure useability

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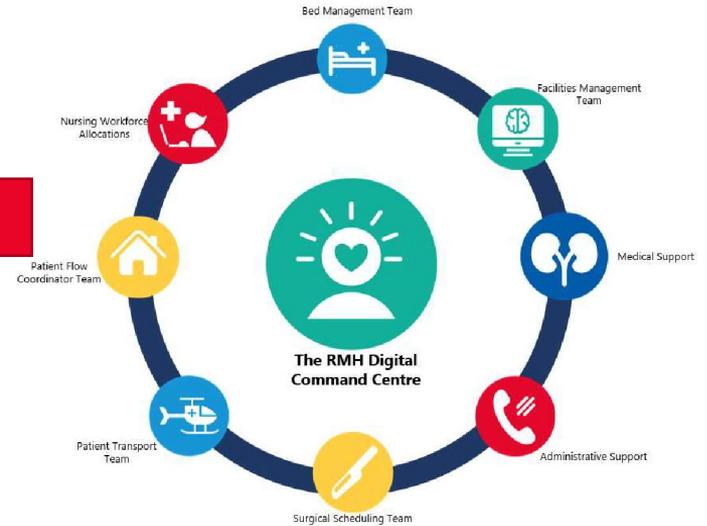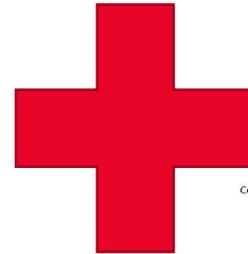
How do we know we are (and when we are not) safe and calm?

Are we ready for today?

Tier 1-Are we ready for today (Local)
Tier 2 - Are we ready for today (Org wide)
Tier 0 – Are we ready for tomorrow?

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Capacity and Patient Flow Escalation Procedure
Escalation triggers

Level 0 Capacity Management triggers	Level 1 escalation triggers *		Level 2 escalation triggers *	
Bed variance 0-9	Bed variance 10-19		Bed variance ≥ 20	
≤ 5 Beds closed	6-9 Beds closed		≥10 Beds closed	
≤ 65 patients in ED	66- 94 patients in ED		≥ 95 patients in ED	
≤ 20 patients in ED awaiting an inpatient bed	21-35 patients in ED awaiting an inpatient bed		≥ 36 patients in ED awaiting an inpatient bed	
0- 5 AV /WRQ	6- 19 in AV/WRQ		≥ 20 patients in AV/WRQ	
Level 0 Capacity Management	**Level 1 escalation**		**Level 2 escalation**	

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Capacity and Patient Flow Escalation Procedure

Key features:
- Clearly defined parameters and roles and responsibilities
- Time based
- Action cards
- Data driven
- Clearly communicated via multiple methods
- Aligned with Emergency Management Procedures

Medical Lead – Access and Patient Flow	
Location	Digital Coordination Centre
Reports to	Director Access and Patient Flow
Main priorities during Code Yellow	1. Review medical barriers to discharge on Progression of Care dashboard or as requested by HOU/Consultant/treating unit and provide update to DCC of any actions within 60 minutes. 2. Discuss any junior medical workforce deficits with Medical Workforce team and potential to redirect any additional available medical resources to priority areas. 3. Re-direct/defer non-clinically urgent external transfers and elective/planned cases (if not already en route), in consultation with the treating team.
Duties after Code Yellow Stand Down	1. Identifies discharge planning opportunities in the next 24-48 hours and escalates medical barriers to discharge at DCC huddle.

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Data Validation –Pts in ED awaiting an inpatient bed@0900
Threshold 32

Data validation
Change of threshold - 36

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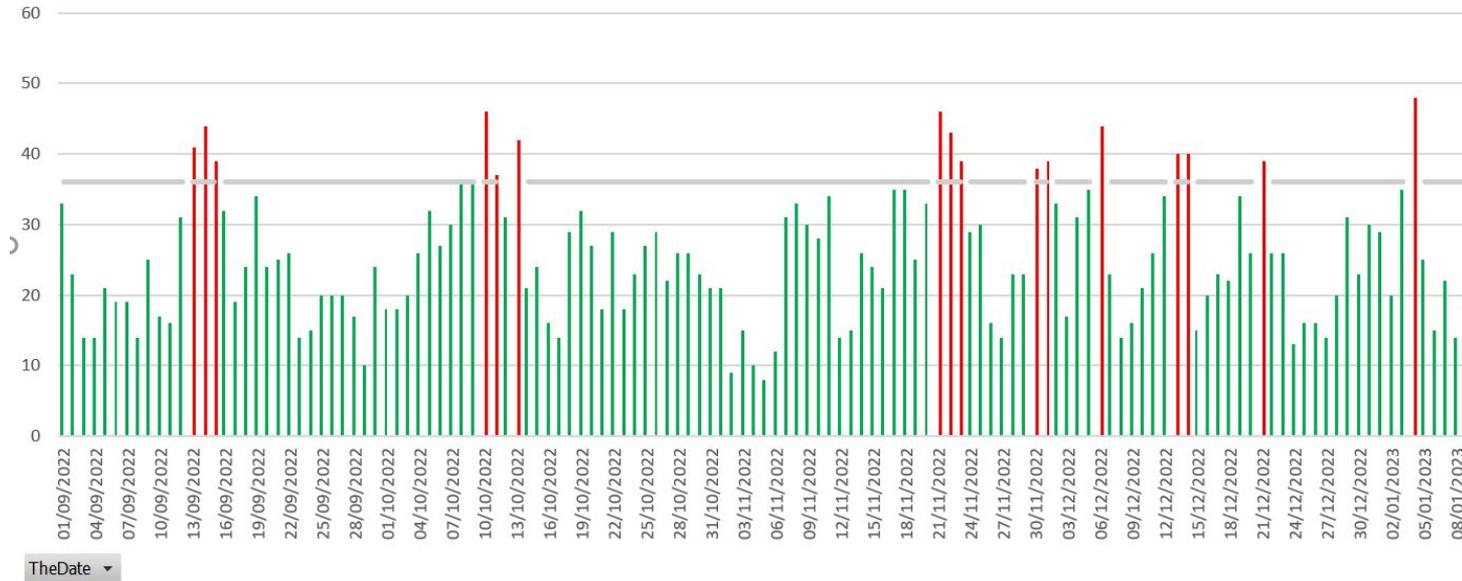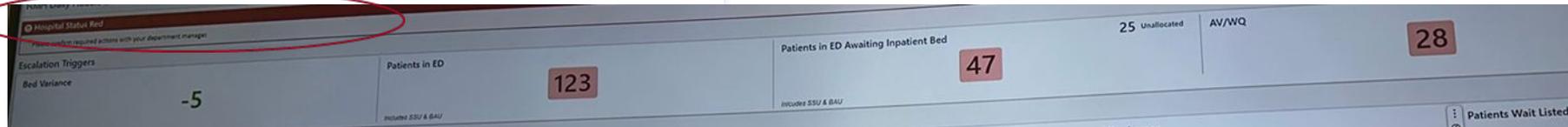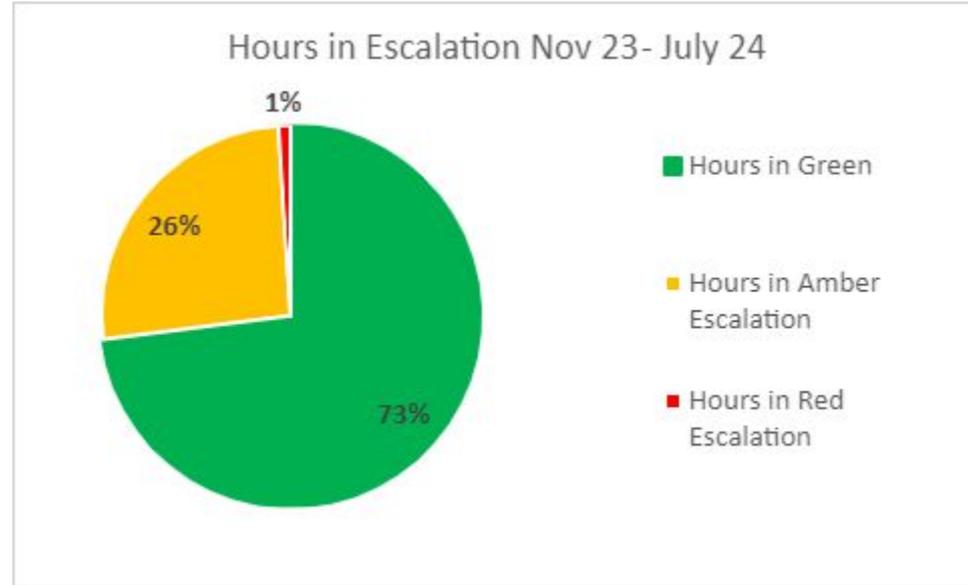
How do our people know we are in escalation?
How often does it happen?

Status: Amber

Please escalate any discharge barriers to the DCC.

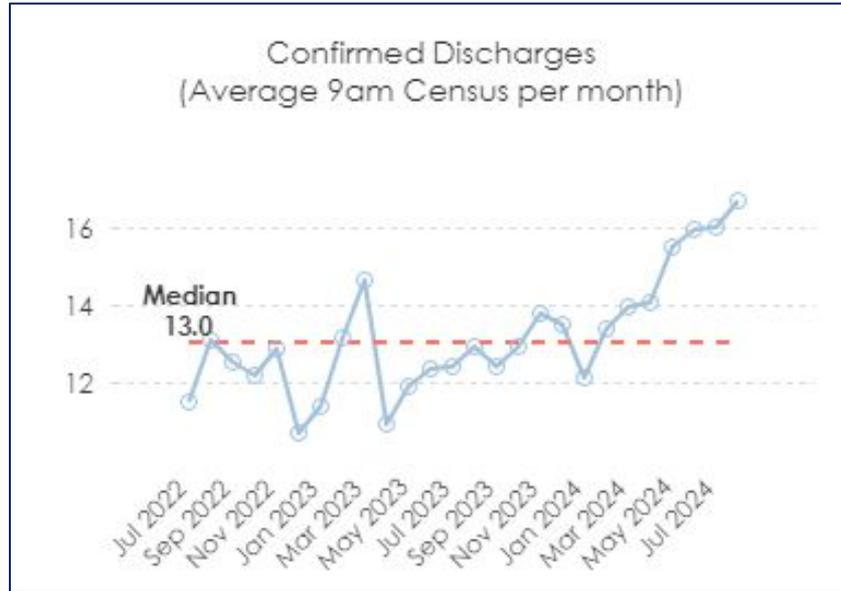The Royal Melbourne Hospital

Hospital Status

Hours in Escalation Nov 23- July 24

1%

26%

73%

- Hours in Green
- Hours in Amber Escalation
- Hours in Red Escalation

Hospital Status Red
Please confirm required actions with your department manager

Escalation Triggers

Bed Variance   -5

Patients in ED   123
Includes SSU & BAU

Patients in ED Awaiting Inpatient Bed   47
Includes SSU & BAU

25 Unallocated   AV/WQ

28

Patients Wait Listed

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A Safe and Calm RMH

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How do we know when we are creating a safe and calm hospital?
Outcomes
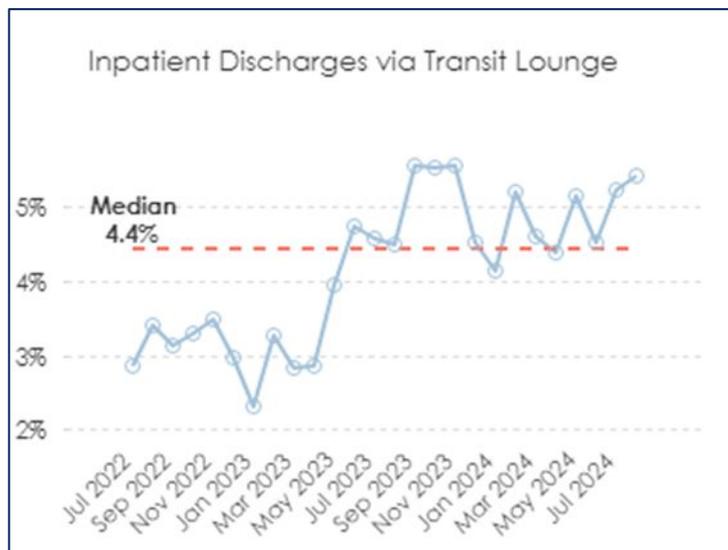

Confirmed Discharges
(Average 9am Census per month)

Median 13.0

- How many discharges do we need for the day? 90
- How many do we have confirmed for the day?
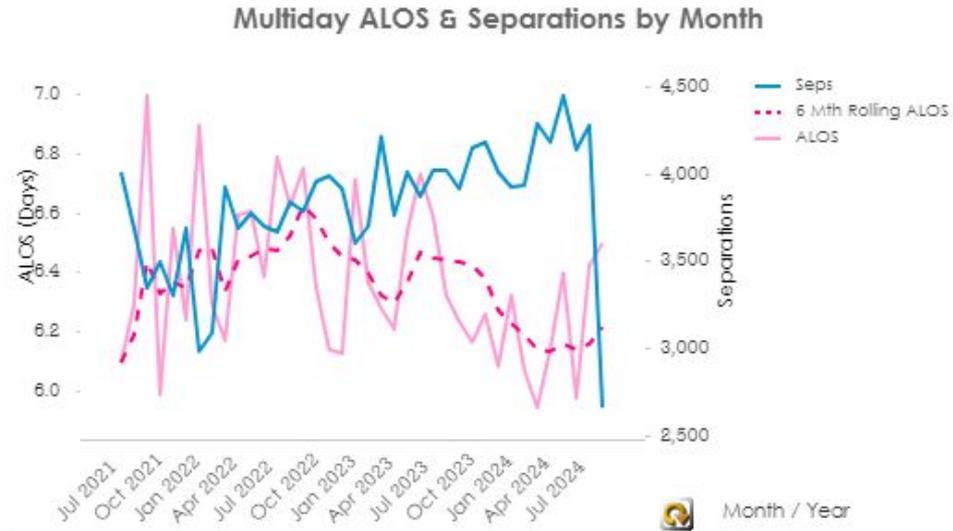 - 1 year ago =2
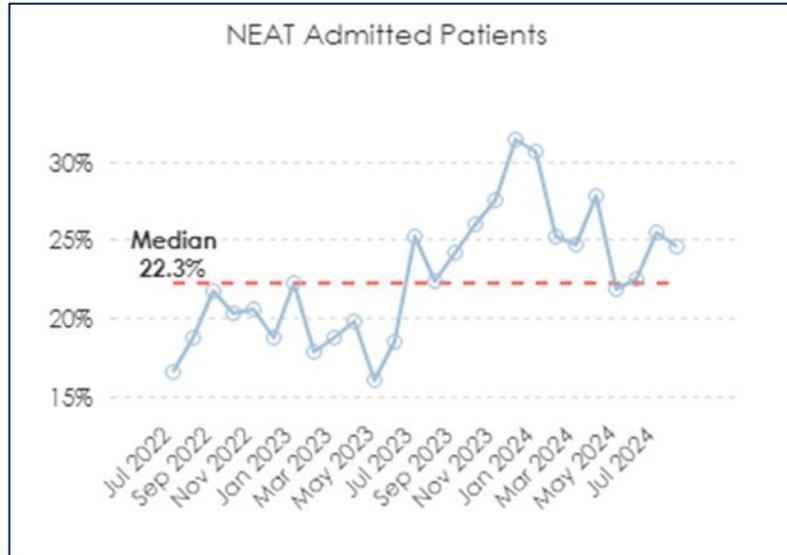 - Current = up to 30

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Outcomes
Striving for earlier in the day discharges

Outcomes
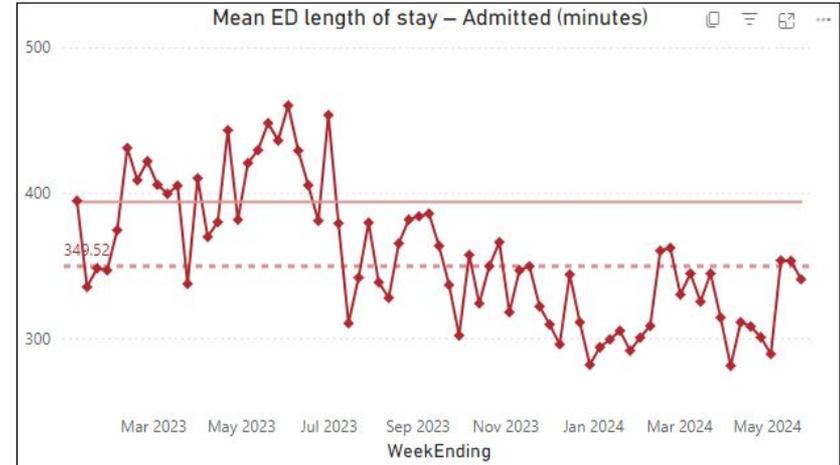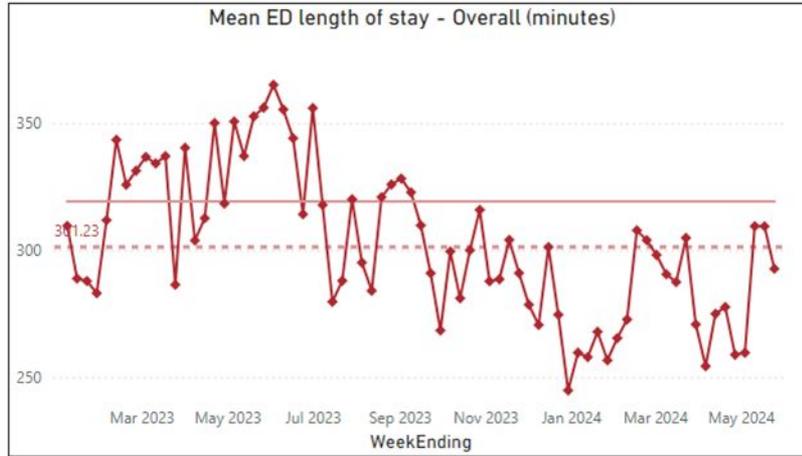## Striving for improved movement of patients through ED and inpatient wards

NEAT Admitted Patients

Multiday ALOS & Separations by Month

NEAT- National Emergency Access Target 81%< 4hours

Provided care to more patients by decreasing LOS

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Outcomes
Striving for improved movement of patients through ED

Mean ED length of stay - Overall (minutes)

Mean ED length of stay — Admitted (minutes)

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Outcomes
Striving for increased capacity to be ready for the day

Average Daily Midnight Occupancy — Median 146
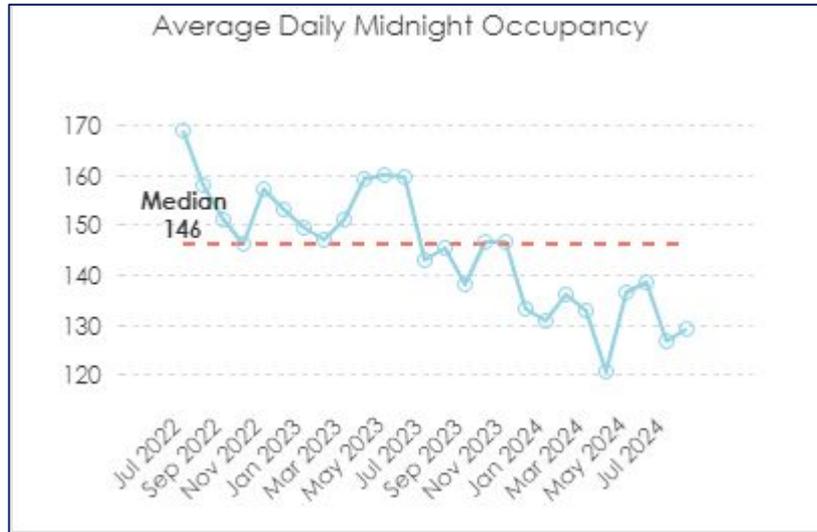
Ward	Capacity					Confirmed and allocated									UNALLOCATED Beds
	Physical Beds	Open Beds	Occupied Beds	Vacant Beds	EDD Confirmed Discharge	ED Allocated	ED Requests	Surgical Electives	Medical Electives	Direct admits confirmed	Interward transfers in	Interward transfers out	Total Allocated and Confirmed	ICU transfer in confirmed	
Acute Wards															
CAMU	33	32	32	0	0	0	0	0	0	0	0	0	0	0	0
C2WC	21	18	17	1	0	0	0	0	0	0	0	0	0	0	1
C2B	24	23	21	2	0	0	0	0	0	1	0	1	0	0	2
CCCU	10	10	5	5	0	0	0	0	0	0	0	0	0	0	5
C3S	28	28	26	2	0	2	0	0	0	0	0	0	2	0	0
C3SW	20	20	17	3	0	0	0	0	0	0	0	0	0	0	3
C4S	25	24	22	2	0	0	0	0	0	0	0	0	0	0	2
C4SW	32	27	22	5	0	0	0	0	0	0	0	0	0	0	5
C5NO	20	20	18	2	0	1	0	0	0	0	2	0	3	0	-1
C5SE	30	23	23	0	0	0	0	0	0	0	0	0	0	0	0
C5SW	30	28	27	1	0	0	1	0	0	0	1	0	2	1	0
CRCU	30	2	2	0	0	0	0	0	0	0	0	0	0	0	0
C6B	42	39	31	8	0	1	0	0	0	0	0	1	0	0	8
C6SEA	32	30	30	0	0	0	0	0	0	0	0	0	0	0	0
C6SW	28	28	28	0	0	0	0	0	0	0	0	0	0	0	0
C7B	32	32	29	3	0	1	0	0	1	0	0	0	2	0	1
C7SEA	30	26	22	4	0	1	0	0	0	0	0	0	1	0	3
C7SW	30	30	29	1	0	1	0	0	0	0	0	0	1	0	0
C8BNEUR	31	28	25	3	0	1	1	0	0	0	0	0	2	0	2
C9EA	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0
C9WE	25	20	20	0	0	0	0	0	0	0	0	0	0	0	0
Total	573	508	466	42	0	8	2	0	1	1	3	2	13		31

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Where to next?

- Sustainability
- Scalability
  - Precinct
  - Statewide
  - Other states
- Clinical monitoring
  - Using data to prevent clinical incidents
  - Front door for @home services out of hours
  - Virtual care (remote monitoring)
- Predictive analytics

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Take home messages

- There is no silver bullet, it won't be perfect!

- Care in the right place the first time (define your principles)

- Clearly defined roles and responsibilities enabling engagement and collaboration

- Timely escalation on a daily basis to facilitate progression of care – real time data/dashboards

- Systems and processes in place to prioritise workflows that will lead to de-escalation

- Leveraging technology and data

- Command Centre is not a KPI centre. Focus on real time.

- Consistency of language

- Barriers to discharge and deployment of additional resources to where they are most needed right now.

Some is not a number,
Soon is not a time,
Hope is not a plan

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Learnings and lessons

- Invest time in building the team
- **Watch the data, watch the data, watch the data**
- Take actions before turning **red** and we see deterioration in the system
- CCTV supports situational awareness and urgency
- Data can help when its
  - trusted/accurate
  - the team know how to use it

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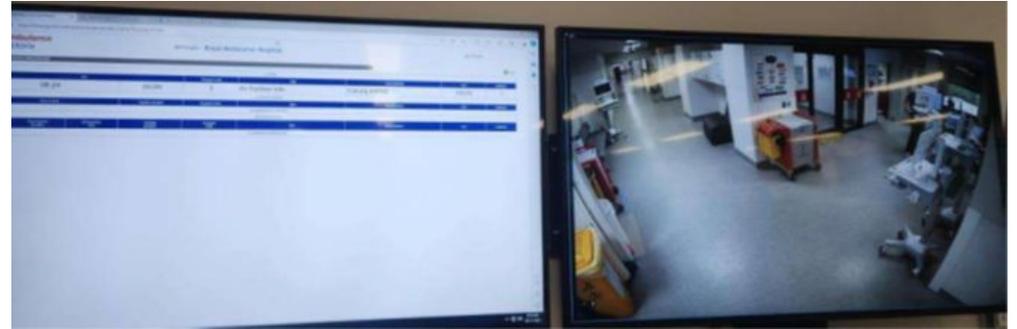
Thank you

Data Validation – No. of patients in ED@0900
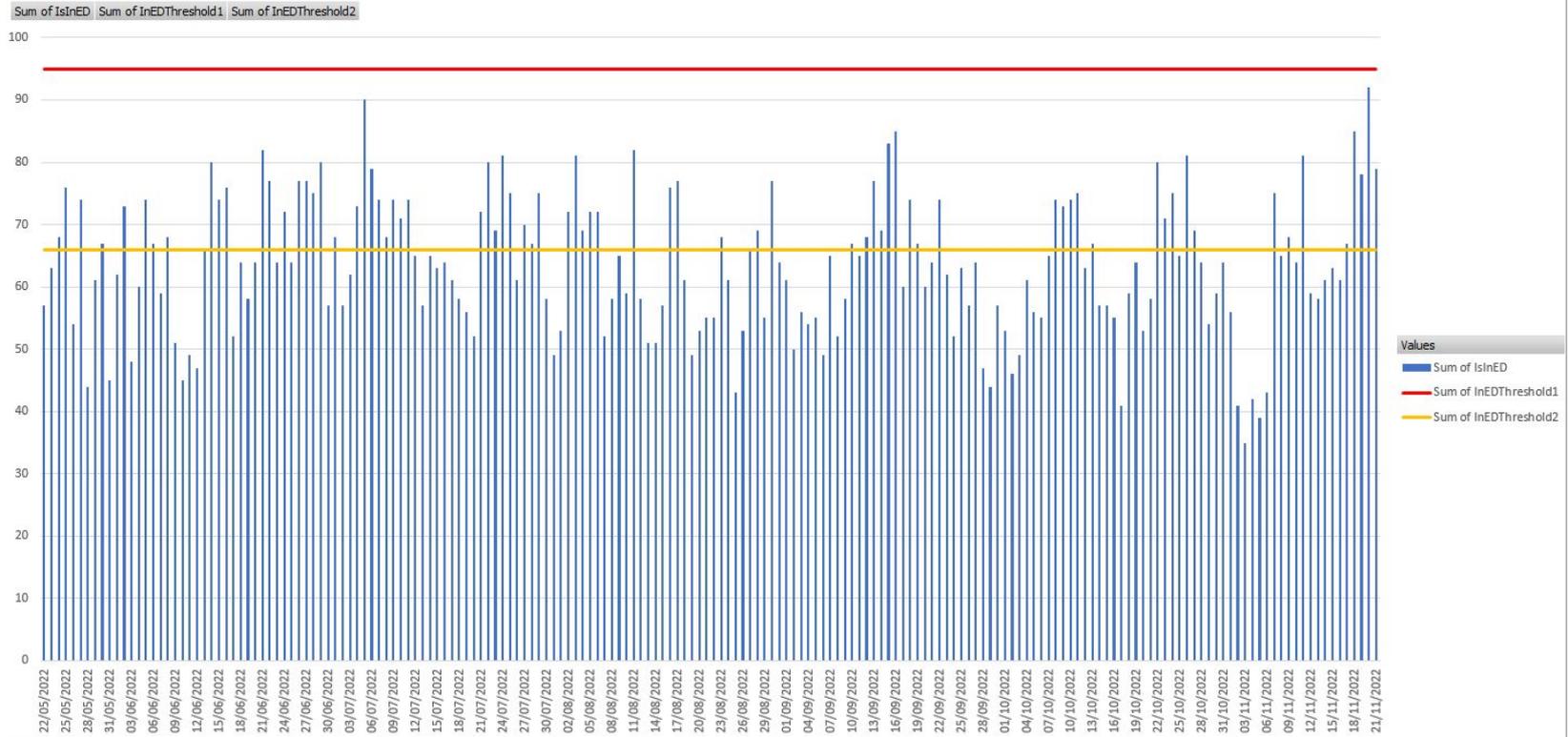
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Presentation Title:
Presentation subtitle