Right to Information Decision – Public Disclosure Log
Right to Information No.: RTI201516-031

Decision and Statement of Reasons

1 A copy of all information, specifically a copy of the Clinical Redesign Report that details the modelling used to assess the number of beds required for each hospital based on current patient demand and the actual results of that modelling.

Please see the attached schedule of documents for this information.

2 A copy of all information specifically relating to the current number of beds provided at each hospital.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>North West Regional Hospital</td>
<td>127</td>
</tr>
<tr>
<td>Mersey Community Hospital</td>
<td>109</td>
</tr>
<tr>
<td>Launceston General Hospital</td>
<td>315</td>
</tr>
<tr>
<td>Royal Hobart Hospital</td>
<td>397</td>
</tr>
</tbody>
</table>

3 A copy of all information relating specifically to current patient demand and each hospital’s capacity to meet that demand with the current number of beds available.

Please see individual files provided.
Final Report for North West Regional Hospital

Baseline analysis report covering:

1. High level ED data review
2. ‘Who owns the timeline?’ study
3. ‘Why am I still here?’ study
4. ‘Was the bed empty?’ study
5. Recommendations for improvement

Healthcare Reform Consulting (HRC)
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1. Executive summary

1.1. Introduction and report outline

This report was commissioned to baseline the high level ‘Whole of Hospital’ performance of the four major hospitals in Tasmania using methodologies proven successful in WA and NSW reform programs. The baseline activity covered Royal Hobart, Launceston General, North West Regional, and Mersey Community Hospitals, and looked into five areas as follows:

- High level data on emergency department presentation and discharge profiles, and length of stay
- High level data on ward admissions and discharge profiles, and length of stay
- Three day time and motion study for the emergency department
- Seven day, twice daily bed/ward occupancy review
- Patient flow timeframes review

This report presents the results of the investigations and analysis for North West Regional Hospital, along with conclusions and recommendations for further work to improve patient flow and broader hospital performance.

This report structure begins with a background to the engagement and details of the engagement. Then each of the five areas of investigation are detailed in terms of analysis, and quantitative and qualitative conclusions. The report then outlines the key recommendations for improvement in four categories namely opportunities for review, redesign initiatives, solution investigations, and solution implementations.

1.2. General findings

Whilst this report outlines several suggestions for improvement, the authors were extremely impressed with the quality and commitment of staff at all levels of North West Regional Hospital, in particular the willingness of clinical and non-clinical staff to engage with the review team to openly share information on their successes and challenges, as well as their ideas to improve is highly commendable.

“All organisations are perfectly designed to get the results they are now getting. If we want different results, we must change the way we do things.” Tom Northup

Our review did identify practices and processes that detract from hospital and emergency department performance. That is both good and bad news. The good news in that the problem is not a staffing problem per se, rather it is the practices and processes employed by those staff. The bad news is that changing work practices and processes can be challenging, and the below listed recommendations as well as the full details of this report, are provided to assist North West Regional staff, managers, and executives in leading the change activities.

1.3. Recommendations

Recommendations to improve access to emergency care are:

1. **Suggest collaborative discussions with Ambulance Tasmania.** Discuss the approach of other states to the provision of ambulance services and how such provisioning impacts demand for emergency department services.
2. **Implement (modify if required) a hospital admissions policy.** This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

3. **Implement (modify if required) a process for requesting a ward bed in the ED.** The goal is to request a bed immediately at time of admit decision and accommodate ED and patient flow considerations. This should be a “quick win” in terms of solutions and be developed and agreed by the ED staff, inclusive of process, roles and responsibilities and use of EDIS.

4. **Implement (modify if required) business rules and standard processes for use of the EDIS.** This should be inclusive of data entry being “real time”, in terms of timeline management, clicking on/off patients to be seen, use of the clinical comments field, bed allocated and bed ready fields and the use for ED patient tracking management.

5. **Review and implement an ED Short Stay Unit (ED SSU).** This review should consider the volume and acuity of patients admitted under the care of the ED staff specialist who are admitted or discharged. The ED SSU should include appropriate inclusion and exclusion criteria, and a process for rapid admissions.

6. **Review the current admission decision process in ED.** The triage to admission decision time period is advised to be 2 hours to enable the hospital time to find and allocate an appropriate empty bed. Review how the current decision making process occurs and develop a solution to shorten this accordingly.

7. **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. Inclusive of the bed allocation prioritization for all bed requests (ED, Wards, critical care area).

8. **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

9. **Review the medical patient journey from admission decision, bed request and bed ready.** There is significant opportunity with this stream as evidenced with the WAISH, WTBE and qualitative data.

10. **Review bed flexing practices in the CCD.** Undertake a review of the bed flexing practices in the CCD to identify opportunities to maximise the value of these units to the hospital. This should include a review of the current management of staffing on a shift by shift basis.

11. **Review and implement ward leadership and flow management training.** Undertake a review of successful implementations of ward leadership and patient flow management systems at leading hospitals across Australia with a view to improving ward length of stay and management practices.

12. **Review hospital operations escalations (predictive and reactive).** Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.

13. **Review the current state of “voice of the patient”**. Decide on methodology to baseline the patient experience during and after leaving the hospital. Examples seen in previous work include surveys, focus groups, video interviews and patient specific stories. These are extremely powerful for all staff.
14. Review the current state of “voice of the staff”. Decide on methodology to baseline staff satisfaction with current working conditions in the hospital. On the spot surveys have been highly successful in previous work associated with Clinical Redesign.

1.4. Immediate recommendations

Noting the volume of the above recommendations the following list of recommendations are viewed as the most urgent and if implemented successfully will lead to the largest improvement in NEAT performance:

1. **Implement (modify if required) a hospital admissions policy.** This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

2. **Implement (modify if required) a process for requesting a ward bed in the ED.** The goal is to request a bed immediately at time of admit decision and accommodate ED and patient flow considerations. This should be a “quick win” in terms of solutions and be developed and agreed by the ED staff, inclusive of process, roles and responsibilities and use of EDIS.

3. **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. Inclusive of the bed allocation prioritization for all bed requests (ED, Wards, critical care area).

4. **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

5. **Review hospital operations escalations (predictive and reactive).** Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.
2. **Background**

2.1. **Health Services Innovation-Tasmania**

On 15 June 2012, the Australian Government announced the $325 million Tasmanian Health Assistance Package (THAP). The Commission on Delivery of Health Services in Tasmania (the Commission) was established in September 2012 as a component of the THAP to monitor implementation and provide independent advice to the Australian and Tasmanian governments on opportunities for improvement within Tasmania's health system.

The Commission provided a Preliminary Report to the Australian Government and Tasmanian Government Health Ministers in December 2012, which highlighted the need for investment in the capacity of the Tasmanian health system to undertake clinical redesign.

Kate Brockman from Health Reform Consulting ('HRC') was appointed as a member of the expert panel in the area of Emergency Access and Demand; and subsequently undertook initial site reviews in May and June 2014 of Royal Hobart Hospital, Launceston General Hospital, and North West Regional Hospital.

2.2. **Current situation**

Subsequent to the above activities HRC was engaged to provide a proposal to conduct high level studies using its proven methodology at the four key sites. This was provided in late June 2014.

UTAS ('the client') has advised that ethics approval was required to conduct the 'Who owns the timeline' (WOTTTL) study, and has requested that the ‘Why am I still here’ (WAISH), and ‘Was the bed empty’ (WTBE) studies be fast-tracked at the four major hospital sites listed below:

- Royal Hobart Hospital (RHH).
- Launceston General Hospital (LGH).
- North West Regional Hospital (NWRH).
- Mersey Community Hospital (MCH).

2.3. **Your requirement**

Complete the WOTTTL, WAISH and WTBE studies at RHH, LGH, NWRH, and MCH. The outcome of the diagnostic studies is a summary report for each site detailing:

- **Conduct diagnostic:**
  - Bed utilisation on the wards.
  - Extent of access block due to bed shortages vice processing delays.

- **Provide immediate implementation recommendations:**
  - Where compelling evidence exists, provide site based recommendations for specific solutions (including justification for said solution).

- **Provide recommendations for further investigation:**
  - Where appropriate provide a prioritised recommendation list for further investigation (e.g. value stream mapping) based on the expected performance benefit to the organisation post solution implementation.
Additional requirements are that the:

• Diagnostic be completed as quickly as possible, with results available to stakeholders within six weeks of commencement of the study program.

• The HRC principal consultants who conducted the studies present the results at site forums so as to explain their meaning and the rationale behind the follow on recommendations.

### 2.4. Document purpose

The purpose of this document is to:

• Document our findings in relation to the high level hospital activity data.

• Document the ‘Who owns the timeline?’ study findings.

• Document the ‘Why am I still here?’ study findings.

• Document the ‘Was the bed empty?’ study findings.

• Make recommendations to improve access to emergency care by identifying:
  
  o Opportunities for review
  
  o Redesign initiatives
  
  o Solutions to be investigated for implementation
  
  o Solutions to be implemented

### 2.5. Report inclusions

Inclusions in this report are:

• Quantitative and qualitative data associated with the WOTTL study.

• Quantitative and qualitative data associated with the WAISH study.

• Quantitative and qualitative data associated with the WTBE study.

• Quantitative data associated with the high level data review for ED patient volume.

### 2.6. Report exclusions

Exclusions in this report are any other investigations into individual hospital wards, units, or issues beyond that in the three studies and high level data review outlined above.

### 2.7. Report nomenclature

This report should be read with the following considerations in mind:

• All time data is shown in the format hh:mm. So 2:33 equates to 2 hours 33 minutes, rather than 2 mins, 33 seconds.

• Data sources for each study or data review are listed at the beginning of the applicable section.
3. Engagement details

3.1. Final site visits and schedule

HRC visits to sites in support of the studies were as listed below. Note that the WTBE study and high level data review were completed remotely using data supplied.

- An initial site visit was undertaken by HRC to scope the layout of the hospital, refine the tools and ascertain the number of resources required for the key studies. A certain level of stakeholder engagement and interest in the concept of the studies was also generated as a result of this visit. A briefing was given to over 10 staff by Lauri O’Brien and Kate Brockman as organised by the on-site Clinical Lead.

- The wards were visited by the HRC team to refine the WAISH tool, ascertain which of the wards would be in the study, and gain a sense of the level of engagement and understanding with the redesign diagnostic process.

- A walk through was conducted with the HRC, HSI teams and ED Director looking at the ED flows into and out of the department and refining the WOTTL tool. The agreed decision for data capture points was 1 data collector at triage and 2 data collectors during the day/afternoon shifts in the acute area and 1 data collector overnight for the entire department.

3.2. Studies and analysis conducted

‘High level business’

HRC have undertaken to complete an analysis of high level hospital operations data so as to gain further insight into the unique operating conditions facing each site. This analysis includes:

- Emergency departments:
  - ED length of stay by day of week, hour of day, and specialty.
  - ED presentations profile by day of week, hour of day, and specialty.
  - Did not wait, re-presentation rate, re-admission rate.

- Wards:
  - Ward length of stay by day of week, hour of day, and specialty.
  - Ward discharge activity by day of week, hour of day, and specialty.

‘Why am I still here?’

This study was a targeted audit of patients on the ward with the specific purpose of establishing the reason the patient is in the hospital according to set criteria. Our experience has shown that up to 33% of patients are occupying beds for non-medical reasons – such as delays in the next destination, discharge decision, or medications. The performance of any one site can be contrasted with other sites nationally.

‘Who owns the timeline?’

This study tracks all patients presenting at the ED over an approximately 3 day period and collects up to 20 unique pieces of information on each patient using a HRC proprietary data collection tool. Whilst the final analysis is ultimately limited by patient volume, the results provide clear direction on where key delays are in how patients move through the admit or discharge streams.
This analysis has been completed at more than 25 hospitals across Australia allowing HRC to compare the performance of any one Tasmanian site (or process step at a site) with the best in class nationally.

‘Was the bed empty?’

This study resolves the key question relating to ED performance, namely the question of “is a shortage of beds responsible for patient delays in the ED?” This question can be answered through careful analysis of patient and bed records and is conducted concurrently with the WOTTL study listed above.
4. High level hospital data review – emergency department

4.1. Study details

A high level review of hospital data was conducted using information provided covering 10,355 ED presentations from 1/1/14 to 16/6/14. The review sought to summarise key ED activity profiles and performance metrics which could in turn inform the three key studies completed.

4.2. ED volume, length of stay and NEAT by departure mode

The following table shows the presentation mix by method of departure from the ED.

<table>
<thead>
<tr>
<th>Departure method</th>
<th>Count</th>
<th>Count % of total</th>
<th>Average ED LOS</th>
<th>Average NEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departed under own care</td>
<td>8,061</td>
<td>77.8%</td>
<td>2:08</td>
<td>88%</td>
</tr>
<tr>
<td>Admitted to ward</td>
<td>2,018</td>
<td>19.5%</td>
<td>6:01</td>
<td>37%</td>
</tr>
<tr>
<td>Transferred to another hospital</td>
<td>141</td>
<td>1.4%</td>
<td>6:58</td>
<td>34%</td>
</tr>
<tr>
<td>Did not wait to be seen by a medical officer</td>
<td>84</td>
<td>0.8%</td>
<td>1:13</td>
<td>N/A</td>
</tr>
<tr>
<td>Left at own risk</td>
<td>45</td>
<td>0.4%</td>
<td>3:02</td>
<td>N/A</td>
</tr>
<tr>
<td>Died in emergency department</td>
<td>4</td>
<td>0.0%</td>
<td>4:08</td>
<td>N/A</td>
</tr>
<tr>
<td>Dead on arrival and not treated</td>
<td>2</td>
<td>0.0%</td>
<td>0:12</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td>10,355</td>
<td></td>
<td>2:57</td>
<td>77%</td>
</tr>
</tbody>
</table>

Quantitative observations:

- The discharge (77.8%) and admit stream (19.5%) together account for 97.3% of all patients.
- Admitted patients account for 20.0% of the admitted and discharged patient group (not including DNW, DOA, transferred, triage only, died in the ED, or transit lounge).
- The average length of stay in the ED for all patients was 2:57 (NEAT = 77%).
- The average length of stay for discharge stream patients was 2:08 (NEAT = 88%).
- The average length of stay for admit stream patients was 6:01 (NEAT = 37%).
4.3. **ED presentation profile**

The ED presentation profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table (including activity heat map) shown below (with red colours showing high presentations and green lower).

![Chart showing average ED presentations per hour by day of week and hour of day](chart.png)

Quantitative observations:

- The lowest volume days of the week for presentations were Tuesday and Wednesday with 59 presentations on average over the data period (see right most column of data).
- The highest volume day of the week for presentations was Monday with 66 presentations on average over the data period.
- The lowest volume hour of the day was from 05:00 to 05:59 with 0.6 patient presentations per hour arriving on average over the data period (see bottom most row of data).
- The highest volume hour of the day was from 11:00 to 11:59 with 4.3 patient presentations per hour arriving on average over the data period.
- ED presentations were at 80% of their 4.3/hr peak over the 11 hour range from 9:00 to 19:59.
- The primary determinant of ED presentations was hour of day (note the consistency of the day of week lines in the chart above by hour of day).
- The secondary determinant of ED presentations was day of week.
4.4. ED length of stay profile

The ED length of stay (ED LOS) profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key LOS data and trends in LOS performance. The results are summarised in the chart and table shown below with red colours denoting longer ED LOS and green shorter.

Data observations:

- The average ED LOS from triage to patient leaves the ED overall was 2:57.
- The shortest ED LOS day of the week was Saturday with duration of 2:44 on average over the data period (see right most column of data).
- The longest ED LOS day of the week was Wednesday with duration of 3:08 on average over the data period.
- The shortest ED LOS hour of day was from 08:00 to 08:59 with duration of 2:17 on average over the data period (see bottom most row of data).
- The longest ED LOS hour of day was from 05:00 to 05:59 with duration of 4:07 on average over the data period.
- Neither day of week nor hour of day were clear determinants of ED LOS.
- There was variability in the ED LOS between 22:00 and 08:00.
4.5. **ED admissions by specialty**

The distribution of ED admissions to the hospital by specialty were investigated. A total of 8,398 patients were admitted to the wards by different specialties as shown in the chart below.

Quantitative observations:

- The admitting specialties through the ED are (as expected) non-uniform. The following specialties comprise 80% of all admissions
  - GENMED. 898 or 44% (cumulative total 44%).
  - GENSUR. 413 or 20% (65%).
  - ORTHOP. 236 or 12% (77%).
  - PAEMED. 159 or 8% (85%).

4.6. **ED length of stay overall and by specialty**

The ED length of stay (ED LOS) overall and by specialty was investigated using the data provided. The following table overleaf shows the ED LOS, observations (n), and NEAT performance for the specialty.

The table below shows the ED LOS for individual specialties. Note the range of observations (n for patients) varies from 16,121 for ED, to just 1 (several specialties) so calculations of average ED LOS and NEAT performance should be considered informative when the corresponding n is more than 10.

Note colour coding (heat map format) is used to show the different ED LOS for each specialty with long LOS being shown in red, and short LOS in green.
Quantitative observations:

- Considering only specialties with more than 10 patient admissions, the ED LOS varies from an average of 2.1 hours (ED) to:
  - 10.8 for EMERG;
  - 7.0 for GENMED; and
  - 7.0 for GENSUR.

4.7. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. The discharge (77.8%) and admit stream (19.5%) together account for 97.3% of all patients.
2. Admitted patients account for 20.0% of the admitted and discharged patient group (not including DNW, DOA, transferred, triage only, died in the ED, or transit lounge).
3. The average length of stay in the ED for all patients was 2:57 (NEAT = 77%).
4. The average length of stay for discharge stream patients was 2:08 (NEAT = 88%).
5. The average length of stay for admit stream patients was 6:01 (NEAT = 37%).
6. The DNW rate was 0.8%.
7. The average daily presentation rate varies between 59 (Tuesday, Wednesday) and 68 (Monday).
8. The average hourly presentation rate varies between 0.6 patients per hour (05:00 to 05:59) and 4.3 patients per hour (11:00 to 11:59).
9. Hour of day was the major determinant of ED presentations.
10. There was variability in the ED LOS between 22:00 and 08:00.
11. The average ED LOS overall was 2:57.
12. ED LOS was higher by up to an hour between 23:00 and 05:59.
13. GENMED, GENSUR, ORTHOP, and PAEMED accounted for 80% of all ED admissions to the hospital.
14. Considering only specialties with more than 10 patient admissions, the ED LOS varies from an average of 2.1 hours (ED) to 7.2 for MEDONC (10.8 for patients admitted to ED).

4.8. **Section conclusions – qualitative**

Key qualitative conclusions in this section are:

1. The DNW was exemplar when compared to other hospitals across Australia.
5. High level hospital data review – wards

5.1. Study details

The high level data review for the wards was based on 5,893 patient journey records from 30/06/13 to 31/5/14 provided by UTAS. The following data disclosure relates the high level ward data.

“A specific sample of inpatient episodes was requested by HRC in order to illustrate the admission and discharge patterns on inpatient wards that regularly accept patients presenting to the NWRH Emergency Department. The dataset provided covered all admissions and discharges that occurred within financial year 2013/14, with the following criteria:

- Admitting and Discharge Speciality must be unchanged during their inpatient episode, eg. Admit by GENMED, Discharged by GENMED.
- No Obstetric related admissions
- No Medical Imaging admissions
- No Newborn admissions
- No Organ procurement admissions
- No Same Day Admission/Discharge episodes
- No ED or EMU or Transit Lounge Discharges
- No Admission/Discharges from wards whom do not normally (very few, if any per annum) take acute admissions via ED.

Inpatient data was sourced from the Business Intelligence Unit (BIU) which provides data analytics for THO-S and THO-NW. This data set relates to overnight admissions only.”

5.2. Patient summary by specialty group and bed-day usage

The table below shows the number of patients by medical group (and percent of all patients), and the number of bed-days used by medical group (and the percentage of bed-days used across the hospital).

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Patients #</th>
<th>Patients %</th>
<th>Bed-days #</th>
<th>Bed-days % (cumulative %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>2,410</td>
<td>41%</td>
<td>9050</td>
<td>34% (34%)</td>
</tr>
<tr>
<td>Surgery</td>
<td>2,152</td>
<td>37%</td>
<td>10818</td>
<td>41% (76%)</td>
</tr>
<tr>
<td>WACS</td>
<td>949</td>
<td>16%</td>
<td>1914</td>
<td>7% (83%)</td>
</tr>
<tr>
<td>Mental health</td>
<td>372</td>
<td>6%</td>
<td>4384</td>
<td>17% (100%)</td>
</tr>
<tr>
<td>Complex, chronic &amp; community care</td>
<td>9</td>
<td>0%</td>
<td>108</td>
<td>0% (100%)</td>
</tr>
<tr>
<td>Cancer services</td>
<td>1</td>
<td>0%</td>
<td>1</td>
<td>0% (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>5,893</td>
<td>17%</td>
<td>26275</td>
<td></td>
</tr>
</tbody>
</table>
Quantitative observations:

- Medicine was the largest group in terms of patient volume (41%) and second largest in terms of bed-day usage (34%).
- Surgery was the second largest group in terms of patient volume (37%) and largest in terms of bed-day usage (41%).

5.3. Patient summary by source of admission

An investigation into the source of admission for ward patients was completed with the results shown in the table below.

<table>
<thead>
<tr>
<th>Source of admission</th>
<th>Patients #</th>
<th>Patients %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Emergency Medicine</td>
<td>3,724</td>
<td>63.2%</td>
</tr>
<tr>
<td>Private Practice / Consultant Rooms</td>
<td>772</td>
<td>13.1%</td>
</tr>
<tr>
<td>Transfer from another Hospital</td>
<td>550</td>
<td>9.3%</td>
</tr>
<tr>
<td>No Referral</td>
<td>383</td>
<td>6.5%</td>
</tr>
<tr>
<td>Referred from another Hospital</td>
<td>164</td>
<td>2.8%</td>
</tr>
<tr>
<td>Other</td>
<td>102</td>
<td>1.7%</td>
</tr>
<tr>
<td>Statistical Admission</td>
<td>84</td>
<td>1.4%</td>
</tr>
<tr>
<td>Outpatients Department</td>
<td>77</td>
<td>1.3%</td>
</tr>
<tr>
<td>Other Health Care Establishment</td>
<td>12</td>
<td>0.2%</td>
</tr>
<tr>
<td>Community Health Service</td>
<td>9</td>
<td>0.2%</td>
</tr>
<tr>
<td>Transfer from Other Public Psychiatric</td>
<td>9</td>
<td>0.2%</td>
</tr>
<tr>
<td>Law Enforcement Agency</td>
<td>4</td>
<td>0.1%</td>
</tr>
<tr>
<td>Private Psychiatric Practice</td>
<td>2</td>
<td>0.0%</td>
</tr>
<tr>
<td>Aged Care Facility</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>5,893</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Quantitative observations:

- The Department of Emergency Medicine contributed 3,724 (63.2%) to total ward patient volume over the data period.
- Private practice / consultant rooms contributed 772 (13.2%) to total ward patient volume.
5.4. Ward admission profile

The ward admissions profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table shown below which contains variable colour formatting with low numbers in green are high numbers in red.

Quantitative observations:

- The ward admissions profile was consistent during Monday - Friday ranging from 17-18 on average.
- The ward admissions volume was consistent on weekends at 12-13 per day on average.
- On average across the week the peak admission period was 15:00 to 15:59 with 8 admissions.
- There were noteworthy admissions spikes in the hours starting 7:00, 11:00, and 15:00 on Monday - Friday.
- 23% of daily admissions occurred by 10am on average (see bottom row of table above, 23% in the hour 9:00 to 9:59).
- 37% of daily admissions occurred by midday on average.
5.5. Ward discharge profile

The ward discharge profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table shown below which contains variable colour formatting with low numbers in green are high numbers in red.

Quantitative observations:

- The ward discharge profile was consistent during business days ranging from Wednesday to Friday on average.
- The ward discharge volume was 11 (Saturday) and 10 (Sunday) on average.
- On average across the week the peak discharge hour was 12:00 to 12:59 with 15.5 discharges.
- 20% of daily discharges were achieved by 10am on average (see bottom row of table above, 20% in the hour 9:00 to 9:59).
- 32% of daily discharges were achieved by midday on average.
- The major of discharges take place between 11:00 and 15:59.
5.6. Ward discharge before 10am

A further investigation of the ward discharge patterns was completed by reviewing discharge before 10am performance by ward. The results are shown in the table below with the corresponding number of patients as a percentage of total patients.

Quantitative observations:

- Four wards achieved discharge before 10am performance of greater than 20% (DEM, HIH, DSW, and P).

5.7. Length of stay by specialty

A brief investigation of ward length of stay was completed by specialty against the number of patient admissions. The results are shown in the chart below.

The above data is provided for information purposes.
5.8. **High level occupancy variation by day of week**

A brief investigation of daily net admissions was completed by subtracting average daily discharges from average daily admissions to arrive at a daily net admissions figure. The daily net admissions result was then added cumulatively through the week to derive an estimate for the average day-to-day variation of hospital occupancy.

![Net and cumulative admits by day of week](image)

Quantitative observations:

- Peak hospital occupancy occurs on a Wednesday on average.
- Friday is the lowest occupancy point on average.

5.9. **Section conclusions – quantitative**

Key quantitative conclusions in this section are:

1. Medicine was the largest group in terms of patient volume (41%) and second largest in terms of bed-day usage (34%).
2. Surgery was the second largest group in terms of patient volume (37%) and largest in terms of bed-day usage (41%).
3. 63% of ward patients arrive through the ED.
4. Private practice / consultant rooms contribute 13% to ward volume.
5. Daily ward admissions varied from 17-18 (business days) to 12 (weekend days).
6. 23% of daily admissions occurred before 10am.
7. Ward discharges varied from 17-19 (Business days) to 10-11 (weekend days).
8. 20% of daily discharges occurred before 10am.
9. The major of discharges take place between 11:00 and 15:59.
10. Four wards achieved discharge before 10am performance of greater than 20% (DEM, HIH, DSW, and P).
11. Hospital occupancy peaks on a Wednesday is at its lowest on a Friday on average.
5.10. Section conclusions – qualitative

Key qualitative conclusions in this section are:

1. At 63% the ED is the largest contributor of admitted patients staying at least one night in the hospital.
6. ‘Who owns the time line?’ study

6.1. Study details

A total of 200 patients were tracked through the ED between 09:35 on 21/8/14 and 06:32 on 24/8/14, however complete data sets were not available for all patients\(^1\). Data was collected on a range of clinical and admin steps as shown in the diagram below. Data collectors were a mix of clinical and non-clinical staff supervised by Kate Brockman.

The analysis utilised ‘time pairs’ data to create ‘time steps’. A time pair is created when the beginning and end point of a time step was recorded by the observers as shown in the graphic below. Where either the beginning or end time point is absent (red squares) then a time step cannot be created. The analysis works by averaging time pairs data to generate composite timelines for the patient movements through the ED and to the wards.
6.2. High level WOTTL data summary

Summary by primary stream

The overall NEAT performance based on collected and analysed data for the study is shown in the table below.

<table>
<thead>
<tr>
<th>Patient stream</th>
<th>NEAT %</th>
<th>n (%) of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge stream</td>
<td>90%</td>
<td>153 (82.3%)</td>
</tr>
<tr>
<td>Admit stream</td>
<td>21%</td>
<td>28 (15.1%)</td>
</tr>
<tr>
<td>Did not wait</td>
<td>N/A</td>
<td>2 (1.1%)</td>
</tr>
<tr>
<td>Transfer</td>
<td>100%</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>100%</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>80%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Quantitative observations:

- Admit patient patients represented 15.1% of total ED presentations.
- The DNW rate was 1.1%.
- ED NEAT was 80% (90% discharge, 28% admit).

Summary by triage category

The overall NEAT performance from the recorded data based on triage category is shown in the table below.

<table>
<thead>
<tr>
<th>Triage category</th>
<th>NEAT %</th>
<th>n (%) of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>N/A</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Category 2</td>
<td>38%</td>
<td>13 (8%)</td>
</tr>
<tr>
<td>Category 3</td>
<td>71%</td>
<td>49 (29%)</td>
</tr>
<tr>
<td>Category 4</td>
<td>87%</td>
<td>100 (60%)</td>
</tr>
<tr>
<td>Category 5</td>
<td>100%</td>
<td>6 (4%)</td>
</tr>
</tbody>
</table>

Quantitative observations:

- NEAT performance increased as triage category increased from 38% for category 2, to 87% for category 4.
- There were no triage category 1 patients.

Qualitative observations:

- A slight Hawthorne effect was observed in the ED, particularly with the patient cohort in the discharge stream.
• There were a number of patients admitted under the ED CONSULTANT to wait for tests, reviews or transport, these data points were not captured in the study.

6.3. **High level timeline summary**

The high level timeline for admit and discharge stream patients is shown below. This timeline is compiled using the average of all valid time pairs for each stage for admitted and discharged patients as described above.

![Summary timeline (based on time line pairs data)](image)

Quantitative observations:

• The time from triage to enters ED was 11 mins for admit patients and 28 mins for discharge patients on average.

• The time from enters ED to 1st seen decision doctor was 28 mins for admit patients and 15 mins (on average) for discharge patients.

• The time from 1st seen decision doctor to the admit/discharge decision was 2:23 (admit) to 1:03 (discharge).

• The time from admit decision to bed request was 1:28 mins on average.

• The time from triage to admit decision was 3:03 on average for admit stream patients.

• The time from triage to bed request was 4:31 on average for admit stream patients.

• The time from bed request to bed allocated was 1:29 on average.

• The time from bed allocated the bed ready was 43 mins.

• The time step to ward staff ready, ED advised, orderlies called, and patient admitted was 5, 0, 21, and 16 mins respectively.

• The time from discharge decision to patient leaves the ED (on discharge) was 18 mins on average.

Qualitative observations:

• The current process of bed request requires that an inpatient team accepts the patient and that the inpatient registrar has seen the patient, the bed cannot be requested until the review and acceptance has occurred.
• The ED staff were reluctant to call inpatient Consultants directly for patient acceptance and make early admission decisions.

• The time from seen by Dr to admit decision and then bed request is very lengthy compared to similar organisations in our experience.

• The use of the EDIS is highly variable with little input of information into the clinical comments, bed requested, bed allocated and bed ready fields.

6.4. Ambulance as arrival mode

A detailed review of the use of ambulances was undertaken by considering the triage category and departure mode of patients who arrive by ambulance. The results are shown in the two charts below.

Quantitative observations:

• 13 (33%) of 39 patients arriving by ambulance were given a triage category of 4 or higher on arrival.

• 22 (56%) of 156 patients arriving by ambulance were discharged from the ED.

Qualitative observations:

• The practice of decanting ambulance patients to the waiting room was not observed.
6.5. **Arrival to 1st seen decision doctor**

A detailed review of the patients’ first steps in the hospital was undertaken with respect to triage category. The results are shown below.

Quantitative observations:

- For all triage categories the arrival to triage, and triage to admin complete process was very rapid (less than 6 minutes).
- The admin complete to enters the ED ranged from 3 mins (category 2) to 32 mins (category 4).
- The time for enters ED to first seen decision doctor ranged from 17 mins (category 4), to 21 mins (category 3).

Qualitative observations:

- The administration time seen is occurring before the triage time in some instances.

6.6. **First seen by decision doctor**

A further investigation of the time between enters the ED and 1st seen decision doctor was undertaken. The chart below shows the relationship between when the patient enters the ED (assumed to occur as the first step) and when the patient sees the decision (making) doctor. The chart shows all time steps information for which data was collected.
Quantitative observations:

- There were no instances of patients being seen by the doctor prior to entering the ED.

Qualitative observations:

- Patients were seen relatively quickly by the first seen Dr. In cases where this Dr was a junior Dr the senior Dr opinion or review was sought quickly with little delay.
- The senior Dr was readily available and visible in the department with little time spent for the junior Dr having to find someone to access opinion or review.

6.7. Test procedures summary

A review of the procedures around test cycle times was completed. The only test group results below with n > 5 were bloods (n=30), ECG (n=7), and X-ray (n=41). Note also the CT result of 3:43 was based on n=1.

Quantitative observations:

- The time from 1st seen decision doctor to test request was 13 mins on average.
- 31% of patients had 1 test, 13% of patients had 2 tests, and 8% had three or more tests.
- The average of the 93 tests was 1:06.
- The average time from test request to test results for patients who had only 1 test was 56 mins.
- The average time from test request to test results for patients who had 2 tests was 1:30 mins (or an extra 34 mins on just 1 test).

Qualitative observations:

- When asked, the view of senior clinicians in the ED was that the imaging and pathology departments provided a timely and responsive service to the ED.
- Although only 1 case was recorded – the CT request and review was lengthy.
6.8. Referrals summary

A review of the referrals process was completed considering the time from specialist referral to review. The results are shown in the chart below. Note the results for Ophthalmology (n=1), Paediatrics (n=2), O&G (n=3), and Psychiatry (n=6) had low patient volumes. Surgical and Orthopaedics had n=9, and Medicine had n=20.

Quantitative observations:

- The average time from first seen decision doctor to specialist referral was 1:41.
- The time from specialist referral to consultant review was 1:00 on average.
- During the study approximately 25% of patients required a specialist referral.
- Of patients requiring a specialist referral, 87% had 1 referral and 13% had 2 referrals.

Qualitative observations:

- The referral and review times to, and by, inpatient specialty teams are amongst the best observed nationally in comparable studies.

6.9. Test and referrals interaction summary

A review was conducted of the 1st seen decision doctor to admit/DC decision based on whether tests and/or referrals were completed and the results are shown in the chart below.
Quantitative observations:

- The time from 1st seen decision doctor to admit/DC decision when no test or referrals were completed was 0:25.
- The time from 1st seen decision doctor to admit/DC decision when only referrals were completed was 2:26.
- The time from 1st seen decision doctor to admit/DC decision when only tests were completed was 1:28.
- The time from 1st seen decision doctor to admit/DC decision when test and referrals were completed was 2:22.

Qualitative observations:

- The time to admit decision is lengthy if a patient has a referral only and also for referral and tests.

6.10. Triage to bed request review

A review was completed on all available data on the time from triage to bed request with the results shown in the chart below.

Quantitative observations:

- None of the 27 patient observations for time from triage to bed request was less than 2:00.
- 12 of the 27 (44%) of patient observations for time from triage to bed request was greater than 4:00.

Qualitative observations:

- The process of bed request did not take place at the same time as the admit decision and this was lengthy.
- The process of bed request was person dependant and the process variable. Various methods of bed request were observed as follows:
  - Inform the clerical staff
  - Ring the ward directly
  - Complete paper form either before or after bed request
  - Contact the bed manager either before or after ringing the ward directly
6.11. Bed request to bed allocated and bed ready by destination ward

To further investigate the time from bed request to bed allocation an analysis was completed by destination ward. The analysis considers bed request to bed allocated for Medicine (n=11), Surgical (n=11), and ICU/CCD (n=3).

Quantitative observations:

- Medicine (as the largest admitting specialty) has the longest bed request to bed allocated at 1:35.

Qualitative observations:

- There was a lack of knowledge and transparency by the ED staff of the number of beds that were available in the hospital at any given time in the hospital.
- The process of bed allocation was observed to be person dependant and highly variable. The different processes observed were as follows:
  - The ED shift coordinator continually rang the wards (reference sheets, B077, B078, B083) to ascertain bed allocated, bed ready and ward ready
  - The bed manager rang the ED to notify that the bed is ready, or the ward rang the ED to inform of bed ready
- The EDIS is not used as an electronic notification to the ED of the bed being requested, allocated or ready. Further EDIS use was patchy with retrospective data entry as follows:
  - Patient discharged from ED 23rd August 11:34, EDIS entry completed at 13:00, reference sheet B067
  - EDIS entry for patient location as DEM, patient had subsequently been transferred to CCD, reference sheet B074
  - EDIS entry for patient location as medical ward, patient had been transferred to surgical ward, reference sheet B080
- The readiness of the ward being able to take the patient from ED was highly variable. The following reasons for being unable to take the patient were observed as follows:
  - Ward preference not to take the patient to available bed until later (24th August). Bed requested 02:53, bed available 05:20, ward preference not to take patient until after 07:00 morning shift, bed ready 07:48, reference sheet B005
- Bed not ready 07:25 22nd August and then bed subsequently ready 07:32 same day, reference sheet B068
- Bed requested 14:50 August 21st, not ready at 15:57 as staff in a meeting, not ready at 17:00 as staff attending MET call, not ready 18:16 as ward staff at tea, reference sheet B086

6.12. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. The ED NEAT was 80% (90% discharge, 21% admit).
2. The admit ratio was 15.1%.
3. The DNW ratio was 1.1%.
4. NEAT performance increased as triage category increased from 38% for category 2, to 87% for category 4.
5. The ED length of stay for discharge stream patients was 2:06.
6. The ED length of stay for admit stream patients was 7:29 (4:31 triage to bed request, and 2:57 bed request to patient leaves the ED).
7. The time from 1st seen decision doctor to admit/discharge decision was approx. 1:03 for discharge patients, and 2:23 for admit patients.
8. The time from admit decision to bed request was 1:28.
9. The time from bed request to bed allocated was 1:29.
10. The time from bed allocated to bed ready was 43 mins.
11. The time from bed ready to patient leaving the ED was very rapid.
12. There were no instances recorded of doctors seeing patients before they entered the ED.
13. 33% of patients arriving by ambulance were given a triage category of 4 or higher.
14. 56% of patients arriving by ambulance were discharged from the ED or chose not to wait for treatment (DNW).
15. The time from triage to admin complete was less than 6 mins for all patients.
16. The time for enters ED to first seen decision doctor ranged from 19 mins (category 2), to 17 mins (category 4).
17. The time from 1st seen decision doctor to test request was 13 mins on average.
18. The average time from test request to results for the 93 tests was 1:06 (56 mins for patients with one test, and 1:30 for patients with 2 tests).
19. 31% of patients had 1 test, 13% of patients had 2 tests, and 8% had three or more tests.
20. The average time from first seen decision doctor to specialist referral was 1:41.
21. The time from specialist referral to specialist review was 1:00.
22. 12 of the 27 (44%) of patient observations for time from triage to bed request was greater than 4:00.
### 6.13. Section conclusions – qualitative

Key qualitative conclusions in this section are:

1. The time taken to make the admission decision is lengthy and appears to be largely dependent on the inpatient referral and subsequent review. This was also apparent in situations where a definitive admission to a known specialty was a certainty. There is a reluctance for ED staff to call inpatient Consultants directly which would preclude a large majority of these delays. This contributes significantly to delays in the admission pathway for patients.

2. There is a large time gap between making the admit decision and subsequent bed request. Delays in making bed requests impact the ability of the hospital to respond in a timely manner with an available bed. The admit decision and bed request should ideally be the same event and happen concurrently.

3. There is large variability in how patients are allocated to wards and when the bed becomes ready. This results in an increased workload of the ED shift coordinator and capacity to manage the patient flow through the ED.

4. There is large variability in when the ward staff are able to take the patient from the ED and there are multiple reasons for inability to take the patient. In some cases the bed is ready but the ward staff are not, this requires review as a matter of priority.

5. There was inconsistency and variability in how ED staff were advised that the ward was ready to receive the patient (notice was obtained from patient flow to ED, from ward to ED, from ED to patient flow, and ED to ward). This results in multiple phone calls, time wastage in both the ED and wards and contributes significantly to delays in the time taken for the patient to be transferred from the ED to the allocated ward.

6. The use of EDIS data entry was at times batched and entered retrospectively. The use of EDIS as an effective communication tool is not being fully utilised. Whilst it is recognised that this is an older EDIS version there is still capacity to use it to communicate within the ED, between ED and patient flow and further provide an electronic trail of the patient treatment and journey.

7. This report did not outline imaging as a major impediment to patient flow through the ED. The time taken for CT was lengthy, although only 1 test this should be reviewed.

8. There appeared to be a significant disconnect between the perceived hospital escalation policy and the hospital wide and executive response to ED over-crowding. This supported the perception that the hospital was “full” with that being the end of the response. This will require review.
7. ‘Why am I still here?’

7.1. Study details

The WAISH study was completed over the 31st July to 6th of August as follows:

- Morning and afternoon reviews (except 6th August which was an AM review only).
- Wards reviewed were CCD, Medical, Paediatrics, Psychiatric, Rehab and Surgical.

A total of 1,340 beds were reviewed against 33 different criteria arranged in 9 categories and 3 groups as described below:

- Medical bed:
  - Medical bed:
    - M3. Patient being reviewed by clinical staff.
    - M4. Patient recuperating/unwell/on rehab path.

- Empty bed:
  - Empty bed – registered for use:
    - ER1. Allocated to incoming patient.
    - ER2. Bed being held in reserve (just in case).
  - Empty bed – not registered for use:
    - EN1. Awaiting cleaners.
    - EN2. Cleaning in progress.
    - EN3. Ward staff late in entering in system.

- Non-medical bed (i.e. patient in bed for a non-medical reason):
  - Discharge requirements:
    - DR1. Prescription not provided/waiting for Dr to write.
    - DR2. Prescription not ready.
    - DR3. Medications not delivered.
    - DR4. Pharmacy not open after hours.
    - DR5. Waiting for hospital test (e.g. MRI/procedure).
    - DR6. Waiting for review – consultant or allied health.
    - DR7. Waiting for ACAT processes.
    - DR8. Waiting for rehab processes.
Discharge planning:
- DP1. Awaiting discharge decision from doctor.
- DP2. Discharge plan requires rework by doctor/other.
- DP3. Staff not aware of discharge plan.
- DP4. No discharge plan – staff awaiting direction.

Discharge destination:
- DD1. Destination not yet identified.
- DD2. Destination identified but not planned.
- DD7. Awaiting destination services.

Discharge summary:
- DS1. Issues with discharge summary.

Transfer of care:
- DT1. Destination facility won’t take patients.
- DT2. Family won’t take patient.
- DT3. Patient refuses to leave ward.
- DT4. Family coming.

Other:
- DO1. No transport available to destination.
- DO2. Any other reason.

7.2. High level summary

The high level 3 group summary is shown below:

<table>
<thead>
<tr>
<th>Bed groups</th>
<th>Beds</th>
<th>% allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical beds</td>
<td>733</td>
<td>54.7%</td>
</tr>
<tr>
<td>Non-medical beds</td>
<td>367</td>
<td>27.4%</td>
</tr>
<tr>
<td>Empty beds</td>
<td>240</td>
<td>17.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,340</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Outliers were 77 of 1,340 (5.7%).
Quantitative observations:

- Empty beds at 240 or 17.9% was high in our experience and suggests that this site may not have a critical bed shortage.
- 367 or 27.4% of beds were occupied where the next step in the patient journey was non-clinical.
- Non-medical bed usage and empty beds totalled 607 or 45.3%. This was significantly over the 11%-36% range observed nationally for this operational parameter.

7.3. Summary by review category

An analysis of the beds by review category was completed with the results shown in the chart below.

Quantitative observations:

- Discharge delays around destination (12.2%), requirements (4.8%), and planning (6.2%) accounted for 310 or 23.1% of all bed occupancy. This was very high by national standards in our experience.
- There were 240 empty and registered beds (17.9%).
- There were no beds that were empty and not registered suggesting that ward and cleaning staff were making beds available promptly.
- There were no patients with discharge delayed by a lack of discharge summary.
7.4. **High level summary by ward**

The summary of high level bed review data by ward is shown below.

Quantitative observations:

- The top three wards in terms of medical beds usage were Surgical (63%), Medical (60%), and CCD (60%).
- The bottom three wards in terms of medical beds usage were Rehab (54%), Paediatrics (42%) and Psychiatric (37%).
7.5. Summary of review category by ward

The summary of review category data by ward is shown below in three tables. The first is shows the sum of reviewed patients for the categories as well as the overall ward capacity. A colour scale is used to show those wards with the highest absolute number of empty or delay beds (see right most column in table below; red denotes large numbers, green low numbers).

![Table 1 with data](image1)

The second table (below) shows the incidence of each category as a percentage of the ward capacity, thereby normalising the data for differing ward sizes. Note the use of the colour scale to show the highest incidences of empty/delay beds (red = large %, green = low %).

![Table 2 with data](image2)

The final chart below ranks each of the review categories in order of contribution to empty/delay beds for each ward. This data should be read horizontally for each ward (for example for the medical ward D/C destination at 12% is the largest factor (rank 1 below), followed by D/C planning at 10% (rank 2 below), and D/C requirements at 7% (rank 3 below). Note colour formatting is applied to the table with red denoting the highest ranked reason for non-medical beds, and green the last or lower order reasons.

![Chart with data](image3)
Quantitative observations:

- Rehab ward appeared to face significant challenges in relation to discharge destination as delays in this factor accounted for 25% of all beds.

- Medical, Surgical and Psychiatric wards appeared to face challenges in relation to discharge destination as delays in these factors accounted for 12%, 10% and 17% of all beds respectively for these wards.

- Medical ward appeared to face challenges in relation to discharge planning as delays in these factors accounted for 10% of all beds.

7.6. Summary by day of week

The variation in bed category by day of week (Wednesday to Tuesday) is shown below.

Quantitative observations:

- There did not appear to be strong evidence of day of week variation in bed categorisation.
7.7. Summary by individual criteria review

The summary of individual review criteria is shown below. Not this does not include the four medical bed criteria in the medical bed category.

![Bar chart showing bed review results by individual criteria.](image)

Quantitative observations:

- Empty beds represented 40% of the overall non-medical and bed empty group. This indicated there was latent bed capacity in the hospital.

- The top ten non-medical and empty bed categories across the hospital accounted for 81% of all non-medical or empty beds are listed below:
  - ER3. Bed registered and empty – unknown (34% of all non-medical beds).
  - DD7. Awaiting destination services (11%).
  - DP1. Awaiting discharge decision from doctor (8%).
  - DD1. Destination not yet identified (6%).
  - ER1. Allocated to incoming patient (5%).
  - DD2. Destination identified but not planned (4%).
  - DO2. Any other reason (3%).
  - DP3. Staff not aware of discharge plan (3%).
  - DD6. Destination not ready – other (3%).
  - DR6. Waiting for review – consultant or allied health (3%).

The chart below shows the distribution of non-medical beds by criteria. Note the percentage figures in the chart are calculated as the count of beds in each criteria divided by the count of beds in the non-medical group (i.e. all non-medical beds, excluding empty or medical beds). This information is provided for reference.
Quantitative observations:

- The top five non-medical bed categories across the hospital are listed below:
  - DD7. Awaiting destination services (17%).
  - DP1. Awaiting discharge decision from doctor (13%).
  - DD1. Destination not yet identified (10%).
  - DD2. Destination identified but not planned (7%).
  - DO2. Other reasons (6%).

### 7.8. Percent and rank of individual criteria by ward

An investigation was completed to establish the contribution of individual empty bed or delay criteria for each ward. The results are presented in the table below as a percentage of the ward capacity. Note the graphic below includes variable colour coding with red denoting large numbers and green small numbers.

The table below presents the results for individual criteria by ward in ranking terms. The reader is invited to review a row of data for each ward to read of the criteria most impacting bed capacity in order of rank. For example, the top five impacting criteria for the medical ward are:

1. DP1. Awaiting discharge decision from doctor (7%).
2. ER3. Bed registered and empty – unknown (5%).
3. DD7. Waiting for ACAT processes (4%).
4. DD1. Destination not yet identified (4%).
5. DR8. Waiting for rehad processes (3%).
Note the graphic below uses variable colour formatting to assist in finding the highest ranked contributions to non-medical and empty beds with red = rank 1, and green a lower or last ranked criteria.

7.9. Qualitative observations – WAISH

Qualitative observations:

- Overall there was not a culture of “pull” rather the wards wait for “push” from the patient flow team or ED.
- There was a lack of transparency and knowledge around how many admitted patients were waiting in the ED for an inpatient bed by the ward staff.
- There was variability of the active management of patient flow at the ward level, evident during and after hours within the NUM and in charge group. There was variability in the flexing and surging of beds and corresponding staffing, particularly in the CCD.
- There was a general passive approach to LOS, EDD’s and resource management of beds at the ward level from both medicine and nursing.
- Multiple intra-ward bed moves took place to accommodate booked admissions, electives and the ED patients. These primarily involved use of the closed or non-funded beds as a “place holder” whilst other beds were being cleaned.
- Beds were commonly held for patients coming from theatre, direct admits, inter-ward transfers, inter-hospital transfers, this could account for a large number of occupied bed days.
- Medical staff rounding and decision making was variable and impacted on the ability of nursing staff to predict discharges and therefore manage the ward.
- Generally there was an acceptance that the hospital provides a 5 day “in hours” service rather than a 24/7, 7 days per week service, as evidenced by the weekend discharge patterns.
- The rehab process, decision making and acceptance of patients and subsequent access to beds was lengthy.

7.10. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. There was significant bed capacity available in the hospital with:
   a. 27.4% of beds being occupied by patients who’s next step was non-medical.
   b. 17.9% of beds being registered and empty.
2. Delays around the discharge process accounted for 23.1% of the 27.4% of non-medical reasons for bed occupancy.
3. There was not a significant day of week variation in bed trends between medical, non-medical, and empty.

4. No beds were empty and not registered suggesting that ward and cleaning staff were making beds available promptly.

5. The range in medical bed usage varied from a high of 63% (Surgical) to a low of 37% (Psychiatric).

6. The range in non-medical bed usage varied from a high low of 10% (Paediatrics), to a high of 38% (Rehab).

7. The range in empty beds varied from a low of 7% (Medical and Surgical), to a high of 40% (Psychiatric).

8. There was notable variation in the performance across wards in terms of discharge requirements, planning, and destination.

7.11. Section conclusions – qualitative

Key qualitative conclusions in this section are:

1. There was strong evidence of empty beds across the hospital which ward staff were unsure of which patient the next bed was allocated to.

2. There was a cohort of patients who were occupying beds for non-acute medical reasons therefore contributing to latent capacity in the hospital (i.e. discharge requirements, discharge destination, discharge planning, and transfer of care).

3. Ward rounding was variable in terms of timeliness and length and this impacted on the ability of the NUMs to plan for patient flow.

4. The bed meeting appeared to lack a focus on resolving ED overcrowding. Staff attendance at the bed meeting was variable in terms of actual attendance and timeliness of attendance and this impacted on the timeliness of patients in the ED being allocated ward beds.

5. There was variability in management practices and priority with respect to patient flow and length of stay management at a ward level covering nursing and medical staff.

6. There appeared to be loose controls around bed flexing and staffing on the wards which presents an opportunity for review, this has obvious financial implications.

7. Ward staff did not appear to be aware of ED workload levels and therefore be able to respond accordingly (e.g. ED overcrowding, ambulance ramping) in a manner that alleviated ED patient loads.

8. There appeared to be a significant disconnect between the published hospital escalation policy and the hospital wide and executive response to ED over-crowding.
8. ‘Was the bed empty?’

8.1. Study details

The WTBE study was conducted based on 393 patients admitted to the ward who arrived at triage from 29/4/14 to 31/5/14. The study considers the timing of incoming admitted patients into ward beds vacated by discharging patients. In particular it is analysing the performance of patient flow and the respect wards in admitting patients. A graphic for the study is shown below.

For this study no cleaning data was available (points 2, 3 and 4 above), however bed request date/time was available for arriving patients.
8.2. **High level summary**

An analysis was completed to find the status of the destination bed for the arriving patient at the time of arriving patient triage, and arriving patient bed request. The results are shown in the chart below.

Quantitative observations:

- The destination beds for 59% of patients who will be admitted were vacated by the prior discharging patient at the time of arriving patient triage.
- The destination beds for 68% of patients who will be admitted were vacated by the prior discharging patient at the time of bed request by the ED.

8.3. **Summary by day of week**

The results for a comparison between the time of bed request for arriving patient and leaves ward for departing patient are shown below by day of week.

Quantitative observations:

- While there was some variance in the percentage of empty beds at time of bed request there was no clear trend on average.
8.4. Bed request to arrival at ward for admitting patients

An analysis of the time from bed request to arrival at ward was completed for those patients who were confirmed to have a bed request submitted after the discharging patient had left the ward. In doing so this analysis reviews the combined performance of bed cleaning staff, patient flow, ward handover practices (ward and ED), and patient transfer processes (ED and orderly staff).

Quantitative observations:

- On average it took 2:20 for a patient to progress from ED bed request, to arriving on the ward; even though the ultimate destination bed had been vacated by the discharging patient.
- The time from bed request to arriving on the ward was noticeably poorer over the weekend and on Wednesdays.

8.5. Summary by ward

The results for a comparison between the time of bed request for arriving patient and leaves ward for departing patient are shown below by admitting ward. Note that SPC, ADU and DSW had n<10.

Quantitative observations:

- The range of percent empty beds at time of bed request varied from 61% (NWRHS) to 100% (ADU, DSW, and SPC) on average.
8.6. **Time bed request to patient admit for known empty beds**

An investigation was completed into the time taken from bed request to patient admission where the bed was known to be empty (i.e. excluding all situations where bed was occupied at bed request). This investigation isolates occupied beds as a cause for delay and focuses on hospital admission processes. The results are shown in the chart below by ward. Note wards SPC, ADU, and DSW had n<10.

![Time bed request to patient admission](chart)

Quantitative observations:

- The range for time from bed request to patient admission for known empty beds varied from 20:23 (SPC) to 1:09 (P) on average.
- The average time from bed request to patient admission for known empty beds was 2:20.

8.7. **Are we breaching with empty beds?**

A detailed review of patients whose destination bed was vacated at time of bed request was conducted by grouping their time from bed request to ward arrival into 1 hour time increments. The resulting chart is shown below.

![% of patients by 1 hour time increment from bed request to arrives ward](chart)
Quantitative observations:

- 7% of patients whose destination bed had been vacated at time of bed request arrived at that bed within 60 minutes of bed request.

- 93% of patients whose destination bed had been vacated at time of bed request took longer than 60 minutes to arrive at that bed after bed request.

8.8. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. 59% of admitted patients’ destination bed had been vacated at the time of triage.

2. 68% of admitted patients’ destination bed had been vacated at the time of bed request.

3. The range of percent empty beds at time of bed request varied from 67% to 100% on average.

4. The range for time from bed request to patient admission for known empty beds varied from 20:23 to 1:09 on average.

5. The average time from bed request to patient admission for known empty beds was 2:20.

6. The time from bed request to arriving on the ward was noticeably poorer over the weekend and on Wednesdays.

7. 93% of patients whose destination bed had been vacated at time of bed request took longer than 60 minutes to arrive at that bed after bed request.
9. Recommendations

9.1. Introduction

The following sections provide four different types of recommendations for improvement as follows:

1. **Solution implementation.** A known and proven solution to the problem should be implemented.

2. **Solution investigation.** A thorough investigation of known solutions to the problem should be investigated with a view to implementing the best solution version based on local factors.

3. **Redesign initiatives.** The specified area should be subject to a business improvement process (e.g. LeanSigma, process mapping) with a view to identifying bottlenecks and process improvement opportunities.

4. **Opportunities for review.** A thorough review of all aspect of the specified area should be conducted to identify drivers of desired and undesired performance. The review may recommend no change, or a raft of change initiatives.

Recommendations are provided for the emergency department, wards, patient flow, and hospital operations management.

9.2. Solution implementations

- **Implement (modify if required) a hospital admissions policy.** This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

- **Implement (modify if required) a process for requesting a ward bed in the ED.** The goal is to request a bed immediately at time of admit decision and accommodate ED and patient flow considerations. This should be a “quick win” in terms of solutions and be developed and agreed by the ED staff, inclusive of process, roles and responsibilities and use of EDIS.

9.3. Solution investigations

The following areas are recommended for solution investigation.

- **Implement (modify if required) business rules and standard processes for use of the EDIS.** This should be inclusive of data entry being “real time”, in terms of timeline management, clicking on/off patients to be seen, use of the clinical comments field, bed allocated and bed ready fields and the use for ED patient tracking management.

- **Review and implement an ED Short Stay Unit (ED SSU).** This review should consider the volume and acuity of patients admitted under the care of the ED staff specialist who are admitted or discharged. The ED SSU should include appropriate inclusion and exclusion criteria, and a process for rapid admissions.
9.4. Redesign initiatives

The following areas are recommended for redesign initiatives.

- **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. Inclusive of the bed allocation prioritization for all bed requests (ED, Wards, critical care area).

- **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

9.5. Opportunities for review

The following areas are recommended for review.

- **Review hospital operations escalations (predictive and reactive).** Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.

- **Suggest collaborative discussions with Ambulance Tasmania.** Discuss the approach of other states to the provision of ambulance services and how such provisioning impacts demand for emergency department services.

- **Review the medical patient journey from admission decision, bed request and bed ready.** There is significant opportunity with this stream as evidenced with the WAISH, WTBE and qualitative data.

- **Review bed flexing practices in the CCD.** Undertake a review of the bed flexing practices in the CCD to identify opportunities to maximise the value of these units to the hospital. This should include a review of the current management of staffing on a shift by shift basis.

- **Review the current admission decision process in the ED.** The suggested benchmark for admission decisions is 2 hours from triage. Review how the current process and reasons for delay in the ED and develop a solution to shorten this process.

- **Review and implement ward leadership and flow management training.** Undertake a review of successful implementations of ward leadership and patient flow management systems at leading hospitals across Australia with a view to improving ward length of stay and management practices.

- **Review the current state of “voice of the patient”.** Decide on methodology to baseline the patient experience during and after leaving the hospital. Examples seen in previous work include surveys, focus groups, video interviews and patient specific stories. These are extremely powerful for all staff.

- **Review the current state of “voice of the staff”.** Decide on methodology to baseline staff satisfaction with current working conditions in the hospital. On the spot surveys have been highly successful in previous work associated with Clinical Redesign.
9.6. Immediate recommendations

Noting the volume of the above recommendations the following list of recommendations are viewed as the most urgent and if implemented successfully will lead to the largest improvement in decreasing ED overcrowding and improving hospital flow:

1. **Implement (modify if required) a hospital admissions policy.** This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

2. **Implement (modify if required) a process for requesting a ward bed in the ED.** The goal is to request a bed immediately at time of admit decision and accommodate ED and patient flow considerations. This should be a “quick win” in terms of solutions and be developed and agreed by the ED staff, inclusive of process, roles and responsibilities and use of EDIS.

3. **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. Inclusive of the bed allocation prioritization for all bed requests (ED, Wards, critical care area).

4. **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

5. **Review hospital operations escalations (predictive and reactive).** Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.
Final Report for Mersey Community Hospital

Baseline analysis report covering:

1. High level ED data review
2. ‘Who owns the timeline?’ study
3. ‘Why am I still here?’ study
4. ‘Was the bed empty?’ study
5. Recommendations for improvement

Healthcare Reform Consulting (HRC)
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1. **Executive summary**

1.1. **Introduction and report outline**

This report was commissioned to baseline the high level ‘Whole of Hospital’ performance of the four major hospitals in Tasmania using methodologies proven successful in WA and NSW reform programs. The baseline activity covered Royal Hobart, Launceston General, North-West Regional, and Mersey Community Hospitals, and looked into five areas as follows:

- High level data on emergency department presentation and discharge profiles, and length of stay
- High level data on ward admissions and discharge profiles, and length of stay
- Three day time and motion study for the emergency department
- Seven day, twice daily bed/ward occupancy review
- Patient flow timeframes review

This report presents the results of the investigations and analysis for Mersey Community Hospital, along with conclusions and recommendations for further work to improve Emergency Department flow and broader hospital performance.

This report structure begins with a background to the engagement and details of the engagement. Then each of the five areas of investigation are detailed in terms of analysis, and quantitative and qualitative conclusions. The report then outlines the key recommendations for improvement in four categories namely opportunities for review, redesign initiatives, solution investigations, and solution implementations.

1.2. **General findings**

Whilst this report outlines several suggestions for improvement, the authors were extremely impressed with the quality and commitment of staff at all levels of Launceston General Hospital. In particular the willingness of clinical and non-clinical staff to engage with the review team to openly share information on their successes and challenges, as well as their ideas to improve was highly commendable.

“All organisations are perfectly designed to get the results they are now getting. If we want different results, we must change the way we do things.” Tom Northup

Our review did identify practices and processes that detract from hospital and emergency department performance. That is both good and bad news. The good news in that the problem is not a staffing problem per se, rather it is the practices and processes employed by those staff. The bad news is that changing work practices and processes can be challenging, and the below listed recommendations as well as the full detail of this report, are provided to assist Mersey Community staff, managers, and executives in leading the change activities.

1.3. **Recommendations**

Recommendations to improve access to emergency care are:

- **Review ambulance service Tasmania.** Undertake a review of other states approach to the provision of ambulance services and how such provisioning impacts demand for emergency department services.
• Implement (develop if required) a hospital admissions policy. This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

• Implement business rules and standard processes for use of the EDIS. This should be inclusive of data entry being "real time", in terms of timeline management, clicking on/off patients to be seen, use of the clinical comments field, bed allocated and bed ready fields and the use for ED patient tracking management.

• Review the current admission decision process in ED. The triage to admission decision time period is advised to be 2 hours to enable the hospital time to find and allocate an appropriate empty bed. Review how the current decision making process occurs and develop a solution to shorten this accordingly.

• Review ED staffing profiles. Undertake a review of ED patient occupancy numbers with ED staffing numbers to maintain patient:staff ratios as patient demand varies. The overnight and fast track models and profiles require specific attention.

• Review ED Short Stay Unit. Undertake a review of patient flow management, occupancy levels, inclusion/exclusion criteria, and discharge practices.

• Review Imaging services. Undertake a review of imaging services to the ED in respect of volumes, responsiveness, service provision by day of week and hour of day, and cycle times.

• Review the current Rehab pathway. This should include the process for referral and acceptance for medical and allied health components of the patient pathway and the availability of the rehab bed.

• Review the processes for referral to and review by Allied Health and Inpatient teams. Clarity is required around the breakdown of Allied Health and Inpatient team review delays in terms of process for request for review and timeliness of review.

• Review hospital operations escalations (predictive and reactive). Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.

• Redesign patient flow processes and systems. Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. This should include the clear identification of bed allocation prioritisation.

• Redesign ward length of stay management and discharge planning practices. Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

1.4. Immediate recommendations

Noting the volume of the above recommendations the following list of recommendations are viewed as the most urgent and if implemented successfully will lead to the largest improvement in NEAT performance:

1. Review the current admission decision process in ED. The triage to admission decision time period is advised to be 2 hours to enable the hospital time to find and allocate an appropriate empty bed. Review how the current decision making process occurs, and investigate the reliance on tests and inpatient reviews to inform the admission decision. Develop a solution to shorten this accordingly.
2. **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. This should include the clear identification of bed allocation prioritisation.

3. **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

4. **Review the processes for referral to and review by Allied Health and Inpatient teams.** Clarity is required around the breakdown of Allied Health and Inpatient team review delays in terms of process for request for review and timeliness of review.

5. **Review the current Rehab pathway.** This should include the process for referral and acceptance for medical and allied health components of the patient pathway and the availability of the rehab bed.
2. Background

2.1. Health Services Innovation (HSI) Tasmania program

On 15 June 2012, the Australian Government announced the $325 million Tasmanian Health Assistance Package (THAP). The Commission on Delivery of Health Services in Tasmania (the Commission) was established in September 2012 as a component of the THAP to monitor implementation and provide independent advice to the Australian and Tasmanian governments on opportunities for improvement within Tasmania’s health system.

The Commission provided a Preliminary Report to the Australian Government and Tasmanian Government Health Ministers in December 2012, which highlighted the need for investment in the capacity of the Tasmanian health system to undertake clinical redesign.

Kate Brockman from Health Reform Consulting (‘HRC’) was appointed as a member of the expert panel in the area of Emergency Access and Demand; and subsequently undertook initial site reviews in May and June 2014 of Royal Hobart Hospital, Launceston General Hospital, and North-West Regional Hospital.

2.2. Current situation

Subsequent to the above activities HRC was engaged to provide a proposal to conduct high level studies using its proven methodology at the four key sites. This was provided in late June 2014.

UTAS (‘the client’) has advised that ethics approval was required to conduct the ‘Who owns the timeline’ (WOTT) study, and has requested that the ‘Why am I still here’ (WAISH), and ‘Was the bed empty’ (WTBE) studies be fast-tracked at the four major hospital sites listed below:

- Royal Hobart Hospital (RHH).
- Launceston General Hospital (LGH).
- North-West Regional Hospital (NWRH).
- Mersey Community Hospital (MCH).

2.3. Your requirement

Complete the WOTT, WAISH and WTBE studies at RHH, LGH, NWRH, and MCH. The outcome of the diagnostic studies is a summary report for each site detailing:

- Conduct diagnostic:
  - Bed utilisation on the wards.
  - Extent of access block due to bed shortages vice processing delays.

- Provide immediate implementation recommendations:
  - Where compelling evidence exists, provide site based recommendations for specific solutions (including justification for said solution).

- Provide recommendations for further investigation:
  - Where appropriate provide a prioritised recommendation list for further investigation (e.g. value stream mapping) based on the expected performance benefit to the organisation post solution implementation.

Additional requirements are that the:
• Diagnostic be completed as quickly as possible, with results available to stakeholders within six weeks of commencement of the study program.

• The HRC principal consultants who conducted the studies present the results at site forums so as to explain their meaning and the rationale behind the follow on recommendations.

2.4. Document purpose

The purpose of this document is to:

• Document our findings in relation to the high level hospital activity data.
• Document the ‘Who owns the timeline?’ study findings.
• Document the ‘Why am I still here?’ study findings.
• Document the ‘Was the bed empty?’ study findings.
• Make recommendations to improve access to emergency care by identifying:
  o Opportunities for review
  o Redesign initiatives
  o Solutions to be investigated for implementation
  o Solutions to be implemented

2.5. Report inclusions

Inclusions in this report are:

• Quantitative and qualitative data associated with the WOTTL study.
• Quantitative and qualitative data associated with the WAISH study.
• Quantitative and qualitative data associated with the WTBE study.
• Quantitative data associated with the high level data review for ED patient volume.
• Quantitative data associated with the high level data review for ward patient volume.

2.6. Report exclusions

Exclusions in this report are any other investigations into individual hospital wards, units, or issues beyond that in the three studies and high level data review outlined above.

Note that high level ward data was not available in sufficient time to allow for its inclusion in this report. It will be included in a revision to this report released at a later date to be agreed.

2.7. Report nomenclature

This report should be read with the following considerations in mind:

• All time data is shown in the format hh:mm. So 2:33 equates to 2 hours 33 minutes, rather than 2 mins, 33 seconds.
• Data sources for each study or data review are listed at the beginning of the applicable section.
3. Engagement details

3.1. Final site visits and schedule

HRC visits to MCH in support of the studies were as listed below. Note that the WTBE study and high level data review were completed remotely using data supplied by UTAS.

- An initial site visit was undertaken by HRC to scope the layout of the hospital, refine the tools and ascertain the number of resources required for the key studies. A certain level of stakeholder engagement and interest in the concept of the studies was also generated as a result of this visit.

- A number of wards were visited by HRC to refine the WAISH tool to ensure adequate data capture.

- A visit to the ED was undertaken with the ED NUM and the WOTTL tool refined. The agreed decision for data capture points was for 2 staff in the department during day and afternoon hours and 1 data collector overnight.

3.2. Studies and analysis conducted

‘High level hospital business’

HRC has undertaken to complete an analysis of high level hospital operations data so as to gain further insight into the unique operating conditions facing each site. This analysis includes:

- Emergency departments:
  - ED length of stay by day of week, hour of day, and specialty.
  - ED presentations profile by day of week, hour of day, and specialty.
  - Did not wait, re-presentation rate, re-admission rate.

- Wards:
  - Ward length of stay by day of week, hour of day, and specialty.
  - Ward discharge activity by day of week, hour of day, and specialty.

‘Why am I still here?’

This study was a targeted audit of patients on the ward with the specific purpose of establishing the reason the patient is in the hospital according to set criteria. Our experience has shown that up to 33% of patients are occupying beds for non-medical reasons – such as delays in the discharge decision, disposition, or medications. The performance of any one site can be contrasted with other sites nationally.

‘Who owns the timeline?’

This study tracks all patients presenting at the ED over an approximately 3 day period and collects up to 20 unique pieces of information on each patient using a HRC proprietary data collection tool. Whilst the final analysis is ultimately limited by patient volume, the results provide clear direction on where delays are in the processing of patients through the admit or discharge streams.

This analysis has been completed at more than 25 hospitals across Australia allowing HRC to compare the performance of any one Tasmanian site (or process step at a site) with the best in class nationally.
‘Was the bed empty?’

This study resolves the key question relating to ED performance, namely the question of “is a shortage of beds responsible for patient delays in the ED?” This question can be answered through careful analysis of patient and bed records and is conducted concurrently with the WOTTL study listed above.
4. High level hospital data review – emergency department

4.1. Study details

A high level review of hospital data was conducted using information provided by UTAS covering 11,966 ED presentations from 1/1/14 to 16/6/14. The review sought to summarise key ED activity profiles and performance metrics which could in turn inform the three key studies completed.

4.2. ED volume, length of stay and NEAT by departure mode

The following table shows the presentation mix by method of departure from the ED.

<table>
<thead>
<tr>
<th>Departure method</th>
<th>Count</th>
<th>Count % of total</th>
<th>Average ED LOS</th>
<th>Average NEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departed under own care</td>
<td>9,390</td>
<td>78.5%</td>
<td>2:14</td>
<td>87%</td>
</tr>
<tr>
<td>Admitted to ward</td>
<td>1,974</td>
<td>16.5%</td>
<td>5:28</td>
<td>41%</td>
</tr>
<tr>
<td>Transferred to another hospital</td>
<td>334</td>
<td>2.8%</td>
<td>5:38</td>
<td>40%</td>
</tr>
<tr>
<td>Did not wait to be seen by a medical officer</td>
<td>232</td>
<td>1.9%</td>
<td>1:32</td>
<td>N/A</td>
</tr>
<tr>
<td>Left at own risk</td>
<td>30</td>
<td>0.3%</td>
<td>3:36</td>
<td>N/A</td>
</tr>
<tr>
<td>Dead on arrival and not treated</td>
<td>3</td>
<td>0.0%</td>
<td>0:36</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.0%</td>
<td>6:08</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td>11,966</td>
<td>100.0%</td>
<td>2:51</td>
<td>78%</td>
</tr>
</tbody>
</table>

Quantitative observations:

- The discharge (78.5%) and admit stream (16.5%) together account for 95% of all patients.
- Admitted patients account for 17.4% of the admitted and discharged patient group (not including DNW, DOA, transferred, triage only or died in the ED).
- The average length of stay in the ED for all patients was 2:51 (NEAT = 78%).
- The average length of stay for discharge stream patients was 2:14 (NEAT = 87%).
- The average length of stay for admit stream patients was 5:28 (NEAT = 41%).
4.3. ED presentation profile

The ED presentation profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table (including activity heat map) shown below (with red colours showing high presentations and green lower).

![Average ED presentations per hour by day of week and hour of day](chart.png)

- **Quantitative observations:**
  - The lowest volume days of the week for presentations was Friday with 66 presentations on average over the data period (see right most column of data).
  - The highest volume day of the week for presentations was Sunday with 80 presentations on average over the data period.
  - The lowest volume hour of the day was from 04:00 to 04:59 with 0.6 patient presentations per hour arriving on average over the data period (see bottom most row of data).
  - The highest volume hour of the day was from 11:00 to 12:59 with 5.1 patient presentations per hour arriving on average over the data period.
  - ED presentations were at 80% of their 5.1/hr peak over the 10 hour range from 9:00 to 18:59.
  - The primary determinant of ED presentations was hour of day (note the consistency of the day of week lines in the chart above by hour of day).
  - The secondary determinant of ED presentations was day of week.
4.4. ED length of stay profile

The ED length of stay (ED LOS) profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key LOS data and trends in LOS performance. The results are summarised in the chart and table shown below with red colours denoting longer ED LOS and green shorter.

Data observations:

- The average ED LOS from triage to patient leaves the ED overall was 2:51.
- The shortest ED LOS day of the week was Sunday with duration of 2:41 on average over the data period (see right most column of data).
- The longest ED LOS day of the week was Tuesday with duration of 2:56 on average over the data period.
- The shortest ED LOS hour of day was from 08:00 to 08:59 with duration of 2:15 on average over the data period (see bottom most row of data).
- The longest ED LOS hour of day was from 02:00 to 02:59 with duration of 4:17 on average over the data period.
- ED LOS was notably higher between 22:00 and 06:59 each day.
4.5. ED admissions by specialty

The distribution of ED admissions to the hospital by specialty were investigated. A total of 1,974 patients were admitted to the wards by different specialties as shown in the chart below.

Quantitative observations:

- The admitting specialties through the ED are (as expected) non-uniform. The following 2 specialties comprise 95% of all admissions
  - EMERGENCY: 1,120 or 57%.
  - GENMED: 752 or 38% (cumulative total 95%).

4.6. ED length of stay overall and by specialty

The ED length of stay (ED LOS) overall and by specialty was investigated using the data provided. The following table overleaf shows the ED LOS, observations (n), and NEAT performance for the specialty.

The table below shows the ED LOS for individual specialties. Note the range of observations (n for patients) varies from 9,861 for ED, to just 1 (several specialties) so calculations of average ED LOS and NEAT performance should be considered informative when the corresponding n is more than 10.

Note colour coding (heat map format) is used to show the different ED LOS for each specialty with long LOS being shown in red, and short LOS in green.
Quantitative observations:

- Considering only specialties with more than 10 patient admissions, the ED LOS varies from an average of 2.3 hours (ED) to 7.7 hours (GENMED).

4.7. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. The discharge (87%) and admit stream (41%) together account for 95% of all patients.
2. Admitted patients account for 17.4% of the admitted and discharged patient group (not including DNW, DOA, transferred, triage only or died in the ED).
3. The average length of stay in the ED for all patients was 2:51 (NEAT = 78%).
4. The average length of stay for discharge stream patients was 2:14 (NEAT = 87%).
5. The average length of stay for admit stream patients was 5:28 (NEAT = 41%).
6. The DNW rate was 1.9%.
7. The average daily presentation rate varies between 66 (Friday) and 80 (Sunday).
8. The average hourly presentation rate varies between 0.6 patients per hour (04:00 to 04:59) and 5.1 patients per hour (11:00 to 12:59).
9. Hour of day was the major determinant of ED presentations.
10. The average ED LOS overall was 2:51.
11. ED LOS was notably higher between 22:00 and 06:59 each day.
12. EMERGENCY and GENMED accounted for 95% of all ED admissions to the hospital.
13. Considering only specialties with more than 10 patient admissions, the ED LOS varies from an average of 2.3 hours (ED) to 7.7 hours (GENMED).
4.8. **Section conclusions – qualitative**

Key qualitative conclusions in this section are:

1. The ED presentation patient presentation patterns and the ED LOS patterns are disparate and suggestive of a lag over the night duty. This is likely a staffing profile issue and the staffing profiles should be overlayed to patient presentations with specific attention given to how to reduce the overnight patient LOS.

2. The ED Short Stay Unit has a very high proportion of admissions; this requires review as to the model of care and impact on the rest of the hospital.
5. **High level hospital data review – wards**

5.1. **Study details**

The high level data review for the wards was based on 3,612 patient journey records from 30/06/13 to 31/5/14. The following data disclosure relates the high level ward data.

“A specific sample of inpatient episodes was requested by HRC in order to illustrate the admission and discharge patterns on inpatient wards that regularly accept patients presenting to the MCH Emergency Department. The dataset provided covered all admissions and discharges that occurred within financial year 2013/14, with the following criteria:

- Admitting and Discharge Speciality must be unchanged during their inpatient episode, eg. Admit by GENMED, Discharged by GENMED.
- No Obstetric related admissions
- No Medical Imaging admissions
- No Newborn admissions
- No Organ procurement admissions
- No Same Day Admission/Discharge episodes
- No ED or EMU or Transit Lounge Discharges
- No Admission/Discharges from wards whom do not normally (very few, if any per annum) take acute admissions via ED.

Inpatient data was sourced from the Business Intelligence Unit (BIU) which provides data analytics for THO-S and THO-NW. This data set relates to overnight admissions only.”

This study was overseen by Lauri O’Brien of HSI Tasmania.

5.2. **Patient summary by specialty group and bed-day usage**

The table below shows the number of patients by specialty group (and percent of all patients), and the number of bed-days used by medical group (and the percentage of bed-days used across the hospital).

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Patients #</th>
<th>Patients %</th>
<th>Bed-days #</th>
<th>Bed-days % (cumulative %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>2,971</td>
<td>82%</td>
<td>9102</td>
<td>85% (85%)</td>
</tr>
<tr>
<td>Surgery</td>
<td>405</td>
<td>11%</td>
<td>994</td>
<td>9% (94%)</td>
</tr>
<tr>
<td>WACS</td>
<td>234</td>
<td>6%</td>
<td>605</td>
<td>6% (100%)</td>
</tr>
<tr>
<td>Cancer services</td>
<td>2</td>
<td>0%</td>
<td>7</td>
<td>0% (100%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,612</strong></td>
<td><strong>10708</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Quantitative observations:

- Medicine was the largest group in terms of patient volume (82%) and bed-day usage (85%).
- Surgery was the second largest group in terms of patient volume (11%) and bed-day usage (9%).

5.3. **Patient summary by source of admission**

An investigation into the source of admission for ward patients was completed with the results shown in the table below.

<table>
<thead>
<tr>
<th>Source of admission</th>
<th>Patients #</th>
<th>Patients %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Emergency Medicine</td>
<td>2,521</td>
<td>69.8%</td>
</tr>
<tr>
<td>Private Practice / Consultant Rooms</td>
<td>692</td>
<td>19.2%</td>
</tr>
<tr>
<td>No Referral</td>
<td>132</td>
<td>3.7%</td>
</tr>
<tr>
<td>Referred from another Hospital</td>
<td>98</td>
<td>2.7%</td>
</tr>
<tr>
<td>Transfer from another Hospital</td>
<td>85</td>
<td>2.4%</td>
</tr>
<tr>
<td>Statistical Admission</td>
<td>52</td>
<td>1.4%</td>
</tr>
<tr>
<td>Outpatients Department</td>
<td>19</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other Health Care Establishment</td>
<td>4</td>
<td>0.1%</td>
</tr>
<tr>
<td>Aged Care Facility</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Private Psychiatric Practice</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Community Health Service</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>3,612</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Quantitative observations:

- The Department of Emergency Medicine contributed 2,521 (69.8%) to total ward patient volume over the data period.
- Private practice / consultant rooms contributed 692 (19.2%) to total ward patient volume.
5.4. Ward admission profile

The ward admissions profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table shown below which contains variable colour formatting with low numbers in green are high numbers in red.

Quantitative observations:

- The ward admissions profile was consistent during business days ranging from 14 (Monday) to 10 (Friday) on average.
- The ward admissions volume was consistent on weekends at 7 per day on average.
- On average across the week the peak admission period was 18:00 to 18:59 with 7.8 admissions (largely due to an admissions spike on Monday in this hour).
- The patient admissions spikes in the 18:00 to 18:59 hour on Mondays and Fridays were noteworthy.
- 18% of daily admissions occurred by 10am on average (see bottom row of table above, 18% in the hour 9:00 to 9:59).
- 25% of daily admissions occurred by midday on average.
5.5. Ward discharge profile

The ward discharges profile was investigated by day of week (Monday to Sunday) and hour of day (0 to 23) to ascertain key volumes and trends. The results are summarised in the chart and table shown below which contains variable colour formatting with low numbers in green are high numbers in red.

Quantitative observations:

- The ward discharge profile was consistent during business days ranging from 10 (Monday and Wednesday) to 13 (Tuesday and Friday) on average.
- The ward discharge volume was 5 (Saturday) and 7 (Sunday) on average.
- On average across the week the peak discharge hour was 14:00 to 14:59 with 7.9 discharges.
- 24% of daily discharges occurred by 10am on average (see bottom row of table above, 24% in the hour 9:00 to 9:59).
- 42% of daily discharges occurred by midday on average.
- There was a noteworthy spike in ward discharges on Tuesdays and Saturday from 6:00 to 6:59 and Friday from 13:00 to 14:00.
5.6. Ward discharge before 10am

A further investigation of the ward discharge patterns was completed by reviewing discharge before 10am performance by ward. The results are shown in the table below with the corresponding number of patients as a percentage of total patients.

Quantitative observations:

- Four wards achieved discharge before 10am performance of greater than 20% (MED, SSU, SUR, and HDU).

5.7. Length of stay by specialty

A brief investigation of ward length of stay was completed by specialty against the number of patient admissions. The results are shown in the chart below.

The above data is provided for information purposes.
5.8. **High level occupancy variation by day of week**

A brief investigation of daily net admissions was completed by subtracting average daily discharges from average daily admissions to arrive at a daily net admissions figure. The daily net admissions result was then added cumulatively through the week to derive an estimate for the average day-to-day variation of hospital occupancy.

Quantitative observations:

- Peak hospital occupancy occurs on a Monday on average.
- Saturday is the lowest occupancy point on average.

5.9. **Section conclusions – quantitative**

Key quantitative conclusions in this section are:

1. Medicine was the largest group in terms of patient volume (82%) and bed-day usage (85%).
2. 70% of ward admissions arrive through the ED.
3. Private practice / consultant rooms contribute 19.2% to ward admissions.
4. Daily ward admissions varied from 14 (Monday) to 7 (weekend days).
5. 24% of daily admissions occurred before 10am.
6. Ward discharges varied from 13 (Tuesday and Friday) to 5 (Sunday)
7. 24% of daily discharges occurred before 10am.
8. Four wards achieved discharge before 10am performance of greater than 20% (MED, SSU, SUR, and HDU).
9. Hospital occupancy peaks on a Monday is at its lowest on a Saturday on average.
5.10. **Section conclusions – qualitative**

Key qualitative conclusions in this section are:

1. At 69.8% the ED is the largest contributor of admitted patients staying at least one night in the hospital. This is a high patient volume comparable to similar hospitals.

2. Private practice is a high contributor to the hospital admission profile. This is noteworthy in terms of understanding the processes and hospital priority for bed allocation, particularly if these are patients being admitted under the specialty of Medicine.

3. The admission peaks on Monday and Friday require attention as to the cause of the peaks and the timing of these (between 18:00 and 18:59).

4. The discharge peaks on Tuesday and Friday require attention as to the cause and the timing of these (between 06:00 and 06:59 and 13:00 and 13:59).

5. Specialty length of stay management requires further investigation.

6. Weekend discharges are low and require attention.

7. The discharge by 10 am and 12 pm are relatively high when compared to like sized hospitals nationally.
6. ‘Who owns the time line?’ study

6.1. Study details

A total of 244 patients were tracked through the ED between 08:30 on 24/8/14 and 05:39 on 27/8/14, however complete data sets were not available for all patients. Data was collected on a range of clinical and admin steps as shown in the diagram below. Data collectors were a mix of clinical and non-clinical staff supervised by Kate Brockman.

The analysis utilised ‘time pairs’ data to create ‘time steps’. A time pair is created when the beginning and end point of a time step was recorded by the observers as shown in the graphic below. Where either the beginning or end time point is absent (red squares) then a time step cannot be created. The analysis works by averaging time pairs data to generate composite timelines for the patient movements through the ED and to the wards.

\[\text{Diagram showing the patient journey through the ED and to the wards.}\]

1 The implication of incomplete data sets is that not all possible time pairs data were obtained.
6.2. High level WOTT data summary

Summary by primary stream
The overall NEAT performance based on collected and analysed data for the study is shown in the table below.

<table>
<thead>
<tr>
<th>Patient stream</th>
<th>NEAT %</th>
<th>n</th>
<th>(% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge stream</td>
<td>84%</td>
<td>180</td>
<td>(79.6%)</td>
</tr>
<tr>
<td>Admit stream</td>
<td>42%</td>
<td>33</td>
<td>(14.6%)</td>
</tr>
<tr>
<td>Did not wait</td>
<td>100%</td>
<td>8</td>
<td>(3.5%)</td>
</tr>
<tr>
<td>Transfer</td>
<td>60%</td>
<td>5</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>78%</td>
<td>226</td>
<td>(100.0%)</td>
</tr>
</tbody>
</table>

Quantitative observations:
- Admit patients represented 14.6% of total ED presentations.
- Admit patients represented 15.5% of the combined admit and discharge group.
- The DNW rate was 3.5%.
- ED NEAT was 78% (84% discharge, 42% admit).

Summary by triage category
The overall NEAT performance from the recorded data based on triage category is shown in the table below.

<table>
<thead>
<tr>
<th>Triage category</th>
<th>NEAT %</th>
<th>n</th>
<th>(% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>N/A</td>
<td>0</td>
<td>(0%)</td>
</tr>
<tr>
<td>Category 2</td>
<td>43%</td>
<td>14</td>
<td>(6%)</td>
</tr>
<tr>
<td>Category 3</td>
<td>70%</td>
<td>91</td>
<td>(41%)</td>
</tr>
<tr>
<td>Category 4</td>
<td>88%</td>
<td>91</td>
<td>(41%)</td>
</tr>
<tr>
<td>Category 5</td>
<td>92%</td>
<td>26</td>
<td>(12%)</td>
</tr>
</tbody>
</table>

Quantitative observations:
- There were no triage category 1 patients.
- NEAT performance increased as triage category ranged from 43% for category 2, to 92% for category 5.
6.3. High level timeline summary

The high level timeline for admit and discharge stream patients is shown below. This timeline is compiled using the average of all valid time pairs for each stage for admitted and discharged patients as described above.

Quantitative observations:

- The time from triage to enters ED was 21 mins for admit patients and 41 mins for discharge patients on average.
- The time from enters ED to 1st seen decision doctor was 17 mins for admit patients and 18 mins (on average) for discharge patients.
- The time from 1st seen decision doctor to the admit/discharge decision was 3:09 (admit) to 1:15 (discharge).
- The time from admit decision to bed request was 45 mins on average.
- The time from bed request to bed allocated was 4:18 on average.
- The time from bed allocated the bed ready was 5 mins.
- The time step to ward staff ready, ED advised, orderlies called, and patient admitted was 0, 0, 46, and 2 mins respectively.
- The time from discharge decision to patient leaves the ED (on discharge) was 25 mins on average.

Qualitative observations:

- Medical staff rounding in ED is variable, it was observed that one team rounded at 11:15 and another at 09:15 on the morning of 25th August.
- IT was observed that inpatients were staying in ED Short Stay due to “bed block” and 2 patients remained in ED from previous day on 24th August. ED staff did not request beds as they were aware that the hospital was full with nil available beds.
6.4. Ambulance as arrival mode

A detailed review of the use of ambulances was undertaken by considering the triage category and departure mode of patients who arrive by ambulance. The results are shown in the two charts below.

**Quantitative observations:**

- 5 (15%) of 34 patients arriving by ambulance were given a triage category of 4 or 5 on arrival.
- 22 (65%) of 34 patients arriving by ambulance were discharged from the ED.

6.5. Arrival to 1st seen decision doctor

A detailed review of the patients’ first steps in the hospital was undertaken with respect to triage category. The results are shown below.

**Quantitative observations:**

- For all triage categories the arrival to triage, and triage to admin complete process was rapid (less than 13 minutes).
- The admin complete to enters the ED ranged from 0:07 (category 2), to 1:08 (category 4).
- The time from admin complete to enters the ED ranged from 7 mins (category 2) to 1:08 (category 4).
• The time for enters ED to first seen decision doctor ranged from 8 mins (category 4 and 5), to and high of 35 mins (category 2).

Qualitative observations:
• Times recorded for triage and clerical processes had at times nil defined and clear process.
• Nil dedicated Dr for Fast Track 25th August and Fast Track held up due to Dr being in resuscitation area 24th August.

6.6. First seen by decision doctor

A further investigation of the time between enters the ED and 1st seen decision doctor was undertaken. The chart below shows the relationship between when the patient enters the ED (assumed to occur as the first step) and when the patient sees the decision (making) doctor. The chart shows all time steps information for which data was collected.

Quantitative observations:
• Approximately 7% of patients were seen in the ED by a doctor before entering the ED, in some instances by 59 minutes prior to entering the ED.
6.7. Test procedures summary

A review of the procedures around test cycle times was completed. Note that only ‘Bloods’ and ‘X-ray’ had 8 or greater observations, all other groups had less than 8 observations.

[Graph showing test request to test results]

Quantitative observations:

- The time from 1st seen decision doctor to test request was 20 mins on average.
- The average of the 88 tests was 1:12.
- 59% of patients had 1 test, 32% of patients had 2 tests, and 9% had three or more tests.
- The average time from test request to test results for patients who had only 1 test was 1:11.

6.8. Referrals summary

A review of the referrals process was completed considering the time from specialist referral to review. The results are shown in the chart below. Note only Medicine and Surgery referral groups had observations greater than 6.

[Graph showing specialist referral to review]

Quantitative observations:
The average time from first seen decision doctor to specialist referral was 1:50.

The time from specialist referral to consultant review for 37 reviews was 1:27 on average.

6.9. **Test and referrals interaction summary**

A review was conducted of the 1st seen decision doctor to admit/DC decision based on whether tests and/or referrals were completed and the results are shown in the chart below.

Quantitative observations:

- The time from 1st seen decision doctor to admit/DC decision when no test or referrals were completed was 0:32.
- The time from 1st seen decision doctor to admit/DC decision when only referrals were completed was 2:04.
- The time from 1st seen decision doctor to admit/DC decision when only tests were completed was 1:46.
- The time from 1st seen decision doctor to admit/DC decision when test and referrals were completed was 3:51.

6.10. **Bed request to bed allocated and bed ready by destination ward**

To further investigate the time from bed request to bed allocate an analysis was completed by destination ward. Note only Medicine and the SSUnit had observations greater than 6.
Quantitative observations:

- The average time from bed request to bed allocated was 4:18.
- The Medical ward had significant delays in allocating beds.

Qualitative observations:

- The process of bed allocation and notification of bed ready was unclear.

6.11. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. ED NEAT was 78% (84% discharge, 42% admit).
2. The admit ratio was 14.6%.
3. The DNW ratio was 3.5%.
4. NEAT performance increased as triage category ranged from 43% for category 2, to 92% for category 5.
5. The time from triage to enters ED was 21 mins for admit patients and 41 mins for discharge patients on average.
6. The time from admit decision to bed request was 45 mins on average.
7. The time from bed request to bed allocated was 4:18 on average.
8. The time from bed allocated to the bed ready was 5 mins.
9. 15% of patients arriving by ambulance were given a triage category of 4 or higher on arrival.
10. 65% of patients arriving by ambulance were discharged from the ED.
11. The time from triage to admin complete was less than 13 mins for all triage categories on average.
12. The time from 1st seen decision doctor to test request was 20 mins on average.
13. The average time from test request to results for the 88 tests was 1:12.
14. 59% of patients had 1 test, 32% of patients had 2 tests, and 9% had three or more tests.
15. The average time from test request to test results for patients who had only 1 test was 1:11.
16. The time from specialist referral to specialist review was 1:50.

6.12. Section conclusions – qualitative

Key qualitative conclusions based on the above data in this section are:

1. The proportion of patients that arrive by ambulance and are subsequently discharged is very high, at 65% this requires investigation.
2. The admission decisions in the ED are lengthy and require further review to ascertain the reasons for delay. This review should include a review of the availability of senior decision makers, the reliance on inpatient team review and the reliance on test results to make admission decisions.
3. There is opportunity to reduce the time taken for specialist referral and subsequent specialist review by 50 minutes.

4. The time taken for admission decision and bed request can be significantly reduced, this should occur at the same time as the admission decision.

5. The bed request to bed allocated presents the greatest opportunity to decrease the admit patient journey timeline, this is particularly relevant for medicine as the largest inpatient specialty group. This is likely to have a bed management and ward bed availability and ready component.

6. The time patients enter ED from triage for both the discharge (41 mins) and the admit (0.21) patient cohorts presents an opportunity for improvement.

7. Time from seen by Dr and ordering tests is not a significant rate limiting step to the patient journey.

8. The time from bed allocated to bed ready is not a rate limiting step to patients being admitted to the hospital.

9. The time from bed and ward ready to patient leaving the ED to ward is not a rate limiting step to the patient journey.
7. ‘Why am I still here?’

7.1. Study details

The WAISH study was completed over the 15th to 21st of August as follows:

- Morning and afternoon reviews
- Wards reviewed were HDU, MED, SSU and SURG.

A total of 615 beds were reviewed against 37 different criteria arranged in 9 categories and 3 groups as described below:

- Medical bed:
  - Medical bed:
    - M3. Patient being reviewed by clinical staff.
    - M4. Patient recuperating/unwell/on rehab path.

- Empty bed:
  - Empty bed – registered for use:
    - ER1. Allocated to incoming patient.
    - ER2. Bed being held in reserve (just in case).
  - Empty bed – not registered for use:
    - EN1. Awaiting cleaners.
    - EN2. Cleaning in progress.
    - EN3. Ward staff late in entering in system.

- Non-medical bed (i.e. patient in bed for a non-medical reason):
  - Discharge requirements:
    - DR1. Delay with prescriptions – pharmacy.
    - DR2. Delay with prescriptions – medical staff.
    - DR3. Medications not delivered.
    - DR4. Pharmacy not open after hours.
    - DR5. Waiting for hospital test (e.g. MRI/procedure).
    - DR6. Waiting for review – consultant or allied health.
    - DR7. Waiting for ACAT processes.
    - DR8. Waiting for rehab processes.
7.2. High level summary

The high level 3 group summary is shown below:

<table>
<thead>
<tr>
<th>Bed groups</th>
<th>Beds</th>
<th>% allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical beds</td>
<td>277</td>
<td>45%</td>
</tr>
<tr>
<td>Non-medical beds</td>
<td>269</td>
<td>44%</td>
</tr>
<tr>
<td>Empty beds</td>
<td>69</td>
<td>11%</td>
</tr>
</tbody>
</table>

Outliers represented 56 of 546 occupied beds (10.3%).
Quantitative observations:

- Non-medical bed usage and empty beds totalled 269 or 44%. This exceeds the 11%-36% range observed nationally for this operational parameter.
- 269 or 44% of beds were occupied whereby the next step in the patient journey was a non-medical step.
- Empty beds at 69 or 11% was high in our experience and suggests that this site may not have a critical bed shortage.

7.3. Summary by review category

An analysis of the beds by review category was completed with the results shown in the chart below.

Quantitative observations:

- Discharge delays around destination (14.5%), requirements (15.4%), and planning (11.7%) accounted for 256 or 41.6% of all bed occupancy. This was very high by national standards in our experience.
- There were 58 empty and registered beds (9.4%).
- Only 11 beds or 1.8% of total beds were empty and not registered suggesting that ward and cleaning staff were making beds available promptly.
- There were no patients with discharge delayed by a lack of discharge summary.
7.4. **High level summary by ward**

The summary of high level bed review data by ward is shown below.

Quantitative observations:

- The top ward in terms of medical bed usage was SURG (58%).
- The bottom ward in terms of medical bed usage was SSU (17%).

7.5. **Summary of review category by ward**

The summary of review category data by ward is shown below in three tables. The first shows the sum of reviewed patients for the categories as well as the overall ward capacity. A colour scale is used to show those wards with the highest absolute number of empty or delay beds (see right most column in table below; red denotes large numbers, green low numbers).

The second table (below) shows the incidence of each category as a percentage of the ward capacity, thereby normalising the data for differing ward sizes. Note the use of the colour scale to show the highest incidences of empty/delay beds (red = large %, green = low %).
The final chart below ranks each of the review categories in order of contribution to empty/delay beds for each ward. This data should be read horizontally for each ward (for example for the MED ward, D/C destination at 19% is the largest factor (rank 1 below), followed by D/C planning at 17% (rank 2 below), and D/C requirements at 15% (rank 3 below). Note colour formatting is applied to the table with red denoting the highest ranked reason for non-medical beds, and green the last or lower order reasons.

Quantitative observations:

- SSU and HDU wards appeared to face significant challenges in relation to discharge requirements as delays in this factor accounted for 20% and 22% of all beds respectively for these wards.
- MED ward appeared to face challenges in relation to discharge destination as delays in this factor accounted for 19% of all beds for this ward.
- MED ward appeared to face challenges in relation to discharge planning as delays in this factor accounted for 17% of all beds for this ward.
7.6. Summary by day of week

The variation in bed category by day of week (Friday to Thursday) is shown below.

Quantitative observations:

- There did not appear to be strong evidence of day of week variation in bed categorisation.

7.7. Summary by individual criteria review

The summary of individual review criteria is shown below.

Quantitative observations:

- Empty beds represented 20% of the overall non-medical and bed empty group. This indicated there was latent bed capacity in the hospital.

- The top nine non-medical bed categories across the hospital accounted for 81% of all non-medical or empty beds are listed below:
  
  - DR6. Waiting for review – consultant or allied health (17%).
  - ER3. Bed registered and empty – unknown (14%).
  - DP2. Discharge plan requires rework by doctor/other (10%).
  - DD4. Destination not ready - rehab (9%).
- DD5. Destination not ready – aged care (8%).
- DP1. Awaiting discharge directions from doctor (9%).
- DP7. Waiting for ACAT processes (6%).
- DD6. Destination not ready – other (6%).
- DP4. No discharge plan – staff awaiting direction (5%).

The chart below shows the distribution of non-medical beds by criteria. Note the percentage figures in the chart are calculated as the count of beds in each criteria divided by the count of beds in the non-medical group (i.e. all non-medical beds, excluding empty or medical beds). This information is provided for reference.

7.8. Percent and rank of individual criteria by ward

An investigation was completed to establish the contribution of individual empty bed or delay criteria for each ward. The results are presented in the table below as a percentage of the ward capacity. Note the graphic below includes variable colour coding with red denoting large numbers and green small numbers.

The table below presents the results for individual criteria by ward in ranking terms. The reader is invited to review a row of data for each ward to read of the criteria most impacting bed capacity in order of rank. For example, the top five impacting criteria for the MED ward are:

- DD4. Destination not ready – rehab (9%).
- DP2. Discharge plan requires rework by doctor/other (7%).
- DD5. Destination not ready – aged care (6%).
- DR6. Waiting for review – consultant or allied health (6%).
- DR7. Waiting for ACAT processes (6%).
7.9. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. There was significant bed capacity available in the hospital with:
   a. 44% of beds being occupied by patients who’s next step was a non-medical.
   b. 11% of beds being empty.
2. Delays around the discharge process accounted for 41.6% of all bed occupancy.
3. There was not a significant day of week variation in bed trends between medical, non-medical, and empty.
4. Only 11 beds or 1.8% of total beds were empty and not registered suggesting that ward and cleaning staff were making beds available promptly.
5. The range in medical bed usage varied from a high of 58% (SURG) to a low of 17% (SSU).
6. The range in non-medical bed usage varied from a low of 28% (SURG), to a high of 53% (MED).
7. The range in empty beds varied from a low of 2% (MED), to a high of 42% (SSU).
8. There was notable variation in the performance across wards in terms of discharge requirements, planning, and destination.
9. Outliers represented 10% of beds.

7.10. Section conclusions – qualitative

Key qualitative conclusions in this section are:

1. There was a cohort of patients who were occupying beds for non-acute medical reasons therefore contributing to latent capacity in the hospital (i.e. discharge requirements, discharge destination, discharge planning, and transfer of care).
2. There was a cohort of patients who were occupying beds whilst waiting for non-medical steps which was indicative of a lack of patient journey planning.
8. ‘Was the bed empty?’

8.1. Study details

The WTBE study was conducted based on 356 patients admitted to the ward who arrived at triage from 30/4/14 to 31/5/14. The study considers the timing of incoming admitted patients into ward beds vacated by discharging patients. In particular it is analysing the performance of patient flow and the respect wards in admitting patients. A graphic for the study is shown below.

‘Was the bed empty?’ – bed turnaround/patient flow study model

For this study no cleaning data was available (points 2, 3 and 4 above), however bed request date/time was available for arriving patients.
8.2. High level summary

An analysis was completed to find the status of the destination bed for the arriving patient at the time of arriving patient triage, and arriving patient bed request. The results are shown in the chart below.

Quantitative observations:

- The destination beds for 61% of patients who will be admitted were vacated by the prior discharging patient at the time of arriving patient triage.
- The destination beds for 85% of patients who will be admitted were vacated by the prior discharging patient at the time of bed request by the ED.

8.3. Summary by day of week

The results for a comparison between the time of bed request for arriving patient and leaves ward for departing patient are shown below by day of week.

Quantitative observations:

- The data suggested that the percentage of empty beds at time of bed request was high on all days and greatest on Saturday (on average).
8.4. Summary by ward

The results for a comparison between the time of bed request for arriving patient and leaves ward for departing patient are shown below by admitting ward. Note WCHU had n<10.

![Graph showing percentage of beds empty at bed request by ward.]

Quantitative observations:

- More than 3 in 4 beds were empty at time of bed request for the arriving patient admission.

8.5. Time bed request to patient admit for known empty beds

An investigation was completed into the time taken from bed request to patient admission where the bed was known to be empty (i.e. excluding all situations where bed was occupied at bed request). This investigation isolates occupied beds as a cause for delay and focuses on hospital admission processes. The results are shown in the chart below by ward. Note WCHU had n<10.

![Graph showing average time from bed request to patient admission for known empty beds by ward.]

Quantitative observations:

- The range for time from bed request to patient admission for known empty beds varied from 3:03 (MED) to 28 mins (SSU) on average.
- The average time from bed request to patient admission for known empty beds was 1:20.
8.6. Bed request to arrival at ward for admitting patients

An analysis of the time from bed request to arrival at ward was completed for those patients who were confirmed to have bed request submitted after the discharging patient had left the ward. In doing so this analysis reviews the combined performance of bed cleaning staff, patient flow, ward handover practices (ward and ED), and patient transfer processes (ED and orderly staff).

<table>
<thead>
<tr>
<th>Day of week</th>
<th>Time from bed request to patient arrives on ward (bed request&gt;discharge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>0:43</td>
</tr>
<tr>
<td>Tuesday</td>
<td>0:51</td>
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<tr>
<td>Wednesday</td>
<td>2:08</td>
</tr>
<tr>
<td>Thursday</td>
<td>1:24</td>
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<td>Friday</td>
<td>1:25</td>
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<tr>
<td>Saturday</td>
<td>1:47</td>
</tr>
<tr>
<td>Sunday</td>
<td>1:04</td>
</tr>
<tr>
<td>Average</td>
<td>1:20</td>
</tr>
</tbody>
</table>

Quantitative observations:

- On average it took 1:20 for a patient to progress from ED bed request, to arriving on the ward; even though the ultimate destination bed had been vacated by the discharging patient.

- The time from bed request to arriving on the ward was noticeably better on Monday and Tuesday.

8.7. Are we breaching with empty beds?

A detailed review of patients whose destination bed was vacated at time of bed request was conducted by grouping their time from bed request to ward arrival into 1 hour time increments. The resulting chart is shown below.
Quantitative observations:

- 1% of patients whose destination bed had been vacated at time of bed request arrived at that bed within 60 minutes of bed request.
- 99% of patients whose destination bed had been vacated at time of bed request took longer than 60 minutes to arrive at that bed after bed request.

8.8. Section conclusions – quantitative

Key quantitative conclusions in this section are:

1. 61% of admitted patients’ destination bed had been vacated at the time of triage.
2. 85% of admitted patients’ destination bed had been vacated at the time of bed request.
3. The percentage of empty beds at time of bed request was high on all days and greatest on Saturday on average.
4. More than 3 in 4 beds were empty at time of bed request for the arriving patient admission.
5. The range for time from bed request to patient admission for known empty beds varied from 3:03 (MED) to 28 mins (SSU) on average.
6. The average time from bed request to patient admission for known empty beds was 1:20.
7. The time from bed request to arriving on the ward was noticeably better on Monday and Tuesday.
8. 99% of patients take longer than 60 minutes to progress from bed request in the ED to arrival at the ward (for the patient group whose bed was vacant at time of bed request).
9. Recommendations

9.1. Introduction

The following sections provide four different types of recommendations for improvement as follows:

1. **Opportunities for review.** A thorough review of all aspect of the specified area should be conducted to identify drivers of desired and undesired performance. The review may recommend no change, or a raft of change initiatives.

2. **Redesign initiatives.** The specified area should be subject to a business improvement process (e.g. LeanSigma, process mapping) with a view to identifying bottlenecks and process improvement opportunities.

3. **Solution investigation.** A thorough investigation of known solutions to the problem should be investigated with a view to implementing the best solution version based on local factors.

4. **Solution implementation.** A known and proven solution to the problem should be implemented.

Recommendations are provided for the emergency department, wards, patient flow, and hospital operations management.

9.2. Solution implementations

The following areas are recommended for solution implementation.

- **Implement (develop if required) a hospital admissions policy.** This should include consultation between ED and inpatient teams and the hospital executive to agree business rules around when and who in the ED can directly call inpatient Consultants for acceptance of the patient admission, arbitration in cases where it is not clear who should accept the patient, and a plan for out of hours.

- **Implement business rules and standard processes for use of the EDIS.** This should be inclusive of data entry being “real time”, in terms of timeline management, clicking on/off patients to be seen, use of the clinical comments field; bed allocated and bed ready fields and the use for ED patient tracking management.

9.3. Solution investigations

There were no areas recommended for solution investigation.

9.4. Redesign initiatives

The following areas are recommended for redesign initiatives.

- **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. This should include the clear identification of bed allocation prioritisation.

- **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.
9.5. Opportunities for review

The following areas are recommended for review.

- **Review ambulance service Tasmania.** Undertake a review of other states approach to the provision of ambulance services and how such provisioning impacts demand for emergency department services.

- **Review ED staffing profiles.** Undertake a review of ED patient occupancy numbers with ED staffing numbers to maintain patient:staff ratios as patient demand varies. The overnight and fast track models and profiles require specific attention.

- **Review the current admission decision process in ED.** The triage to admission decision time period is advised to be 2 hours to enable the hospital time to find and allocate an appropriate empty bed. Review how the current decision making process occurs, and investigate the reliance on tests and inpatient reviews to inform the admission decision. Develop a solution to shorten this accordingly.

- **Review ED Short Stay Unit.** Undertake a review of patient flow management, occupancy levels, inclusion/exclusion criteria, and discharge practices.

- **Review imaging services.** Undertake a review of imaging services to the ED in respect of volumes, responsiveness, service provision by day of week and hour of day, and cycle times.

- **Review the current Rehab pathway.** This should include the process for referral and acceptance for medical and allied health components of the patient pathway and the availability of the rehab bed.

- **Review the processes for referral to and review by Allied Health and Inpatient teams.** Clarity is required around the breakdown of Allied Health and Inpatient team review delays in terms of process for request for review and timeliness of review.

- **Review hospital operations escalations (predictive and reactive).** Undertake a review of the existing hospital operations management and escalations practices as applies to a) the ability to predict patient demand in excess of available capacity, and b) the hospital response should patient demand exceed hospital capacity.

- **Review the current state of “voice of the patient”.** Decide on methodology to baseline the patient experience during and after leaving the hospital. Examples seen in previous work include surveys, focus groups, video interviews and patient specific stories. These are extremely powerful for all staff.

- **Review the current state of “voice of the staff”.** Decide on methodology to baseline staff satisfaction with current working conditions in the hospital. On the spot surveys have been highly successful in previous work associated with Clinical Redesign.

9.6. Immediate recommendations

Noting the volume of the above recommendations the following list of recommendations are viewed as the most urgent and if implemented successfully will lead to the largest improvement in NEAT performance:

1. **Review the current admission decision process in ED.** The triage to admission decision time period is advised to be 2 hours to enable the hospital time to find and allocate an appropriate empty bed. Review how the current decision making process occurs, and investigate the reliance on tests and inpatient reviews to inform the admission decision. Develop a solution to shorten this accordingly.
2. **Redesign patient flow processes and systems.** Undertake a full process redesign of patient flow processes to enable the organisation to rapidly match empty beds with patient demand in a timely manner. This should include the clear identification of bed allocation prioritisation.

3. **Redesign ward length of stay management and discharge planning practices.** Undertake a full process redesign of ward length of stay management and patient discharge planning practices to minimise the excess non-medical length of stay.

4. **Review the processes for referral to and review by Allied Health and Inpatient teams.** Clarity is required around the breakdown of Allied Health and Inpatient team review delays in terms of process for request for review and timeliness of review.

5. **Review the current Rehab pathway.** This should include the process for referral and acceptance for medical and allied health components of the patient pathway and the availability of the rehab bed.
THERE’S NO PLACE LIKE HOME
Timely, quality healthcare to get you safely back home

Medical Patient Journey
THO-North

Solutions Design Report

Clinical Redesign Office - North
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<td>H. Standard ward schedule</td>
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Acknowledgements

The Clinical Redesign Office North (CRO-N) would like to thank all staff who have given their time, thought and wisdom to developing solutions that are locally conceived and owned. Crucial to the success of solutions implemented as part of this Medical patient journey clinical redesign program is involvement of staff at all levels. We have been fortunate to have the continued support of our Executive sponsor Executive Director of Services – Northern Region, Sonia Purse, and members of the Hospital Executive. The Director of Medicine, Alasdair MacDonald, the acting Director of Allied Health, Cindy Hollings, and the Medical Nursing Directors, Robyn Liddington, Lorinda Upton-Greer and Lee Wallace have generously supported the program and have been critical enablers during the solutions design phase. But, just as importantly, key frontline staff from all disciplines with encouragement from senior managers have given their time and knowledge to design solutions that specifically address issues they identified in the diagnostic phase of this program.

The CRO-N has been ably supported by an external team of skilled individuals. Thanks must go to HSI-Tasmania, in particular Greg Peterson and Craig Quarmby (Co-directors), Lauri O’Brien (Principal Redesign Consultant) and Jim Stankovich (Research Fellow - Statistics) for making the journey north on numerous occasions to discuss the progress of the project and for kindly sharing their skills and expertise. Wilf Williams from KPMG has provided much of the drive during the solutions design phase and brought experience, knowledge and structure to the project. CRO-NW and CRO-S have also generously shared their experiences and have been an invaluable sounding board.

This report marks the end of the solutions design phase of the medical patient journey clinical redesign project and the beginning of the implementation phase. We are looking forward to continue working with you all and would like to invite everyone involved in the medical patient journey at the LGH to contribute to the implementation and evaluation phases.
### Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ALOS</td>
<td>Average Length of Stay</td>
</tr>
<tr>
<td>AMU</td>
<td>Acute Medical Unit</td>
</tr>
<tr>
<td>3R</td>
<td>Ward 3R</td>
</tr>
<tr>
<td>5D</td>
<td>Ward 5D</td>
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<td>6D</td>
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<td>LOS</td>
<td>Length of Stay</td>
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<td>Allied Health</td>
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<td>AHPS</td>
<td>Allied Health Professional Services</td>
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<td>ED</td>
<td>Emergency Department</td>
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<td>Healthcare Reform Consulting</td>
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<td>Allied Health Professional</td>
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<td>Multidisciplinary Team</td>
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<tr>
<td>MD</td>
<td>Multidisciplinary</td>
</tr>
<tr>
<td>HSI</td>
<td>Health Services Innovation</td>
</tr>
<tr>
<td>CRO</td>
<td>Clinical Redesign Office</td>
</tr>
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<td>EDD</td>
<td>Estimated Date of Discharge</td>
</tr>
<tr>
<td>CLD</td>
<td>Criteria-Led Discharge</td>
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<tr>
<td>PJB</td>
<td>Patient Journey Board</td>
</tr>
<tr>
<td>ePJB</td>
<td>Electronic Patient Journey Board</td>
</tr>
<tr>
<td>CC</td>
<td>Clinical Coordinator</td>
</tr>
<tr>
<td>CNC</td>
<td>Clinical Nurse Consultant</td>
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Executive summary
Overview
Over the last three years, increased demand at the Launceston General Hospital has led to medical ward bed shortages and chronic access block. The medical patient journey clinical redesign program is led CRO-N with support from HSI-Tasmania and KPMG, and aims to improve the timeliness and quality of care provided to medical patients by applying the principles of clinical redesign. This report is a summary of the solutions design phase, which follows from the planning and diagnostic phases. The solutions described in this report aim to address issues identified in the diagnostic phase, which can be grouped into four main areas: culture, lack of standardisation, fragmented communication and team work, and, lack of transparency and visibility.

Diagnostic phase: The diagnostic phase used high level data analysis, observational studies and engaged clinical and non-clinical stakeholders in one-on-one interviews and process mapping to identify system faults, processes and activities that may impede the medical patient journey.

Solutions phase: During the solutions phase there was further engagement with stakeholders through a variety of means to develop “locally owned” solutions that address issues identified during the diagnostic phase.

Implementation phase: This phase will focus on further refinement and the implementation of solutions with a continuing focus on stakeholder engagement, change management and education.

Evaluation phase: Implemented solutions will be evaluated, and performance against key objectives measured. Improvement cycles will be used to further refine solutions where necessary.

Sustainability phase: Solutions will be embedded into routine practice, with performance measures used to inform continual improvement.

Our vision: That all care adds value to patients, is safe and timely.
Executive summary
Solutions design phase approach

Project scope
The Launceston General Hospital (LGH) medical patient journey clinical redesign program focuses on the following areas:
• From the decision to admit a patient to discharge of that patient from the hospital
• All medical subspecialties including cardiology, gastroenterology, general medicine, haematology-oncology, infectious diseases medicine, medical oncology, neurology, renal, respiratory medicine, stroke and radiation oncology.
• Acute and subacute/rehabilitation inpatients in the Emergency Department (ED), the Acute Medical Unit (AMU) and wards 5D, 6D and 3R.

A number of issues identified during the solutions design phase that lie outside the scope of this project but within the remit of the patient flow clinical redesign project, such as those regarding admission processes and bed allocation, will be shared with the patient flow project team and are detailed in Appendix A.

Main activities in the solutions design phase
This phase has moved from receiving feedback and ‘socialising’ the Diagnostic report through to the production of solutions that address specific issues to improve the medical patient journey. This has included the following activities:
• Diagnostic report review and feedback
• Solutions design workshop (and further stakeholder engagement to develop solutions) held on May 13th, 2015
• Establishing solution teams and work programs to develop solutions
• Solutions Fair (with key stakeholder engagement) held on July 14th, 2015

Phase outputs
The main outputs from this phase are:
• Solutions design workshop report
• Articulated set of solutions
• Solution planning and project management documentation
• This report

Participants at the Solutions design workshop
Executive summary
Solutions design phase approach

Solution areas
Discussion of the issues detailed in the Diagnostic report with key stakeholders led to the identification of three streams for solutions design:
1. A new model for General Medicine in which patients are cared for by geographically localised multidisciplinary teams
2. Interdisciplinary communication, including a standardised ward schedule that will be coordinated across wards and describes “set plays” for ward rounds, rapid interdisciplinary rounds and visual management of the patient journey
3. Planning for transfer of care/discharge.

1. Geographic multidisciplinary team model of care
   • Ward-based General Medical teams comprising medical, nursing and allied health professional services staff
   • To foster greater interdisciplinary collaboration and advance quality patient care

2. Interdisciplinary communication
   • Employs “set plays” to coordinate and structure information sharing and decision making across disciplines
   • To improve the visibility of a patient’s journey and information sharing, clarify roles and responsibilities and to reduce unwarranted variation

3. Planning for transfer of care/discharge
   • To increase hospital capacity by ensuring the determining factor for a patient’s LOS is patient need

Work in the area of planning for transfer of care/discharge is planned as a second wave of clinical redesign in the medical patient journey program that will build on gains made by introducing a new medical model and a set plays for communication and decision making. As such, this report focuses on areas one and two.
Executive Summary
Solutions design phase approach

Change management and communications
Change management and communications are recognised as a crucial part of the implementation process and will be a major focus of future activities. During the diagnostic and solution design phases of this project there has been broad consultation within Medicine and beyond. Key communication activities undertaken during the solutions design phase include:

• Solutions design workshop 13th May, 2015
• Geographic model of care workshop 3rd June, 2015
• Interdisciplinary communications workshop 11th June, 2015
• ED nursing update sessions 23rd and 24th June, 2015
• Solutions fair 14th July, 2015
• Department of Medicine meetings 20th July and 24th August, 2015
• Medical nursing management meeting 20th August, 2015
• Afterhours nurse manager meeting 26th August, 2015

A detailed communications plan will be a critical part of our implementation documentation. In addition, a “change network” will be developed to facilitate effective peer to peer communication across solution/initiative areas that is driven by identified Solution Champions. This will allow local staff to share their experiences and challenges with their peers and allow for identification and effective management of areas of interdependence, overlap and synergy.

Next Steps
This report will be sent to the Executive Director of Services – Northern Region, Sonia Purse and to the Hospital Executive for sign off. Following this, solutions will be socialised among key stakeholders for feedback before detailed planning for the implementation phase will commence. Implementation planning will include the development of all relevant documentation including policies, guidelines, forms and education material. Solutions will then be implemented in a staged and coordinated way. It is envisaged that the implementation phase will run from the 16th of September to the 22nd of November, 2015. Risks to this timeframe include adequate human resourcing of CRO-N and alterations to service delivery at the LGH resulting from the State Government’s Health White Paper released in June, 2015.
Developing solutions
Developing solutions
Process and overview

**Solutions design phase summary**

This section summarises the activities undertaken and outputs produced during the solutions design phase. The overall aim of this phase is to identify and develop solutions that address the issues described in the diagnostic report, and deal with the causal factors. The activities conducted during this phase have emphasised stakeholder engagement to nurture ongoing commitment to project goals and aspirations. There is significant evidence that solutions that are developed by frontline staff, for frontline staff have much greater impact. The following main areas of activity have occurred:

### Diagnostic report review and feedback

- The Diagnostic report was submitted to the A/CEO on the 30\textsuperscript{th} of April, 2015 and circulated to the Hospital Executive on the 5\textsuperscript{th} of May, 2015.
- Following agreement from the A/CEO for broader dissemination, the report was sent to key stakeholders in Medicine and across the hospital community, and to participants of the Solutions design workshop in the following days.
- A series of one on one and group meetings were then held to discuss the relevant content of the report.
- Feedback from the report was positive, with general agreement with the key findings and acknowledgement of the comprehensive nature of the report.

### Solutions design workshop

- A full-day Solutions design workshop was held at NICS on the 13\textsuperscript{th} of May which was opened by the A/CEO, Sonia Purse, attended by 46 people and included representatives from all medical wards and clinical craft groups. The session aimed to:
  - Engage key stakeholders involved in the medical patient journey and gain commitment to ongoing involvement in the project
  - Gain consensus of the major issues and prioritise areas for action
  - Develop guiding principles and tools for solutions design
- The outcomes from the session informed the development of solution ideas and working group membership, and were used by working groups to develop and implement change. The Solutions design workshop report details the outcomes from the workshop (Appendix B).
Developing solutions
Process and overview

Developing potential solutions
Stakeholder engagement and contribution has remained important throughout this phase of the project. These solutions have been developed to address issues raised in the Diagnostic report using outputs from the Solutions design workshop, material developed in follow-up workshops and by individual working parties. The solutions reflect both bottom-up and top-down approaches. The willingness of all involved to think beyond current practice has resulted in innovative solutions that address local issues.

Establishing solution teams
- Teams for identified solution streams were established following the Solutions design workshop and rapid-improvement-type Clinical decision making and Interdisciplinary communication workshops held at the beginning of June. Where possible, membership of each group contained representatives from nursing, allied health and medicine. The following working parties were formed:
  - Geographic multidisciplinary model of care for General Medicine (led by Alasdair MacDonald)
  - Interdisciplinary communication
    - Standard structured ward schedule (led by Pearl Blandford)
    - Clinical decision making rounds for General Medicine (led by Duncan Cooke)
    - Multidisciplinary rapid rounds (led by Fiona Swinton)
    - Visual management (led by Kerry Leonard and Polly Showell)

Developing solution ideas
- Working parties met regularly to continue developing their solutions.
- A solutions fair was held on the 14th of July for members of all working parties and other key stakeholders at which the solution leads presented their team’s work to date. Suggestions and ideas were brainstormed before comprehensive risk analysis and mitigation exercises were undertaken. The information was then used to further refine solutions and help plan implementation.
- Detailed solution templates were developed across all solutions along with a range of supporting tools which will be used to assist the solution teams in effective project management during the implementation phase.
Developing solutions
Process and overview

Moving towards implementation
Following agreement on the broad solution set by the Hospital Executive, a detailed implementation schedule will be developed. All supporting documentation including education packages, evaluation tools, policies and guidelines will be produced by CRO-N with input from working parties and the broader LGH community. Working parties will be crucial for successful implementation of solutions and will play a key role in the practical roll out of the solutions.

Linkage with the broader CRO-N program
CRO-N recognises that the medical patient journey does not occur in isolation from the rest of the LGH. We will work closely with the emergency access and patient flow clinical redesign groups to ensure that all solutions developed and implemented during the program are well communicated, developed in a collaborative manner and are aligned with organisational values. In addition, a number of recommendations that fall outside the scope of the medical patient journey but within the remit of patient flow, such as those regarding admission processes and bed allocation, will be shared with the patient flow clinical redesign group.

- By developing ambitious solutions that prescribe fundamental changes to current practice in the medical patient journey, it is envisaged that this program will deliver change that is transformational rather than incremental.
- The streams have been designed to build on each other, with a second wave of work that focuses on discharge planning/transfer of care to add to gains made by the work described in this report.
- Implementation is planned to begin in mid October, with measurable benefits within one month of implementation.
- The likely order is as follows:
  - Geographically-based multidisciplinary model of care
  - Multidisciplinary rapid rounds*
  - Visual management*
  - Clinical decision making rounds*
  - Standardised ward schedule*

*These initiatives will be implemented together, with the Geographic model as the key enabler
- Solutions are described in detail in the “Solution Summary” section from page 14.
Solution summaries
Solution summaries
Coverage and focus

Overview
The solution summaries provide an overview of each proposed solution, the issues they seek to address, the outcomes and benefits of the solutions, and, important factors that will need to be considered to support effective implementation. There are two solution streams; Geographic multidisciplinary model of care for General Medicine and Interdisciplinary communication. The Geographic model of care stream describes a new model of care for General Medicine, in which medical, allied health and nursing professionals are aligned in geographic-based teams. This stream forms the structure on which solutions in the Interdisciplinary stream build. Solutions in the Interdisciplinary stream describe a series of “set plays” that provide standardised forums for clinical decision making, structured communication and information sharing, and transparent ways of sharing the patient’s journey. The solution summaries are organised in the following hierarchy:

• Solution stream
• Specific solutions
• A series of initiatives (developed by the solution teams) supporting development and implementation of the solutions

Solution summary presentation
Information on each of the solution areas is set out as follows:

Solution stream overview and rationale,
For each solution stream, the rationale is explained and the overarching aims described.

Specific solution goals and causal factors
The goals of specific solutions proposed for development and implementation under each stream are described. The identified causal factors of the issues the solution seeks to address are also listed.

Specific solution description, benefits, outcomes and measures
A statement of the envisaged benefits arising from the solutions, specific outcomes expected and measures that will be used to track performance.

Risks, links and dependencies
Summary statement reflecting risks that will need to be handled/mitigated and linkages that will need to be managed or leveraged.

The information contained in these summaries will be used to inform comprehensive project documentation which will be used to guide effective management of the various solutions and initiatives and their implementation.
Solution summaries
Solution Stream: Geographic multidisciplinary model of care for General Medicine

Solution stream overview and rationale

The characteristics of medical inpatients have changed. Most single system disease and much simple multisystem disease is managed on an outpatient basis. Medical inpatients have increasingly complex care needs spanning physical, psychological and social domains. Timely and effective treatment of such patients is critically dependent on the ability of the multidisciplinary care team to function collaboratively and cohesively. This single factor was raised as the major deficiency in medical inpatient treatment at the LGH by every discipline engaged as part of the diagnostic phase of the Medical patient journey clinical redesign program. Key challenges and shortcomings in interdisciplinary communication, team work, and multidisciplinary decision-making result in extended inpatient length of stay and are primary contributors to the chronic access block currently evident at the LGH. Data analysis has shown that admitted medical patients who wait in excess of 24 hours in the ED for a bed on a ward (who represent over 30% of all emergency medical admissions) have a 45% longer total inpatient LOS compared with those who wait less than 8 hours.

Current differences in structure and deployment of staffing resources between medical, nursing and allied health craft groups do not support effective interdisciplinary communication. This affects the ability to make timely and well-informed clinical decisions to manage the progression of care in an effective and efficient fashion. In addition, the current uncapped on-take model of assigning patients to medical teams creates unevenly distributed workload across inpatient teams.

Multidisciplinary care teams need to become more temporally and geographically cohesive. Put simply, teams need the right people in the right place at the right time. A geographic model will facilitate communication, teamwork and shared decision making.

Solution focus areas

Within the proposed Geographical multidisciplinary model of care that is detailed in the following pages, several supporting guidelines have been developed:

- Notional team allocation
- Bed allocation
- Rostering
- Handover

These guidelines support the day to day operation of the geographic model and ensure that patients receive the most appropriate and best quality care possible regardless of their physical location.
**Solution stream:** Geographic multidisciplinary model of care for General Medicine  
**Specific solution:** Geographic multidisciplinary model of care for General Medicine

**Solution team**

**Solution Lead:** Alasdair MacDonald  
**Solution sponsor:** Sonia Purse

**Solution Team:** Duncan Cooke (Gen Med consultant and co-clinical lead CRO-N), Robyn Hayes (NUM AMU), Colin Sharp (Gen Med consultant), Sui Ling (Gen Med registrar), Winnie Ho (Gen Med consultant), Belinda Martin (Allied Health team leader AMU), Kerri Roberts (A/Discipline Lead OT), Cindy Hollings (A/Director Allied Health), Kate Blazely (Clinical Coordinator, 5D), Lyn Jetson (After hours nurse manager), Leanne Sanderson (Social worker), Phoebe Griffin (CRO-N), Wilf Williams (KPMG) and Helena Nicholson (CRO-N)

**Solution goals**

- To rearrange the model of care to support effective team work and coordination across professional groups, thereby improving the quality and timeliness of patient care
- To provide the most appropriate care to all patients regardless of their location, and specifically to better address the care needs of admitted medical patients in the ED
- Reduce the complexities and inefficiencies in the current unit-based model
- To minimise non-value adding activities such as motion, duplication, confusion
- To provide patients with better access to care teams to support timely communication and shared decision making

**Root Causes**

This solution came from identifying the root causes of a range of related issues:

- Current unit-based model is not conducive to effective team work
- In the current model, accountability and visibility are diffuse which undermines effective decision making and follow through
- Medical patients under the care of a single consultant are spread between multiple locations
- The current model is a fundamental impediment to clear and timely communication
- Current uncapped on-take model creates unevenly distributed workloads and overburden across inpatient teams
- Current rostering of junior medical officers does not support continuity of care or education
Solution stream: Geographic multidisciplinary model of care for General Medicine
Specific solution: Geographic multidisciplinary model of care for General Medicine

Proposed solution

The proposed solution is to implement a multidisciplinary team-based model of care for General Medical inpatients in which teams will be comprised of medical staff of all levels of seniority, nursing staff and allied health staff and will be ward based. To provide effective care to outlier patients, such as those in the ED, we proposed four teams covering: 5D, 6D, AMU and patients in outlier beds (such as ED). It is envisaged that as access block reduces, the team caring for outlier patients will be able to provide in-reach services such as perioperative care, for example.

It is essential that staffing resources are allocated equitably across the four teams to support both a safe and fair distribution of work. This allocation will be determined by patient acuity and the beds available to each team. Notional bed allocations and staffing for each team are based on historical activity data (Appendix D). As currently, there will be no formal allocation of beds or ring-fencing between specialties – this works effectively for stroke and oncology with a notional allocation that flexes depending on need. Specialty stroke and oncology units on 6D and 5D will remain as this is strongly supported by level one evidence.

Current arrangements with a rotational on-take team will no longer apply – teams will admit patients at all times which will remove the extreme peaks in activity. Within each geographical team guidelines to manage allocation of patients to specific teams have been developed and are detailed in Appendix C. The medical registrar in ED will be the primary decision point for allocation across teams – this role will form part of the Outlier team. This role will be filled by the duty registrar in out of hours periods. Bed location will determine which medical team manages a patient – if a patient moves to a location managed by another team then their care will transfer to the relevant team. Safe and effective handover will be critical for ensuring the smooth transition of care from one team to another. To this end a standard procedure and form have been developed (Appendix E).

Benefits and outcomes

• Improved support for patient-centred care including less time spent in sub-optimal care environments, and increased access to medical decision makers and allied health input
• Medical units will become part of a true multidisciplinary team in a particular area rather than itinerant visitors to multiple wards
• The medical team will be more visible to patients, nursing and allied health staff facilitating improved communication and standardised daily ward schedules
• Co-located patients will allow structured and time effective ward rounds
• Reduced fluctuations in workload for individual teams
• Support streamlined and direct flow of patients through “pull” arrangements within Medicine
• Better support of the learning needs of junior medical staff

Measures - process and outcome

• LOS at DRG level for teams
• Overall LOS and RSI for General Medical patients
• Daily and weekly admission and discharge targets (numeric and as a percentage of available capacity)
• 30 day readmission rates for general medical patients and individual teams
• Staff survey related to communication and team work
• Patient in-hospital functional decline
**Solution stream:** Geographic multidisciplinary model of care for General Medicine

**Specific solution:** Geographic multidisciplinary model of care for General Medicine

### Risks and risk management strategies

- Managing extreme outlier pressures – The outlier team will have uncapped demand. Clear trigger points have been established and detail at which point other teams will provide support in managing excess patient numbers. The triggers are based on historical demand data.

- Managing the perverse incentive to prolong patient LOS (i.e. delay discharge) to ‘manage’ workload – this will be understood and managed through an appropriate set of measures with regular feedback and peer review.

- Concerns about continuity of care – traditional ‘take’ models are seen to have the benefit of providing continuity of care with a single medical team across an inpatient episode. In the context of extreme access block at LGH these benefits are more theoretical than real. Under the geographical model patients may transfer teams if they move to a geographic location/ward managed by another team – in reality, effective allocation of patients to the most appropriate team will mean that such changes will be kept to a minimum and will be in the interests of effective care in any case. This issue will be tracked and understood.

- Involvement of key medical stakeholders will be critical for implementing and ensuring the model works as well as possible – the availability of key staff with multiple and competing commitments represents a risk to effective engagement.

- Coordinated and effective allied health resourcing for all teams, including admitted medical patients in the ED for which there is currently no allied health resource formally allocated. We are working closely with key stakeholders to ensure the most appropriate resourcing within existing constraints.

### Links to other projects

- The Patient flow clinical redesign project currently being undertaken by CRO-N.

- Planning for discharge/transfer of care is intended as a second wave of clinical redesign.

### Critical dependencies

- Bed allocation and effective communication with bed management

- Effective rostering to support continuity of care and team composition

- Implementation of solutions in the interdisciplinary communications stream while not critical to the proposed model, will greatly enhance its effectiveness and day to day operation.
Solution summaries
Solution Stream: Interdisciplinary communication

Solution stream overview and rationale

The overarching goal of the interdisciplinary communication solution stream is to support effective, timely and precise communication between professionals that form the patient care team. Poor interdisciplinary communication was raised as the major barrier to care progression by every discipline during the diagnostic phase of this clinical redesign project.

While the Geographic multidisciplinary model of care for General Medicine co-locates members of the care team, co-location alone will not necessarily facilitate the timely sharing of relevant information or care coordination. The solutions within the interdisciplinary stream describe a series of “set plays” to structure information sharing and decision making across disciplines, to improve the visibility of a patient’s journey, clarify roles and responsibilities and to reduce unwarranted variation. Proposed set plays include a daily multidisciplinary rapid round, standardised medical ward rounds, consistent use of visual management tools and a structured and coordinated ward schedule. Together, the proposed solutions address the major issues identified in the Medical Patient Journey Diagnostic Report (illustrated below).

Specific solutions

The following solutions have been proposed in the Interdisciplinary communication stream and are detailed in the following pages:

1. Daily multidisciplinary rapid rounds
2. A standardised medical decision making daily ward round
3. Visual management tools
4. Structured ward schedule
**Solution stream:** Interdisciplinary communication

**Specific solution:** Daily multidisciplinary rapid round for General Medical patients

### Solution team

<table>
<thead>
<tr>
<th>Solution Lead: Fiona Swinton (Clinical nurse consultant, AMU)</th>
<th>Solution sponsor: Sonia Purse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solution Team:</strong> Cheryl Scott (Speech pathologist), Kat Mitchell (OT), Phoebe Griffin (CRO-N)</td>
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### Solution goals

- To support interdisciplinary communication to inform decision making and progression of care
- To define actions and responsibilities for barriers to progression of care and discharge
- To provide a visual and up-to-date method of visual management detailing progression of care and an estimated date of discharge
- To improve team work and staff satisfaction
- To share information from medical decision making round with the rest of the care team and facilitate coordination of care
- To identify and make appropriate referrals to AHPS

### Root Causes

- Organisational culture that values professional autonomy rather than emphasising coordination and team work
- Work flows that have not been designed to support interdisciplinary communication
- Lack of leadership in multidisciplinary meetings resulting in irrelevant discussion, elongated duration and a lack of commitment
- Person-dependent processes occurring within each discipline that lack structure
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Daily multidisciplinary rapid round

### Proposed solution

The proposed solution is a daily multidisciplinary rapid round for each geographic team that proceeds the medical decision making round in which information is shared, estimated date of discharge (EDD) reviewed and altered if necessary, barriers to care progression and discharge are identified and actioned, and appropriate referrals to AHPS are made.

Attendance at the daily rapid round will be compulsory for the clinical coordinator, medical registrar and representatives from all AHPS. Representatives from smaller AHPS disciplines may need to attend multiple rounds should they work across multiple medical wards. Attendance by team consultant, intern, ward nurses and pharmacist are encouraged. It is expected that all professionals come to the round with an up-to-date knowledge of the patient’s care.

The round will occur in front of a patient journey board and will be of no longer than 30 minutes duration. Specific roles including a chair and scribe will be designated and a standard process for patient order, script and documentation will apply (detailed in Appendix F).

This solution will provide a framework for effective interdisciplinary communication to progress patient care and embed an understanding of, and commitment to, a coordinated approach to patient care.

### Benefits and outcomes

- Communication to relevant staff relaying decisions regarding patient care, referrals made, and discharge criteria set by medical officers and AHPS
- Identification of EDD and barriers to discharge and actions required
- Updated patient journey board that will provide a visible platform to manage care progression
- The care team will be able to provide clear, consistent and up-to-date information to their patients
- Improved interdisciplinary teamwork and collaboration
- Removal of wasted staff time arising from uncoordinated work schedules and fragmented communication
- Reduced LOS resulting from more efficient decision making and information sharing, and improved care coordination

### Measures - process and outcome

- LOS at DRG level for teams
- Overall LOS and RSI for General Medical patients
- Daily and weekly admission and discharge targets (numeric and as a percentage of available capacity)
- 30 day readmission rates for general medical patients and individual teams
- Staff survey related to communication and team work
- Meeting attendance, start time and duration
- “Rushed discharges” using tool described in Diagnostic Report
**Solution stream:** Interdisciplinary communication

**Specific solution:** Daily multidisciplinary rapid round

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**Risks and risk management strategies**

- Poor on time attendance of meeting – clear communication of expectations regarding attendance, measurement and timely feedback on performance, performance management by senior staff where appropriate.

- Multiple meetings for representatives of smaller AHPS disciplines impacting on available therapy time – AHPs from smaller disciplines may nominate appropriate individuals to attend rapid rounds to reduce the time commitment required for attending multiple meetings. This issue will be tracked and understood.

- Meeting running overtime and containing irrelevant information – Standard script has been documented, “dry runs” and training sessions will be held to educate staff on how to run an effective rapid round. The duration of rapid rounds will be measured and fed back to teams. In addition, complex patients requiring lengthy discussion will be flagged during the meeting and relevant stakeholders will remain after the meeting to discuss the progression of care for those patients.

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**Links to other projects**

- Geographic multidisciplinary model of care for General Medicine
- eHealth projects relating to the Alcidion portal and associated electronic patient journey boards (ePJBs)
- Decision making medical rounding
- Visual management

**Critical dependencies**

- Implementation of the Geographic multidisciplinary model of care for General Medicine
- Implementation of patient journey boards on each ward
- Medical rounding for general medicine finishing in time for the multidisciplinary rapid round
- Effective measurement and management of meeting attendance
Solution stream: Interdisciplinary communication
Specific solution: Decision making medical ward round

Solution team

Solution Lead: Duncan Cooke (Gen Med consultant and Co-clinical lead CRO-N)  Solution sponsor: Sonia Purse

Solution Team: Phoebe Griffin (CRO-N), Alasdair MacDonald (Gen Med consultant and Co-clinical lead CRO-N)

Solution goals

- A standardised process for daily medical ward rounds to progress patient care and identify necessary actions
- Clear expectations of ward round timing, order, roles and responsibilities and communication of the plan of care
- Set timing and order will enable better input from family and carers, and other health disciplines
- Therapy, education and hygiene for patients can be planned around medical ward round timing
- Removal of delays for patients related to untimely and uncoordinated care

Root Causes

- No clear agreement of process, expected outcomes or roles and responsibilities
- Medical patients under the care of a single consultant are spread between multiple locations
- Professional groups work in isolation with little coordination, communication or cooperation
- Organisational culture that values professional autonomy rather than emphasising teamwork and coordination of care
- Absence of clear expectations compounded by limited holding to account
### Proposed solution

The aim of the medical ward round is to make clinical decisions, plan care progression, communicate directly with patient and family/carers, identify necessary actions (including responsibility to progress and timelines for completion) and set criteria for discharge when appropriate. The round will occur daily and will involve the key decision maker (consultant and/or registrar), support medical officer (intern usually), nursing staff (primary nurse for allocated patients), and, the patient and carers. Ideally the ward pharmacist would also accompany the ward round, however, this will depend on availability. It is expected that the following information will be prepared in advance of the round: patient list, including those requiring review prior to discharge today and tomorrow, updates summary of pathology, radiology and other previously ordered investigations, and, an updated list of pending consultations.

The ward round is expected to start at 0830 and be of 120-180 minutes duration. The order of patient review is standardised with patients requiring review prior to discharge seen first and all other patients reviewed in geographical sequence to facilitate involvement of nursing staff and family/carers. Decisions made on the ward round will be communicated to the broader care team at the proceeding multidisciplinary rapid round. Actions as arising from the ward round include consultation requests by phone, radiology requests and urgent and unscheduled pathology requests. Actions batched at the conclusion of the ward round include formal written consultation requests and pathology requests for the following day.

### Benefits and outcomes

- Updated active problem list for each patient
- Clear plan of care for the next 24 hours (providing rationale for ongoing need for inpatient treatment) including specific follow up actions and responsibilities
- Update of medical component of estimated date of discharge
- Establishment/confirmation of Goals of Care
- Identification and documentation of medical criteria for discharge (as appropriate)
- A clearly defined timeframe in which the ward round will see a specific patient so that families and/or carers can be present to discuss care progression and goals

### Measures - process and outcome

- LOS at DRG level for teams
- Overall LOS and RSI for General Medical patients
- Daily and weekly admission and discharge targets (numeric and as a percentage of available capacity)
- 30 day readmission rates for general medical patients and individual teams
- Staff survey related to communication and team work
- Compliance with ward round preparation, attendance, duration and documentation
- Time from consultation request to subspecialty review
- Percentage of patients with discharge criteria documented
Solution stream: Interdisciplinary communication
Specific solution: Decision making medical ward round

Risks and risk management strategies

• Poor on time attendance of round – expectations of round participants including on time attendance will be clearly communicated. On time attendance will be recorded with timely feedback to senior medical officers and performance management by senior staff where appropriate.

• Preparations for round incomplete - expectations of round participants including preparations required for ward round will be clearly communicated. Records of incomplete preparation and the responsible person will be kept with timely feedback to senior medical officers and performance management by senior staff where appropriate.

• Protracted round duration - expectations of round including round duration will be clearly communicated. Round duration will be recorded with timely feedback to senior medical officers and performance management by senior staff where appropriate. In addition, extended discussion sessions regarding specific patients will be scheduled for after the ward round.

Links to other projects

• Geographic multidisciplinary model of care for General Medicine
• Daily multidisciplinary rapid round

Critical dependencies

• Implementation of the Geographic multidisciplinary model of care

Workshop participants discussing solution design
Solution stream: Interdisciplinary communication  
Specific solution: Visual management

Solution team

Solution Lead: Kerry Leonard (nurse 3R) and Polly Showell (NUM 3R)  
Solution Team: Phoebe Griffin (CRO-N), Karen Heathcote (eHealth)  
Solution sponsor: Sonia Purse

Solution goals

- To provide effective tools which are simple, clear and concise visual indicators that show “at a glance” the status of a resource, process or element of care; for example, a patient journey board  
- To facilitate effective communication between disciplines to assist efficient progression of care  
- To introduce visual tools that reduce waste, are available to all and are simple to interpret and maintain  
- Increased availability of information and clarity of patient care among care providers and patients and their families

Root Causes

- Current visual management tools are inconsistent across wards  
- Business rules regarding ownership and maintenance of visual management tools are poorly defined and adhered to  
- Organisational culture does not prioritise transparent information sharing across disciplines

Root cause analysis of issues regarding the use of visual management tools
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Visual management

### Proposed solution

Introducing visual management tools will improve the transparency and visibility of a patient’s status and care progression. The following three tools have been proposed:

- **Patient Journey Board (PJB)**
  - Manual magnetic whiteboard with standard design as per Appendix G
  - PJB will be updated at the daily multidisciplinary rapid round and maintained by the ward clinical coordinator and AHPs to reflect current care state
  - Business processes will be largely consistent across wards, although some fields may be used differently in some wards, e.g. 3R
  - PJBs will provide all key summary information on the current status of a patient’s journey and their barriers to care progression in a way that is clearly visible and readily available to all members of the care team

- **Staff photo board**
  - Magnetic whiteboard will provide staff, patients and visitors with information regarding who is on shift and caring for patients
  - Will include on-duty medical, nursing, allied health and ancillary staff
  - Photos will be annotated with name and position

- **Ticket home**
  - Whiteboard above patient’s bed containing the following information: day and date, people involved in your care, nurse for each shift and EDD
  - To be maintained by bedside nurse with verbal feedback to patients around any changes to their care plan, EDD

### Benefits and outcomes

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Measures - process and outcome</th>
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| **Patient Journey Board**  
  - All current summary information regarding patient care is understood at a glance  
  - Information is easily accessible to all members of the care team  
| **Staff photo board**  
  - Patients, families and visiting clinicians can visually identify who is caring for a particular patient  
  - Clear and visual representation of members of the care team  
| **“Ticket home”**  
  - Patient has clear understanding and expectations of care plan  
  - Patient knows who their care team is and the name of the nurse looking after them |  
- LOS at DRG level for teams  
- Overall LOS and RSI for General Medical patients  
- Daily and weekly admission and discharge targets (numeric and as a percentage of available capacity)  
- 30 day readmission rates for general medical patients and individual teams  
- Photo of PJB after each daily MD rapid round  
- Staff survey related to communication and team work  
- Patient in-hospital functional decline |
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Visual management

**Risks and risk management strategies**

- Visual management tools not updated or inaccurate – The persons responsible for maintaining each of the visual management tools have been clearly identified. Daily photo of PJB taken as a measurement or in case board is found to be inaccurate.
- Overburden of staff responsible for maintaining visual management tools, particularly PJB. This will be monitored. The use of standard symbols, magnets and defined abbreviations will help reduce workload.
- Staffing changes – responsible person not available. Requirements will be documented and second nominated.
- Upgrade to ePJ Bs – While the ultimate aim is to introduce electronic patient journey boards, business processes regarding the PJB should not grossly change upon instalment of electronic board.
- Successful introduction of an EDD will require significant education of staff and patients. It will be stressed that an EDD is a target, not a binding date for discharge and that it will be subject to daily review.

**Links to other projects**

- eHealth: Alcidion ePJB project
- Daily multidisciplinary rapid round
- Geographic multidisciplinary model of care for General Medicine
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Structured ward schedule

### Solution team

**Solution Lead:** Pearl Blandford (Speech pathologist)  
**Solution sponsor:** Sonia Purse

**Solution Team:** Vanessa Fulton (NUM 6D), Bec Wilford (OT), Deb Stewart (Clinical nurse consultant, AMU), Ianthe Boden (Physiotherapist), Phoebe Griffin (CRO-N)

### Solution goals

- Clear coordination across professions and wards responsible for care progression
- Clarity of staff expectations and understanding of roles and responsibilities
- Removal of wasted staff time arising from uncoordinated work schedules
- Removal of delays in care for patients as a result of untimely and uncoordinated decision making

### Root Causes

- Absence of a structured, sequenced, agreed and coordinated schedule of activities
- Organisational culture that values professional autonomy rather than emphasising coordination and team work
- Allocation and linkage of limited staff resources across professions and wards is not coordinated
- Absence of clear expectations compounded by limited accountability
- Where specific processes exist, the purpose and outcomes are often poorly defined
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Structured ward schedule

### Proposed solution

There is currently a large variation in key ward processes, including consultant-led ward rounds, multidisciplinary meetings, medical handover and AHPS referrals. This variation contributes to limited communication of the plan of care between disciplines, delays in clinical decision making and poor access of patients and families to clinical decision makers. A structured ward schedule has been designed to facilitate care coordination and a clear expectation of when activities should occur, and the roles and responsibilities necessary for those activities. The ward schedule will provide clarity for staff and patients of how medical wards operate, when key activities will occur and will coordinate activities across all medical wards for professionals who work in multiple wards.

The schedule describes in detail the time at which key daily activities will occur from morning nursing bedside handover at 0700 to nursing handover at 2145 and includes the daily medical ward round from 0830 to 1030, the daily multidisciplinary rapid round which will occur at 1100 on 5D, 1130 on 6D, 1200 in the AMU and 1230 in the ED and protected meal times for patients. The full schedule can be found in Appendix H

### Benefits and outcomes

- Clarity of staff expectations and understanding of roles and responsibilities
- A clear coordination across professions and wards responsible for care progression
- Removal of wasted staff time arising from uncoordinated work schedules
- Removal of delays for patient related to timely and coordinated decision making
- Embedded understanding of and commitment to a coordinated and scheduled delivery of key care processes

### Measures - process and outcome

- LOS at DRG level for teams
- Overall LOS and RSI for General Medical patients
- Daily and weekly admission and discharge targets (numeric and as a percentage of available capacity)
- 30 day readmission rates for general medical patients and individual teams
- Staff survey related to communication and team work
- Patient in-hospital functional decline
**Solution stream:** Interdisciplinary communication  
**Specific solution:** Structured ward schedule

### Risks and risk management strategies

- **Risk of too many meetings** – only certain staff will be required to attend multiple meetings. The purpose of each meeting is clearly defined and duration will be kept to a minimum through the use of a standard script. This issue will also be measured and monitored.

- **Key staff expected to be in more than one place at a time** – Where there is a risk that this may occur such as for the daily multidisciplinary rapid rounds meetings have been staggered across wards to allow for attendance of successive meetings.

- **Overscheduling** – Only key activities have been scheduled with flexibility built into the schedule to cater for patients’ preferences for hygiene and therapy times.

- **Schedule not adhered to** – education of staff about the ward schedule, its purpose and importance. Start time and duration of key activities will be measured with timely feedback and performance management where necessary.

### Links to other projects

- Visual management

### Critical dependencies

- Implementation of the Geographic multidisciplinary model of care
- Implementation of Daily medical decision making ward rounds
- Implementation of Daily multidisciplinary rapid round

Brainstorming elements of effective interdisciplinary communication
Next Steps
Next steps
Progressing towards implementation

From ideas to delivery
The next part of the project will be critical in transforming ideas and energy into practical change leading to improvement. Activities in the immediate term will focus on engagement and gaining commitment to the proposed changes from key staff before moving towards implementation. Three broad stages of activity are envisaged as described below.

Gaining commitment
While staff have been the primary drivers behind the design of solutions and key senior decision makers have been kept informed of progress, it is important to convert general agreement for the solutions proposed in this report to genuine commitment from key stakeholders. To this end, a communications schedule is being developed and will include one on one meetings, group discussion and workshops with staff of all levels. These activities will also identify a network of “change agents” to assist in promotion and education of the solutions.

Promotion, education and practice
Key to successful implementation will be promotion of the solutions and education of staff about the proposed changes. Education packages are being developed with feedback from key staff and will used for “in-service” sessions to prepare staff for the planned changes. In addition, dry runs of key “set plays” such as the rapid rounds and medical handover are being planned. The dry runs will provide not only a great forum in which staff can learn by doing, but also an opportunity to address any unanticipated issues prior to implementation.

Measurement
A comprehensive set of measures will be developed to track both the effectiveness of implementation (process measures) and the outcomes (output measures) of the initiatives. These measures will be used to inform staff of team performance and to identify areas for attention. PDCA cycles, root cause analysis and performance management will be used where appropriate to improve the implementation and operation of initiatives not performing as expected.

Go live!
Implementation of the Geographic multidisciplinary model of care for General Medicine is planned for the 12th of October, 2015. This date coincides with the third rotation of interns and will provide ample opportunity for the new model to become embedded before the next rotation occurs. Implementation of the solutions within the interdisciplinary stream will be implemented following the Geographic model in a managed process.
Next steps
Contact information

Should you want to get involved, or have any questions or comments regarding this report, please contact us.

Clinical Redesign Office – North

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Appendix A
Issues identified during the Medical Patient Journey diagnostic phase that relate to patient flow
Issue

• Admission criteria to AMU are poorly adhered to

• The process of prioritising and allocating patients to ward beds lacks transparency (right patient, right place, first time)

• Reactive bed management caused by little “pull” of patients

• Incorrect allocation of patients to medical teams caused by inconsistent communication with ward clerks and changes to medical rosters

• The management of long stay (>21 days) patients is variable and unclear. A third of medical beds are occupied by patients with LOS >21 days

• There are significant delays in moving patients who are either acutely unwell or have “failed” rehab from rehab to medical wards

• Decompression of ED by transferring patients to DPU

• The admission process within ED is highly variable and lacks standardisation

• Patients in AMU who require a bed on a medical ward experience significant delays
Appendix B
Solutions design workshop report
Medical Patient Journey
THO-North

Solutions Design Workshop Report

Clinical Redesign Office - North
Background

The medical patient journey clinical redesign project is led by the Clinical Redesign Office (CRO-N) with support from Health Services Innovation Tasmania and KPMG. Following completion of the diagnostic phase of the project and dissemination of the summary report, a workshop was held to galvanise support and capture momentum for the solutions design phase of the project. The solutions design phase is about designing solutions to improve the medical patient journey and planning for implementation. The deliverables for this phase are this report and a solutions design report.

Project timeline

Planning
• 15 Dec – 25 Jan 15

Diagnostics
• 25 Jan – 30 Apr 15

Solution design
• 13 May – 15 Jul 15

Implementation
• 15 Jul – 30 Sept 15

Evaluation
• 30 Sep – 28 Oct 15

Sustain
Solutions design workshop

Workshop objectives and structure
The Medical patient journey solutions design workshop was held on the 13th of May from 1000 to 1530 in room 203, NICS, Launceston General Hospital. The workshop was opened by acting CEO Sonia Purse and was facilitated by Fiona Merkel from KPMG assisted by Duncan Cooke and Kerry Leonard from CRO-N.

The primary objectives of the workshop were to engage key stakeholders in the medical patient journey and to gain commitment to ongoing involvement in the project. Secondary objectives included gaining understanding and consensus of the major issues and to prioritise areas for action, developing guiding principles and tools for solutions design, and to clarify next steps.

The workshop was structured into four blocks: welcome and introduction, summary of diagnostic findings, open space solution design exercises, and, summary and next steps.

Attendance
A total of 46 people attended the workshop and included representatives from all medical wards and clinical craft groups.
Solutions design workshop outcomes

1. Confirmation and prioritisation of issues
2. Development of design principles
3. Tools for solutions development
4. Formation of working parties
5. Next steps
Solutions design workshop outcomes
Prioritisation of issues

Key data and overarching themes identified during the diagnostic phase of the Medical patient journey project were presented and discussed. Consensus was gained on the four major themes that emerged during the diagnostic phase.

Issues from the diagnostic report were then prioritised for action by attendees dot voting for issues according to impact (red dots) or do-ability (orange dots). Each attendee was given five dots of each colour to place as they wished. Votes were tallied and three broad areas for redesign emerged:

1. Interdisciplinary communication
2. Clinical decision making and ward rounding
3. Planning for discharge/transfer of care
Solutions design workshop outcomes
Prioritisation of issues

The voting results were used to theme issues into the three broad areas for redesign, as illustrated in the following tables.

### Interdisciplinary communication

<table>
<thead>
<tr>
<th>Issues</th>
<th>Impact votes</th>
<th>Do-ability votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary communication is fragmented and affects progression of care</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Multi-disciplinary meetings are not well structured and are often missing key decision makers (eg physicians)</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>There are few visual management tools to share a patient’s progression of care</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Response times and feedback from referrals to rehab vary</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>AMU GOLD meetings vary in documentation, attendance, agenda and structure</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td><strong>55</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>
Solutions design workshop outcomes
Prioritisation of issues

Clinical decision making

<table>
<thead>
<tr>
<th>Issues</th>
<th>Impact votes</th>
<th>Do-ability votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward round timing and pattern is highly variable and unpredictable</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Rostering of medical registrars affects continuity and progression of care, and creates confusion</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Delays in diagnostic tests caused by doctors (referrals and/or enacting on information from test results)</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>IT systems do not support clinical decision making</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Registrar rounds lack clear and consistent guidelines with respect to decision making</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>There are delays in consultations from other specialties</td>
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</tr>
<tr>
<td><strong>total</strong></td>
<td><strong>38</strong></td>
<td><strong>30</strong></td>
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</table>

Planning for discharge/transfer of care

<table>
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<tr>
<th>Issues</th>
<th>Impact votes</th>
<th>Do-ability votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge planning occurs late, is poorly documented and communicated</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Discharge transport delays resulting from poor planning and communication</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Discharge occurs 9 am to 5 pm, Monday to Friday</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>There is batching of discharge scripts (scripts are written and sent in groups)</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>The management of long stay (&gt;21 days) patients is variable and unclear. A third of medical beds are occupied by patients with LOS &gt;21 days</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td><strong>43</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>
Solutions design workshop outcomes
Development of design principles

A unifying set of design principles was developed in a breakout brainstorming session. The principles will be used by working groups as a framework for solutions design. It is envisaged that every solution will incorporate each principle where appropriate.

**Design Principles**

1. Patient-centred
   - Consumer focussed, “voice of the patient”
2. Clearly defined expectations, accountability and ownership
   - Roles and responsibilities, locally-owned
3. Clear and transparent communication
   - Open communication, transparent process
4. Innovative
   - Open to innovation, trial and error
5. Evidence-based and measurable
   - Best practice, data-driven, inbuilt evaluation
6. Agreed and collaborative
   - Stakeholder involvement, inclusive design
7. Incorporate the principles of clinical redesign
   - Value, waste, standardisation
Solutions design workshop outcomes
Tools for solutions development

Following issues prioritisation and design principles, two educational sessions were run. The first focussed on root cause analysis and the second on tools for solutions design. Small groups worked on individual issues and used the tools below to identify the underlying causes of issues and brainstorm possible solutions. This work will be available to working parties for solutions design.

- Root cause analysis
  - Fishbone (6Ms), 5 whys, value and waste, push and pull

- Solutions design
  - brainstorming, ideal state, fishbone, 5 hows, solution mapping

Fishbone (6Ms)

- Manpower (people)
- Machines
- Materials
- Methods
- Measurements
- Mother Nature (Environment)

EFFECT
Solutions design workshop outcomes
Formation of working groups

At the end of the workshop all participants were invited to join one of two working groups. The first group will focus on clinical decision making and the second on interdisciplinary communication. It is envisaged that a third working group focussing on planning for discharge will be formed as part of a “second wave” of clinical redesign that will build on gains made by improving clinical decision making and interdisciplinary communication. All groups will have membership from medical, nursing and allied health professions.

Clinical decision making includes all processes and structures of medical care that impact the timeliness, accuracy and implementation of clinical decisions. Examples of this include organisation of medical ward rounds, access to investigations and results, and referral processes for medical subspecialty or allied health consultation.

The scope of the interdisciplinary communication group will include multi-disciplinary team (MDT) meetings, alternatives to MDT meetings (e.g. rapid rounds), allied health referrals and visual management of the patient journey.

To ensure that solutions developed by both groups are congruent, both working groups will have consistent CRO-N membership and meet at key points during the solutions development phase to discuss any potential impact/overlap.
Next steps

Formal invitations to join working groups were sent on May 18, 2015 and membership is currently being finalised.

Initial planning meetings for working groups are scheduled for May 28, 2015.

Based on feedback from the workshop and to accelerate the solutions design process, it is likely that the majority of solutions design will occur in a day-long rapid improvement-type event rather than a series of shorter weekly meetings. A one-day event for the clinical decision making group has been tentatively scheduled for June 3, 2015. A second event for the interdisciplinary communication group is planned for the following week.

Linkage with the broader CRO-N program

CRO-N recognises that the medical patient journey does not occur in isolation from the rest of the LGH. We will work closely with the ED clinical redesign group and patient flow so that all solutions developed and implemented during the program are well communicated, developed in a collaborative manner and are aligned with organisational values.

In addition, a number of issues identified fall outside the scope of the medical patient journey but within the remit of patient flow, such as those regarding admission processes and bed allocation, and will be shared with the patient flow project group.
Contact information

Should you have any questions or comments regarding this report, or our broader program of clinical redesign at the LGH, please don’t hesitate to contact us.

**Clinical Redesign Office - North**

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Appendix C
Guidelines for bed allocation
Geographic multidisciplinary model of care for General Medicine
Guidelines for bed allocation
August 2015

A. Direct pull and local management of flow
The foundation principles for bed allocation are direct pull of patients to the most appropriate bed and local management of the flow of patients between the ED, medical beds and subacute beds unless overriding escalation requirements apply.

B. Bed allocation priority
In the case of a lack of available capacity, patients must be prioritised to the most appropriate bed according to clinical need regardless of the source of admission (planned or unplanned). Clinical need for General Medical patients will be determined by the duty consultant on the “unallocated/outlier” team.

1. Oncology patients will have priority access to beds on 5D unless the nominal cap has been breached (see 4 and 5 below)
2. Stroke patients will have priority access to beds on 6D unless the nominal cap has been breached (see 4 and 5 below)
3. General Medicine and remaining subspecialty patients will be allocated to wards based on unit specific admission criteria:
   - AMU patients to AMU
   - Respiratory patients to AMU
   - Renal patients to AMU
   - Gastroenterology patients to AMU
   - Renal, respiratory and gastroenterology patients not accommodated in AMU will overflow to 6D
   - Cardiology patients to 6D
   - General Medical patients not suitable for admission to the AMU will be prioritised to 5D and 6D based on clinical need for inpatient ward based treatment and then on a first in first out basis.

4. To ensure that a cohort of General Medical patients is maintained on each medical ward sufficient to enable flow of General Medical patients through the hospital, specialty beds on each of the wards will have a nominal cap. The cap is based on data of recent utilisation and is to be reviewed every 12 months
   - Nominal cap for oncology beds on 5D = 20
   - Nominal cap for stroke and subspecialty beds on 6D = 20
   - Nominal cap for subspecialty beds on AMU = 10

5. In the case that the numbers of specialty patients breach their nominated cap, the patient prioritised to the next available bed will be decided through discussion between the admitting General Medicine consultant, admitting specialty consultant, clinical coordinator and bed management.
C. Bed allocation process

Consistent with the principle of “pull”, allocation of a patient to a specific ward bed will be managed between the clinical co-ordinators on the wards (AMU, 5D, 6D) and the duty consultant for the “unallocated/outlier” team.

1. Practically this will be achieved by close collaboration between ward based clinical co-ordinators and the bed management unit/afterhours nurse manager. It is envisaged that the clinical co-ordinators will have visibility of general medical patients requiring admission from ED. In addition to this group, the bed management unit will have visibility of the following patient groups:
   - Inter-hospital transfers
   - Direct admissions
   - ICU discharges
   - Rehab and Surgical transfers to acute medicine

High priority patients in these groups will be allocated to inpatient ward beds by the Bed management unit or after hours nurse manager. Medical patients in ED will be “pulled” to all remaining beds by the ward clinical co-ordinators.

1. Visibility of all outliers, including admitted patients awaiting a bed and which ward beds are about to become available will ensure that this process works optimally. The Alcidion portal may provide the required visibility but will need further investigation.

2. Together, the clinical coordinators on the ward and the consultant on the unallocated/outlier team will identify the most appropriate bed for patients who have been prioritised according to the criteria outlined above.

3. The bed management unit or afterhours nurse manager will be notified upon transfer of a patient from the outlier team to a ward.

4. A formal handover process for transfer of care between medical teams has been documented and can be found in Appendix E.

5. To help ensure that patient flow through medical wards is as efficient as possible, patients who have been referred to rehabilitation (in 3R and JLG) but who remain in an acute bed will be flagged once accepted and this information communicated to the clinical co-ordinator on the relevant ward.

6. Bed card details will need to be changed on arrival to an inpatient ward to reflect the transfer of care.
Appendix D

Average distribution of medical patients across wards
• Data set contained all acute medical admissions for the 2014 calendar year
• Number represents average number of patients at any given time per ward
• Data indicates that each multidisciplinary team will be caring for an average of between 15 and 20 General Medical patients at any given time

<table>
<thead>
<tr>
<th>Ward</th>
<th>Cardiology</th>
<th>Diabetes</th>
<th>Endocrinology</th>
<th>Gastroenterology</th>
<th>Gen Med excl stroke DRGs</th>
<th>Geriatric Medicine</th>
<th>Haematology-Oncology</th>
<th>Infectious Diseases</th>
<th>Neurology</th>
<th>Oncology</th>
<th>Renal Medicine</th>
<th>Respiratory Medicine</th>
<th>Stroke</th>
<th>Germed with stroke DRG</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Medical Unit</td>
<td>0.096</td>
<td>0.000</td>
<td>0.020</td>
<td>1.579</td>
<td>15.621</td>
<td>0.000</td>
<td>0.002</td>
<td>0.002</td>
<td>0.024</td>
<td>0.008</td>
<td>1.219</td>
<td>0.615</td>
<td>0.069</td>
<td>0.058</td>
<td>19.313</td>
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<td>Day Procedure Unit</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.227</td>
<td>0.590</td>
<td>0.000</td>
<td>0.023</td>
<td>0.000</td>
<td>0.005</td>
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<td>0.028</td>
<td>0.039</td>
<td>0.002</td>
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<td>ED</td>
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<td>0.000</td>
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<td>0.267</td>
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<td>0.140</td>
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<td>Intensive Care Unit</td>
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<td>0.110</td>
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<td>0.039</td>
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<td>Northern Coronary Care Unit</td>
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<td>0.000</td>
<td>0.002</td>
<td>0.000</td>
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<td>0.050</td>
<td>0.009</td>
<td>0.052</td>
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<td>Ward 5A</td>
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<td>0.000</td>
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<td>0.000</td>
<td>0.024</td>
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<td>Ward 5B</td>
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<td>0.000</td>
<td>0.141</td>
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Appendix E
Medical handover process and form
Standardisation of Clinical Handover process within General Medicine

Background
Admission and management of acute medical patients is accomplished across multiple units, geographical locations and shifts. There is little intrinsic continuity of care across these divisions. Consequently, continuity of care must be accomplished by comprehensive and practical clinical handover.

Aims
Specific handover processes need to be developed for the following handover events:

- All new admissions handed over to night shift
- Acute change of patient status during day handed over to night shift
- Morning handover of all admissions in the last 24 hours to appropriate home teams
- Handover of patients needing weekend review
- Transfer of care handover for patients moving between medical units

Proposed Processes
The ISOBAR handover tool shall be adapted as follows:

<table>
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<tr>
<th>I</th>
<th>Patient name, age, gender</th>
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<tr>
<td>S</td>
<td>Presenting complaint (1 – 2 sentences)</td>
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<td>Observations (only required in unstable patients)</td>
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<td>Relevant past medical history</td>
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<td>A</td>
<td>Relevant examination and provisional diagnosis</td>
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<tr>
<td>R</td>
<td>Management plan</td>
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Day shift handover to evening shift
• Location: Acute medical unit
• Time: 1640
• Duration: 20 min
• Attendance: Day admitting registrar, Evening AMU registrar, Evening General medical registrar, Day medical interns, Evening medical intern
• Specific requirements
  o Handover of clinical synopsis in the ISOBAR format provided to evening medical staff for all patient admitted between 0800 and 1640. Evening medical staff to ensure they have sufficient information to enable safe ongoing management.
  o Handover of all pending admissions in the ED
  o Handover of all other acutely unwell patients. Synopsis of all MET and Code Blue calls to be handed over.

Evening AMU shift handover to night AMU shift
• Location: Acute medical unit
• Time: 2300
• Duration: 15 min
• Attendance: Evening AMU registrar, Night AMU registrar, Night AMU intern / resident
• Specific requirements
  o Handover of clinical synopsis in the ISOBAR format provided to night AMU staff for ALL AMU patients admitted between 0800 and 2300. Evening medical staff to ensure they have sufficient information to enable safe ongoing management.
  o Handover of all pending AMU admissions in the ED
  o Handover of all other acutely unwell AMU patients. Synopsis of all MET and Code Blue calls to be handed over
  o NOTE: Where no AMU registrar is rostered, handover should be given to the General Medical night registrar as described below.

Evening General Medical shift handover to night general medical shift
• Location: Acute medical unit
• Time: 2200
• Duration: 15 mins
• Attendance: Evening General medical registrar, Night General Medical registrar, Night AMU intern / resident
• Specific requirements
  o Handover of clinical synopsis in the ISOBAR format provided to night AMU staff for ALL AMU patients admitted between 0800 and 2300. Evening medical staff to ensure they have sufficient information to enable safe ongoing management.
  o Handover of all pending AMU admissions in the ED
  o Handover of all other acutely unwell AMU patients. Synopsis of all MET and Code Blue calls to be handed over.
Morning Medical handover
• Location: Acute medical unit
• Time: 0800
• Duration: 30 minutes
• Attendance: Night AMU registrar, Night Medical registrar, Evening medical registrar from day prior, Day AMU registrar, Day medical unit registrars, AMU consultant, Responsible medical unit consultants.
• Specific requirements
  o Handover of clinical synopsis in the ISOBAR format for ALL general medical patients admitted in the last 24 hours. Day medical staff to ensure they have sufficient information to enable safe ongoing management.
  o Handover in the ISOBAR format of all new acute problems in admitted patients.
  o The primary function of this meeting is clinical handover. Educational matters arising from discussion should be formally addressed at a separate education meeting.
  o Each case should be no longer than 2 – 3 minutes.

End of week handover to inform weekend review
• Location: Acute medical unit
• Time: 1640
• Duration: 20 minutes
• Attendance: Evening AMU registrar, Evening General medical registrar, rostered weekend admitting medical registrars, medical registrars of all general medical inpatient teams.
• Specific requirements
  o Handover of clinical synopsis in the ISOBAR format of all patients requiring weekend review. Priority should be given to those patients planned to discharge over the weekend. Specific criteria for suitability of discharge should be handed over.
**General Medical Transfer of Care handover form**

**Patient Label**

Initial presentation:

### Current active problems

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### Inactive or resolved problems

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Appendix F
Daily multidisciplinary rapid round standard operating procedure
Rules of engagement

Who:
Chair of meeting: Clinical coordinator or nurse in charge
Scribe: nurse in charge or nominated attendee (eg: PT/OT/SW)
Critical attendees: clinical coordinator and/or nurse in charge, med reg, allied health professionals,
Encouraged attendees: Ward nurses, consultant, intern, members of sub specialty teams, pharmacy.
Ward clerk: not required to attend meetings. The ward clerk role will be to prepare the documentation for the meeting and file following.

Expectations:
Expectations of chair:
• Nominate scribe and person to update journey board (any team member)
• Remind staff of pending meeting (10 minute verbal notice given to ward round)
• Ensure meeting starts and ends on time
• Directs the flow of the meeting. Aim to keep to bed order, however the chairperson may use discretion to alter the patient order if required for attendees.
• Ensure all criteria are met for each patient: New issues, waiting for what?, EDD, D/C location and plan.
• Ensure each member of the team has opportunity for input as required
• Ensure any referrals/actions are allocated to an appropriate team member to action
• Expectations of the scribe:
• Document all relevant information as per the criteria on the stickers
• Ensure the stickers are returned to the ward clerk for input into patients files
• Expectations of attendees:
• Attend meeting promptly
• Provide relevant information as per the meeting criteria
• Come prepared with up to date knowledge of their patient
• Scribe or update journey board if required
### Methods of documentation:
- Patient journey board updated by the nominated individual
- Record of attendance, start time and duration of rapid round
- A photo will be taken of the updated journey board immediately following the rapid round. This photo will serve as a record of the journey board in the event that it is tampered with
- Pre-printed sticker template (see below), which is placed in each patient’s file following the meeting.
- Printed in bed order. Scribe to complete. Content facilitated by chair of meeting. Ward Clerk or nurse to place in each patient’s progress notes.

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<th>Date</th>
<th>New issues (medical, social, other)</th>
<th>Waiting for what? (what is required for discharge to occur?)</th>
<th>Discharge plan (EDD/location/services)</th>
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<th>Patient ID (sticker or printed from PAS)</th>
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<th>Waiting for what? (what is required for discharge to occur?)</th>
<th>Discharge plan (EDD/location/services)</th>
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Appendix G
Patient journey board design
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<th>CLD#</th>
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*EDD is estimated date of discharge
†CLD is criteria led discharge
W4W is waiting for what
Appendix H
Structured ward schedule for acute General Medical wards
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<th>Time (week day)</th>
<th>Activity and description</th>
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| 0700            | Clinical handover for nursing  
|                 | • Group generic information for all  
|                 | • Bedside handover (RN/EN + patient) x 2  
|                 | • Nurses keep their current day planner  |
| 0730-0800       | CNC assessed criteria-led discharge (CLD) based on handover meeting plus any information on the journey board from medical and AHPS  
|                 | Hygiene is offered to patients at this time  |
| 0800-0830       | Medical handover  |
| 0830-1030       | Daily senior decision making medical ward round  
|                 | • All patients except those who do not need to be seen before discharge (CLD)  
|                 | • Standard order of review – discharges first, then in geographic sequence. Will allow better planning for involvement of family/carers and nursing  
|                 | • Patient and family/carers involved, by phone if necessary  
|                 | • Ideally clinical coordinator and a pharmacist would attend  
|                 | • Clear delegations and expectations of all members  
|                 | • Discharge actions - juniors  |
| 1100-1130       | Daily multidisciplinary rapid round  
|                 | • Scripted with designated chair  
|                 | • Maximum duration of 30 min  
|                 | • To be staggered by 20 min across wards to allow for AHPs from smaller disciplines to attend meetings on different wards  
|                 | • Commencement of rapid round may be announced over ward intercom  
|                 | • Will be conducted standing in front of patient journey board  
|                 | • Attendance will be compulsory for med reg, CC/CNC, and AHPs. Other nursing and medical staffs are encouraged to attend  
|                 | • Purpose of rapid round is to define discharge actions, update any barriers to care progression and to identify appropriate referrals to AHPS  
<p>|                 | • Patients with complex care needs to be flagged for further discussion at end of round where necessary  |</p>
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<thead>
<tr>
<th>Time (week day)</th>
<th>Activity and description</th>
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| 1200           | Update “ticket home” bed board  
• After rapid round by a key member of the team caring for that patient, likely CC/CNC or bedside nurse  
• Discussion with patient about any changes to care plan including EDD |
| 1200-1300      | Protected meal time for patients  
• May be announced over ward intercom  
• Patients and family/carers also informed of protected meal times as part of orientation to the ward and empower them with permission to refuse treatment/therapy during this important time |
| 1400           | Nurses bedside handover |
| 1400           | Opportunity to introduce weekly inter-professional learning sessions |
| 1430           | Designated time for junior medical officers to write discharge summaries and scripts |
| 1500           | “Planning for tomorrow, today”  
• Brief meeting between CC/CNC, med reg and AHP representative if available to discuss any changes to patient care and plan for the following day  
• At the patient journey board |
| 1640           | Medical handover |
| 1700           | Protected meal time (as per 1200) |
| 1830           | A second hygiene round is offered to patients  
• Coincides with an orderly round |
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<td>2300</td>
<td>Medical handover - AMU</td>
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THERE’S
NO PLACE LIKE HOME
Timely, quality healthcare
to get you safely back
home

Medical Patient
Journey
THO-North

Diagnostic Report

Clinical Redesign Office - North

Tasmanian Health Organisation – North
# Contents

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Acknowledgements

This report is the culmination of four months of hard work by a dedicated team but it would not have been remotely possible without the cooperation, support and invaluable contributions from a large number of people across the Launceston General Hospital. We would like to thank our Executive Sponsor, acting CEO Sonia Purse, and members of the Hospital Executive for their support of the medical patient journey clinical redesign project and of our broader program of clinical redesign. Thanks to the many RNs, physicians, reg.s, NUMs, CNCs, CCs, physios, pharmacists, DONs, social workers, OTs, ENs, clerks, administrators, speech pathologists and interns who gave their time to be interviewed, and to contribute to big picture mapping sessions, meetings and corridor conversations. Your willingness to participate and share quality information is crucial to the success of this project. Thanks to those who helped with data collection particularly for the discharge study and the brown paper exercise. Kerry Foster, PAS manager, generously supplied the high level data set and always made herself available to discuss the nuances of PAS.

The CRO-N has also been ably supported by an external team of skilled individuals. Thanks must go to HSI-Tasmania, in particular Greg Peterson and Craig Quarmby (Co-directors), Lauri O’Brien (Principal redesign consultant) and Jim Stankovich (Research fellow - statistics) for making the journey north on numerous occasions to discuss the progress of the project and for kindly sharing their skills and expertise. Fiona Merkel and Wilf Williams from KPMG have masterfully kept us on track and brought experience, knowledge and structure to the project. CRO-NW and CRO-S have also generously shared their experiences and have been an invaluable sounding board.

This report marks the end of the diagnostic phase of the medical patient journey clinical redesign project and the beginning of the solutions design phase. We are looking forward to continue working with you all and would like to invite everyone involved in the medical patient journey at the LGH to contribute to the solutions design and implementation phases.
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALOS</td>
<td>Average Length of Stay</td>
</tr>
<tr>
<td>AMU</td>
<td>Acute Medical Unit</td>
</tr>
<tr>
<td>HSI</td>
<td>Health Services Innovation - Tasmania</td>
</tr>
<tr>
<td>LOS</td>
<td>Length of Stay</td>
</tr>
<tr>
<td>DRG</td>
<td>Diagnostic Related Group</td>
</tr>
<tr>
<td>AH</td>
<td>Allied Health</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency Department</td>
</tr>
<tr>
<td>HRC</td>
<td>Healthcare Reform Consulting</td>
</tr>
<tr>
<td>AHP</td>
<td>Allied Health Professional</td>
</tr>
<tr>
<td>AH</td>
<td>Allied Health</td>
</tr>
<tr>
<td>SU</td>
<td>Stroke Unit</td>
</tr>
<tr>
<td>HALT</td>
<td>Hospital Avoidance Liaison Team</td>
</tr>
<tr>
<td>DPU</td>
<td>Day Procedure Unit</td>
</tr>
<tr>
<td>RSI</td>
<td>Relative Stay Index</td>
</tr>
<tr>
<td>GOLD</td>
<td>Goal-oriented Observations and Liaison Discussions</td>
</tr>
<tr>
<td>LGH</td>
<td>Launceston General Hospital</td>
</tr>
<tr>
<td>PAS</td>
<td>Patient Administration System</td>
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<tr>
<td>CRO-N</td>
<td>Clinical Redesign Office - North</td>
</tr>
</tbody>
</table>
Problem statement
There is currently not enough capacity at the Launceston General Hospital to meet medical patient demand, resulting in chronic access block and ward bed shortages. Capacity is a function of both bed stock and length of stay. Length of stay is determined by patient and disease characteristics in association with timeliness of decision making and implementation.

Vision statement
That all care adds value to patients, is safe and timely.

Project timeline

Planning
- 15 Dec 15 – 25 Jan 15

Diagnostics
- 25 Jan 15 – 09 Apr 15

Solution design
- 09 Apr 15 – 15 June 15

Implementation
- 15 Jun 15 – 31 Aug 15

Evaluation
- 31 Aug 15 - 30 Sep 15

Sustain
- 30 Sep 15 – 31 Aug 16

We are here
Executive Summary
Diagnostic phase - Summary approach

Overview
The medical patient journey clinical redesign project is led by the Clinical Redesign Office - North in THO-N with support from HSI-Tasmania and KPMG and is part of a larger program of clinical redesign that also includes emergency access, patient flow and access to elective surgery. This report is a summary of the diagnostic phase of the medical patient journey clinical redesign project and aims to both highlight opportunities for improvement and to make the case for change. It is intended that the evidence from this report will be used by working parties to prioritise areas for improvement and inform solutions design.

Medical admissions at the Launceston General Hospital have increased at a rate of 3.5 admissions per month over the last two years while available medical bed stock has remained constant at 92 beds. Despite modest reductions in the average length of stay over this period, increased demand has led to medical ward bed shortages and chronic access block. There are also significant external reforms occurring that are likely to affect how healthcare is delivered in the future. This program of clinical redesign is an opportunity to not only improve the timeliness and quality of care provided to patients but to make our institution more responsive and adaptive to change.

Project scope
The Launceston General Hospital (LGH) medical patient journey project focuses on the following areas:
• From the decision to admit a patient to discharge of that patient from the hospital
• All medical subspecialties including cardiology, gastroenterology, general medicine, haematology-oncology, infectious diseases medicine, medical oncology, neurology, respiratory medicine, stroke and radiation oncology.
• Acute and subacute/rehabilitation inpatients in the Emergency Department (ED), the Acute Medical Unit (AMU) and wards 5D, 6D and 3R.

The defined project scope led to the following patient flows becoming the main focus of attention:
• Decision to admit
• Acute medical inpatients in ED
• Acute medical inpatients in wards
• Acute medical inpatients in AMU
• Subacute and rehabilitation patients
• Discharge and transfer of care
Executive Summary
Diagnostic phase - Summary approach

Diagnostic phase approach
A multi-faceted quantitative and qualitative approach was taken to investigate the medical patient journey at the LGH. High level data analysis was used to provide an overview of the patient journey including demand, capacity, and LOS. High level data analysis was supplemented with qualitative and semi-quantitative studies aimed at providing greater detail of specific areas such as discharge or multi-disciplinary meetings. These studies included ward round follows, big picture mapping sessions, meeting observations, and staff interviews. The “voice of the patient” has not been included in this report. The voice of the patient will be captured through patient interviews, and experience survey data will be used as an evaluative tool. It is also intended that working parties will include patients to help develop patient-focused solutions. The studies undertaken for this report have examined the medical patient journey from the perspective of staff and the organization to provide both a comprehensive understanding of the current state of the medical patient journey, and a substantial evidence base on which improvements can be made.

Diagnostic stage activities:
- **Key stakeholder consultations** – Key stakeholder discovery interviews were conducted with senior clinical staff from within medicine, nursing and allied health. Six physicians, three NUMs, one clinical coordinator, two allied health managers (occupational therapy, speech pathology), three allied health senior clinicians (social work, occupational therapy and physiotherapy) who are all involved in the general medicine patient journey were interviewed.
- **‘Big Picture Mapping’ sessions** – Three big picture process mapping sessions were conducted to explore the patient journey in overall medicine, the Acute Medical Unit (AMU) and Ward 3R (acute rehabilitation ward). The scope for the three process mapping sessions were:
  - Medicine – ‘decision to admit through to discharge/ transfer of care’. One hundred and eighteen (118) issues were identified in this session.
  - Acute Medical Unit – ‘high volume AMU General Medicine patient from the time of decision to admit through to discharge’. Approximately thirty five (35) issues were identified.
  - 3R – ‘acceptance of a patient to 3R through to discharge/transfer of care from 3R’. Thirty six (36) issues were identified in this session.
- **Discharge study** – A simple two week study was designed to examine how well discharges were communicated and planned in AMU, 5D, 6D and 3R.
- **Brown paper** – ‘What drives you crazy’ brown paper study? Posters posing the question “In my role caring for medical patients from admission to discharge the things that drive me crazy are…….” were displayed within the Allied Health Department, general medicine wards, AMU and 3R to build a broad understanding of the views of staff about medical patient journeys.
- **Data analysis** – High level data analysis was conducted using the complete patient data set extracted from PAS for the two years from October 2012 until September 2014, unless indicated otherwise. The data set contained 10,466 acute admissions and 862 rehabilitation and maintenance care admissions and was kindly provided by Kerry Foster to the HSI-Tasmania data team.
- **Observations** – Ward rounds and multi-disciplinary meetings were observed over several weeks.
  - Medical ward round follows – Six (6) post take ward rounds were followed.
  - Medical handover meetings – Six (6) medical handover rounds were observed.
  - Multidisciplinary meetings – Six (6) multidisciplinary meetings were observed.
Executive Summary
Diagnostic phase - Emerging overarching themes

A number of overarching themes have emerged suggesting that there may be some organisation-wide opportunities for change and improvement which should be considered as part of the process of identifying and developing solutions in the next phase of the project. The themes below have been identified in a number of areas – the examples provided are for illustrative purposes and are spread across the range of areas covered by the project. It should be noted that these themes do not reflect the professionalism, dedication and care shown by LGH staff at an individual level but are evident to varying degrees at a systems-wide and organisational level.

Culture
Lack of standardisation
Fragmented communication and team work
Lack of transparency and visibility
## Executive Summary

### Diagnostic phase - Overarching themes

<table>
<thead>
<tr>
<th>Overarching Themes</th>
<th>Description</th>
<th>Illustrative Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Culture</strong></td>
<td>There is a culture of acceptance of suboptimal processes and workarounds</td>
<td>It has become normal practice for admitted medical patients to wait up to 70 hours in ED for a ward bed.</td>
</tr>
<tr>
<td></td>
<td>There is a perceived disconnection between individual actions and organisation performance.</td>
<td></td>
</tr>
<tr>
<td><strong>Lack of standardisation</strong></td>
<td>There is capacity to reduce unwarranted variation within all aspects of care.</td>
<td>Processes are highly variable – referral, admission, discharge/transfer of care, multi-disciplinary team meetings, ward rounds, medical handover.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roles and responsibilities vary between wards and are often both poorly defined and poorly understood.</td>
</tr>
<tr>
<td><strong>Fragmented communication and team work</strong></td>
<td>There are inadequate processes to facilitate communication across individuals, teams, disciplines and patients.</td>
<td>Boundaries exist between disciplines, due in part to a perceived lack of trust, and prevent true integration of care. Documentation is unwieldy and does not always contain all information necessary to support decision making.</td>
</tr>
<tr>
<td><strong>Lack of transparency and visibility</strong></td>
<td>A patient’s status and care progression is not reliably visible and transparent.</td>
<td>Systems and processes to share the patient journey are paper-based, ad hoc and person dependent, and do not support decision making. There are few visual management tools. Timely access to the results of clinical investigations is an issue.</td>
</tr>
</tbody>
</table>
Executive summary
Diagnostic phase - The case for change

• ED presentations are trending upward and medical admissions are increasing at a rate of 3.5 per month
• Admitted medical patients remain within the Emergency Department for extended periods (< 4 hours - > 70 hours)
• Patients who spend more than 24 hours in ED have a total inpatient LOS that is 40% longer than patients who spend less than 8 hours in ED
• In order to meet medical patient demand 95% of the time, 122 beds are required. Current bed stock is 92 beds
• Average LOS is reducing, but needs to reduce further to meet increasing demand
• Capacity can be created by identifying and reducing contributors to extended length of stay
Executive summary
Diagnostic phase - The case for change

- Presentations to LGH ED have been trending upward in the last two years

- Up to 80% of admitted medical patients who go to a ward bed experience access block
The ED accounts for **over 75% of all medical admissions**. In the 2 years to September 2014, 9011 medical patients were admitted from the ED.

Significant numbers of patients spend more than 48 hours in the LGH ED as ‘admitted, no bed’.

Fewer patients wait in late December - why can’t every day be Christmas?

There is an 8.0% increase in the average time a medical patient waits in the ED for every 10 extra inpatients in the hospital.

Patients who spend more than 24 hours in ED have a **total inpatient LOS that is 40% longer than patients who spend less than 8 hours in ED**.
Executive summary
Diagnostic phase - The case for change

- These graphs reflect the number of beds required for medical patients, Jan 2013 to Sep 2014.

- To meet medical inpatient demand 95% of the time, 122 beds are required

- The Gen Med footprint is increasing at a rate of 4.2 beds per year
Executive summary
Diagnostic phase - The case for change

- There has been a significant increase in the average number of medical admissions per month (3.5 admissions/month, p=0.0009).

- There is significant seasonal variation in admissions per month (p=0.005) with 30 extra admissions per month in Aug/Sep; 30 fewer admissions per month in Feb/Mar.

The way we manage the medical patient journey must change to meet increasing demand.
Executive summary
Diagnostic phase - The case for change

- There has been a modest reduction in average LOS for acute medical inpatients over the last 2 years, but it needs to reduce further to meet increasing demand.

- There exists significant opportunity to increase medical capacity by reducing inpatient LOS.

- For example, there are a number of DRGs where LOS is above the national average.

- Capacity could be created through significant bed day savings if LOS for these DRGs was reduced to the national average LOS.

*Relative stay index (RSI) is a measure of LOS for admitted patients, adjusted for the national average LOS for a particular DRG or casemix. An RSI greater than 1.0 indicates that an average patient’s length of stay is higher than expected. An RSI of less than 1.0 indicates that the length of stay is less than expected.*
Executive summary
High level observations and issues

Developing diagnostic findings - Analysis and summary of diagnostic phase information

For each of the patient flows identified for close attention as part of the diagnostic phase, the information on current processes was collated and analysed. This allowed the identification of a number of high level observations and issues. These are discussed in greater depth later in the report (in the ‘Observations and issues identified’ section) with further evidence provided for each of the high-level observations. A summary of these observations for all areas is set out at this point to provide an overview.
## Executive summary

### High level observations and issues (1)

### Developing diagnostic findings - Analysis and summary of diagnostic information

<table>
<thead>
<tr>
<th>From decision to admit</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• <strong>Lack of standardisation</strong> across the medical admission process exists creating delays and uncertainty (<a href="#">page 23</a>).</td>
</tr>
<tr>
<td></td>
<td>• Stakeholders report current admission process is variable with difficulty finding inpatient teams to accept a patient creating <strong>delays</strong> (<a href="#">page 23</a>).</td>
</tr>
<tr>
<td></td>
<td>• The process of <strong>prioritising and allocating</strong> medical patients to ward beds lacks transparency (right patient, right place, first time) (<a href="#">page 24</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>No pull</strong> of patients through the hospital, resulting in reactive bed management (<a href="#">page 24</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>Medical roster changes</strong> and familiarity with the on-take team can lead to an inaccurate allocation of patients to medical teams (<a href="#">page 24</a>).</td>
</tr>
<tr>
<td></td>
<td>• Inconsistent communication with ward clerks at time of admission causes incorrect allocation of patients to particular medical teams (<a href="#">page 24</a>).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute inpatients in ED (admit no bed)</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 10% of medical admitted patients will have an <strong>ED LOS of 70 hours</strong> or more (<a href="#">page 27</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>Delays</strong> to full implementation of the plan of care exist for patients who fall are admitted but remain within ED (<a href="#">page 28</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>Patient safety</strong> risks exist for patient with an extended ED LOS, pressure areas, medication reconciliation delays (<a href="#">page 29</a>).</td>
</tr>
<tr>
<td></td>
<td>• Medical patients within ED have <strong>limited access to Allied Health</strong> (AH) interventions including pharmacist (<a href="#">page 29</a>).</td>
</tr>
<tr>
<td></td>
<td>• Significant numbers of admitted medical patients are <strong>discharged directly from the ED</strong> (<a href="#">page 31</a>).</td>
</tr>
<tr>
<td></td>
<td>• Admitted medical inpatients in ED are cared for by <strong>ED nursing staff</strong> and <strong>inpatient medical teams</strong> (<a href="#">page 29</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>Limited communication</strong> of the plan of care between ED nursing and medical staff (<a href="#">page 29</a>).</td>
</tr>
<tr>
<td></td>
<td>• <strong>Decompression of ED</strong> by transferring admitted medical patients to the <strong>DPU</strong> creates patient safety and continuity of care issues (<a href="#">page 30</a>).</td>
</tr>
</tbody>
</table>
### Executive summary

#### High level observations and issues (2)

<table>
<thead>
<tr>
<th>Acute inpatients in medical wards including transition periods</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• LOS is significantly affected by day and time of admission, ED LOS and discharge destination (<a href="#">pages 34-36</a>)</td>
</tr>
<tr>
<td></td>
<td>• 32% of all medical bed days are occupied with patients who have a LOS greater than 21 days, representing just 6.2% of patients (<a href="#">page 37</a>)</td>
</tr>
<tr>
<td></td>
<td>• Fragmented communication between disciplines is evident (<a href="#">page 38</a>)</td>
</tr>
<tr>
<td></td>
<td>• Multi-disciplinary meetings do not include medical staff (excluding AMU, SU and Rehabilitation) and are not standardised across medical wards (<a href="#">page 38</a>)</td>
</tr>
<tr>
<td></td>
<td>• Medical ward round timing, length, participation and communication varies with minimal input from and interaction with other health disciplines (<a href="#">page 38</a>)</td>
</tr>
<tr>
<td></td>
<td>• Consultant led ward rounds occur twice weekly but timing and pattern is unpredictable (<a href="#">page 39</a>)</td>
</tr>
<tr>
<td></td>
<td>• Registrars round in between consultant ward rounds, but are not always empowered to enact discharge decisions depending on the level of seniority and the working / communication relationship with the consultant (<a href="#">page 39</a>)</td>
</tr>
<tr>
<td></td>
<td>• There is no single cohesive plan of care between medical, nursing and AH with regard to progression of care (<a href="#">page 40</a>)</td>
</tr>
<tr>
<td></td>
<td>• There is limited and varying use of visual management to share the patient progression of care and key milestones (<a href="#">page 40</a>)</td>
</tr>
<tr>
<td></td>
<td>• Physicians report information management systems do not support decision making (<a href="#">page 40</a>)</td>
</tr>
<tr>
<td></td>
<td>• Frequent changes to medical registrars potentially impact on team operation and progression of care (<a href="#">page 41</a>)</td>
</tr>
<tr>
<td></td>
<td>• Clinical nursing key roles that support progression of care and discharge planning vary between wards/units (<a href="#">page 41</a>)</td>
</tr>
<tr>
<td></td>
<td>• Delays in consultations from other medical specialties delay decision making (<a href="#">page 41</a>)</td>
</tr>
<tr>
<td></td>
<td>• Delays in diagnostic tests delay decision making and discharge (<a href="#">page 41</a>)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute Medical Unit</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• There is variation in adherence to admission criteria, identification, selection and admission of patient to AMU meaning that the right patients are not being cared for in the right environment at the right time in a consistent manner (<a href="#">page 44</a>)</td>
</tr>
<tr>
<td></td>
<td>• AMU have little visibility of potential patients that meet their admission criteria within ED. Patients are not ‘pulled’ to the AMU (<a href="#">page 44</a>)</td>
</tr>
<tr>
<td></td>
<td>• Progression of care discussions at GOLD meetings (multi-disciplinary daily meeting) are poorly documented and relies on verbal handover. The meeting structure, agenda and attendance is variable (<a href="#">page 45</a>)</td>
</tr>
<tr>
<td></td>
<td>• AMU patients who need to be transitioned to a general medicine team/bed are frequently unable to be transferred to a medical ward bed (<a href="#">page 46</a>)</td>
</tr>
<tr>
<td></td>
<td>• Variation of care planning and progression exists for AMU medical patients and sub specialty patients within the AMU (<a href="#">page 46</a>)</td>
</tr>
</tbody>
</table>
### Executive summary

**High level observations and issues (3)**

<table>
<thead>
<tr>
<th>Sub acute and Rehabilitation patients</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Length of stay for Z60A Rehabilitation with CCC – LOS is 12 days <strong>longer than national average</strong> LOS which is the equivalent to <strong>6 extra beds</strong> per day (page 49)</td>
<td></td>
</tr>
<tr>
<td>• 33% of patients <strong>stay</strong> in the ward <strong>21 days or longer</strong> and occupy <strong>69%</strong> of bed days (page 49)</td>
<td></td>
</tr>
<tr>
<td>• <strong>24%</strong> of all admissions to 3R are <strong>general medicine patients</strong> admitted directly from ED (page 50)</td>
<td></td>
</tr>
<tr>
<td>• Timely response to referrals is inconsistent and timely feedback of decision is not apparent (page 51)</td>
<td></td>
</tr>
<tr>
<td>• Decision making ward rounds are lengthy (up to six hours), occur once per week, and are proceeded by lengthy multi-disciplinary meetings (page 51)</td>
<td></td>
</tr>
<tr>
<td>• If rehabilitation fails, it is <strong>difficult to transfer patients</strong> to a general medical bed (page 50)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Discharge</th>
<th>The issues are...</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Discharge planning</strong> occurs late in the patient journey and is often <strong>poorly documented and communicated</strong> (page 54)</td>
<td></td>
</tr>
<tr>
<td>• Only one third of patients who were discharged on average per day were confirmed and documented for discharge (page 54)</td>
<td></td>
</tr>
<tr>
<td>• There is <strong>limited</strong> and <strong>varying</strong> use of visual management to share the patient progression to discharge (page 55)</td>
<td></td>
</tr>
<tr>
<td>• Discharge occurs 9-5, Monday to Friday (page 55)</td>
<td></td>
</tr>
<tr>
<td>• Discharge script processes are impacted by <strong>batching</strong> (page 56)</td>
<td></td>
</tr>
<tr>
<td>• <strong>Transport delays</strong> result from unplanned or poorly communicated discharge planning (page 57)</td>
<td></td>
</tr>
</tbody>
</table>
Observations and issues
Observations and Issues

- From decision to admit
  - Acute inpatients in ED
  - Acute inpatients in wards
  - Acute Medical Unit
  - Sub acute and rehabilitation patients
  - Discharge / transfer of care
Key observations and issues

From decision to admit

The issues are...

- Lack of standardisation across the medical admission process exists creating delays and uncertainty
- Stakeholders report current admission process variable with difficulty in finding an inpatient team to accept a patient creating delays
- The process of prioritising and allocating medical patients to ward bed lacks transparency (right patient, right place, first time)
- No pull of patients through the hospital, resulting in reactive bed management
- Medical roster changes and unfamiliarity with the on-take team can lead to an inaccurate allocation of patients to medical teams
## Key observations and issues

### From decision to admit (1)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lack of standardisation across the medical admission process exists creating delays and uncertainty</td>
<td>• Stakeholder interviews and direct observation</td>
<td>“Medical registrars don’t always do things the same way” — ED shift coordinator</td>
</tr>
<tr>
<td></td>
<td>• HRC report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Process mapping session</td>
<td></td>
</tr>
<tr>
<td>• Stakeholders report current admission process variable with difficulty in finding an inpatient team to accept a patient creating delays</td>
<td></td>
<td>Bed request delays were evidence within HRC report if review by other sub specialty teams occurred</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• request for one review increased time to bed request to 3.28 hours,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• request for two reviews increased time to bed request to 5.21 hours,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• request for three reviews increased time to bed request to 6.50 hours (page 30)</td>
</tr>
</tbody>
</table>
# Key observations and issues

## From decision to admit (2)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The process of prioritising and allocating medical patients to ward beds lacks transparency (right patient, right place, first time)</td>
<td>AMU big picture process mapping session</td>
<td>Variation of who gets a bed first ED → PRU → HD</td>
</tr>
<tr>
<td>• There is no pull of patients through the hospital, resulting in reactive bed management</td>
<td>AMU big picture process mapping session</td>
<td>Ward clerk is unclear on which ward/cons. or item in PHS</td>
</tr>
<tr>
<td>• Medical roster changes and unfamiliarity with the on-take team can lead to an inaccurate allocation of patients to medical teams</td>
<td>Medicine patient big picture process mapping session</td>
<td>Doctors aren’t allocated accurately produced by switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key observations and issues**

- AMU big picture process mapping session
- Medicine patient big picture process mapping session
- AMU big picture process mapping session
- Medicine patient big picture process mapping session
- Discovery interviews with physicians
Observations and Issues

- Acute inpatients in ED
- Acute inpatients in wards
- Acute Medical Unit
- Sub acute and rehabilitation patients
- From decision to admit
- Discharge / transfer of care
Key observations and issues

Acute inpatients in ED

The issues are...

- **10%** of medical admitted patients will have an **ED LOS of 70 hours** or more
- **Delays** to full implementation of the plan of care exist with patients who fall into the cohort of admitted but who remain within ED
- **Patient safety** risks exist for patient with an extended ED LOS, pressure areas, medication reconciliation delays
- Medical patients within ED have **limited access to Allied Health (AH)** interventions including pharmacist
- Admitted medical inpatients in ED are cared for by **ED nursing staff** and **in patient medical teams**
- There is evidence of **limited communication** of the plan of care between ED nursing and inpatient medical staff
- Decompression of ED by transferring admitted medical patients to the DPU creates patient safety and continuity of care issues.
- **Significant numbers** of admitted medical patients are **discharged directly from the ED**
Key observations and issues

Acute inpatients in ED (1)

- 10% of medical admitted patients will have an ED LOS of 70 hours or more

- Between 32 to 41 patients per month at LGH have an ED LOS of 40 to 70 hours. The longest LOS are found within the most recent data, indicating that the situation is worsening rather than improving

### Observations and Issues

<table>
<thead>
<tr>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• PAS data analytics</td>
</tr>
<tr>
<td></td>
<td>• Process mapping sessions</td>
</tr>
</tbody>
</table>

### ED LOS for the 10% of patients who wait the longest for an inpatient bed

<table>
<thead>
<tr>
<th>total time in ED</th>
<th>patients going to wards</th>
<th>Patients discharged from ED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>%</td>
</tr>
<tr>
<td>&lt; 4 hours</td>
<td>1095</td>
<td>14.5%</td>
</tr>
<tr>
<td>4-8 hours</td>
<td>1572</td>
<td>20.8%</td>
</tr>
<tr>
<td>8-12 hours</td>
<td>1052</td>
<td>13.9%</td>
</tr>
<tr>
<td>12-18 hours</td>
<td>761</td>
<td>10.1%</td>
</tr>
<tr>
<td>18-24 hours</td>
<td>902</td>
<td>11.9%</td>
</tr>
<tr>
<td>24-36 hours</td>
<td>1044</td>
<td>13.8%</td>
</tr>
<tr>
<td>36-48 hours</td>
<td>430</td>
<td>5.7%</td>
</tr>
<tr>
<td>&gt;48 hours</td>
<td>693</td>
<td>9.2%</td>
</tr>
<tr>
<td>Total</td>
<td>7549</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Key observations and issues
Acute inpatients in ED (2)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
</table>
| • **Delays** to full implementation of the plan of care exist with patients who fall into the cohort of admitted but who remain within ED |        | • PAS data analytics  
• Process mapping sessions |
| • Admitted medical patients commence their inpatient care within the emergency department environment which delays implementation of the plan of care |        | |
| • ED nursing staff are less experienced in delivering a medical nursing model of care that incorporates the holistic approach that would be applied within a ward setting |        | |
| • Medical accountability sits with the admitted medical team, who are not based within the ED and are therefore less accessible to ED nursing staff |        | |
| • ED nursing staff have to differentiate between the ED patient and the admitted inpatient in managing the deterioration of the patient condition and activating medical input / support |        | "It's really difficult providing med patient care alongside ED patient care. The care is so different.” ED RN |

"It's really difficult providing med patient care alongside ED patient care. The care is so different.”
ED RN
## Key observations and issues

### Acute inpatients in ED (3)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient safety</strong> risks exist for patient with an extended ED LOS, pressure areas, medication reconciliation delays</td>
<td>Observation</td>
<td>‘ED inpatient are assessed later in their stay’</td>
</tr>
<tr>
<td>Medical patients within ED have <strong>limited access to Allied Health (AH)</strong> interventions including pharmacy</td>
<td>Stakeholder interviews</td>
<td>“Most referrals come from nursing staff in ED, but referrals tend to occur ad hoc”</td>
</tr>
<tr>
<td>• No standard referral process for AH intervention within ED</td>
<td>ED process mapping session</td>
<td>Senior AHP</td>
</tr>
<tr>
<td>• No AH resources allocated to the medical patient located with ED</td>
<td>Medical process mapping session</td>
<td>“I rarely have time to complete all admitted patients drug chart reconciliations within the ED”</td>
</tr>
<tr>
<td>• Referrals that do occur are frequently prompted by the presence of an AH professional who enters the ED environment, if a referral does occur it will not be prioritised</td>
<td></td>
<td>Senior AHP</td>
</tr>
<tr>
<td>• There is evidence of <strong>limited communication</strong> of the plan of care between ED nursing and medical staff</td>
<td>Stakeholder interviews</td>
<td>“There is no ownership of the ‘admitted patient’ in ED”</td>
</tr>
<tr>
<td>• Stakeholders report and observation validates that there is limited communication of the plan of care between nursing and medical staff during post take ward rounds and routine ward rounds</td>
<td>ED process mapping session</td>
<td>Nursing director</td>
</tr>
<tr>
<td>• Rounds occur without or with little nursing input</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Clinical Redesign Office - North**

199 30
# Key observations and issues

## Acute inpatients in ED (4)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decompression of ED by transferring admitted medical patients to the DPU creates patient safety and continuity of care issues</td>
<td>Observation, Stakeholder interviews, ED process mapping session, Medical process mapping session, PAS data analysis</td>
<td></td>
</tr>
<tr>
<td>In the 2014 calendar year, 624 patients went to the DPU. This was 6.3% of the 9887 medical patients admitted from ED in 2014. It is likely at least some of these patients were transferred to DPU for clinical reasons and not to relieve ED overcrowding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of the 624 patients transferred to DPU in the 2014 calendar year, 317 were overnight admissions as a direct result of decanting admitted medical patients from the ED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Admitted medical patients in DPU**

<table>
<thead>
<tr>
<th>month of admission in 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

“There is no such place as ED overflow. Medically admitted patients in ED and DPU belong to medicine”

ED physician
## Key observations and issues

### Acute inpatients in ED (5)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Significant numbers</strong> of admitted medical patients are <strong>discharged directly from the ED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Discharge planning for patients discharging from ED is ad hoc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- HALT staff are involved in discharging medically admitted patients</td>
<td>• PAS data</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Observation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Stakeholder interviews</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ED process mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Medical process mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>1462 (16%) patients discharged directly from ED</strong> in the two years from October 2012 to September 2014</td>
<td></td>
</tr>
</tbody>
</table>

> “I often assist with discharging medical patients from ED”

HAJT AHP

<table>
<thead>
<tr>
<th>Patients discharged from the ED</th>
<th>total time in ED</th>
<th>number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 4 hours</td>
<td>10</td>
<td>0.7%</td>
</tr>
<tr>
<td></td>
<td>4-8 hours</td>
<td>43</td>
<td>2.9%</td>
</tr>
<tr>
<td></td>
<td>8-12 hours</td>
<td>61</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>12-18 hours</td>
<td>240</td>
<td>16.4%</td>
</tr>
<tr>
<td></td>
<td>18-24 hours</td>
<td>368</td>
<td>25.2%</td>
</tr>
<tr>
<td></td>
<td>24-36 hours</td>
<td>268</td>
<td>18.3%</td>
</tr>
<tr>
<td></td>
<td>36-48 hours</td>
<td>208</td>
<td>14.2%</td>
</tr>
<tr>
<td></td>
<td>&gt;48 hours</td>
<td>264</td>
<td>18.1%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1462</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Observations and Issues

- Acute inpatients in ED
- Acute inpatients in wards
- Discharge / transfer of care
- Acute Medical Unit
- Sub acute and rehabilitation patients
- From decision to admit
### Key observations and issues

#### Acute inpatients in wards

The issues are...

- **LOS** is significantly affected by **day and time of admission**, **ED LOS** and **discharge destination**
- 32% of all **medical bed days** are occupied with patients who have a **LOS greater than 21 days**, representing just 6.2% of patients
- **Fragmented communication between disciplines** is evident
- Multi-disciplinary meetings **do not include medical** staff (excluding AMU, SU and Rehabilitation) and are **not standardized** across medical wards
- Medical ward round timing, length, participation and communication **varies** with minimal input and interaction with other health disciplines
- Consultant led ward rounds occur twice weekly but timing and pattern is **unpredictable**
- Registrars round in between consultant ward rounds, but are **not always empowered** to enact discharge decisions depending on the level of seniority and the working / communication relationship with the consultant
- There is **no single cohesive plan** of care between medical, nursing and AH with regard to progression of care
- There is **limited** and varying use of **visual management** to share the patient progression of care and key milestones
- Physicians report **information management** systems **do not support decision making**
- **Frequent changes** to medical registrars potentially impact on operation of team and progression of care.
- Clinical nursing **key roles** that support progression of care and discharge planning **vary** between wards / units
- Delays in **consultations** from other medical specialties delay decision making
- Delays in **diagnostic tests** delay decision making and discharge

---

“**The most frustrating thing is not having a system that allows me to practice medicine to the best of my ability**”

*Physician*
### Key observations and issues

#### Acute inpatients in wards (1)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The average LOS for all patients in the LGH is 8.2 days. The average acute patient LOS is 6.5 days.</td>
<td>• PAS data analysis</td>
<td>The large difference between average and median LOS suggests there are a significant number of long stay patients</td>
</tr>
<tr>
<td>• Factors were tested for significant association with LOS. Those in <strong>bold</strong> below were found to be significantly associated with LOS.</td>
<td>• For factors associated with LOS analysis a multivariate linear regression model for log(LOS), adjusted for age, sex, DRG and Charlson comorbidities was used.</td>
<td></td>
</tr>
</tbody>
</table>

#### Factors associated with LOS:

- Where patient lives (North / NW / South / interstate)
- Index of socio-economic advantage and disadvantage by postcode (from ABS data)
- Admission source (ED, other hospital, statistical, etc.)
- Time (LOS is steadily decreasing)
- Season (LOS is longer in winter)
- Time of day of admission
- Day of week of admission
- Admitting consultant
- Whether patient is access blocked (spends > 8 hours in ED or > 24 hours in ED before going to a ward)
- First ward patients goes to (first ward after ED for patients whose first ward is ED)
- Whether patient changes specialty
- Discharge destination

---

**LOS for acute and sub acute medical patients**

- all patients LOS: average 8.2 days, median 3.8 days
- acute patients LOS: average 6.5 days, median 3.3 days
- rehabilitation and maintenance patients LOS: average 29.7 days, median 20.9 days
## Key observations and issues

### Acute inpatients in wards (2)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patients who are transferred to a nursing home have an average <strong>LOS 80% greater</strong> than patients who return to their usual residence. However, this represents only 219 patients over the two years to September 2014.</td>
<td></td>
<td>• PAS data analysis using a multivariate linear regression model for log (LOS), adjusted for age, sex, DRG and Charlson comorbidities.</td>
</tr>
<tr>
<td>• If the LOS for patients being transferred to a nursing home and statistical separations were reduced to the LOS for patients who return to their usual residence, a saving of 11.7 beds per day could be made.</td>
<td></td>
<td>• The yellow vertical lines on the graph represent 95% confidence intervals while the size of the circle is proportional to the number of separations.</td>
</tr>
<tr>
<td>• The table illustrates <strong>possible bed savings per day</strong> if the average LOS for specific cohorts of patients was reduced to the reference group. For example, if the variation by day of the week in LOS was removed and all patients had the same LOS as patients admitted on a Sunday, then a saving of 8.0 beds per day would be possible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• As altering one variable is likely to affect others, these bed savings are not cumulative.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Factor associated with variation in LOS

<table>
<thead>
<tr>
<th>Possible bed savings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day of week of admission</strong></td>
</tr>
<tr>
<td><strong>Time of day of admission</strong></td>
</tr>
<tr>
<td><strong>Time in ED for patients transferred to wards</strong></td>
</tr>
<tr>
<td><strong>Mode of separation</strong></td>
</tr>
</tbody>
</table>
Key observations and issues
Acute inpatients in wards (3)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patients from outside of the Northern region did not have significantly longer average LOS than local area patients</td>
<td>PAS data analysis using a multivariate linear regression model for log(LOS), adjusted for age, sex, DRG and Charlson comorbidities</td>
<td>Region                                   number of acute admissions</td>
</tr>
<tr>
<td>• Average LOS was found to be 0.014% shorter for patients from the North-West (p = 0.996) compared with patients from the Northern Local Government Area (that is, LOS for these two cohorts is almost identical)</td>
<td>• Regions were analysed using Local Government Area and usual residence postcode</td>
<td>North                                   9152</td>
</tr>
<tr>
<td></td>
<td></td>
<td>North-West                               1212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South                                    98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interstate/overseas                      132</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>number of acute admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>9152</td>
</tr>
<tr>
<td>North-West</td>
<td>1212</td>
</tr>
<tr>
<td>South</td>
<td>98</td>
</tr>
<tr>
<td>Interstate/overseas</td>
<td>132</td>
</tr>
</tbody>
</table>
Key observations and issues
Acute inpatients in wards (4)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 32% of all medical bed days are occupied with patients who have a LOS greater than 21 days, representing just 6.2% of patients</td>
<td>• PAS data analysis of acute and subacute medical admissions</td>
<td></td>
</tr>
<tr>
<td>• There exists significant opportunity to save bed days by improving the management of long stay patients</td>
<td>• Please note the small discrepancy between LOS and discharge destination totals which is due to missing discharge destination data for 14 patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 49.4% of patients who stay longer than 21 days return to their usual residence. These patients occupy 11,416 bed days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 19.5% are transferred to a nursing home facility and occupy 25.5% of bed days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### LOS and bed days for medical patients

<table>
<thead>
<tr>
<th>LOS</th>
<th>Admissions</th>
<th>Bed days</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 days</td>
<td>6409</td>
<td>17448</td>
</tr>
<tr>
<td>7-13 days</td>
<td>1526</td>
<td>14109</td>
</tr>
<tr>
<td>14-20 days</td>
<td>553</td>
<td>9278</td>
</tr>
<tr>
<td>21+ days</td>
<td>562</td>
<td>19367</td>
</tr>
<tr>
<td>Total</td>
<td>9011</td>
<td>59383</td>
</tr>
</tbody>
</table>

### Discharge destinations for patients with LOS >21 days

<table>
<thead>
<tr>
<th>Discharge destination</th>
<th>Admissions</th>
<th>Bed days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usual residence/accommodation</td>
<td>271</td>
<td>11416</td>
</tr>
<tr>
<td>Aged care residential facility</td>
<td>107</td>
<td>6322</td>
</tr>
<tr>
<td>Died</td>
<td>80</td>
<td>3324</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>40</td>
<td>1582</td>
</tr>
<tr>
<td>Private Hospital</td>
<td>27</td>
<td>958</td>
</tr>
<tr>
<td>Rural Hospital</td>
<td>15</td>
<td>577</td>
</tr>
<tr>
<td>Left against Medical Advice</td>
<td>3</td>
<td>78</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>460</td>
</tr>
<tr>
<td>Mental Health Service</td>
<td>2</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>548</td>
<td>24806</td>
</tr>
</tbody>
</table>
### Key observations and issues

**Acute inpatients in wards (5)**

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
</table>
| • Fragmented communication between disciplines is evident | • Discovery interviews  
• Ward round follows  
• Big picture process mapping session | Across medical, allied health and nursing fragmented communication widespread. |
| • Multi-disciplinary meetings do not include medical staff (excluding AMU, SU and Rehabilitation) and are not standardized across medical wards | • Discovery interviews  
• Big picture process mapping session | “Most people talk directly to me, not to the doctors or AHP’s”  
Senior Nurse |
| • Medical ward round timing, length, participation and communication varies with minimal input and interaction with other health disciplines | • Ward round follows  
• Discovery interviews  
• Big picture process mapping session | “90% of doctors wouldn’t know what I’m doing with their patients”  
Senior AHP  
“Medical staff often have a different idea to the rest of us about what’s happening with patients”  
Senior nurse |
# Key observations and issues

## Acute inpatients in wards (6)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant led ward rounds occur twice weekly but timing and pattern is <strong>unpredictable</strong></td>
<td>Ward round follows</td>
<td></td>
</tr>
<tr>
<td>Registrars round in between consultant ward rounds, but are <strong>not always empowered</strong> to enact discharge decisions depending on the level of seniority and the working / communication relationship with consultant</td>
<td>Discovery interviews</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Big picture process mapping session</td>
<td></td>
</tr>
</tbody>
</table>

---

"Nursing staff are critical but are often not available for ward rounds"  
**Physician**
# Key observations and issues

## Acute inpatients in wards (7)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There is <strong>no single cohesive plan</strong> of care between medical, nursing and AH with regard to progression of care</td>
<td>Ward round follows</td>
<td>“Right now I have 7 medical patients here that I don’t know what the plan is as the medical staff don’t convey their plan.....CCM (continue current management) is often written in the notes” Senior nurse</td>
</tr>
<tr>
<td>• Stakeholders report that nursing home / complex clients’ care coordination is complicated and care progression / escalation processes are enacted variably</td>
<td>Discovery interviews, Big picture process mapping session</td>
<td>“There are no accurate journey boards” Senior AHP</td>
</tr>
<tr>
<td>• There is <strong>limited</strong> and varying use of <strong>visual management</strong> to share the patient progression of care and key milestones</td>
<td>Discovery interviews, Big picture process mapping session</td>
<td>“I don’t know what the complex care group do or how anything gets progressed” Senior Nurse</td>
</tr>
<tr>
<td>• Physicians report <strong>information management systems do not support decision making</strong></td>
<td>Discovery interviews, Big picture process mapping session</td>
<td>“There is poor visibility of the current status of discharge planning” Physician</td>
</tr>
<tr>
<td>• Dr Duncan Cooke interviewed six physicians with a number identifying that information management systems do not support decision making</td>
<td>Discovery interviews, Post take ward round follows</td>
<td>“I often check blood results after the ward round and change things if I need to as the results aren’t available and I cannot wait” Med A physician</td>
</tr>
</tbody>
</table>
## Key observations and issues
### Acute inpatients in wards (8)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Frequent changes</strong> to medical registrars potentially impact on operation of team and progression of care</td>
<td>• Discovery interviews&lt;br&gt;• Observations (ward rounds)</td>
<td>“I go to the NUM on 6D or the CC on 5D to find out what is happening with complex clients or patients waiting for nursing homes. No-one else really knows!”&lt;br&gt;Senior AHP</td>
</tr>
<tr>
<td>• Clinical nursing <strong>key roles</strong> that support progression of care and discharge planning vary between wards / units</td>
<td>• Discovery interviews&lt;br&gt;• Observations (ward rounds)</td>
<td></td>
</tr>
<tr>
<td>• Delays in <strong>consultations</strong> from other medical specialties delay decision making</td>
<td>• Discovery interviews&lt;br&gt;• Big picture process mapping</td>
<td></td>
</tr>
<tr>
<td>• Delays in <strong>diagnostic tests</strong> delay decision making and discharge</td>
<td>• Medical ward round follows&lt;br&gt;• Big picture process mapping&lt;br&gt;• Discovery interviews</td>
<td>Dr Duncan Cooke interviewed six physicians with consultation delays noted on a number of occasions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr Duncan Cooke interviewed six physicians with diagnostic tests delays noted on a number of occasions</td>
</tr>
</tbody>
</table>
Observations and Issues

- Decision to admit
- Acute inpatients in ED
- Acute inpatients in wards
- Sub acute and rehabilitation patients
- Acute Medical Unit
- Discharge / transfer of care
Key observations and issues

Acute Medical Unit

The issues are...

- There is **variation** in the **adherence** to admission **criteria**, identification, selection and admission of patient to AMU meaning that the right patients are not being cared for in the right environment at the right time in a consistent manner.

- AMU have **little visibility** of potential patients that meet their admission criteria within ED. Patients are not ‘pulled’ to the AMU.

- Progression of care discussions at GOLD Meeting (multi-disciplinary daily meeting) are **poorly documented** and relies on verbal handover. The meeting structure, agenda and attendance is **variable**.

- AMU patients who need to be transitioned to a general medicine team/bed are frequently unable to be transferred to a medical ward bed.

- Variation of care planning and progression exists for AMU medical patients and sub specialty patients within the AMU.
## Key observations and issues
### Acute Medical Unit (1)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
<th>Source</th>
<th>Evidence/Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There is variation in the adherence to admission criteria, identification, selection and admission of patient to AMU meaning that the right patients are not being cared for in the right environment at the right time in a consistent manner</td>
<td>AMU process mapping session</td>
<td>“There is no pull of patients to AMU! We are told who we are getting from ED without any input into if this the best patient to bring to AMU” Senior AMU Nurse</td>
</tr>
<tr>
<td>• AMU have little visibility of potential patients that meet their admission criteria within ED. Patients are not ‘pulled’ to the AMU</td>
<td>ED process mapping session</td>
<td>“If there are already quite a few patients identified for AMU I sometimes don’t admit anymore to there. They become gen med admissions” Med Reg</td>
</tr>
</tbody>
</table>

| AMU process mapping session | Discovery interviews | |

“Stamp: Admitting Consultant not always used. Admitted in AMU to wrong ward or wrong consult on wrong card.”
## Key observations and issues

### Acute Medical Unit (2)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
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<th>Evidence/Validation</th>
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<tr>
<td>• Progression of care discussions at GOLD meeting (multi-disciplinary daily meeting) are <strong>poorly documented</strong> and rely on verbal handover. The meeting structure, agenda and attendance is <strong>variable</strong></td>
<td>• AMU process mapping session</td>
<td><strong>“Having the decision making doctor at the meeting makes an enormous difference to discharge planning”</strong> AHP</td>
</tr>
<tr>
<td></td>
<td>• ED process mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Big picture process mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Observation of four GOLD meetings</td>
<td></td>
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<tr>
<td></td>
<td><strong>“Speciality doctors don’t come to the GOLD meeting. Nurses try and find out what the plan is and bring it the meeting”</strong> Senior AMU Nurse</td>
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</tr>
<tr>
<td></td>
<td><strong>“Approximately 40% of patients discussed at the GOLD meeting did not have a specific discharge plan discussed”</strong> CRO-North</td>
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<tr>
<td></td>
<td><strong>“Documentation and handover of the plan discussed in the GOLD meeting varies from day to day”</strong> AHP</td>
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### Key observations and issues

**Acute Medical Unit (3)**

<table>
<thead>
<tr>
<th>Observations and Issues</th>
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<th>Evidence/Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• AMU patients who need to be transitioned to a general medicine team/bed are frequently unable to be transferred to a medical ward bed</td>
<td>• PAS data</td>
<td>“We seem to have difficulty getting people out of here to a general medicine bed when we need one. It stops flow through the AMU.” Senior AMU Nurse</td>
</tr>
<tr>
<td>• Variation of care planning and progression exists for AMU medical patients and sub specialty patients within the AMU</td>
<td>• Discovery interviews • AMU process mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Observation of GOLD meeting • Brown paper posters • Discovery interviews • AMU process mapping session</td>
<td>“Speciality doctors don’t come to the GOLD meeting. Nurses try and find out what the plan is and bring it the meeting” Senior AMU Nurse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We have had a speciality patient here for 7 days now waiting for a decision on the plan after discharge” Senior AMU Nurse</td>
</tr>
</tbody>
</table>
Key observations and issues

Sub acute and rehabilitation patients

The issues are...

- **Length of stay** for rehabilitation with CCC is **12 days longer than national average LOS** which is the equivalent to ~ 6 extra beds days per day
- **33% of patients stay in the ward 21 days or longer** and occupy 69% of beds
- **24% of all admissions to 3R are general medicine patients admitted directly from ED**
- If patient rehab treatment fails, patients have difficulty being transferred back to a general medical bed
- Inconsistency in timely response to referrals and timely feedback of decision is apparent
- Decision making **ward rounds are lengthy, up to six hours**, and occur once per week and are proceeded by lengthy multi-disciplinary meetings
Key observations and issues
Sub Acute and Rehabilitation Unit (1)

- 33% of patients stay in the ward 21 days or longer and occupy 69% of all bed days

- PAS data analysis

- PAS data analysis

- Length of stay for Rehabilitation with CCC is 12 days longer than national average LOS which is the equivalent to ~6 extra beds per day
  - National average LOS for Z60A: 19.1 days
  - National average LOS for Z60B: 17.05 days

<table>
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<tr>
<th>DRG</th>
<th>number of admissions</th>
<th>average LOS</th>
<th># LOS &gt;21 days</th>
<th>% LOS &gt;21 days</th>
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</thead>
<tbody>
<tr>
<td>Z60A: REHABILITATION + CCC</td>
<td>337</td>
<td>31.8</td>
<td>207</td>
<td>61%</td>
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<tr>
<td>Z60B: REHABILITATION - CCC</td>
<td>304</td>
<td>18.3</td>
<td>92</td>
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<tr>
<td>Z64A: OTH FACTOR INFL HEALTH STATUS</td>
<td>13</td>
<td>31.6</td>
<td>7</td>
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<tr>
<td>E62A: RESPIRATRY INFECTN/INFLAMM+CCC</td>
<td>12</td>
<td>17.4</td>
<td>3</td>
<td>25%</td>
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<tr>
<td>other</td>
<td>331</td>
<td>14.3</td>
<td>59</td>
<td>18%</td>
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### Key observations and issues

**Sub Acute and Rehabilitation Unit (2)**

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</tr>
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<td>24% of all admissions to 3R are general medicine patients admitted directly from ED</td>
<td>PAS data analysis</td>
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<td>If patient rehab treatment fails, patients have difficulty being transferred back to a general medical bed</td>
<td>Discovery interviews 3R process mapping session</td>
<td></td>
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</tbody>
</table>

**Admissions to 3R**

- [Graph showing number of patients admitted in month]

> “Invariably a patient who fails rehab and needs a medical bed is transferred under Andy’s Mac’s bed card and stays on 3R as a medical patient”

**Senior nurse**
### Key observations and issues
Sub Acute and Rehabilitation Unit (3)

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</tr>
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<td>• Inconsistency in timely response to referrals and timely feedback of decision is apparent</td>
<td>• 3R mapping session</td>
<td>“There’s often pressure out of hours to take patients onto 3R who are ‘for rehab according to other wards but haven’t been accepted to rehab yet.”</td>
</tr>
<tr>
<td></td>
<td>• Discovery interviews</td>
<td>Senior nurse (brown paper posters)</td>
</tr>
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<td></td>
<td>• Brown paper posters</td>
<td></td>
</tr>
<tr>
<td>• Decision making ward rounds are lengthy, up to six hours, occur once per week and are proceeded by lengthy multi-disciplinary meetings</td>
<td>• Observation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 3R mapping session</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Discovery interviews</td>
<td></td>
</tr>
</tbody>
</table>

“There’s often pressure out of hours to take patients onto 3R who are ‘for rehab according to other wards but haven’t been accepted to rehab yet.”

Senior nurse (brown paper posters)
Observations and Issues

Decision to admit
- Acute inpatients in ED
- Acute inpatients in wards
- Acute Medical Unit
- Sub acute and rehabilitation patients
- Discharge
### Key observations and issues

#### Discharge / transfer of care

The issues are...

- **Discharge planning** occurs late in the patient journey and is **poorly documented and communicated**
- Only one third of patients who were discharged on average per day were confirmed and documented for discharge
- There is **limited** and **varying** use of visual management to share the patient progression to discharge
- Discharge occurs 9-5, Monday to Friday
- Discharge script processes impacted by **batching**
- **Transport delays** result from unplanned or poorly communicated discharge planning
### Key observations and issues
#### Discharge / transfer of care (1)

<table>
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<tr>
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</tr>
</thead>
</table>
| • Discharge planning occurs late in the patient journey and is poorly documented and communicated  
  • Issues with safe discharge due to lack of interdisciplinary planning / discussion involving allied health, medicine and nursing causing delays | • Discovery interviews with AHPs, nursing medicine          | “There is no forum for communication and discussion with MDT members”                        |
| • Only one third of patients who were discharged on average per day were confirmed and documented for discharge  
  • 27% of discharges on 6D became identified for discharge on that day  
  • 35% of discharges on 5D became identified for discharge on that day | • Big picture process mapping session                       | “Too much energy is put into the end of the journey .... the last six hours because of poor communication and planning” |
|                                                                                       | • Discharge study January 2015                              | “As a consultant I sometimes feel bypassed as team leader in decision making”               |

**NB: Discharge study asked three questions**

1. Documented (known for discharge) at 0800?
2. Senior nurse ‘gut feel’ for discharge that day?
3. Not known for discharge that day?

---

**Diagram:**

- **Communication of discharges across medical wards AMU, 5D and 6D**
- **Discharges by ward as a percentage of total**

- **Legend:**
  - definite D/C
  - gut feel D/C
  - not known D/C
  - not recorded D/C

---
Key observations and issues
Discharge / transfer of care (2)

- There is **limited** and **varying** use of visual management to share the patient progression to discharge
- Discovery interviews with nurses and AHPs
- Big picture process mapping session

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>- There is <strong>limited</strong> and <strong>varying</strong> use of visual management to share the patient progression to discharge</td>
<td>Discovery interviews with nurses and AHPs</td>
<td>“I don’t understand why we do not use journey boards as I have worked in places where they work really well” Senior AHP</td>
</tr>
<tr>
<td>- Discovery interviews with nurses and AHPs</td>
<td>Big picture process mapping session</td>
<td></td>
</tr>
</tbody>
</table>

- Discharge occurs **9-5, Monday to Friday**, with peaks on Tuesdays and Fridays

“Discharges occur at the right time of day to meet demand but just two days too late” Physician

Discharges by day of the week

Discharges by time of day
# Key observations and issues
## Discharge / transfer of care (3)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
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<th>Evidence/Supporting Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discharge script processes are impacted by batching</td>
<td>• Discovery interviews</td>
<td>Observation “discharge script for in-patient in ED left until the end of the post take</td>
</tr>
<tr>
<td></td>
<td>• Big picture process mapping session</td>
<td>ward round (3 hours) as the intern could not leave the ward round in case they missed</td>
</tr>
<tr>
<td></td>
<td>• Medical ward round follows</td>
<td>something”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Observation “intern called away from ward round in ED to go to ward to write script for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a patient being transferred out of LGH later that morning”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reported batching of writing discharge scripts occurs frequently</td>
</tr>
</tbody>
</table>

Observation “discharge script for in-patient in ED left until the end of the post take ward round (3 hours) as the intern could not leave the ward round in case they missed something”

Observation “intern called away from ward round in ED to go to ward to write script for a patient being transferred out of LGH later that morning”

Reported batching of writing discharge scripts occurs frequently
### Key observations and issues

#### Discharge / transfer of care (4)

<table>
<thead>
<tr>
<th>Observations and Issues</th>
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</tr>
</thead>
</table>
| • Transport delays result from unplanned or poorly communicated discharge planning | • Medicine big picture process mapping session  
• AMU process mapping session  
• Discovery interviews | “Patient transport is a real problem if we ring them on the day of discharge. It must cost us a fortune for private ambulances”  
Senior Nurse |
Next Steps
Next steps

- **Next Steps** - This report will be considered by the Hospital Executive and the Executive Sponsor. Subsequent to this, a solutions design workshop will be held to commence the process of identifying, agreeing and developing a prioritised set initiatives to address the issues identified in this report and their underlying causes. These workshops will aim to engage a wide cross-section of staff.
- The solutions timeframe and plan will be tabled with the steering committee to ensure alignment with organisation priorities and direction.
Contact information

Should you have any questions or comments regarding this report, or our broader program of clinical redesign at the LGH, please contact don’t hesitate to contact us.

Clinical Redesign Office - North
Dr Alasdair MacDonald, Co-clinical Lead (alasdair.macdonald@dhhs.tas.gov.au)
Dr Duncan Cooke, Co-clinical Lead (duncan.cooke@dhhs.tas.gov.au)
Kerry Leonard, Senior Program Officer (kerry.leonard@dhhs.tas.gov.au)
Helena Nicholson, Program Officer (helena.nicholson@dhhs.tas.gov.au)
Dr Phoebe Griffin, Research Assistant (phoebe.griffin@utas.edu.au)
HSIT: analysis of potential demand within Division of Medicine
Attachment 1

All Services

---

[Bar chart and graph details related to bed capacity and demand across various services and departments]
<table>
<thead>
<tr>
<th>Question 3</th>
<th>Ward</th>
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<th>Ward</th>
<th>% Occupied Midday</th>
<th>Ward</th>
<th>% Occupied Midday</th>
<th>Ward</th>
<th>% Occupied Midday</th>
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<th>% Occupied Midday</th>
<th>Ward</th>
<th>% Occupied Midday</th>
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<td>AMU</td>
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<td>ICU</td>
<td>75.0%</td>
<td>JLG</td>
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<td>Ward 3R</td>
<td>100.0%</td>
<td>Ward 5D</td>
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<tr>
<td>01/11/2015</td>
<td>AMU</td>
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<td>ICU</td>
<td>58.3%</td>
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<td>Ward 3R</td>
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<td>01/10/2015</td>
<td>AMU</td>
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<td>ICU</td>
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Tasmanian Health Service – North West

Available beds/Utilisation

North West Regional Hospital – Utilisation Full Time Overnight Wards

Mersey Community Hospital - Utilisation Full Time Overnight Wards