

Chemotherapy Day Unit (CDU) Performance Report St. Elsewhere Hospital

14 October 2013 - 21 November 2013

SUMMARY

Between Monday 14 October 2013 and Thursday 21 November 2013, 189 appointments were made, of which 18 (10%) were cancelled on the day.

This equates to an average of 9 patients treated per day and an average daily chair utilisation of 54%.

90% of appointments were oncology related, and accounted for 97% of chair utilisation.

In total, 78% of utilisation was value-added chair time, and 22% was non-value-added chair time.

76 (44%) patients had a delay from their scheduled appointment time to the commencement of nursing assessment. Of these, the median delay was 10 minutes.

46 (27%) nursing assessments commenced prior to their scheduled appointment time. In these cases, the delay from appointment to nursing assessment start is reported as zero.

During this reporting period, the ratio of rostered staff hours per hour of patient treatment was 1.4 to 1.

Please note that any incomplete records in the dataset may have an impact on the reported figures. Unless an appointment has been cancelled, all time stamp and delay reason fields are required.

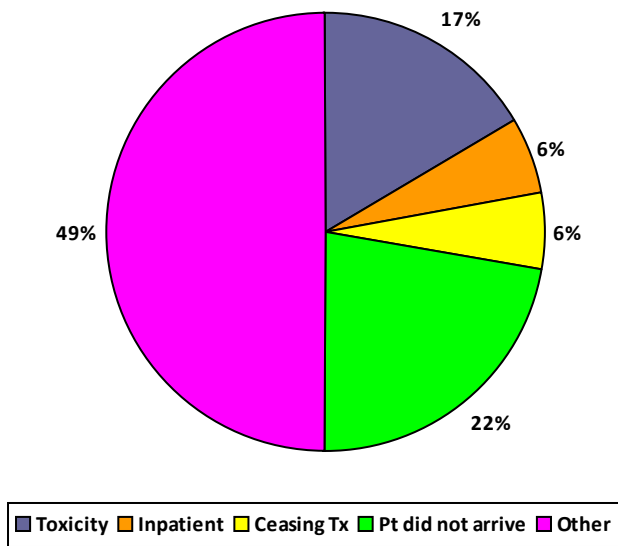
Audit 1 period October/November 2013.

Cancellations

18 (10%) of appointments were cancelled on the day.

Note: this report does not include cancellations prior to the day of treatment.

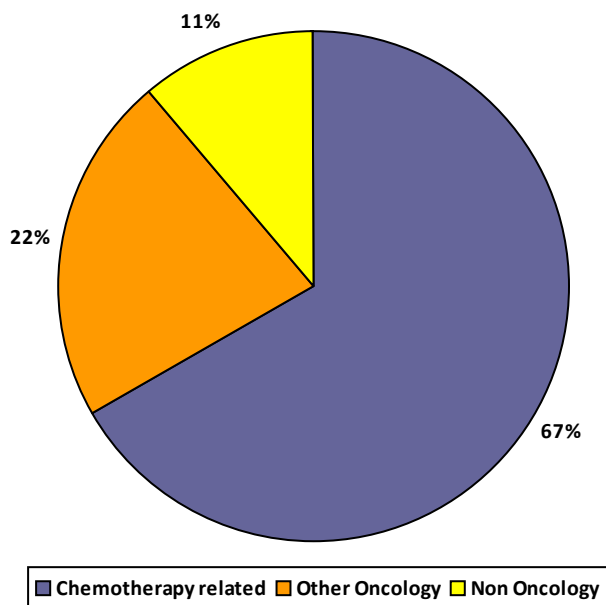
Reason for Cancellation



Reason	n	%
Toxicity	3	17%
Inpatient	1	6%
Ceasing Tx	1	6%
Pt did not arrive	4	22%
Other	9	50%

Assuming an average length of stay of 3.2 hours (as reported in this time period), cancellations on the day resulted in a loss of 57.3 hours of available treatment time.

Type of Procedure Cancelled

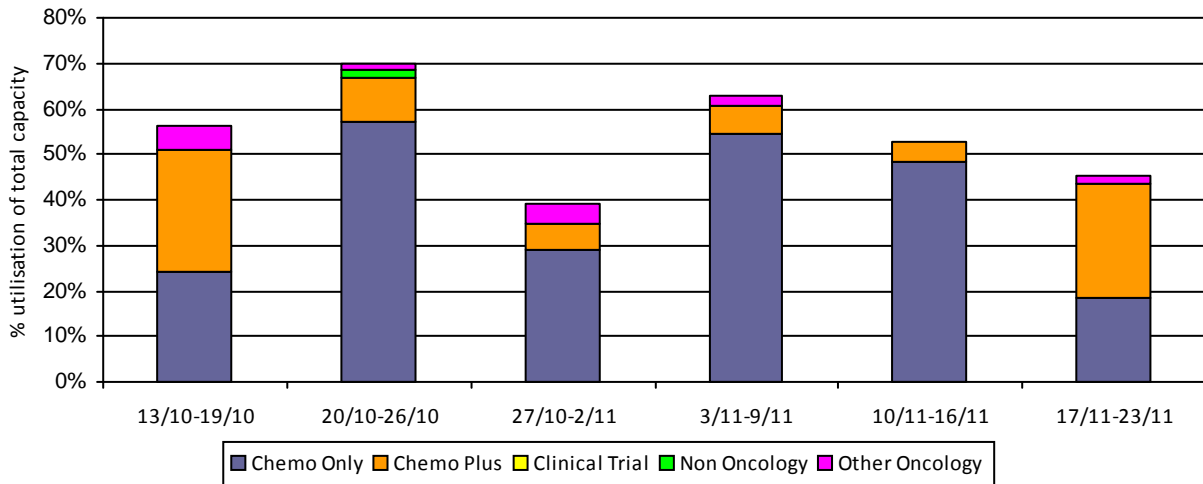


Scheduled Procedure Typ	n	%
Chemotherapy related	12	67%
Non Oncology	2	11%
Other Oncology	4	22%

Chair Utilisation

During this reporting period, the average daily capacity was 56 hours. The average daily chair utilisation during the report period was 54%.

Chair Utilisation by Procedure Type

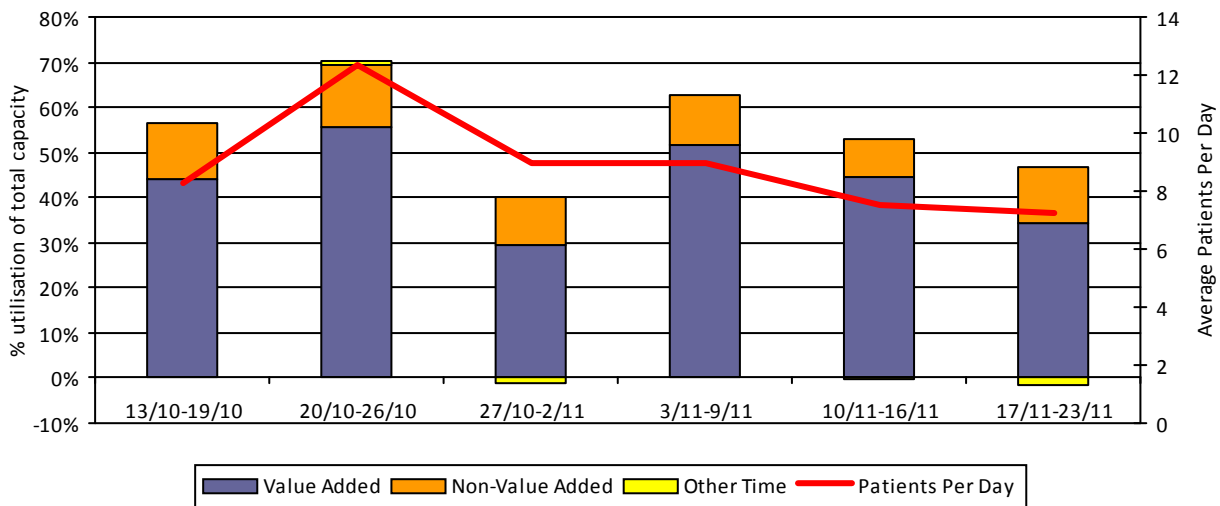


"Chemo Only" indicates the administration of chemotherapy or monoclonal antibody therapy, with no other treatment.

"Chemo Plus" indicates that chemotherapy or monoclonal antibody therapy was administered in addition to other therapy/procedures in the same appointment.

"Other Oncology" includes all non-chemotherapy procedures that have been identified as oncology related.

Value add vs. non-value add time



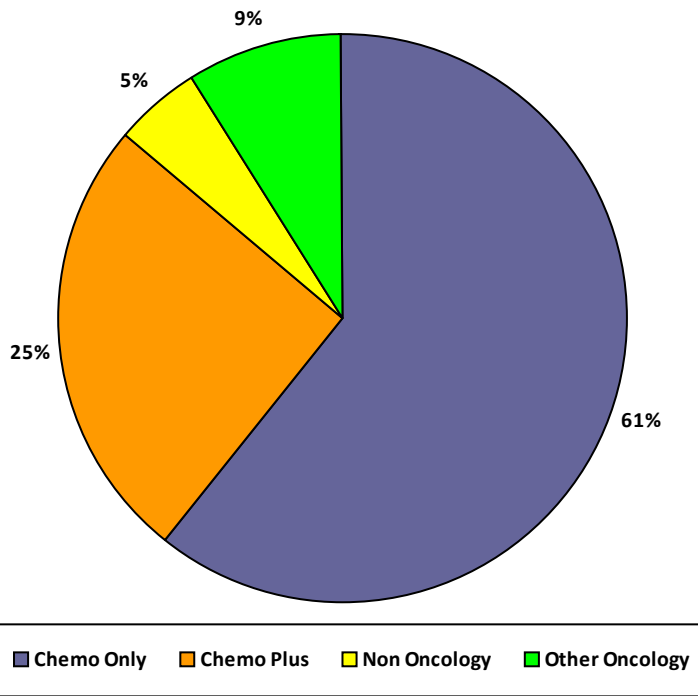
"Value Added" time includes the time the patient is in the treatment chair and actively having treatment. i.e the duration of the nursing assessment, and the duration of the procedure added together.

"Non Value Added" time includes the time the patient is in a treatment chair, but no active treatment is being administered. This includes the time between the end of the nursing assessment and the beginning of the scheduled procedure(s), and any delay between the end of the procedure and discharge.

"Other Time" is extra time that the patient was in the chair, but was not classified as a delay (eg: if there was one minute between the end of the nursing assessment and the beginning of the scheduled procedure(s), and this was not selected as delayed time).

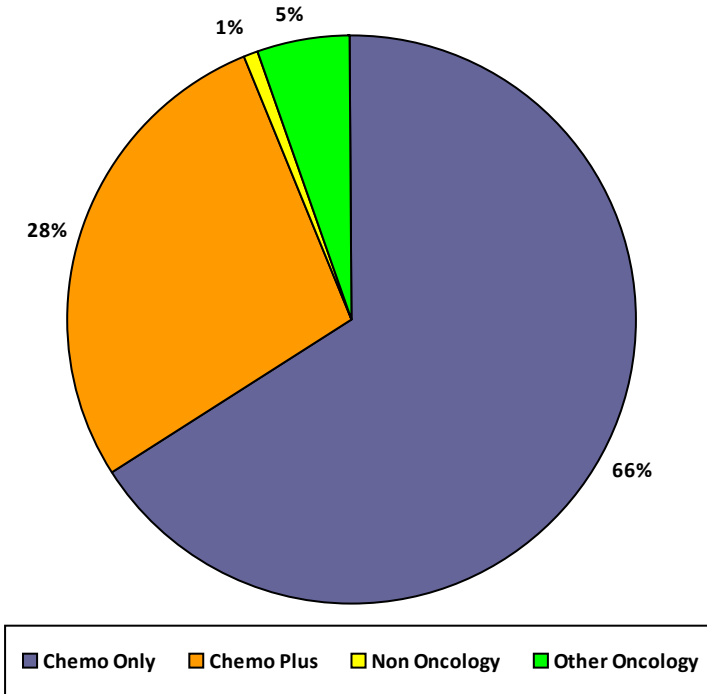
Note: if there are delays during a chemotherapy infusion, i.e. waiting for next product to arrive, this time is not captured in this report

Procedures Performed



Treatment Category	n	%
Chemo Only	95	61%
Chemo Plus	40	25%
Non Oncology	8	5%
Other Oncology	14	9%

Chair utilisation by major treatment category



Treatment Category	hours	%
Chemo Only	359	66%
Chemo Plus	152	28%
Non Oncology	5	1%
Other Oncology	29	5%

Length of Stay

Length of Stay (Hours)

Procedure Type	no. of pts	Length of Stay (hours)			
		Median	Min	IQR	Max
Chemo Only	100	3.1	0	1.8 - 5.4	8.3
Chemo Plus	40	3.7	0.7	2.7 - 4.5	7.5
Clinical Trial	1	0	0	0 - 0	0
Non Oncology	13	0.2	0	0 - 0.3	2.2
Other Oncology	17	0.6	0	0.3 - 2.7	5.2
Total	171	2.9	0	1.6 - 4.8	8.3

Length of Stay (Hours)

Procedure Type	no. of pts	Length of Stay (hours)			
		Median	Min	IQR	Max
Chemotherapy	100	3.1	0	1.8 - 5.4	8.3
Chemotherapy + Other	40	3.7	0.7	2.7 - 4.5	7.5
CVAD Care	7	0.3	0.2	0.2 - 0.4	0.6
Bisphosphonates	12	2	0	0.4 - 3.4	5.2
Other	1	0	0	0 - 0	0
Multiple (Non-Chemo)	5	0.5	0.2	0.4 - 2.2	2.7
None	6	0	0	0 - 0	0

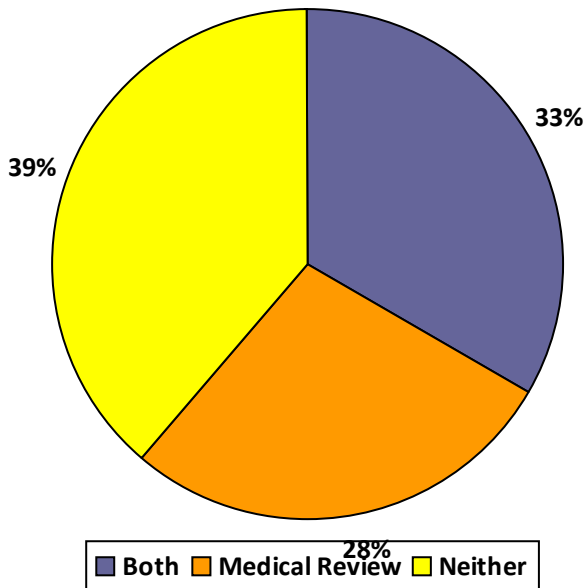
Same-Day Medical Reviews and Blood Tests

Compared to patients who had a medical review on days prior to their appointment, chemotherapy patients who had a medical review on the same day had 30 minutes additional non-value-added time.

Blood Test	Med Review	no. of pts	Non-Value-Added Time (hours)			
			Median	Min	IQR	Max
Unknown	Unknown	1		0	-	0
No	No	26	0.2	0	0.1 - 0.5	1.9
No	Unknown	1	1	1	1 - 1	1
No	Yes	98	1	0	0.6 - 1.3	5.5
Unknown	Unknown	4	0.5	0.1	0.1 - 0.6	0.6
Unknown	Yes	4	1.1	0	0.8 - 1.2	1.2
Unknown	Yes	3	0	0	0 - 0.2	0.5
Yes	No	4	0.2	0	0 - 0.6	2.9
Yes	Yes	11	0.2	0	0 - 0.9	2

Of the 18 appointments cancelled, 11 (61%) had blood tests or medical reviews on the same day of treatment, compared with 2 (11%) who had blood tests or medical reviews on days prior.

Cancellations with Same-Day Blood Tests / Medical Reviews



Review Type	n	%
Both	6	33%
Medical Review	5	28%
Neither	7	39%

Nursing Assessment

The median time for a nursing assessment/patient preparation to be completed across all chemotherapy patients is 40 minutes. Based on the data from this reporting period, building 45 minutes into all chemotherapy pathways should allow enough time for nursing assessment to occur.

Procedure Type	no. of pts	Assessment Time (minutes)			
		Median	Min	IQR	Max
Chemo Only	100	35	5	22 - 60	195
Chemo Plus	40	40	10	25 - 58	215
Clinical Trial	1			-	
Non Oncology	13	25	10	15 - 30	40
Other Oncology	17	30	5	20 - 32	110

Chemotherapy Product Availability

60% of patients had their chemotherapy product delivered to the unit after their nursing assessment was completed, with a median wait time post nursing assessment of 25 minutes.

15% of product authorised on the day was available at the scheduled appointment time.

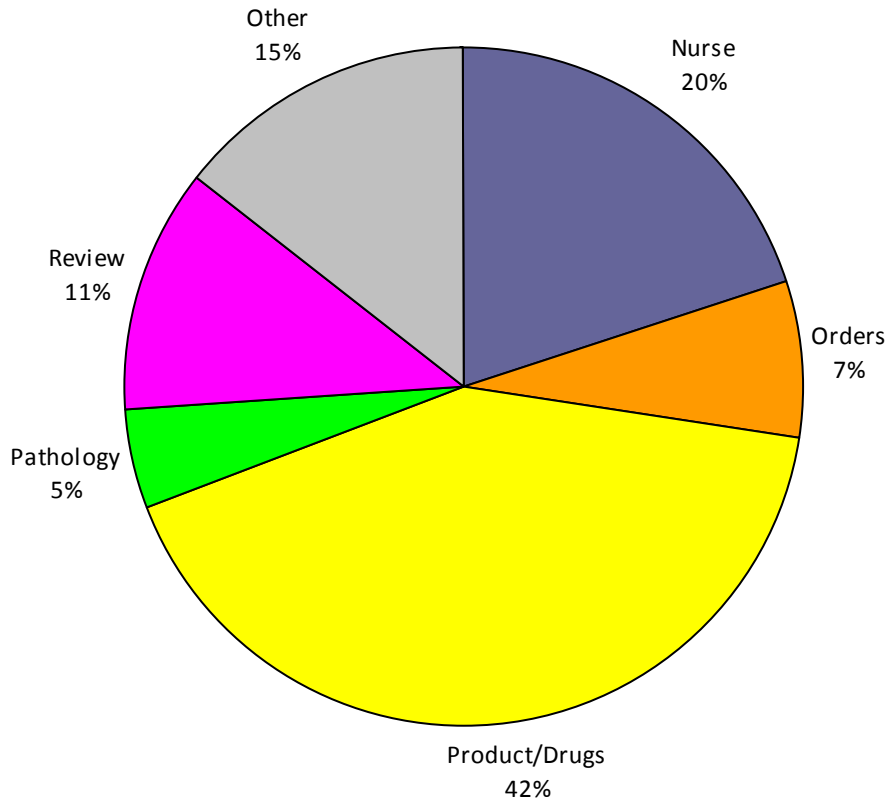
Of those authorised on the day, median time from authorisation to prepare chemotherapy dose for a specific patient to delivery of chemotherapy product on the day was 30 minutes.

Patient Waiting Times/Delays/Non Value Added Chair Time

These reports rely on the identification of a delay by nursing staff, using the start and end times at each point. Delay cause charts and tables depend on the delay reason being completed (even if the reason is "No delay"). 127.3 hours (23%) of total utilisation was non-value added.

On average, this equates to 6.7 hours of non-value added chair time per day.

Total non-value added chair time by delay cause

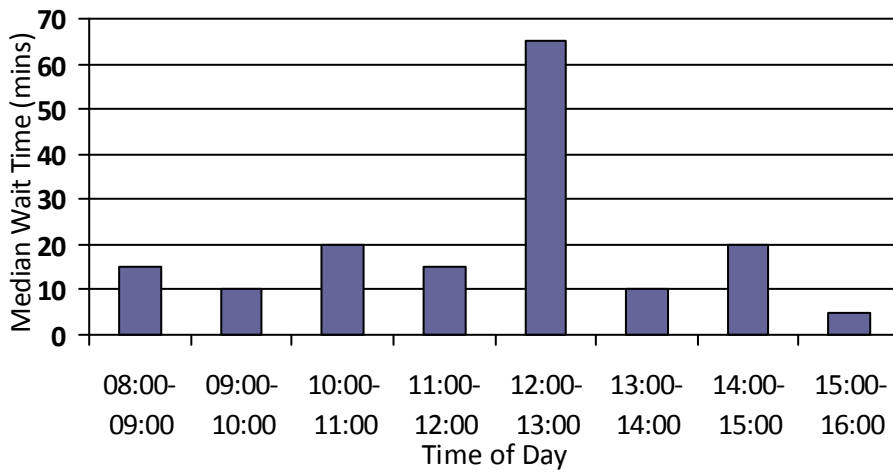


Non-value added chair time by delay cause (minutes)

Cause of Delay	Total hours	Delay duration (minutes)			
		Median	Min	IQR	Max
Nurse	20	25	5	19 - 47.5	130
Orders	7	55	15	45 - 90	107
Other	14	30	15	21.25 - 98.75	320
Pathology	5	142.5	115	28.75 - 156.2	170
Product/Drugs	42	30	10	20 - 61.25	135
Review	11	50	5	30 - 58.75	115
Total	100	15	5	5 - 35	320

Patient Waiting Times/Delays/Non Value Added Chair Time

Median waiting time based on hour of scheduled appointment



Time of day	Minutes
08:00-09:00	15
09:00-10:00	10
10:00-11:00	20
11:00-12:00	15
12:00-13:00	65
13:00-14:00	10
14:00-15:00	20
15:00-16:00	5

Length of delay from scheduled appointment time to start of nursing assessment

Delay	Median	no. of delays	% of patients
<15 minutes	5	41	23%
15 - 30 minutes	15	27	15%
>30 minutes	45	8	5%
Total	10	76	43%

Cause of delay to nursing assessment commence

Delay	Median	no. of delays	% of patients
No delay	5	37	21%
Patient late	20	22	13%
Waiting for nurse	15	7	4%
Waiting for chair	15	7	4%
Total	10	73	41%

A delay reason was not recorded for 18 record/s in the period.
Please review the validity of these absences.

Length of delay from end of nursing assessment to treatment start

Delay	Median	no. of delays	% of patients
<15 minutes	7	34	21%
15 - 30 minutes	22.5	36	23%
>30 minutes	65	64	40%

Patient Waiting Times/Delays/Non Value Added Chair Time

Total	30	134	84%
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Cause of delay to treatment start

Delay	Median	no. of delays	% of patients
No delay	10	33	21%
Waiting for pathology	142.5	2	1%
Waiting for med review	50	14	9%
Waiting for nurse	28	26	16%
Waiting for orders	80	5	3%
Waiting for product	40	44	28%
Other	65	6	4%
Total	30	130	82%

A delay reason was not recorded for 35 record/s in the period.
Please review the validity of these absences.

Length of delay from end of treatment to discharge

Delay	Median	no. of delays	% of patients
<15 minutes	5	94	64%
15 - 30 minutes	20	33	22%
>30 minutes	40	8	5%
Total	10	135	91%

Cause of delay to discharge

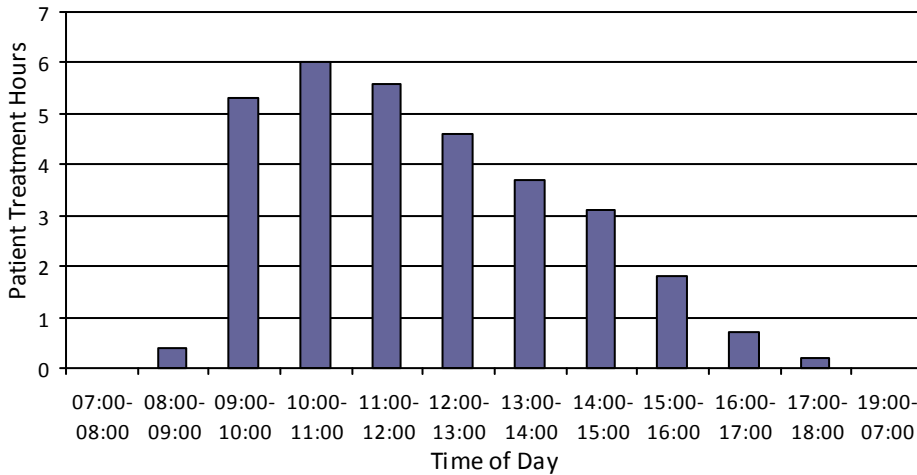
Delay	Median	no. of delays	% of patients
No delay	5	96	65%
Waiting for nurse/disconnection	25	5	3%
Waiting for D/C orders	27.5	2	1%
Waiting for D/C drugs	18	12	8%
Other	22.5	4	3%
Total	10	119	80%

A delay reason was not recorded for 54 record/s in the period.
Please review the validity of these absences.

Staffing and Hours of Service

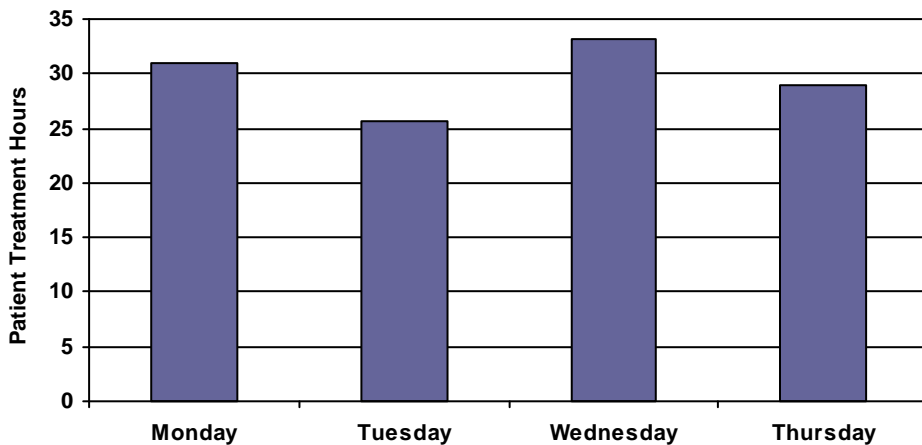
The last patient was discharged after regular business hours on 5 of the 19 days. This accounted for 3 hours of out of hours treatment , with a median over-run time of 25 minutes

Average number of patient treatment hours by time of day



Time of Day	Hours
07:00-08:00	
08:00-09:00	0.4
09:00-10:00	5.3
10:00-11:00	6
11:00-12:00	5.6
12:00-13:00	4.6
13:00-14:00	3.7
14:00-15:00	3.1
15:00-16:00	1.8
16:00-17:00	0.7
17:00-18:00	0.2
19:00-07:00	

Average number of patient treatment hours by day of week



Day	Hours
Monday	31
Tuesday	25.7
Wednesday	33.2
Thursday	29

During this reporting period, the ratio of rostered staff hours per hour of patient treatment was 1.4 to 1.

Overall number of rostered staff hours per hour of patient treatment

Staff Role	Staff hours per patient hour of Tx
Direct Nursing	0.73
Supernumerary Nursing	0.04
Total Nursing	0.78
Clerical	0.07
Pharmacy	0.56
Ns Assistant/PSA	0.00
Total CDU Staff	1.40