

**UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST
COUNCIL OF GOVERNORS
THURSDAY 28 NOVEMBER 2019**

Title:	2019/20 Quality Account: Half Year Update
Responsible Director:	Mark Garrick, Director of Quality Development
Contact:	Imogen Acton, Head of Quality Development, 13687 Samantha Baker, Quality Development Manager, 13646

Purpose:	To present an update to the Clinical Quality Committee
Confidentiality Level & Reason:	N/A
Strategy Implementation Plan Ref:	#3 Provide the highest quality of care to patients through a comprehensive quality improvement programme Choose an item. Choose an item.
Key Issues Summary:	<ul style="list-style-type: none"> • Performance on track for patient experience, observations and pain assessment and missed doses. • Target not yet set for reducing category 2 Trust-acquired pressure ulcers. • Performance below end of year targets for timely analgesia, number of falls and timely treatment of sepsis. • Awaiting data for some of the selected metrics.
Recommendations:	The Council of Governors is requested to: <ul style="list-style-type: none"> • Note the content of the 2019/20 Quality Account half year update.

Signed: Mark Garrick	Date: 21 November 2019
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Quality Account 2019/20 – Half-Year Update (April – September 2019)

Introduction

The Trust published its tenth Quality Account Report in June 2019 as part of the Annual Report and Accounts. The report contained an overview of the quality initiatives undertaken in 2018/19, performance data for selected metrics and set out six priorities for improvement during 2019/20:

- Priority 1:** Reducing category 2 trust-acquired pressure ulcers
- Priority 2:** Improving patient experience and satisfaction
- Priority 3:** Timely and complete observations including pain assessment
- Priority 4:** Reducing missed doses
- Priority 5:** Reducing number of falls
- Priority 6:** Timely treatment for sepsis

This report provides an update on the progress made for the period April to September 2019 towards meeting these priorities and updated performance data for the selected metrics. This update report should be read alongside the Trust's Quality Account Report for 2018/19.

Priority 1: Reducing category 2 trust-acquired pressure ulcers

Background

The Trust's focus is on further reducing category 2 ulcers. To reflect the NHS Improvement recommendations, changes to the definitions and terminology have been implemented during 2019/20. This has affected the reporting of pressure ulcers and moisture lesions and led to more being reported overall.

Category	Description
1	Intact skin with non-blanching erythema (redness) of a localised area, usually over a bony prominence. Changes in sensation, temperature, or firmness may precede visual changes. Darker skin may not have visible blanching.
2	Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, without non-removable slough and may also present as an intact or ruptured serum-filled blister.
3	Full thickness loss of skin. Subcutaneous layer may be visible but bone, tendon or muscles are <i>not</i> exposed. Some slough or necrosis may be present. <i>May include</i> undermining and tunnelling. The depth of a Category 3 varies by anatomical location e.g. bridge of the nose, ear, back of the head and malleolus do not have subcutaneous tissue and these ulcers can be shallow.
4	Full thickness tissue loss with exposed tendon, muscle, bone or palpable bone. Slough or necrosis may be present. Often include undermining/ tunnelling. The depth of a Category 4 varies by anatomical location e.g. bridge of the nose, ear, back of the head and malleolus do not have subcutaneous tissue and these ulcers can be shallow.
Unstageable (Depth unknown)	Full thickness tissue loss in which actual depth of the ulcer is completely obscured by slough or necrosis. Until enough slough and/or necrosis are removed to expose the base of the wound, true depth cannot be determined, but it will be Category 3 or 4. Stable (dry, adherent, intact without erythema) eschar/necrosis on the heels serves as 'the body's natural (biological) cover' and should not be removed.
Suspected Deep Tissue Injury (SDTI) (depth unknown)	Intact or non-intact purple/maroon area of discolouration or blood-filled blister. Pain and temperature change often precede skin colour changes. Discolouration may appear differently in darker pigmented skin. Evolution may be rapid exposing additional layers of tissue even with optimal treatment or may resolve without tissue loss.

National Pressure Ulcer Advisory Panel / European Pressure Ulcer Advisory Panel / Pan Pacific Pressure Injury Alliance (2014)

Performance

During 2018/19, a total of 171 patients were reported as having grade 2, hospital-acquired avoidable pressure ulcers across UHB, the breakdown was as follows.

2018/19	Device-related	Non device-related	Total
QEHB	15	84	99
BHH / GHH / SH*	14	58	72
Total	29	142	171

**data has undergone further validation since publication of 2018/19 Quality Account, figures may have changed slightly*

Since the change in categorisation, no target has yet been set with the CCG, which is usually the target UHB chooses to use in the Quality Account. Baseline data is being collected, and if no target is set by Birmingham & Solihull CCG, then an internal target can be set instead.

Due to the changes in reporting criteria, pressure ulcers are no longer classified as being avoidable or unavoidable. This means the numbers for 2019/2020 are expected to be higher as all formerly 'unavoidable' pressure ulcers are now counted. Therefore a direct comparison to the 2018/19 figures cannot be drawn.

2019/20	Number of category 2, trust-acquired pressure ulcers		
Site	Q1	Q2*	YTD
Heartlands	79	93	172
Good Hope	82	59	141
Queen Elizabeth	51	114	165
Solihull	17	18	35
TOTAL	229	284	513

**Q2 data is still subject to validation and may change*

Priority 2: Improving patient experience and satisfaction

The Trust measures patient experience via feedback received in a variety of ways, including local and national patient surveys, the NHS Friends and Family Test, complaints and compliments and online sources (e.g., the NHS website). This vital feedback is used to make improvements to our services. This quality priority focuses on improving scores in our local surveys, and also takes into account national survey results and insight gained from other sources.

Methodology

The majority of local survey data collection is via paper surveys; in some instances these are postal surveys but the majority are at the point of care.

Improvement targets

In setting the patient experience quality priorities for 2019/20, the first quality priorities to be set as a merged Trust, a different approach has been taken to previous years. Historically UHB has set quality priorities based on a number of questions from local patient surveys where patients scored the Trust lower than the internal targets that had been set. Heartlands, Good Hope and Solihull hospital sites do not have such priorities in place, nor do they ask all of the same questions on their surveys. With that in mind, and to ensure that significant focus can be given to key priorities across all sites of the enlarged Trust, the Trust's Patient Experience Group (which includes Trust Governors) has decided to focus its patient experience improvement for 2019/20 on two key aspects that patients have told us are important to them:

- Nutrition and hydration
- Pain control in our Emergency Departments

Calculation of scores

The most positive response is given a 10, the least positive response is given a 0 and any 'middle' responses receive a value between those. Responses such as "don't know" or "not applicable" are excluded from the calculations.

Then the total score is divided by the number of responses (i.e. the mean average is calculated), giving a score between 0 (lowest) and 10 (highest).

For example, the possible responses and scores for a question could be:

- Yes, completely = 10
- Yes, to some extent = 5
- No = 0

Performance – Nutrition and Hydration

		Q1 2019/20	Q2 2019/20				
	Target	Trust (QE only)	BHH	GHH	QE	SOL	Trust
Question 1b Did you get enough help? (filtered for those who needed help only)**	9.3*	9.1	8.3	8.8	9.2	8.2	9.0
Question 2 During your time in hospital, did you get enough to drink? (inpatients / day case)	9.8*	Not asked	10.0	9.8	9.7	9.7	9.7

* Targets reviewed and agreed at Patient Experience Group, October 2019

** National question reads – “Did you get enough help from staff to eat your meals?”.

Performance – Pain Management in the Emergency Department

Question: Do you think the hospital staff did everything they could to control your pain?

Source: A&E Survey

Number of responses:		183	200
Site	Target	Q1 2019/20	Q2 2019/20
Queen Elizabeth	9	6.7	7.2
Heartlands		5.8	7.1
Good Hope		5.5	5.7
Solihull (MIU)		7.9	6

Priority 3: Timely and complete observations including pain assessment

Background – Queen Elizabeth Hospital

At QEHB, all inpatient wards record patient observations (temperature, blood pressure, oxygen saturation score, respiratory rate, pulse rate and level of consciousness) electronically within the Prescribing Information and Communication System (PICS).

When nursing staff carry out patient observations, it is important that they complete the full set of observations in order to automatically trigger an early warning score called the SEWS (Standardised Early Warning System) score if a patient's condition starts to deteriorate. This allows patients to receive appropriate clinical treatment as soon as possible.

In addition, the timeliness of analgesia (pain relief medication) following a high pain score is monitored. The pain scale used at QEHB runs from 0 (no pain at rest or movement) to 10 (worst pain possible). Whenever a patient scores 7 or above, they should be given analgesia within 30 minutes. The indicator also includes patients who are given analgesia within the 60 minutes prior to a high pain score to allow time for the medication to work.

Performance

Indicator 1 (Full set of observations plus pain assessment recorded within 6 hours of admission or transfer to a ward)

2018/19:

Performance was 94.3% which was an improvement compared to 2017/18 but did not quite meet the 95% target for the year, although there were individual months where this was achieved.

2019/20:

For Quarters 1 and 2 2019/20, performance was 93.7%. The month with the highest score was July 2019, with 94.5%.

Indicator 2 (Analgesia administered within 30 minutes of a high pain score)

2018/19:

Performance was around 75% each month but the target of 85% was not achieved so it has been kept for 2019/20.

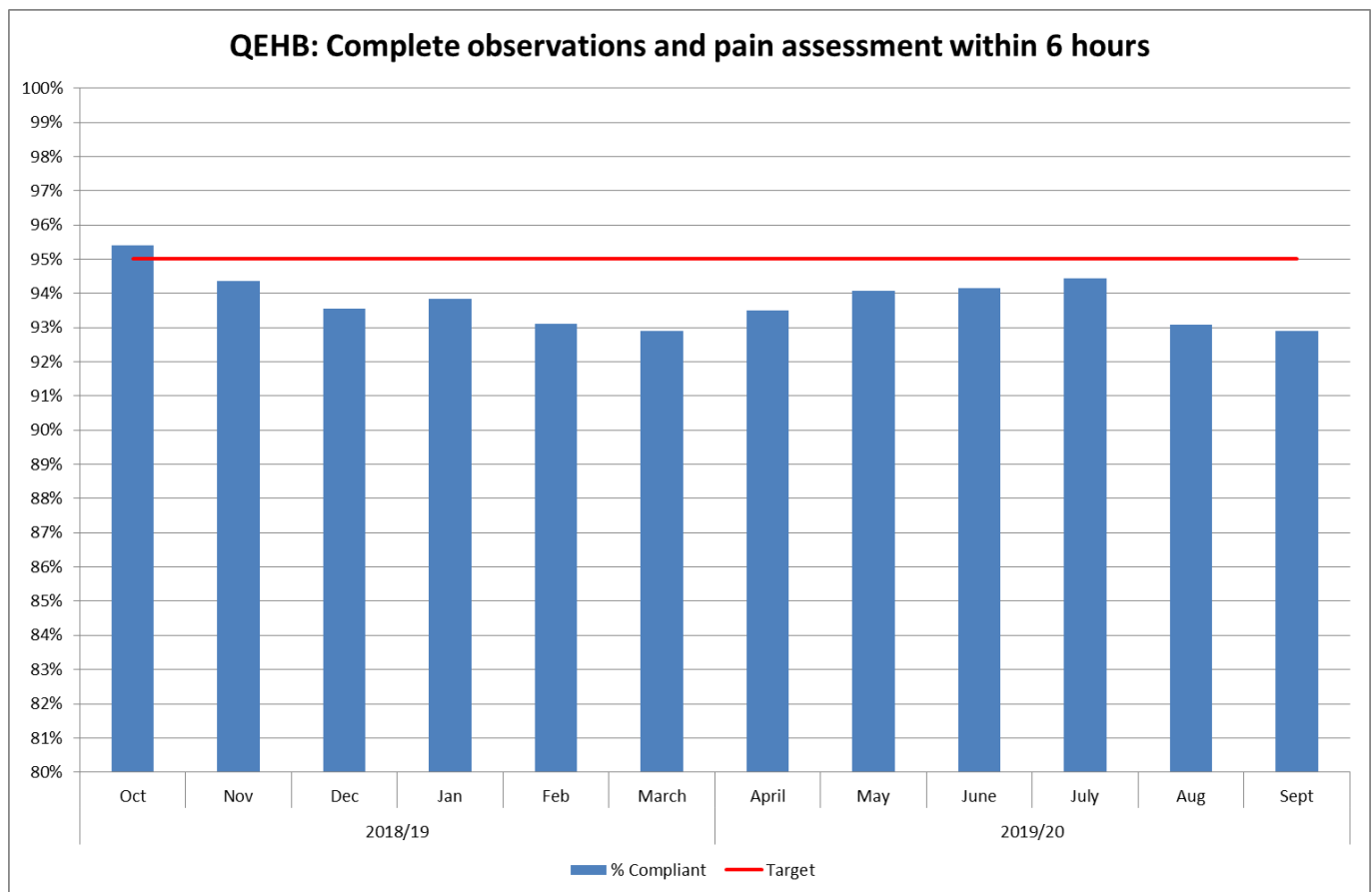
2019/20:

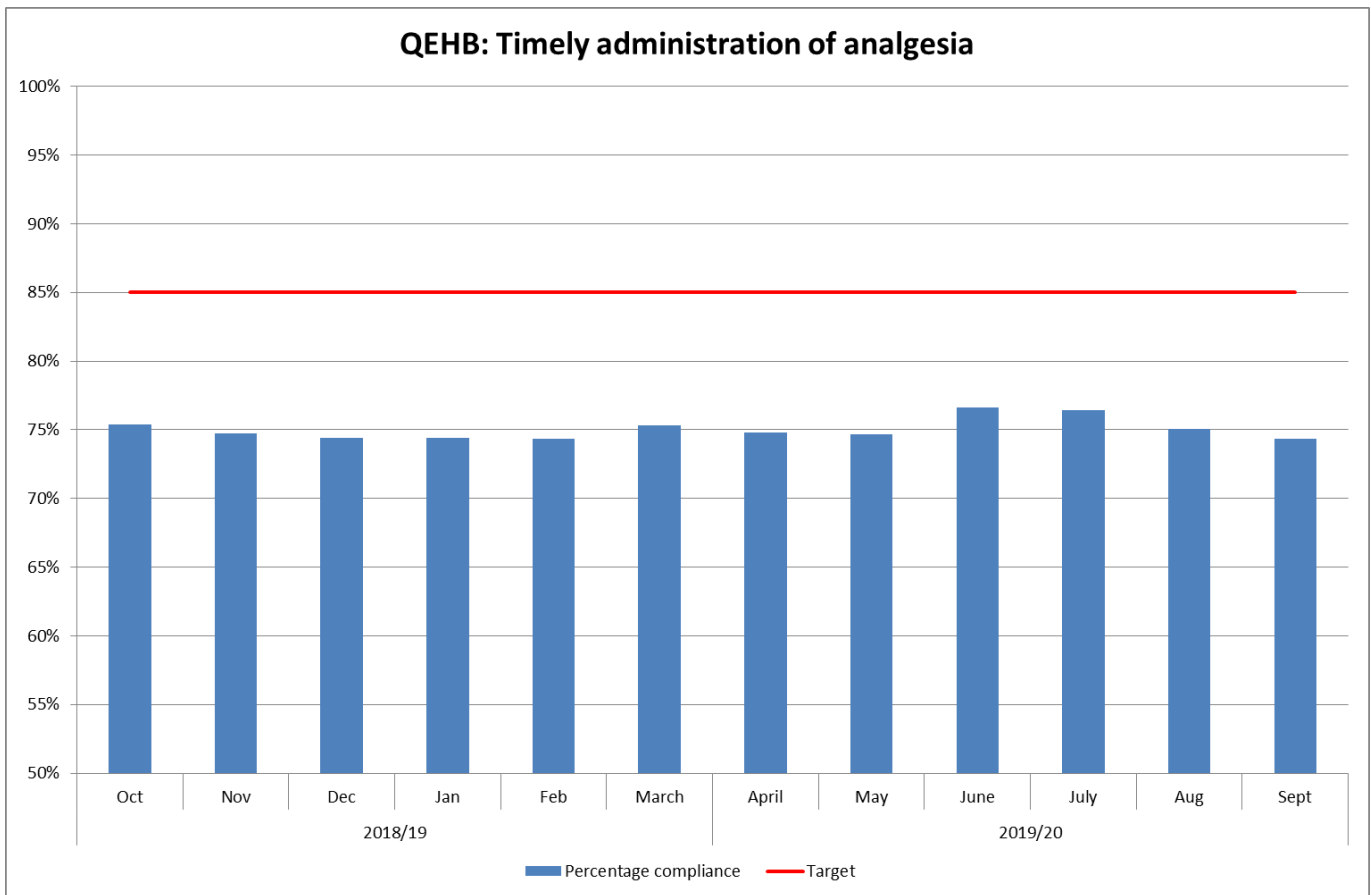
Performance remains at 75%.

This indicator is a very broad indicator which applies to different groups of patients: acute, chronic and palliative. The Trust has reviewed the reasons why analgesia is not being administered within 30 minutes of a high pain score. This indicator will now be split into prescription and administration times to identify improvement actions. The new indicators are currently in development and will be agreed with the new overall Clinical Service Lead for Pain Medicine.

Table: Performance by quarter

		Indicator 1	Indicator 2
		Full set of observations plus pain assessment recorded within 6 hours of admission or transfer to a ward	Analgesia administered within 30 minutes of a high pain score
Performance 2017/18		93%	75%
Performance 2018/19		94%	75%
2019/20	Target	95%	85%
	Q1	93.9%	75.3%
	Q2	93.5%	75.3%
	Q3		
	Q4		
	Year	93.7%	75.3%





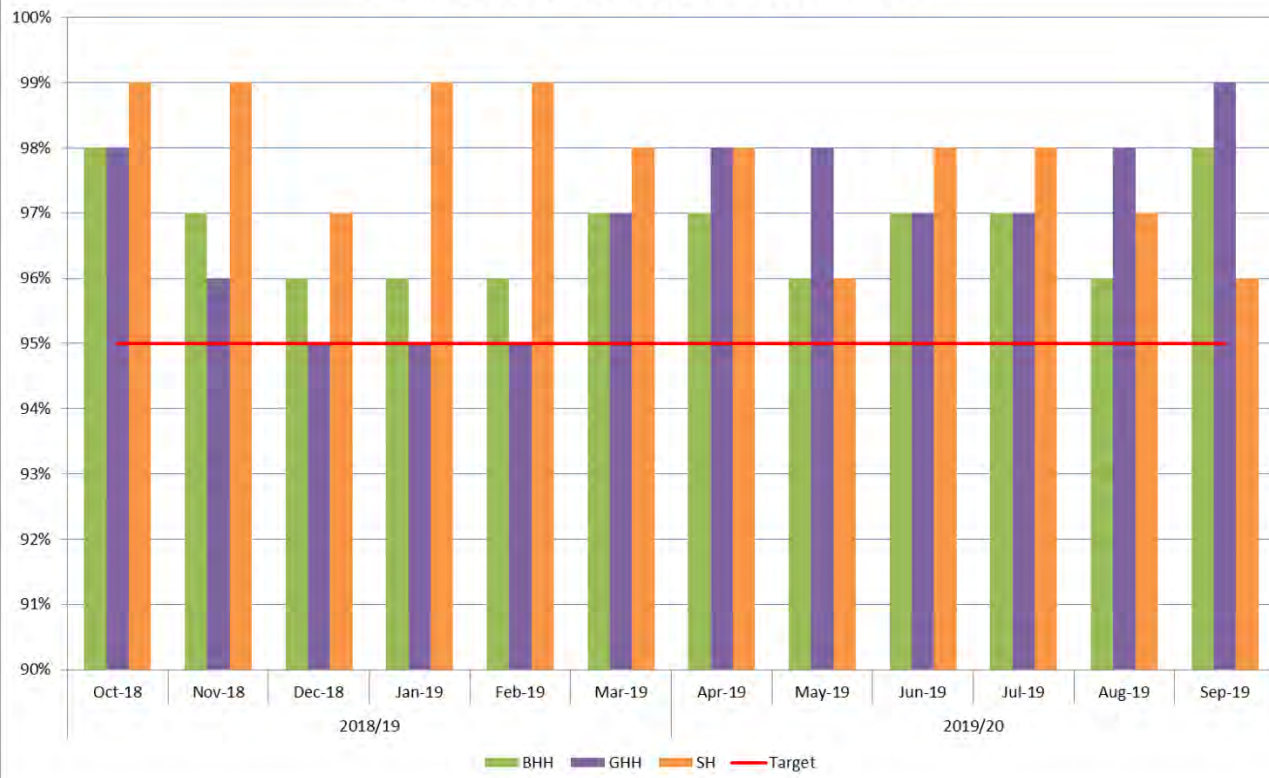
Background – Heartlands, Good Hope and Solihull Hospitals

At Heartlands, Good Hope and Solihull hospitals, observations are recorded on paper charts and indicator data is currently drawn from a monthly audit of patient notes across the wards. The Prescribing Information and Communication System currently in place at QEHB will start to be rolled out at to Heartlands, Good Hope and Solihull sites from 2020 which will allow electronic recording of observations.

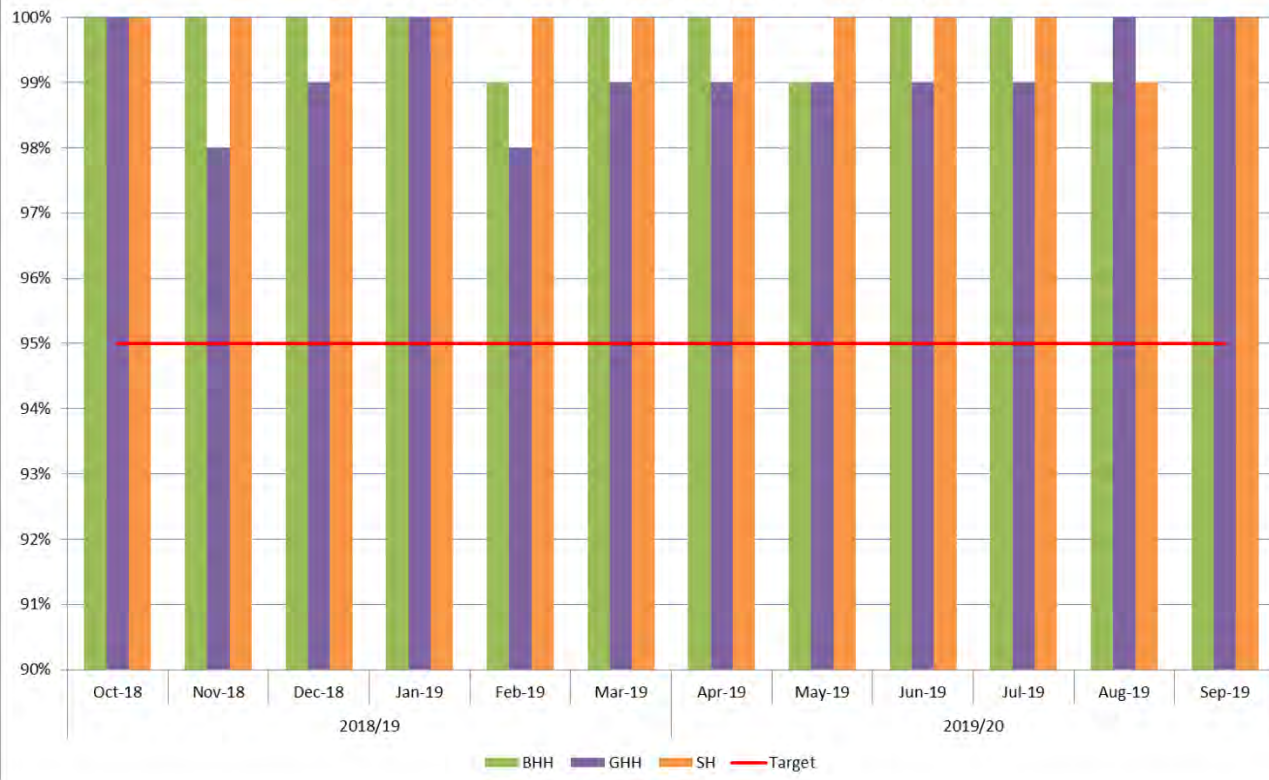
Performance

The score for each indicator is an aggregate of various standards relating to observations and pain assessment. The target for each indicator is 95% which has been met by all sites every month so far during 2019/20. Performance is displayed in the graphs below.

BHH, GHH & SH Observations Performance



BHH, GHH & SH Pain Assessment Performance



Priority 4: Reducing missed doses

Performance - QEHB

Antibiotics

2018/19:

QEHB achieved 3.9% against the target of 4.0% or lower, and also met the target every quarter. The Trust decided not to include this measure in the 2019/20 Quality Report but to continue to monitor it internally, so it is included here for information. The Trust is developing new indicators to measure omissions of selected high risk medications and consecutive missed doses.

2019/20:

In Quarter 1 performance was 3.6% and in Quarter 2 it was 3.8% giving a year-to-date performance of 3.7%, which meets the target of 4.0% or lower.

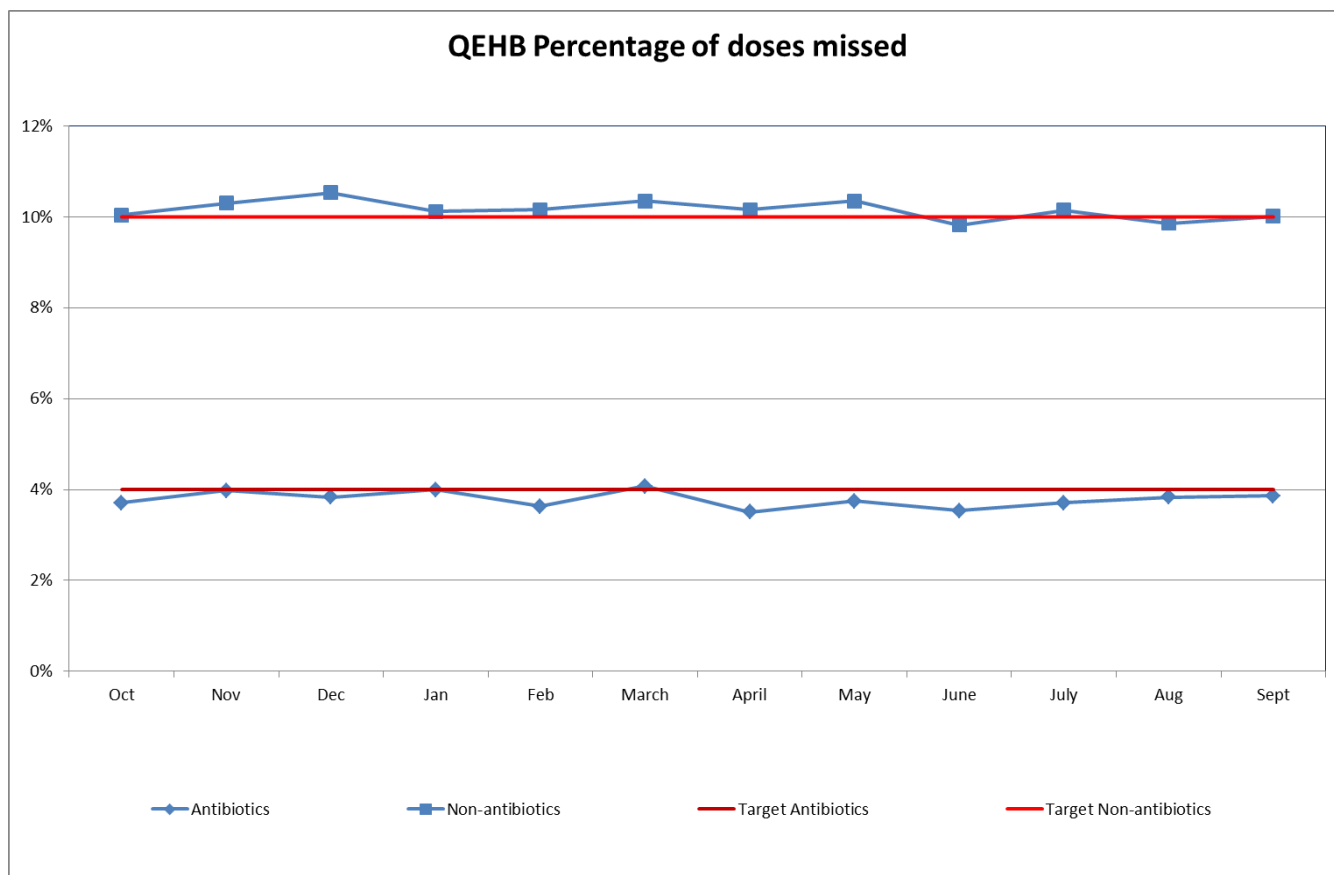
Non-antibiotics

2018/19:

QEHB achieved 10.5% for the year against the target of 10.0% or lower, and Quarter 4 was 10.2%. While this did not meet the target, performance improved compared to the previous year. The Trust decided to keep this measure for 2019/20.

2019/20:

In Quarter 1 performance was 10.1% and in Quarter 2 it was 10.0% giving a year-to-date performance of 10.06%, which is very close to the target of 10.0% or lower.



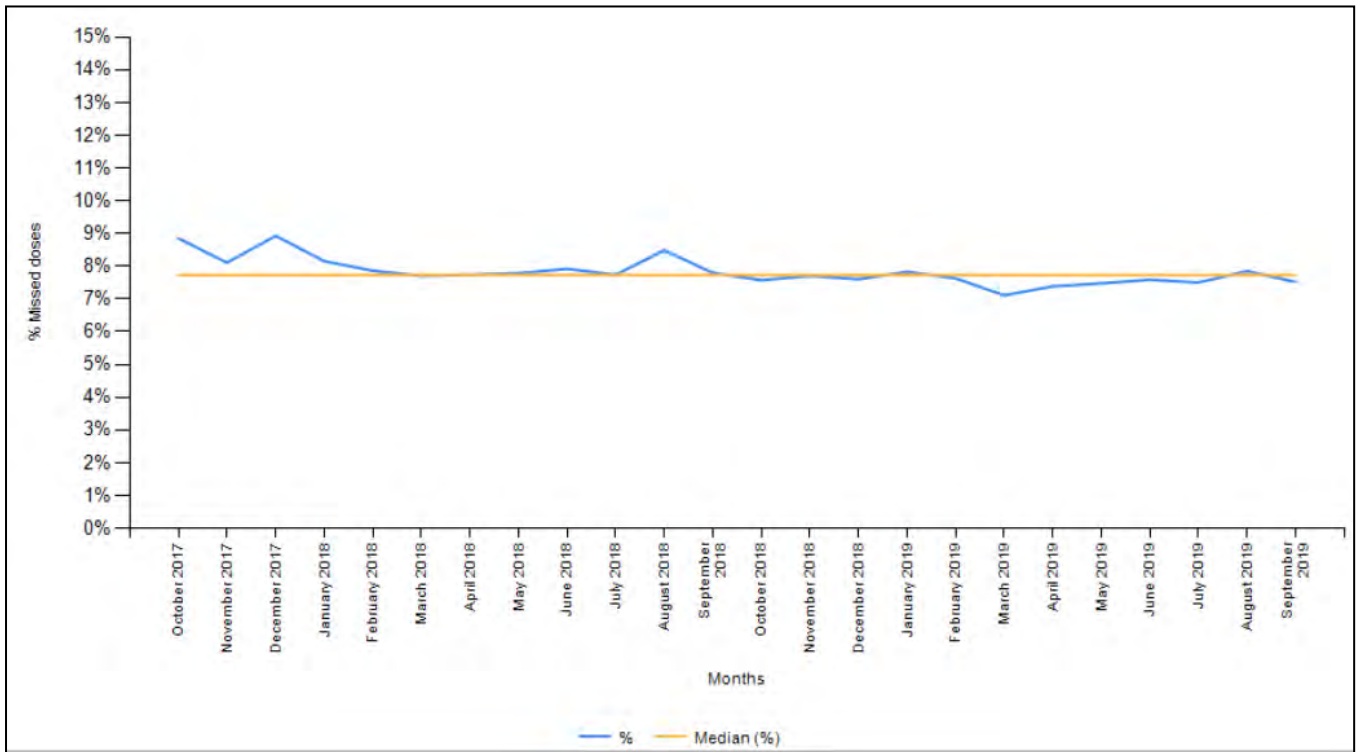
		Antibiotics Internal target only – will not be part of final Quality Account	Non-antibiotics
Performance 2014/15		4.0%	10.5%
Performance 2015/16		3.9%	10.5%
Performance 2016/17		4.1%	10.6%
Performance 2017/18		4.5%	11.3%
Performance 2018/19		3.9%	10.5%
2019/20	Target	4% or lower	10% or lower
	Q1	3.6%	10.1%
	Q2	3.8%	10.0%
	Q3		
	Q4		
	Year	3.7%	10.1%

Performance (Heartlands, Good Hope and Solihull Hospitals)

At Heartlands, Good Hope and Solihull Hospitals, drug prescriptions and administrations are recorded on a different electronic system. For Heartlands, Good Hope and Solihull Hospitals, the Trust chose to measure the percentage of missed doses of regular antibiotics.

Performance has been steady at around 8-9% for the last two years.

Graph: percentage of missed doses of regular antibiotics (Heartlands, Good Hope and Solihull Hospitals)



Priority 5 – Reducing the number of falls

For 2019/20, the Trust has chosen to focus on reducing the overall number of falls that occur and associated harm, rather than the harm rate. This is because the same fall in similar patients can have very different outcomes.

Performance

In 2018/19, 6,123 falls occurred at UHB's four hospital sites. Therefore the Trust has chosen to set a target of no more than 5,817 falls during 2019/20, which is equivalent to a 5% reduction.

Number of falls

Total	BHH	GHH	QEHB	SH	Total
Q1	394	361	720	87	1,562
Q2	312	364	765	89	1,530
Q3					
Q4					
YTD	706	725	1,485	176	3,092

Priority 6 – Timely treatment for sepsis

This important quality improvement priority remained in place during 2019/20. It replaces last year's national CQUIN indicator and is included as a National Quality Requirement in the NHS Standard Contract for 2019/20 onwards. The Trust's aim for 2019/20 is to improve the early recognition and management of patients with sepsis.

Performance

Indicator 1: Sepsis identification, screening and treatment for service users presenting as emergencies

Definition: Proportion of patients presenting as emergency admissions who undergo sepsis screening and who, where screening is positive, receive IV antibiotic treatment within one hour of diagnosis. This is undertaken as a quarterly audit of emergency admissions.

Target: 90%

Indicator 2: Sepsis identification, screening and treatment for inpatient service

Definition: Proportion of inpatients who undergo sepsis screening and who, where screening is positive, receive IV antibiotic treatment within one hour of diagnosis. This is undertaken as a quarterly audit of inpatients.

Target: 90%

	Threshold	Q1	Q2
Patients undergoing sepsis screening and who, where screening is positive, receive IV antibiotic treatment within one hour of diagnosis			
Indicator 1 - Emergency patients	≥ 90%	82%	84%
Indicator 2 - Inpatients	≥ 90%	59%	71%

Selected Metrics

Patient safety indicators

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
1a. Patients with MRSA infection / 100,000 bed days (includes all bed days from all specialties) <i>Lower rate indicates better performance</i>	QEHB	Trust MRSA data reported to PHE,	0.00	1.47 (UHB)		2.31
	BHH / GHH / SH	HES data (bed days)	0.4	April – December 2018		April – December 2018 Acute trusts in West Midlands
1b. Patients with MRSA infection / 100,000 bed days (aged >15, excluding Obstetrics, Gynaecology and elective Orthopaedics) <i>Lower rate indicates better performance</i>	QEHB	Trust MRSA data reported to PHE,	0.00	1.39 (UHB)		2.17
	BHH / GHH / SH	HES data (bed days)	0.4	April – December 2018		April – December 2018 Acute trusts in West Midlands
2a. Patients with C. difficile infection / 100,000 bed days (includes all bed days from all	QEHB	Trust CDI data reported to PHE, HES data (bed	19.05	10.79 (UHB)		8.08 April – December 2018

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
specialties) <i>Lower rate indicates better performance</i>	BHH / GHH / SH	days)	12.4			Acute trusts in West Midlands
2b. Patients with C. difficile infection / 100,000 bed days (aged >15, excluding Obstetrics, Gynaecology and elective Orthopaedics) <i>Lower rate indicates better performance</i>	QEHB	Trust CDI data reported to PHE, HES data (bed days)	18.94	10.17 (UHB)		7.65 April 2018 – August 2018 Acute trusts in West Midlands
	BHH / GHH / SH		13.8			
3a. Patient safety incidents (reporting rate per 1000 bed days)	QEHB	Datix (incident data), Bed days data	65.4	68.3	59.1 (UHB)	46.1 October 2018 – March 2019

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
<i>Higher rate indicates better reporting</i>	BHH / GHH / SH		49.3	46.7		Acute (non specialist) hospitals NRLS website (Organisational Patient Safety Incidents Workbook)
3b. Never Events The number of Never Events that occurred during the time period	QEHB	Datix (incident data)	6	9 (UHB)	4 (UHB)	<i>Not available</i>
<i>Lower number indicates better performance</i>	BHH / GHH / SH		8			
4a. Percentage of patient safety incidents which are no harm incidents <i>Higher % indicates better performance</i>	QEHB	Datix (incident data)	85.1%	88.9%	85.5% (UHB)	76.3% October 2018 – March 2019 Acute (non specialist) hospitals NRLS website (Organisational Patient Safety Incidents Workbook)
	BHH / GHH / SH		97.6%	97.7%		

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
4b. Percentage of patient safety incidents reported to the National Reporting and Learning System (NRLS) resulting in severe harm or death <i>Lower % indicates better performance</i>	QEHB	Datix (patient safety incidents reported to the NRLS)	0.22%	0.26%	0.38% (UHB)	0.32% October 2018 – March 2019 Acute (non specialist) hospitals NRLS website (Organisational Patient Safety Incidents Workbook)
	BHH / GHH / SH		0.84%	0.64%		
4c. Number of patient safety incidents reported to the National Reporting and Learning System (NRLS)	QEHB	Datix (patient safety incidents reported to the NRLS)	24,568	26,342	22,638 (UHB)	5,841 (6 months) October 2018 – March 2019 Acute (non specialist) hospitals NRLS website (Organisational Patient Safety Incidents Workbook)
	BHH / GHH / SH		19,664	21,811		

Clinical effectiveness indicators

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
5a. Emergency readmissions within 28 days (%) (Medical and surgical specialties - elective and emergency admissions aged >17) % <i>Lower % indicates better performance</i>	QEHB	HED data	13.87%	15.39% April – December 2018		15.35% April – December 2018 University hospitals
	BHH / GHH / SH		14.03%	14.72% April – December 2018		
5b. Emergency readmissions within 28 days (%) (all specialties) <i>Lower % indicates better performance</i>	QEHB	HED data	13.84%	15.56% April – December 2018		12.70% April – December 2018 University hospitals
	BHH / GHH / SH		12.25%	13.06% April – December 2018		
5c. Emergency readmissions within 28 days of discharge (%) <i>Lower % indicates better performance</i>	QEHB	Internal SUS data	11.35%	11.84% April 2018 – February 2019		<i>Not available</i>

Indicator	Site/s	Data source	2017/18	2018/19	2019/20 April- September 2019	Peer Group Average (where available)
	BHH / GHH / SH	PMS 2	15.22%	15.60%		
6. Falls (incidents reported as % of patient episodes)	QE	Datix (incident data),	2.2%	2.0%		<i>Not available</i>
<i>Lower % indicates better performance</i>	BHH / GHH / SH	Trust admissions data	1.00%	0.94%		
7. Stroke in-hospital mortality	QE	SSNAP data	5.9%	12.6%	11.4% (April – August 2019)	
<i>Lower % indicates better performance</i>	BHH / GHH / SH		12.2%	10.8%	11.5% (April – August 2019)	
8. Percentage of beta blockers given on the morning of the procedure for patients undergoing first time coronary artery bypass graft (CABG)	QE	Trust PICS data	94.8%	92.6%	94.3% (April – August 2019)	<i>Not available</i>
<i>Higher % indicates better performance</i>						

Notes on patient safety & clinical effectiveness indicators

The data shown is subject to standard national definitions where appropriate. The Trust has also chosen to include infection and readmissions data which has been corrected to reflect specialty activity, taking into account that not all hospitals within the Trust undertake paediatric, obstetric, gynaecology or elective orthopaedic activity. These specialties are known to be very low risk in terms of hospital acquired infection, for example, and therefore excluding them from the denominator (bed day) data enables a more accurate comparison to be made with peers.

1a, 1b: Peer group figures are not final.

1a, 1b, 2a, 2b: From 2018/19, these figures are now for the whole Trust (UHB) rather than split by site. For MRSA (1a and 1b), the reporting has also changed and includes all cases of MRSA, not just those that are just deemed to be Trust-acquired.

These indicators use HES data for the bed days, as this allows trusts to benchmark against each other. UHB also has an internal measure of bed days which uses a different methodology, and this number may be used in other, similar, indicators in other reports.

Receipt of HES data from the national team always happens two to three months later, these indicators will be updated in the next report.

3a: The NHS England definition of a bed day (“KH03”) differs from UHB’s usual definition. For further information, please see this link:

<http://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/>.

NHS England have also reduced the number of peer group clusters (trust classifications), meaning UHB is now classed as an ‘acute (non specialist)’ trust and is in a larger group. Prior to this, UHB was classed as an ‘acute teaching’ trust which was a smaller group.

3b: UHB has had 4 Never Events during April-September 2019. Immediate corrective actions have been undertaken, and the patients have received the correct procedures where appropriate. An apology has been given to the patients and families. All cases have been investigated and an action plan put in place to reduce the risk of future recurrence.

4c: The number of incidents shown only includes those classed as patient safety incidents and reported to the National Reporting and Learning System.

5c: The data source is the Trust’s patient administration system. The data for previous years has been updated to include readmissions from 0 to 27 days and exclude readmissions on day 28 in line with the national methodology. Any changes in previously reported data are due to long-stay patients being discharged after the previous years’ data was analysed.

5a, 5b, 5c: QEHB - The increase in readmissions is due to patients in the Emergency Observation Unit (EOU) being recorded as inpatients from November 2017.

BHH/GHH/SH: figures differ from the previous Quality Reports for Heart of England NHS Foundation Trust, as the data in this table has been generated using the same methodology as the QE data.

7: QEHB – there has been a small change to the 2017/18 data since the 2017/18 Quality Report, as the data source (national SSNAP data) was refreshed after publication. It should also be noted that the 2016/17 and 2017/18 figures are not accurate, as some patients who died within 24 hours had not been included in the data collection and submission; this was picked up during 2017/18. In-hospital mortality following stroke is expected to be 10-15%, and the 2018/19 data reflects this.

8: QEHB indicator only as cardiac surgery is not carried out at the other sites.

Beta blockers are given to reduce the likelihood of peri-operative myocardial infarction and early mortality. This indicator relates to patients already on beta blockers and whether they are given beta blockers on the day of their operation. All incidences of beta blockers not being given on the day of operation are investigated to understand the reasons why and to reduce the likelihood of future omissions.

Mortality

The Trust continues to monitor mortality as close to real-time as possible with senior managers receiving daily emails detailing mortality information and on a longer term comparative basis via the Trust's Clinical Quality Monitoring Group. Any anomalies or unexpected deaths are promptly investigated with thorough clinical engagement.

The Trust has not included comparative information due to concerns about the validity of single measures used to compare trusts.

Summary Hospital-level Mortality Indicator (SHMI)

NHS Digital first published data for the Summary Hospital-level Mortality Indicator (SHMI) in October 2011. This is the national hospital mortality indicator which replaced previous measures such as the Hospital Standardised Mortality Ratio (HSMR). The SHMI is a ratio of observed deaths in a trust over a period time divided by the expected number based on the characteristics of the patients treated by the trust. A key difference between the SHMI and previous measures is that it includes deaths which occur within 30 days of discharge, including those which occur outside hospital.

The SHMI should be interpreted with caution as no single measure can be used to identify whether hospitals are providing good or poor quality care¹. An average hospital will have a SHMI around 100; a SHMI greater than 100 implies more deaths occurred than predicted by the model but may still be within the control limits. A SHMI above the control limits should be used as a trigger for further investigation.

Hospital Standardised Mortality Ratio (HSMR)

UHB has concerns about the validity of the HSMR which was superseded by the SHMI but it is included here for completeness. The validity and appropriateness of the HSMR methodology used to calculate the expected range has been the subject of much national debate and is largely discredited^{2,3}. UHB continues to robustly monitor mortality in a variety of ways as detailed above.

	UHB	Data period
SHMI	98.75	2018-19
SHMI	93.91	April – May 2019
HSMR	104	April – June 2019

¹ Freemantle N, Richardson M, Wood J, Ray D, Khosla S, Sun P, Pagano, D. Can we update the Summary Hospital Mortality Index (SHMI) to make a useful measure of the quality of hospital care? An observational study. *BMJ Open*. 31 January 2013.

² Hogan H, Healey F, Neale G, Thomson R, Vincent C, Black, N. Preventable deaths due to problems in care in English acute hospitals: a retrospective case record review. *BMJ Quality & Safety*. Online First. 7 July 2012.

³ Lilford R, Mohammed M, Spiegelhalter D, Thomson R. Use and misuse of process and outcome data in managing performance of acute and medical care: Avoiding institutional stigma. *The Lancet*. 3 April 2004.