Meeting Title:	**Quality Committee**
Date of Meeting:	**17th August 2021**
Document Title:	**Mortality Report: Learning from deaths Qtr 2 2021/22**
Responsible Director:	Prof. Alastair Hutchison, Medical Director
Author:	Prof. Alastair Hutchison, Medical Director

Confidentiality:	Public
Publishable under FOI?	Yes

Prior Discussion		
Job Title or Meeting Title	**Date**	**Recommendations/Comments**
Hospital Mortality Group	16th Nov 2021	None specific

Purpose of the Paper	To inform the Quality Committee of the learning that has occurred as a result of deaths being reported, investigated and appropriate findings disseminated throughout the Trust.
Summary of Key Issues	The Trust's SHMI reported during Q2 (5 months in arrears - rolling years to March, April and May 2021) rose each month to clearly above the expected range in May at 1.1799 vs 1.1303. This is certainly being influenced to a large extent by delays in coding (reasons for this are explained within). No other local or national indicators suggest that standards of in-patient care are resulting in excess unexpected deaths at DCH. Structured Judgement Reviews are being used to examine the care of an appropriate sample of people who died whilst in-patients, and to learn from any lapses in care that are identified. The DCH Medical Examiners review every death and highlight any obvious causes for concern.
Action recommended	The Quality Committee is recommended to: 1. **NOTE** the report 2. **APPROVE** the report for publication on the DCH internet website 3. **Not publish** appendices 1 and 2 which are for internal discussion only

Governance and Compliance Obligations

Legal / Regulatory	Y	Learning from the care provided to patients who die is a key part of clinical governance and quality improvement work (CQC 2016). Publication on a quarterly basis is a regulatory requirement.
Financial	Y	Failure to learn from deaths could have financial implications in terms of the Trust's claim management and CNST status.
Impacts Strategic Objectives?	Y	Learning from the care provided to patients who die is a key part of clinical governance and quality improvement work (CQC 2016). Ensuring that an elevated SHMI is not a result of lapses in care requires regular scrutiny of a variety of data and careful explanation to staff and the public. An elevated SHMI can have a negative impact on the Trust's reputation both locally and nationally.
Risk?	Y	• Reputational risk due to higher than expected SHMI • Poor data quality can result in poor engagement from clinicians, impairing the Trust's ability to undertake quality improvement • Clinical coding data quality is improving, but previously adversely affected the Trust's ability to assess quality of care • Clinical safety issues may be reported erroneously or go unnoticed if data quality is poor

Decision to be made?	N	
Impacts CQC Standards?	Y	An elevated SHMI will raise concerns with NHS E&I and the CQC. NHS-I undertook a review in March 2019 and produced a report which has resulted in an action plan. This plan was presented to Trust Board in July 2019 and is complete, but work continues. The previous reduction in SHMI and improvements in coding are acknowledged, but have now reversed.
Impacts Social Value ambitions?	N	
Equality Impact Assessment?	N	
Quality Impact Assessment?	N	

CONTENTS

1.0 DIVISIONAL LEARNING FROM DEATHS REPORTS

Each Division is asked to submit a report outlining the number of in-patient deaths, the number subjected to SJR, and the outcomes in terms of assessment and learning. See appendix 1 and 2 for full reports.

1.1 Family Services and Surgical Division Report - Quarter 2 Report

Structured Judgement Review Results:

The Family Services & Division had 40 deaths in quarter 2 that require SJR's to be completed, with 15 having had a SJR completed. Between July to September, 32 SJR's have also been completed from previous months.

SJR Backlog:

The outstanding SJR's for the Division as at 15/10/2021 is 29:

May	July	August	September
4	7	12	6

The available notes have been allocated to Clinical staff to ensure these are completed.

Feedback from SJR's completed in quarter 2:

Phase Score	Admission & Initial Management	Ongoing Care	Care during a procedure	Perioperative Care	End of Life Care	Overall Assessment Score
N/A or Blank	1	11	23	31	4	0
1 Very Poor	0	0	0	0	1	0
2 Poor	0	1	0	0	2	2
3 Adequate	9	3	3	3	6	4
4 Good	16	21	14	7	15	24
5 Excellent	21	11	7	6	19	17

Overall Quality of Patient Record:

Blank	Score 1 Very poor	Score 2 Poor	Score 3 Adequate	Score 4 Good	Score 5 Excellent
2	0	4	6	24	11

- Loose sheets
- Notes incompletely photocopied
- Writing sometimes difficult to read but the time stamps are good and names are printed clearly

Avoidability of Death Judgement Score:

Score 1 Definitely avoidable	Score 2 Strong evidence of avoidability	Score 3 Probably avoidable (more than 50:50)	Score 4 Possibly avoidable but not very likely (less than 50:50)	Score 5 Slight evidence of avoidability	Score 6 Definitely not avoidable
0	1	0	2	5	39

Report completed by:
Richard Jee – Divisional Mortality Lead
Laura Symes – Quality Manager

1.2 Division of Urgent & Integrated Care Q2 Report

Structured Judgement Review Results:

The Urgent & Integrated Care Division had 153 deaths in quarter 2, of which 42 required a SJR to be completed. 15 of the 42 have completed SJR's, with 25 SJR's completed between July to October from previous months.

SJR Backlog:

The outstanding SJR's for the Division as at 03/11/2021 is 49:

June	August	September	October
2	8	19	20

The available notes have been allocated to Clinical staff to ensure these are completed.

Feedback from SJR's completed in quarter 2:

Phase Score	Admission & Initial Management	Ongoing Care	Care during a procedure	Perioperative Care	End of Life Care	Overall Assessment Score
N/A or Blank	3	9	35	40	10	2
1 Very Poor	0	0	0	0	0	0
2 Poor	1	1	0	0	1	3
3 Adequate	2	6	0	0	3	6
4 Good	23	23	3	0	17	26
5 Excellent	11	1	2	0	9	3

Overall Quality of Patient Record:

Blank	Score 1 Very poor	Score 2 Poor	Score 3 Adequate	Score 4 Good	Score 5 Excellent
4	0	1	3	27	5

- Notes on DPR, difficult to review resource intensive
- Clear and thorough documentation from nursing, ED and intensive care staff
- Death noted in medical notes but not in the EOLCP
- Although loose, the documentation by all health professionals is good once found
- It is difficult when the nursing notes were sometimes in the main clinical notes and sometimes in the AIRS document.

Avoidability of Death Judgement Score:

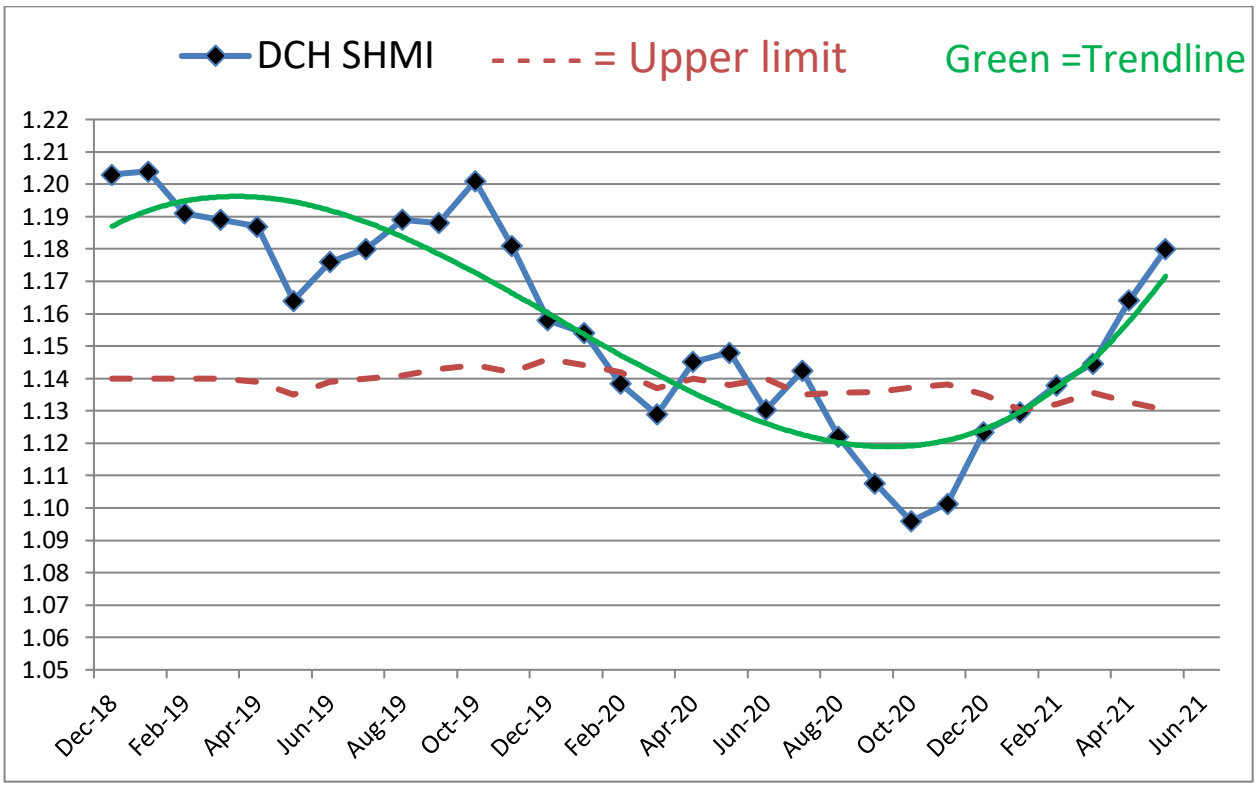
Score 1 Definitely avoidable	Score 2 Strong evidence of avoidability	Score 3 Probably avoidable (more than 50:50)	Score 4 Possibly avoidable but not very likely (less than 50:50)	Score 5 Slight evidence of avoidability	Score 6 Definitely not avoidable
1	2	6	2	6	22

Sonia Gamblen, Divisional Head of Nursing & Quality
James Metcalfe, Divisional Director

2.0 NATIONAL MORTALITY METRICS AND CODING ISSUES

2.1 Summary Hospital-level Mortality Indicator (SHMI)

SHMI is published by NHS Digital for a 12 month rolling period, and 5 months in arrears. It takes into account all diagnostic groups, in-hospital deaths, and occurring those within 30 days of discharge. The SHMI for the rolling years from October 2020 to date shows a clear reversal of the previous trend to improvement. The latest SHMI is clearly outside of the expected range.



SHMI is calculated by comparing the number of observed (actual) deaths in a rolling 12 month period to the expected deaths (predicted from coding data). From October 2019 onwards there had been a steady improvement in DCH's SHMI as a result of investment in the coding department which resulted in more accurate and timely coding returns to NHS Digital.

As part of the NHS recovery from Covid-19, Trusts were financially incentivised to demonstrate that they were achieving at least 85% of the elective activity levels previously achieved in 2019. This required the coding department to concentrate on returns for elective activity, resulting in a risk that non-elective data (which makes up the vast majority of SHMI data at DCH) might not be coded in time to be included in SHMI. Unfortunately this risk has materialised and we can see several pieces of data (rolling year to May 2021) that suggest the SHMI is being adversely influenced as a result:

2.2 Percentage of provider spells with a primary diagnosis which is a symptom or sign: NHS Digital states "*This indicator presents the percentage of finished provider spells with a primary diagnosis which is a symptom or sign (identified by ICD-10 codes beginning with the letter 'R'). A high percentage of provider spells with a primary diagnosis which is a symptom or sign compared to other similar trusts may indicate problems with data quality or timely diagnosis of patients*".

DCH has the highest number of spells with a primary diagnosis which is a symptom or sign – for example 'chest pain' rather than 'myocardial infarction' – at 29.7% May 2021 versus 13.3% Oct 2020. Such spells are attributed a low risk of death since a symptom or sign only, does not suggest a life-threatening illness. The table below shows the 10 Trusts with the highest percentage of symptoms and signs instead of a primary diagnosis. For comparison the 10 best performing Trusts in this category all achieve less than 10%.

Provider Name	Symptom or Sign	Total spells	Percentage symptom or sign
DORSET COUNTY HOSPITAL NHSFT	**7,215**	**24,295**	**29.7**
MID AND SOUTH ESSEX NHSFT	46,745	167,460	27.9
ROYAL FREE LONDON NHSFT	25,750	95,940	26.8
TORBAY AND SOUTH DEVON NHSFT	10,700	42,080	25.4
LONDON NORTH WEST UNIVERSITY HEALTHCARE NHST	20,295	89,590	22.7
LIVERPOOL UNIVERSITY HOSPITALS NHSFT	21,400	95,390	22.4
ISLE OF WIGHT NHS TRUST	3,600	18,480	19.5
THE QUEEN ELIZABETH HOSPITAL, KING'S LYNN, NHSFT	7,835	40,600	19.3
NORTHUMBRIA HEALTHCARE NHSFT	14,490	75,305	19.2
MEDWAY NHSFT	9,470	50,580	18.7

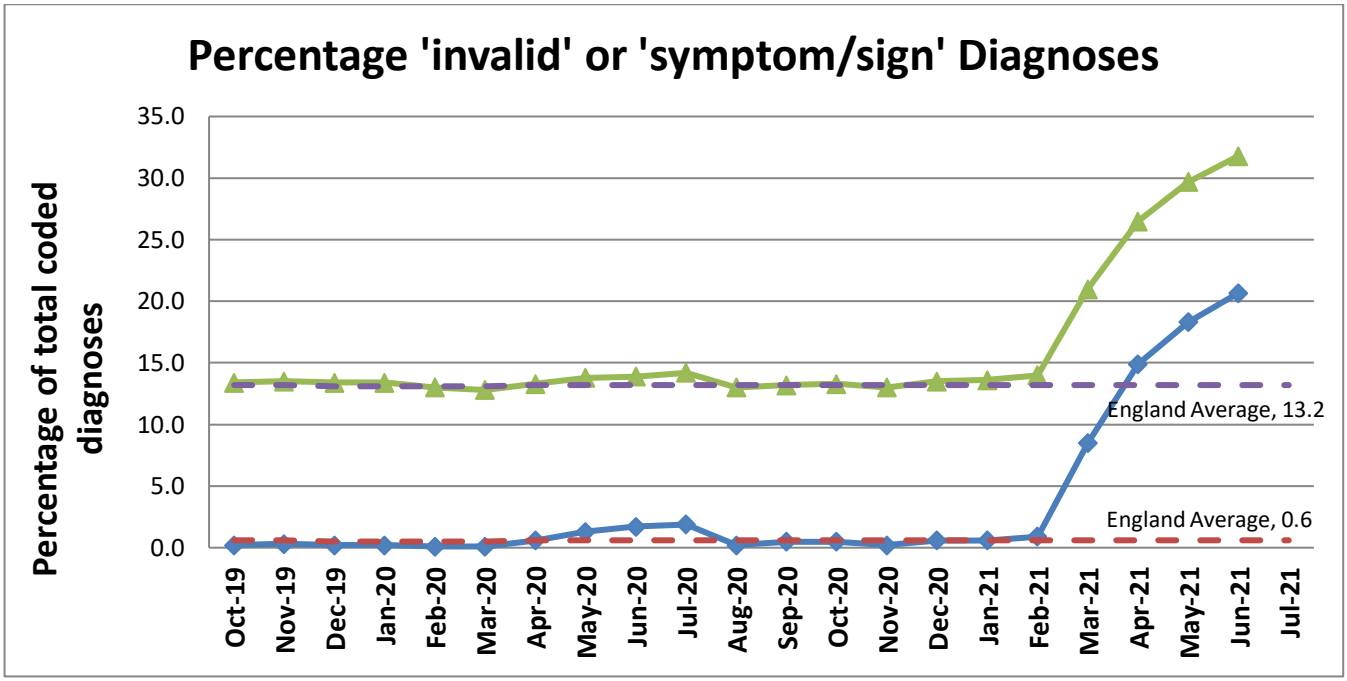
2.3 Percentage of provider spells with an invalid primary diagnosis code: NHS Digital states "*This indicator presents the percentage of finished provider spells with an invalid primary diagnosis code (identified as those spells where the primary diagnosis is given by the ICD-10 code R69X). A high percentage of provider spells with an invalid primary diagnosis code compared to other trusts may indicate a data quality problem*."

This metric is a subgroup of 2.2 above. A 'spell' is a continuous period of in-patient care.

The table below is taken from the latest SHMI publication (https://digital.nhs.uk/data-and-information/publications/statistical/shmi/2021-10/primary-diagnosis-coding) and shows that DCH now has the highest percentage of invalid primary diagnoses in the country (18.3% May 2020 versus 0.5% in Oct 2020). If these 'top 10' Trusts are discounted, the average for the rest of the country is 0.33%. Where no specific diagnosis is coded, such patients are attributed a low risk of death, which in turn reduces the Trust's 'Expected Number of Deaths', and therefore artificially increases the SHMI.

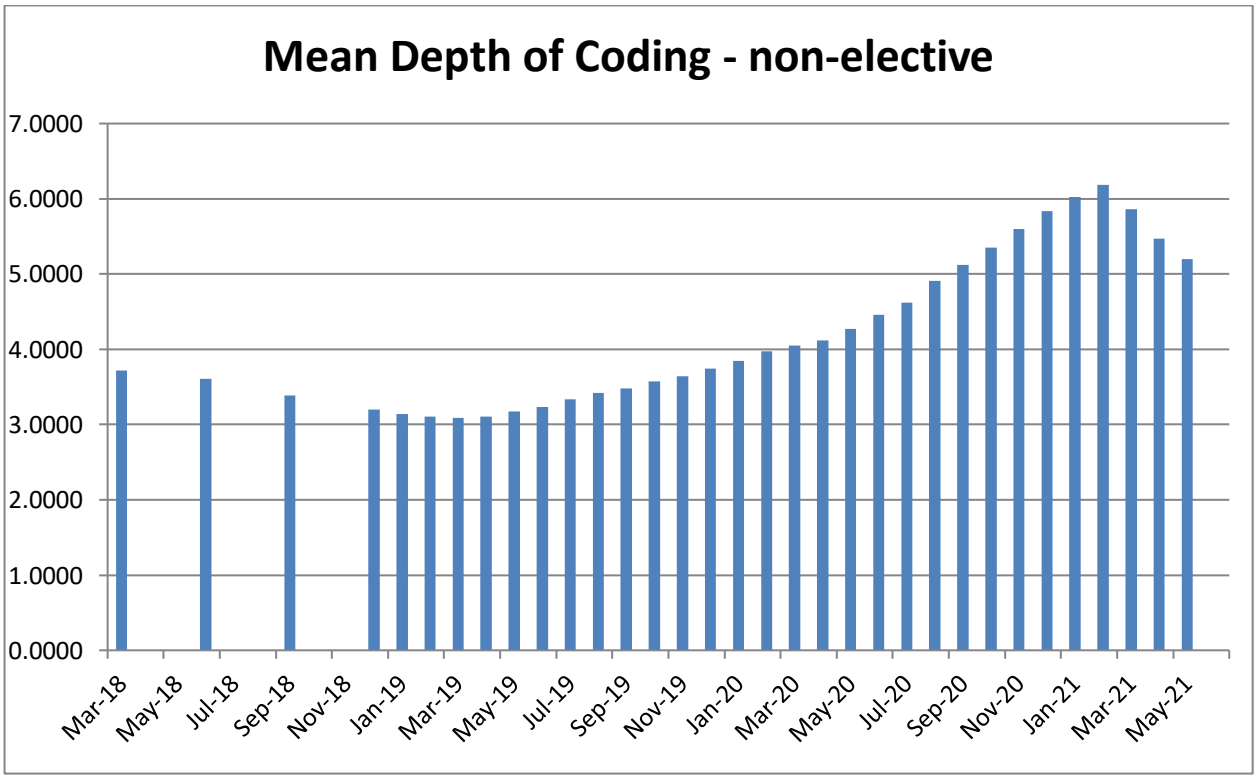
Provider Name	Invalid Primary	Total spells	Percentage invalid
DORSET COUNTY HOSPITAL	**4,435**	**24,295**	**18.3**
ROYAL FREE LONDON	16,860	95,940	17.6
MID AND SOUTH ESSEX	25,070	167,460	15
TORBAY AND SOUTH DEVON	4,760	42,080	11.3
ISLE OF WIGHT NHS Trust	1,465	18,480	7.9
THE ROTHERHAM NHSFT	1,755	39,250	4.5
UNIVERSITY COLLEGE LONDON HOSPITALS NHSFT	3,260	76,120	4.3
UNIVERSITY HOSPITALS OF DERBY AND BURTON NHSFT	2,955	108,290	2.7
UNIVERSITY HOSPITALS PLYMOUTH NHSFT	1,540	64,460	2.4
BOLTON NHSFT	1,195	52,325	2.3

The graph below shows the change in these two metrics of coding accuracy over the past 30 months:



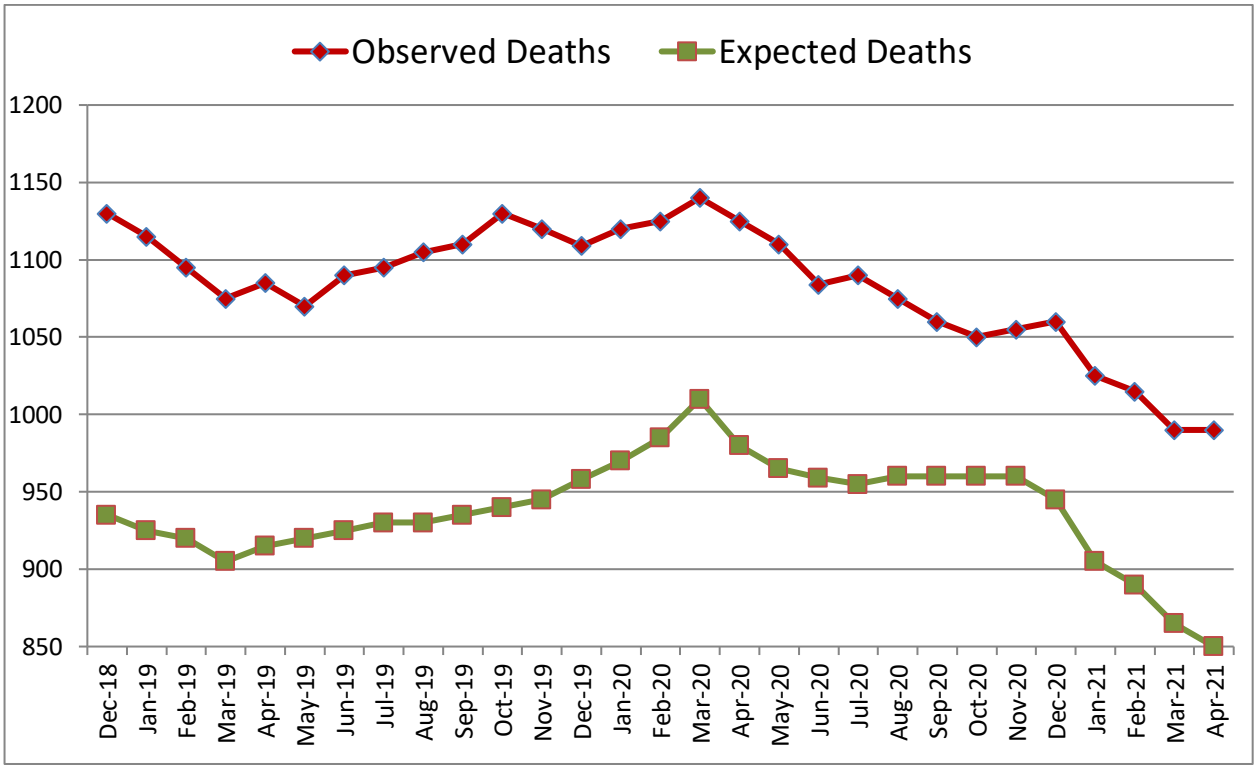
2.4 Depth of coding: NHS Digital states "*As well as information on the main condition the patient is in hospital for (the primary diagnosis), the SHMI data contain up to 19 secondary diagnosis codes for other conditions the patient is suffering from. This information is used to calculate the expected number of deaths. 'Depth of coding' is defined as the number of secondary diagnosis codes for each record in the data. A higher mean depth of coding may indicate a higher proportion of patients with multiple conditions and/or comorbidities, but may also be due to differences in coding practices between trusts*."

DCH's depth of coding had been increasing steadily up to February 2021 (see graph below), but is now decreasing and this is probably part of the same backlog problem in the coding department.



2.5 Expected Deaths (based on diagnoses across all admissions per 12 months):

The chart below shows observed and expected deaths over the past 3 years (rolling years from March 18 to April 21), and whilst our observed (actual) deaths continue to reduce, the expected deaths have reduced disproportionately faster as a result of included uncoded cases, thereby increasing the SHMI ratio.



2.6 Communication with NHS Digital:

From: CLINICAL INDICATORS, Hscic (NHS DIGITAL) <clinical.indicators@nhs.net>
Sent: 02 November 2021 09:44
To: HUTCHISON, Alastair (DORSET COUNTY HOSPITAL NHS FOUNDATION TRUST) <alastair.hutchison@nhs.net>; **Cc:** NHS Digital
Subject: RE: [CMT-1808] Ref: NIC-599738-Z6M4M - SHMI

Hi Alastair,

Thank you for informing us of the problems at your trust with diagnosis codes. I can also see you have raised a query for your SHMI previewer data as well so I am answering that query as well as this one.
Invalid diagnosis codes are recoded by HES data processing rules to the code “R69X”, but the symptom / sign percentage covers any diagnosis code that starts with “R” including “R69X”. So the invalid diagnosis is a subset of the symptom/sign percentage. In the example you give it is 29.7% of your coding that potentially contains errors not 48%.
I can see that you have had a high percentage of this in recent months. If this issue is with 2021/22 provisional HES data then there may be opportunity to fix the issue in the coming months as we have nearly a year until the annual refresh of HES data takes place which will “finalise” the errors. You will need to contact our HES team about this.
I appreciate this higher percentage may be what is causing your SHMI value to be higher at the moment and that you don’t feel able to sign off your SHMI data as a result. I am happy for you not to sign off the data while this issue persists.
I hope this helps, but let me know if you have any further questions.

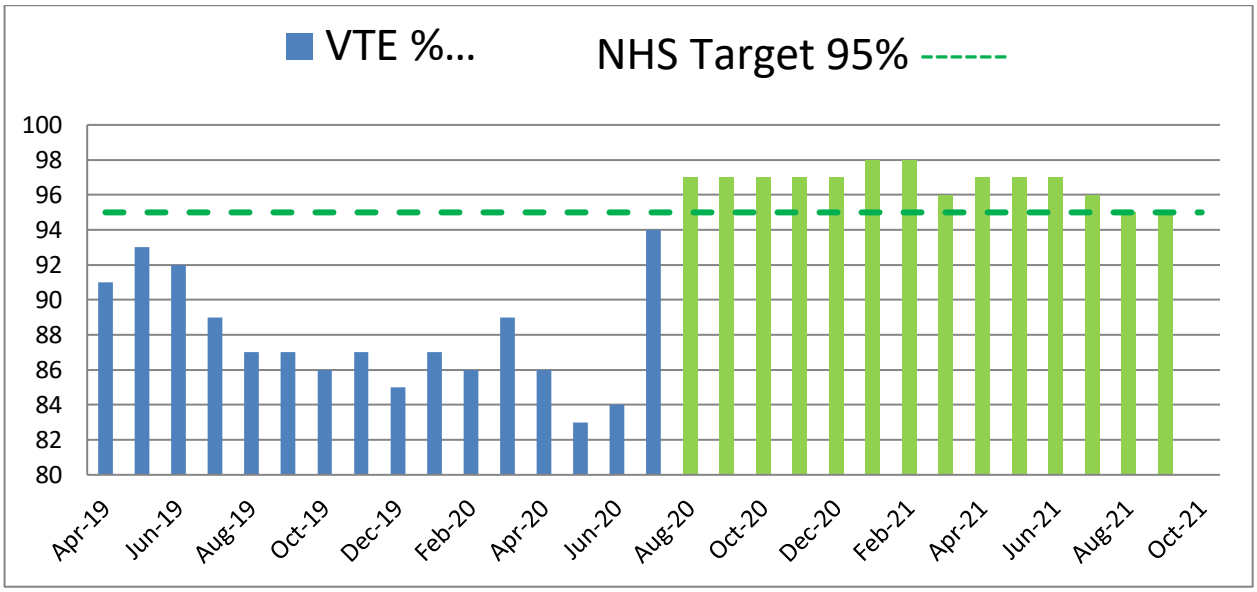
David Keighley (he/him)
Senior Information Analyst
Analytical Services – Population Health, Clinical Audit and Specialist Care: clinical.indicators@nhs.net
NHS Digital

3.0 OTHER NATIONAL AUDITS/INDICATORS OF CARE

The DCH Learning from Deaths Mortality Group regularly examines any other data which might indicate changes in standards of care, and has continued to meet on a monthly basis throughout the COVID-19 crisis. The following sections report data available from various national bodies who report on individual Trusts' performance.

For other metrics of care including complaints responses, sepsis data (on screening and 1 hour for antibiotic administration), AKI, patient deterioration and DNACPR data, please see the Quality Report presented on a monthly basis to Quality Committee by the Director of Nursing.

DCH VTE risk assessments reached 97% in August 2020 with the introduction of a more accurate reporting system, and have exceeded the 95% target for every month since then.

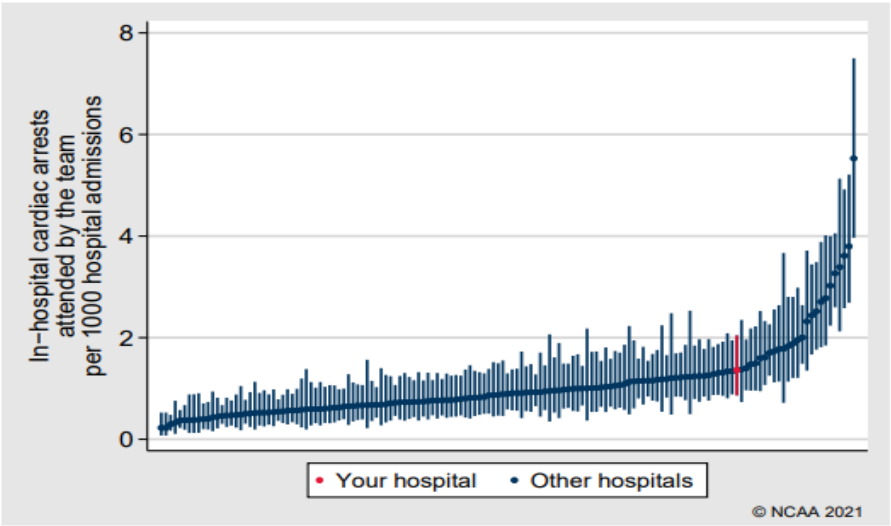


3.1 NCAA Cardiac Arrest data

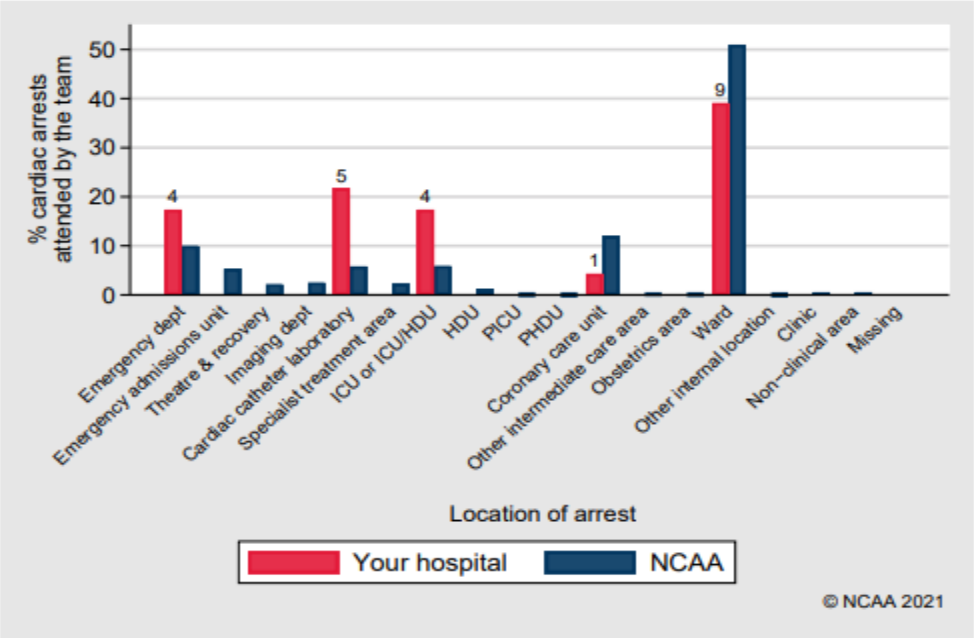
The national Cardiac Arrest audit for DCH April 2021 to June 2021 was published on 3/09/2021. A total of 23 cardiac arrest calls were recorded for this time period.

Rate of in-hospital cardiac arrests

The following graph presents the reported number of in-hospital cardiac arrests attended by the team per 1,000 hospital admissions for adult, acute hospitals in NCAA.

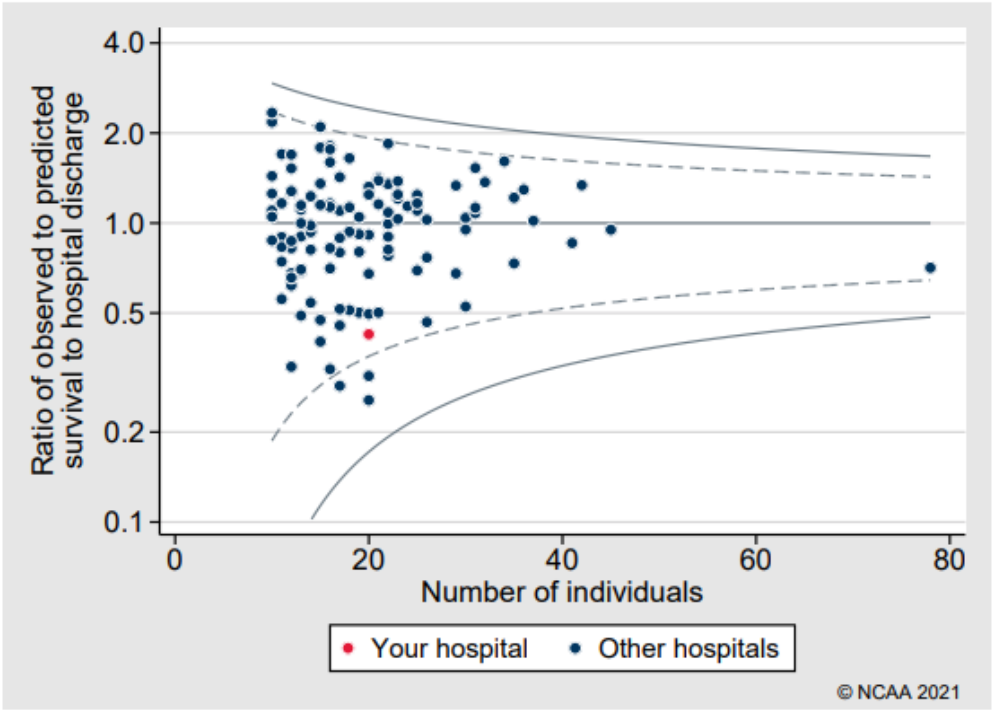


Location of arrest



Funnel plot of observed to predicted survival to hospital discharge

Higher is better



Your hospital	
Number of individuals	20
Number of observed survivors to hospital discharge	2
Number of predicted survivors to hospital discharge	4.7
Ratio of observed to predicted survival to hospital discharge	0.42
95% confidence interval	(0.12,1.28)

The graph above shows the ratio of observed to predicted survival, with DCH's result just above the lower 2 standard deviation funnel line indicating a result within the expected range. However the ratio is lower than previous quarters but the number of individuals contained within this calculation is very small (observed survivors 2, versus expected survivors 4.7). This metric will be carefully followed in the coming quarters.

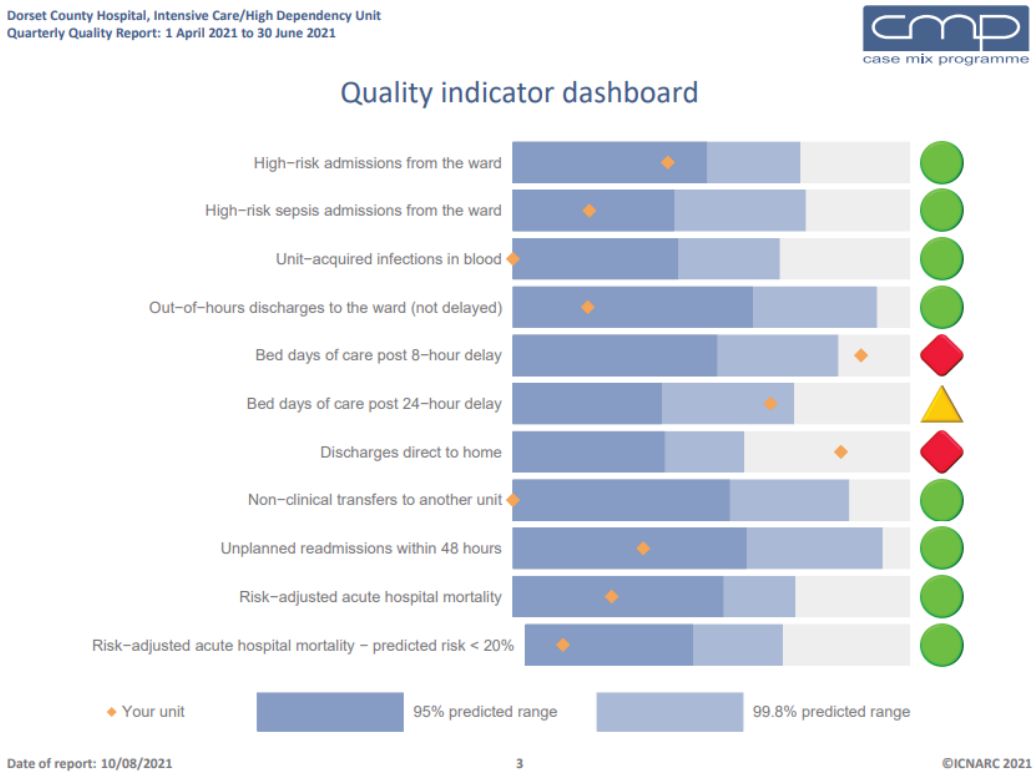
3.2 National Adult Community Acquired Pneumonia Audit latest data – last published Nov 2019, and not undertaken for either 2019/20 or 2020/21

Results Summary		Dorset County Hospital	National results
Patient Characteristics and Diagnosis		**n = 88**	**n = 10174**
Gender	Male Female	43% 57%	48% 52%
Age	Median (IQR)	78 (61-84)	75 (61-85)
Cohort Severity (CURB65 score)	0-1 2 3-5	42% 31% 27%	47% 29% 24%
Inpatient mortality	Proportion deceased	7%	10%
Length of stay (discharged patients)	Median in days	3	5
Critical care admission	Yes - proportion	2%	5%
Readmission	Yes - proportion	8%	13%

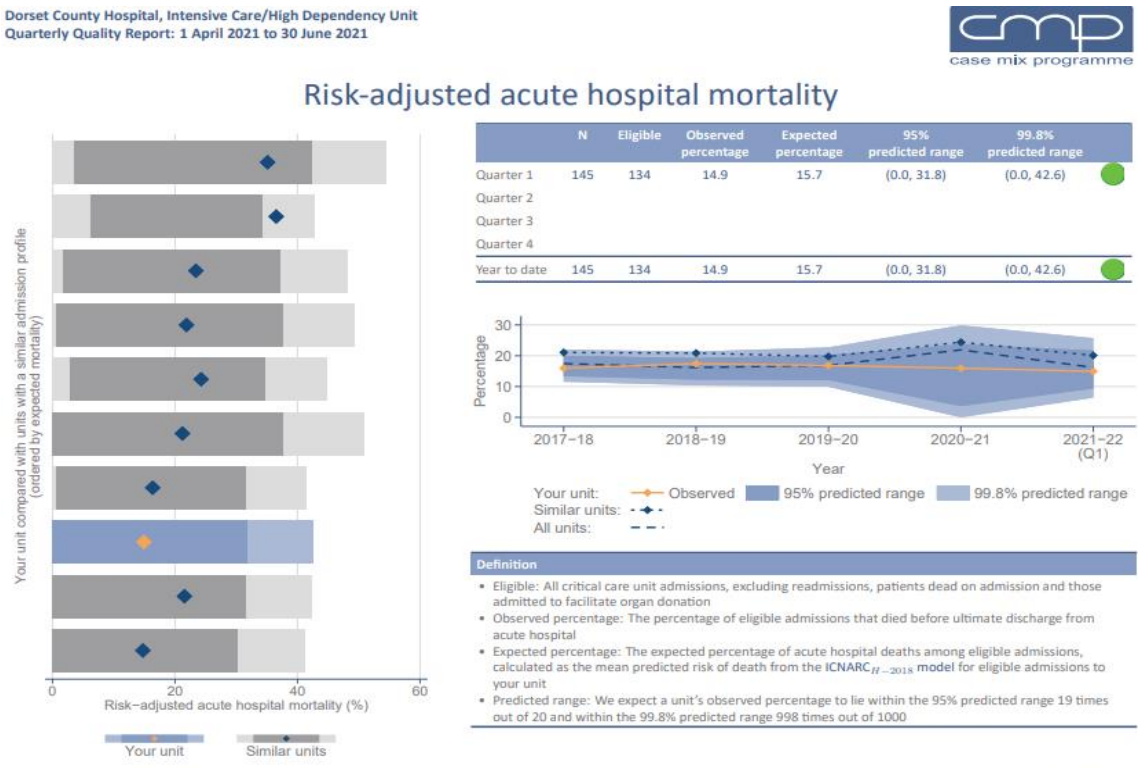
The results suggest that patients admitted to DCH 2018/19 tended to be more ill than the national average, but had a lower death rate and shorter length of stay, with fewer readmissions.

3.3 ICNARC Intensive Care survival latest data published 10 August 2021

The red and amber indicators in the chart below indicate delays in being able to discharge patients from ICU, with some delays being long enough that the patient was discharged direct to home

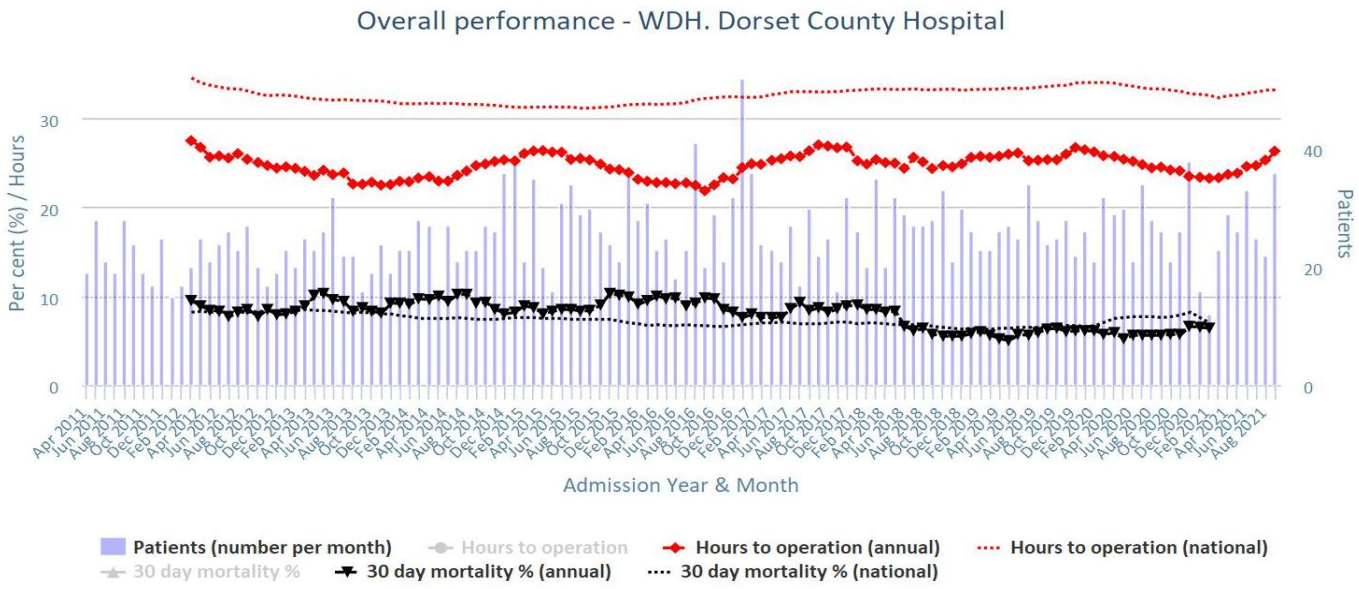


The charts below show the “risk adjusted acute hospital mortality” following admission to the DCH Critical Care Unit. They compare observed and expected death rates in a similar fashion to SHMI.



These results are comfortably within the expected range.

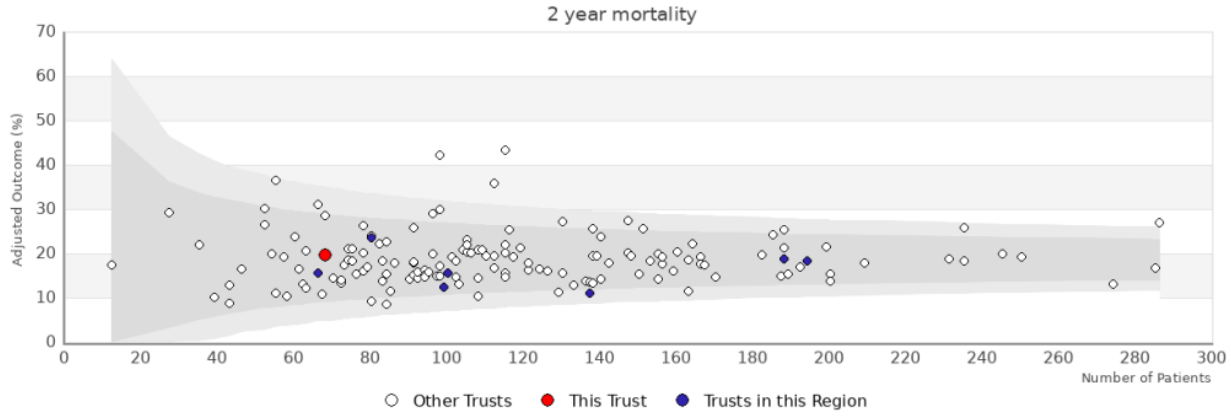
3.5 National Hip Fracture database to December 2020



The national average annualised mortality for hip fracture is 7.0%, with DCH's annualised mortality at 6.4% to February 2021 (latest available data).

3.6 National Bowel Cancer Annual audit

No new data as yet this year - graph below shows latest available 2 year survival data for patients admitted in financial year 2018/19, compared to all other NHS Trusts, with other Wessex Trusts in dark blue.



Trust	Number	Adjusted	Observed
Dorset County Hospital NHS Foundation Trust	68	19.7%	19.3%

3.7 Getting it Right First Time; reviews in Q2

One virtual GIRFT review was undertaken at DCH during this quarter – Rheumatology. The full report is available on request. No other visits took place during Q2.

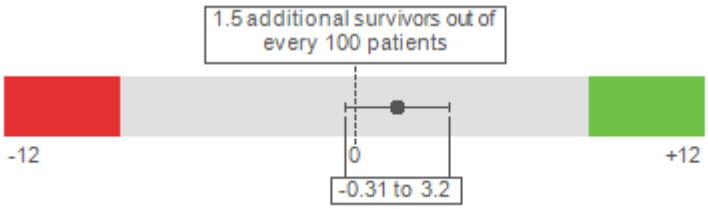
Full reports from all previous GIRFT visits are available, and feedback from each review has generally been very positive. Action plans have been developed and are being worked through at present.

3.8 Trauma Audit and Research Network

DCH is a designated Trauma Unit (TU) providing care for most injured patients, and has an active, effective trauma Quality Improvement programme. It submits data on a regular basis to TARN which then enables comparison with other TUs. Data for the period 1/1/18 to 31/5/21 is shown below, but data specific to Q1 and Q2 is not available at present:

Rate of Survival at this Hospital

Between January 1st 2018 and May 31st 2021



Rate of Survival Breakdown at this Hospital

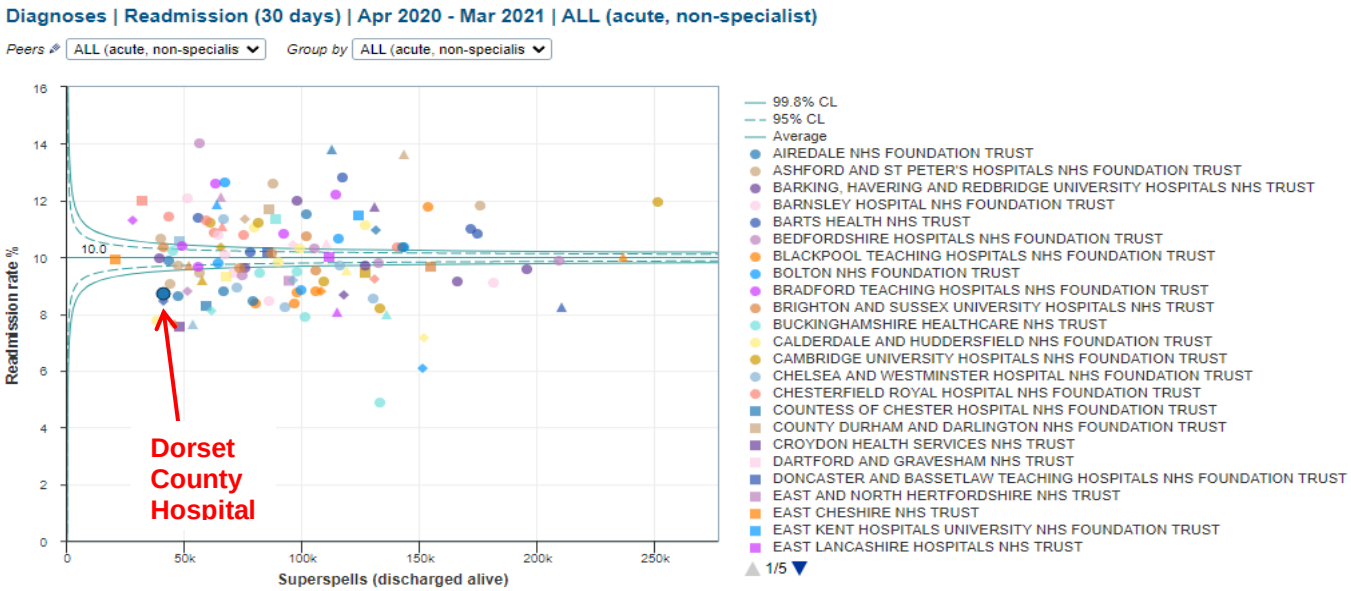
Survival band %	Number in group	Expected survivors	Actual survivors	Difference*	Adjusted difference**
95 - 100	429	420	425	1.0	0.6
90 - 95	155	144	142	-1.3	-0.2
80 - 90	95	81	85	3.8	0.3
65 - 80	34	25	23	-6.3	-0.2
45 - 65	13	7	12	33.1	0.7
25 - 45	3	1	2	28.7	0.5
0 - 25	3	0	0	-16.0	-0.2
Total	**732**	**680**	**689**	**1.1**	**1.5**

Unexpected deaths in minor/moderate injury
Usually due to poor management of co-morbidity and/or complications

Unexpected survivors with more serious injury
Usually indicates good initial resusitation and the treatment of head injury in Neurological Centres

The first column categorises patients by percentage likelihood of survival, followed by the total number of patients seen at DCH, the calculated likely number of survivors and then the actual number of survivors.

3.9 Readmission to hospital within 30 days, latest available data (Dr Foster); lower is better



Readmission to hospital within 30 days suggests inadequate initial treatment or a poorly planned discharge process. However DCH's latest readmission rate is lower than the majority of other acute Trusts.

3.10 Dr Foster Safety Dashboard

This dashboard compares DCH with other England and Wales Trusts for a variety of complications that might occur during an in-patient stay or during childbirth. Where the confidence intervals (horizontal T bars) overlap the national mean there is no statistical difference from the national average. DCH has a higher number of decubitus (pressure) ulcers (264 versus 226; significant difference), but fewer deaths in low-risk diagnosis groups (24 versus 44; significant difference).

Patient Safety Indicators

Period: 12 months (Feb 20 to Jan 21) | Data lag: No lag

Indicator	Volume	Observed	Expected	Obs rate/k	Exp rate/k	Relative risk	Compare
Accidental puncture or laceration	28524	53	45.3	1.9	1.6	116.9	
Deaths after surgery	195	9	14.7	46.2	75.2	61.3	
Deaths in low-risk diagnosis groups	12626	24	44.2	1.9	3.5	54.3	
Decubitus ulcer	3785	264	225.9	69.7	59.7	116.9	
Infections associated with central line	5431	0	0.3	0	0.1	0.0	
Obstetric trauma - caesarean delivery	383	2	1.7	5.2	4.5	115.4	
Obstetric trauma - vaginal delivery with instrument	108	8	7.3	74.1	67.9	109.0	
Obstetric trauma - vaginal delivery without instrument	678	21	19.9	31.0	29.3	105.7	
Postoperative haemorrhage or haematoma	10920	4	4.1	0.4	0.4	98.1	
Postoperative physiologic and metabolic derangement	9377	0	1.7	0	0.2	0.0	
Postoperative pulmonary embolism or deep vein thrombosis	11005	33	30.3	3.0	2.8	109.0	
Postoperative respiratory failure	8572	5	8.8	0.6	1.0	56.6	
Postoperative sepsis	110	1	1.7	9.1	15.6	58.2	
Postoperative wound dehiscence	375	0	0.3	0	0.8	0.0	

4.0 QUALITY IMPROVEMENT ARISING FROM SJRs

The following themes have been previously identified from SJRs and are being translated into quality improvement projects:

a) Poor quality of some admission clerking notes, particularly in surgery

- The hospital clerking proforma has been revised, and the continuation note paper has had reminder watermarks added to remind staff to date, time, print name/GMC no.

b) Morbidity and Mortality meetings - standardization and governance (see next item)

5.0 MORBIDITY and MORTALITY MEETINGS

Morbidity and mortality meetings are continuing across the Trust, with minutes collated by Divisional Quality Managers.

Specialty	Contact	April	May	June	July	August
Cardiology	Helen Dell,	13.04.21	11.5.21	8.06.21	13.07.21	10.08.21
Renal	Kathleen O'Neill	05.05.21	02.06.21	30.06.21	28.07.21	28.08.21
Vascular	James Metcalfe	Weekly	Weekly	Weekly	Weekly	Weekly
Oncology	Abi Orchard				16.07.21	tbc
ED &Acute Medicine	Tamsin Ribbons & James Ewer	15.04.21	----------	Cancelled	----------	19.08.21
Respiratory	Marianne Docherty	27.4.21	25.5.21	Cancelled	27.07.21	24.08.21
Elderly Care & Stroke	James Richards Harold Proeschel	21.04.21	----------	----------	21.07.21	----------

6.0 LEARNING FROM CORONER'S INQUESTS Q2

DCH has been notified of 10 new Coroner's inquests being opened in the period July 2021 – September 2021.

7 other inquests were held during Quarter 2. 5 inquests were heard as Documentary hearings, not requiring DCH attendance. None required he clinician to attend Court in person. Two required attendance remotely from the DCH 'virtual courtroom' (in THQ) using Microsoft Teams.

We currently have 62 open Inquests. The Coroner has reviewed all outstanding cases to decide whether any can be heard as documentary hearings. 6 pre-inquest reviews were listed during this period.

We continue to work with the Coroner's office, and will continue to support staff at these hearings, an increasing number of which will be attended virtually. The virtual court room set up within Trust Headquarters appears to be working well, and Ms Mandy Ford (DCH) liaises with the coroner's officer to improve the technology and its use.

7.0 LEARNING FROM CLAIMS Q2

Legal claims are dealt with by NHS Resolution, who also produce a scorecard of each Trust's claims pattern and costs.

Claims pattern this Quarter:

New potential claims	7
Disclosed patient records	11
Formal claims	7 clinical negligence, 1 employee claim
Settled claims	4 clinical negligence, 1 employee claim
Closed - no damages	0

8.0 SUMMARY

SHMI has increased markedly to above expected range over the past few months. At least some of this change is likely to be a result of difficulties within the coding department which is manifest in the rise of uncoded 'Primary Diagnoses' to nearly 30%. No other metrics of in-patient care suggest that excess mortality is occurring at DCH, and much of the national data suggests better than average mortality.

Nevertheless the Hospital Mortality Group remains vigilant and will continue to scrutinise and interrogate all available data to confirm or refute this statement on a month by month basis. At the same time internal processes around the completion and recording of SJRs, M&M meetings and Learning from Deaths are now well embedded and working effectively within the Divisional and Care Group Teams.