Oxford University Hospitals
NHS Foundation Trust

Public Trust Board Meeting: Wednesday 08 September 2021

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Title:	**Learning from deaths annual report 2020/21**

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Board Lead:	**Chief Medical Officer**
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Confidential:	**No**
Key Purpose:	**Assurance**

Executive Summary

1. During 2020/21 there were 2517 inpatient deaths reported at OUH. 2402 (95.4%) of cases were reviewed within 8 weeks. Of these 2402 reviews, 1082 (43%) were comprehensive Level 2 reviews and 56 (2.2%) were structured mortality reviews which include 32 structured reviews for patients with learning disabilities.
2. One death was judged more likely than not to have been due to problems in the care provided.
3. There were 484 inpatient deaths reported at OUH involving COVID-19 during 2020/21. The term 'involving COVID-19' refers to deaths that had COVID-19 mentioned anywhere on the death certificate, whether as an underlying cause or not in line with the National reporting guidance.
4. The Medical Examiners have commenced scrutinising cases from July 2020 following the suspension of the implementation to support the COVID-19 response.
5. Key actions and learning points identified in mortality reviews completed during 2020/21 are presented for the Board.

Recommendations

6. The Public Trust Board is asked to receive this paper for information and note the learning identified from mortality reviews.

Contents

Learning from deaths annual report 2020/21

1. Purpose

1.1. This paper summarises the key learning identified in the mortality reviews completed for 2020/21.

2. Background

2.1. The Trust Mortality Review policy requires that all inpatient deaths be reviewed within 8 weeks of the death occurring. All deaths have a Level 1 review. The Level 1 review is a peer review by a consultant not directly involved in the patient's care.

2.2. If there are any concerns identified, a comprehensive Level 2 review is completed involving one or more consultants not directly involved in the patient's care. A structured review, completed by a trained reviewer who was not directly involved in the patient's care, is required if the case complies with one of the mandated criteria.

3. Mortality reviews 2020/21

3.1. During 2020/21 there were 2517 inpatient deaths reported at OUH with 2402 (95.4%) of cases reviewed within 8 weeks. Of these 2402 reviews, there were 1082 (43%) comprehensive Level 2 reviews and 56 (2.2%) structured mortality reviews.

Table 1: Number of mortality reviews 2020/21

Total deaths	Level 1 reviews	Level 2 reviews	Structured reviews	Deaths not reviewed within 8 weeks
2517	1998 (79%)	1082 (43%)	56 (2%)	115 (4.6%)

3.2. All deaths involving Covid-19 are reviewed to confirm if inclusion in the nosocomial SIRI is required. All deaths during quarter 3 have been retrospectively reviewed.

3.3. Divisions with deaths which were not reviewed within 8 weeks have been requested to complete a Level 1 screening review and compliance is monitored via the monthly Mortality Review Group meeting.

3.4. A breakdown of deaths by ethnicity for both COVID-19 and non-COVID-19 deaths can be seen in graph 6 (page 12).

3.5. The triggers for the structured reviews are listed in Table 2. The main triggers for structured reviews patients with learning disabilities (32) and concerns from staff (22).

Table 2: Criteria for structured mortality reviews for 2020/21

Criteria for structured review	Number of reviews
Learning disabilities	32
Concern from staff	14
Concern from family	1
Concern from family and from staff	3
Serious Incident Requiring Investigation (SIRI)	1
Concern from staff and Coroner's Inquest	5
Concern from ME and Coroner's Inquest	0

3.6. Each Division maintains a log of actions from mortality reviews and monitors progress by their clinical units and are responsible for dissemination of the learning and implementation of actions. The Divisions provide updates on actions in the monthly quality reports to the Clinical Governance Committee and provide updates to the Mortality Review Group (MRG) on the previous quarter's actions as part of the next quarter's mortality report.

3.7. All learning disability structured mortality reviews are presented at the monthly Mortality Review Group meeting.

3.8. During 2020/21, one patient death was judged more likely than not to have been due to problems in the care provided. The case related to a patient with severe aortic stenosis whose planned surgery was suspended because of COVID-19. The plan was amended to implantation of a pacemaker, but the patient died in the community before this was completed. This case was reviewed as the patient died while on the waiting list for cardiac surgery in the presence of the Coronavirus outbreak of 2020. The purpose of the review was primarily to identify if the changes in clinical pathways around COVID-19 had impacted on the outcome. This patient's death occurred because of a large stroke. This was presumed embolus from the left atrial appendage clot, which was noted at the time of his last admission to OUH in April 2020. He was appropriately anti-coagulated. His death was unexpected and unavoidable in that context. This was not therefore directly related to the circumstances around COVID-19.

4. Medical Examiner System

4.1. The current Medical Examiner (ME) system comprises 0.9 full-time equivalent (FTEs) Medical Examiners supported by the existing

Bereavement Officers who have taken on the role of Medical Examiner Officers.

4.2. By the end of quarter 4 the aim of the Medical Examiner system was to scrutinise all deaths within the Trust but due to the increase in deaths associated with the Covid-19 pandemic and several MEs being redeployed to support clinical services this target was postponed.

4.3. The Medical Examiner system now plans to begin scrutinising deaths outside the acute Trust, in a phased process with an initial focus on the Hospices. Both Sobell House Hospice and Katherine House Hospice report all deaths through the Bereavement services following their recent merger.

5. Examples of learning and actions from mortality reviews 2020/21

Review of practice, pathways, and procedures:

5.1. The Cardiothoracic Ward team are completing a review of practice including documentation of admission assessments, daily reviews and review of results. A review of bed capacity is included to identify how frequently operations are postponed/cancelled and what can be done to mitigate this.

5.2. The Infectious Diseases Unit are completing an audit of new HIV diagnoses and possible missed opportunities for diagnosis.

5.3. Following the review of a case of a patient who had a post biopsy haemorrhage, the Neurosurgery team have agreed that closed biopsies will not be performed in clinical neuro-oncology unless indicated, and in future an open mini craniotomy will be performed in order to do a biopsy.

5.4. To improve communication with local paediatricians, the Paediatric Critical Care Unit are conducting audits to identify what community and primary care professionals would like to be informed about when their patients with complex needs are admitted for prolonged periods. In the interim, a system on CareVue (critical care electronic clinical information system) has been implemented to prompt and record telephone contact with local paediatricians for all patients admitted for more than two weeks and then to prompt a monthly contact during the admission.

5.5. The Emergency Department team will be completing an audit of the results of ECG findings from the new electronic recording system. The audit findings will be presented at the Unit Clinical Governance meeting and submitted to the Divisional Clinical Governance team.

5.6 Following the investigation of a patient admitted with a haemothorax, the Emergency Department team will share the OUH ‘Adult Blunt Chest Wall Injury Pathway’ with the patient’s GP and the Oxfordshire Clinical

Commissioning Group (OCCG). The OCCG will include a summary of the guidance in the GP Bulletin to support collaborative working.

5.7 Following the investigation of an intrauterine death, the Maternity Directorate have updated the OUH 'Hypertension in Pregnancy Guideline' to ensure alignment with the National Institute for Health and Care Excellence (NICE) guideline for hypertension in pregnancy. Guidance on blood pressure thresholds and monitoring in pregnant women are to be included in the OCCG weekly GP Bulletin with a reminder that the OUH guidelines can be accessed in the Maternity pages on the OCCG website.

5.8 The Maternity Assessment Unit (MAU) are trialling a 'triage pathway' to address delays in transfers of patients from MAU to the Delivery Suite.

5.9 The Horton General Hospital Emergency Assessment Unit (HGH-EAU) Senior Nursing team have implemented a system of reviewing all discharges from the previous day to ensure that the TTO's (to take out) have been completed and that the patients have the medication.

5.10 The Infectious Diseases team have designated a consultant to provide specialist infection input for patients under the care of the Outpatient Parenteral Antimicrobial Therapy (OPAT) service.

5.11 The Paediatric Critical Care team have developed guidelines for the transfer of patients to Helen and Douglas House Hospice for compassionate extubation.

5.12 A 'Red Flag' checklist for patients who are post neck surgery and at risk for airway complications is being developed and once ratified would be available at the bedside so that escalation can begin as early as possible. A collaborative project to design a 'neck surgery emergency equipment box' is to be undertaken by a multidisciplinary group across directorates where surgery with similar risks occurs and incorporating learning from the incident involving a patient who had thyroid surgery.

5.13 There has been a Trust wide safety message to increase awareness within the Trust of the requirement to contact the obstetric team within 1 hour of arrival for pregnant patients and patients in the puerperium.

5.14 The Interpreting and Translation Service are discussing with the Psychological Medicine team options for additional support for interpreters involved in difficult and potentially distressing conversations.

5.15 The Oncology Unit highlighted the need for a dedicated Teenage and Young Adult (TYA) Unit to manage the specific needs of complex young patients. This issue has been previously escalated by the Directorate and is on the Risk Register.

5.16 The Child Mortality Review team will be developing a guideline to assist operational managers and senior professionals with unexpected child deaths. There will be further training for the Emergency Department regarding the management of unexpected child death, with particular emphasis on multi-agency working and processes.

5.17 The Renal team will review the quality of patient transfers from the Renal Ward to community hospitals to identify whether there are areas which could be improved.

5.18 The Stroke Unit have implemented a weekly tracheostomy multi-disciplinary (MDT) meeting and ward simulation training to assist staff in the management of complex tracheostomies.

5.19 The Learning Disability team will author a Trust-wide Safety Message highlighting the importance of uploading and referencing Hospital Passports on EPR for patients with learning disabilities.

5.20 A small group of consultants has been identified to reintroduce percutaneous tracheostomy in adult ICU.

5.21 Education for ED staff about the latest guidelines for intravenous thrombolysis in acute stroke, with a reminder that bolus times must be accurately reported on EPR.

5.22 The radiology clinical governance lead will discuss radiology report addenda that are not being actioned.

5.23 The default ventilation mode for babies with hypoxic ischaemic encephalopathy will be changed to synchronised intermittent mandatory ventilation to avoid hypocarbia.

5.24 A concern will be raised with the Coroner about post-mortem results for babies reaching families without a professional to guide them through the results.

5.25 Paediatric Oncology will review their SOP for referral to Psychological Medicine where there are concerns about parental mental health, to cover all family members.

5.26 The importance of attention to whether patient weight is estimated or measured when prescribing medications was highlighted.

5.27 The Oxford Kidney Unit has identified patients who may benefit from renal supportive care through application of a renal supportive care register and associated toolkit. Some end-of-life patients may choose to stop dialysis and it is important to establish their wishes regarding future care.

Training and education:

5.28 Sobell House Hospice have made recordings of the Mortality and Morbidity meetings held on Microsoft Teams available on the Unit's shared drive so that those members of the clinical team who were unable to attend can view the discussions and the learning points highlighted.

5.29 The Perinatal Mortality Review Group identified that further training is required on the recognition and treatment of chorioamnionitis. There are plans to further embed the existing learning on chorioamnionitis in the new Practical Obstetric Multi-Professional Training (PROMPT) curriculum.

Supporting staff:

5.30 During the presentation of the findings from the Healthcare Safety Investigation Branch (HSIB) investigation of a maternal death which occurred in quarter 1 of 2019/20, the clinical teams described the impact of the patient's death on the staff involved with her care and underlined that additional support for staff wellbeing was required. The Mortality Review Group recognised that a more definitive solution was needed to provide support for staff when dealing with difficult cases. The HSIB investigation did not advise any safety recommendations.

6. Serious Incident Requiring Investigations (SIRIs) with a related death

5.31 All SIRI related deaths are presented to MRG by the Lead Investigator.

5.32 During 2020/21, there were 14 SIRIs involving patients who died.

5.33 Cases of SIRIs involving a death also have a structured mortality review in accordance with national guidance. The learning points and actions are included in section 5 of this report. During 2020/21, one patient death was judged more likely than not to have been due to problems in the care provided.

7. Analysis of COVID-19 deaths

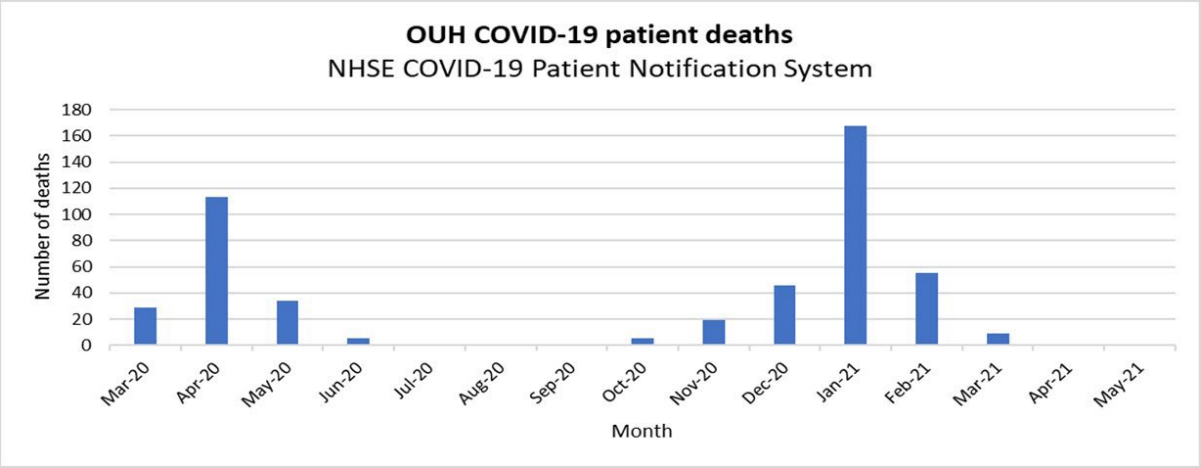
7.1. There were 484 inpatient deaths reported at OUH involving COVID-19 during 2020/21. The term 'involving COVID-19' refers to deaths that had COVID-19 mentioned anywhere on the death certificate, whether as an underlying cause or not in line with the National reporting guidance.

7.2. Of these there were 41 probable OUH hospital-onset healthcare-associated COVID-19 infections and 8 definite. There is one overarching SIRI report (20/21-071) being authored for all cases of nosocomial COVID-19 deaths. Once completed this SIRI report is to be presented at MRG.

7.3. The COVID-19 survival rate at the Trust was 77% and the COVID-19 mortality rate was 23%.

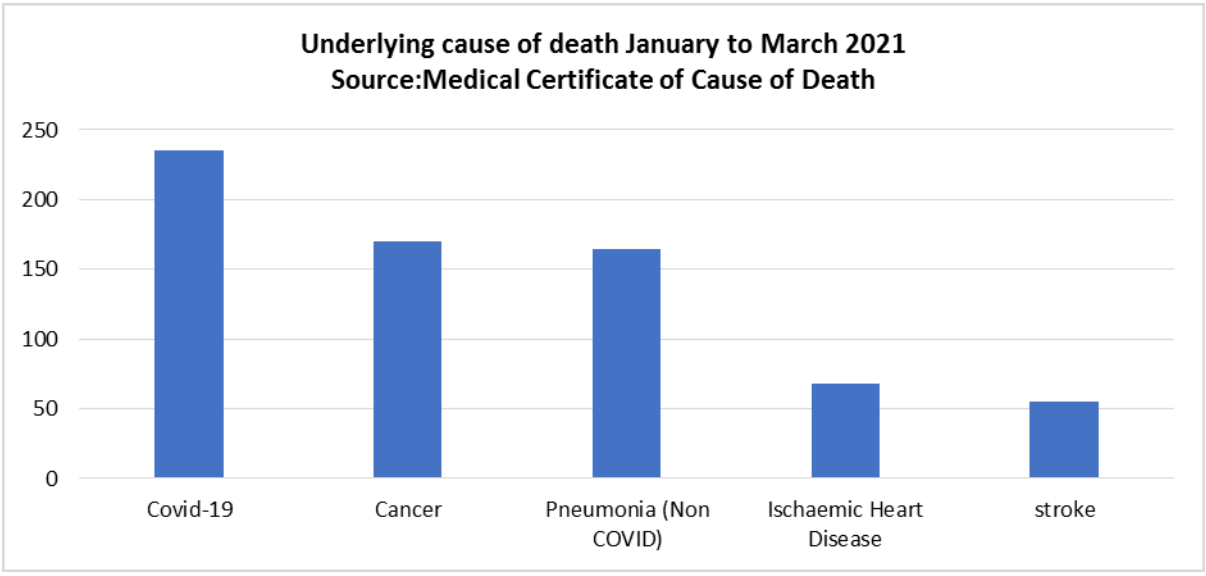
7.4. The majority of COVID-19 deaths occurred in April 2020 and January 2021 (Chart 1).

Chart 1: OUH COVID-19 patient deaths by month of death:



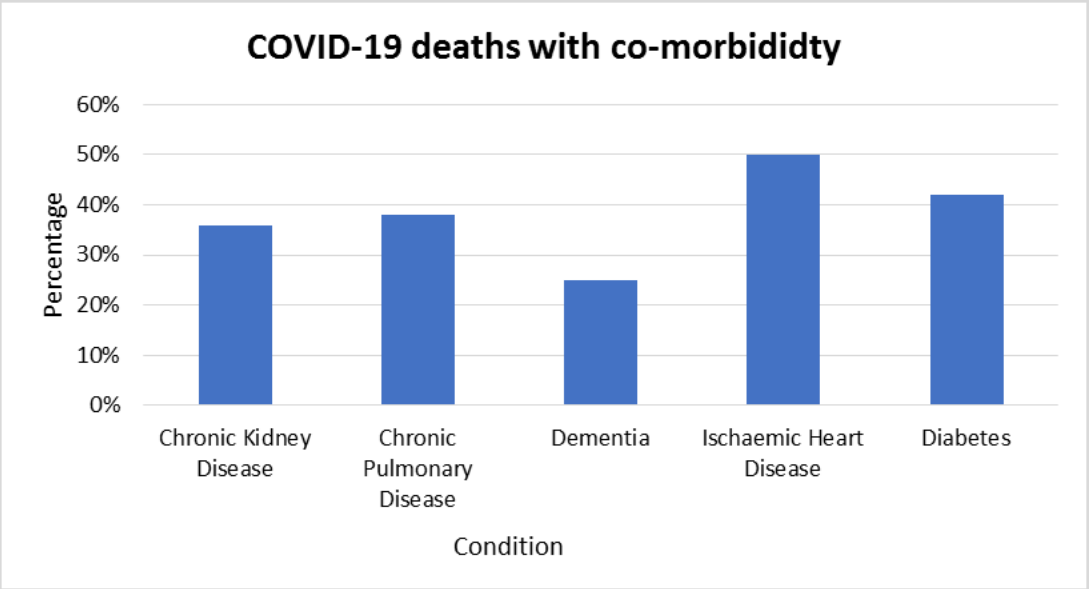
7.5. Between January and March 2021, the most frequently recorded underlying cause of death was cancer or COVID-19 (Chart 2).

Chart 2: Underlying cause of death on Medical Certificate of Cause of Death (MCCD):



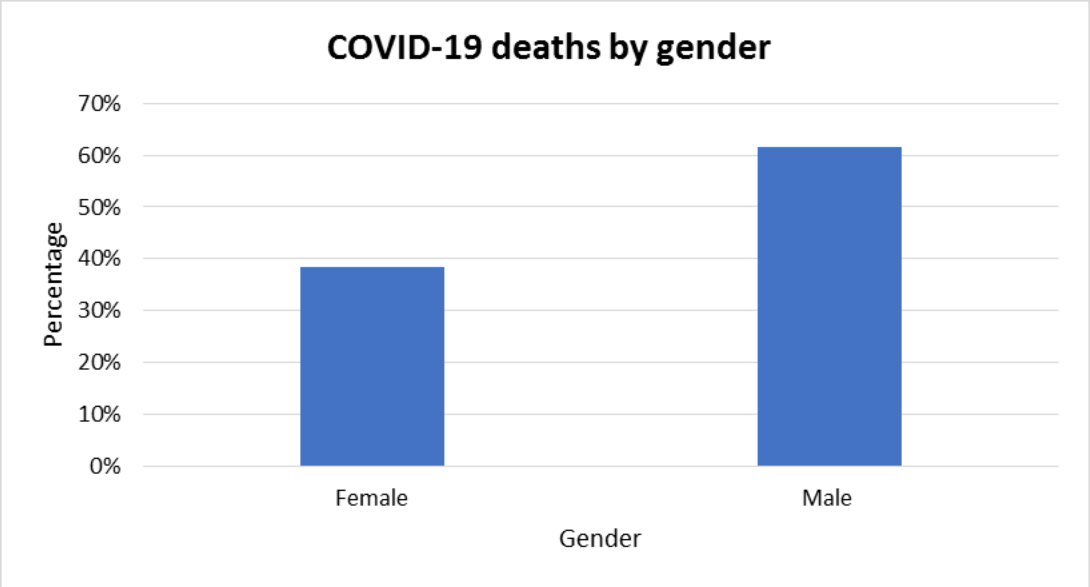
7.6. Ischaemic heart disease and diabetes were the most common co-morbidity found in deaths involving COVID-19 (Chart 3).

Chart 3: COVID-19 deaths with co-morbidity:



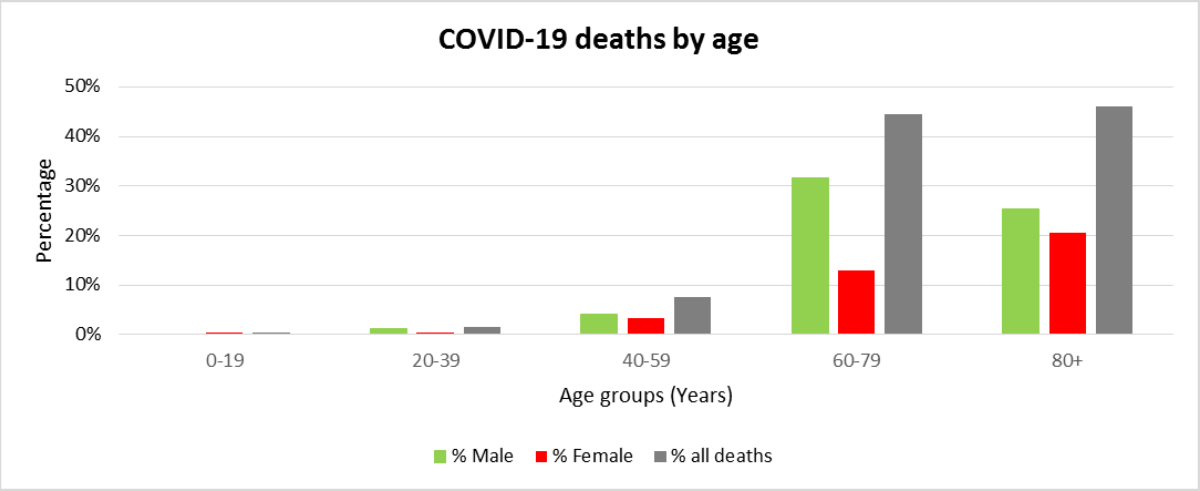
7.7. Male patients had a higher mortality due to COVID-19 when compared to female patients (Chart 4).

Chart 4: COVID-19 deaths – male compared to female patients:



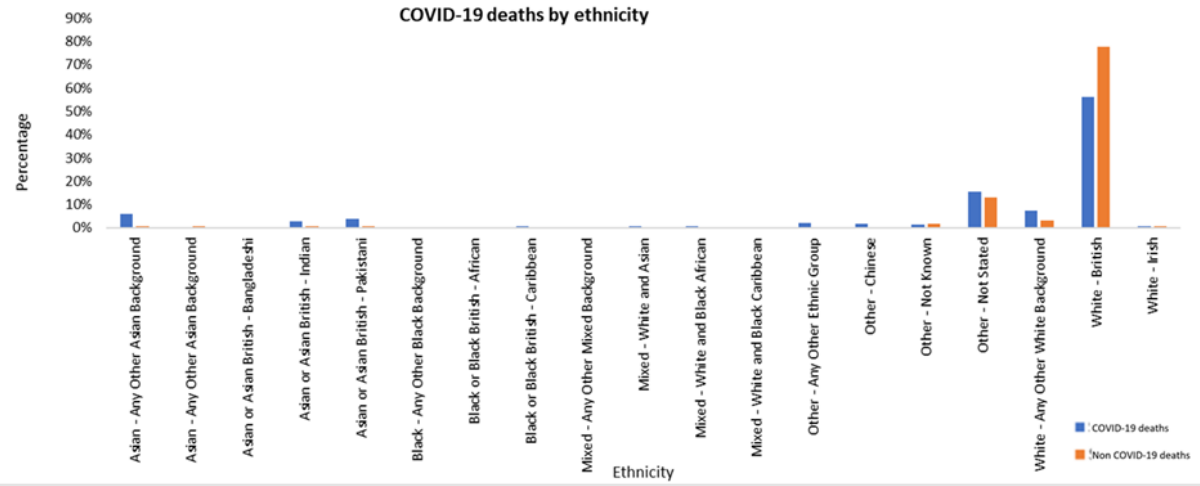
7.8. The majority of COVID-19 deaths were reported in patients over 80 years of age (Chart 5).

Chart 5: COVID-19 deaths – patient age:



7.9. 19% of COVID-19 deaths were of BAME patients or patients with a mixed heritage including BAME, as can be seen in Chart 6. This is a far higher rate than seen with non-COVID deaths at the Trust (5%).

Chart 6: COVID-19 deaths Vs Non COVID-19 deaths – ethnicity:



7.10. In line with national guidance, all patients who died with a probable or definite diagnosis of nosocomial COVID-19 are being investigated at SIRI level. This is the case if COVID-19 is listed anywhere in cause 1 or 2 of the MCCD.

7.11. Originally each case was called as a separate SIRI, but following discussion with NHS England, and in agreement with commissioners, these were combined, and a single SIRI is being used to manage all cases. The local reference for this SIRI is 2021-071.

7.12. To date, 55 probable and nosocomial cases have been added to this over- arching SIRI, along with 2 further cases where nosocomial infection was indeterminate, but which had been flagged by the Medical Examiners.

7.13. The Trust is creating individual summaries for each of these cases and overarching narrative which will be offered to the patients' relatives. Once all individual investigations have been completed, a final report against 2021-071 will be created by Patient Safety Team to summarise all causative issues and learning.

7.14. In Quarter 4 the Deputy Chief Medical Officer instigated regular meetings to manage this process, to review draft summaries and to identify thematic issues across all cases.

8. COVID-19 related learning

8.1. There were concerns about the role of the Extracorporeal Membrane Oxygenation (ECMO) service in the care of COVID-19 patients and the impact of the introduction of an alternative scoring system. These concerns have been relayed to the ECMO provider and the role of ECMO in the management of COVID-19 is under review.

8.2. Additional learning regarding the roles of anticoagulation, tracheostomies and sedation strategies will be integrated into a model of care for COVID-19 patients in a further surge.

8.3. The role of the Respiratory HDU was noted to have been critical in the safe and effective management of COVID-19 patients.

8.4. Standard PPE has been amended to include the use of short-sleeved gowns, which have been proven to reduce the transfer of infection.

8.5. A joint mortality and morbidity meeting between ICU and Respiratory is planned to optimise the learning from Quarter 4, which was dominated by wave 2 of the pandemic.

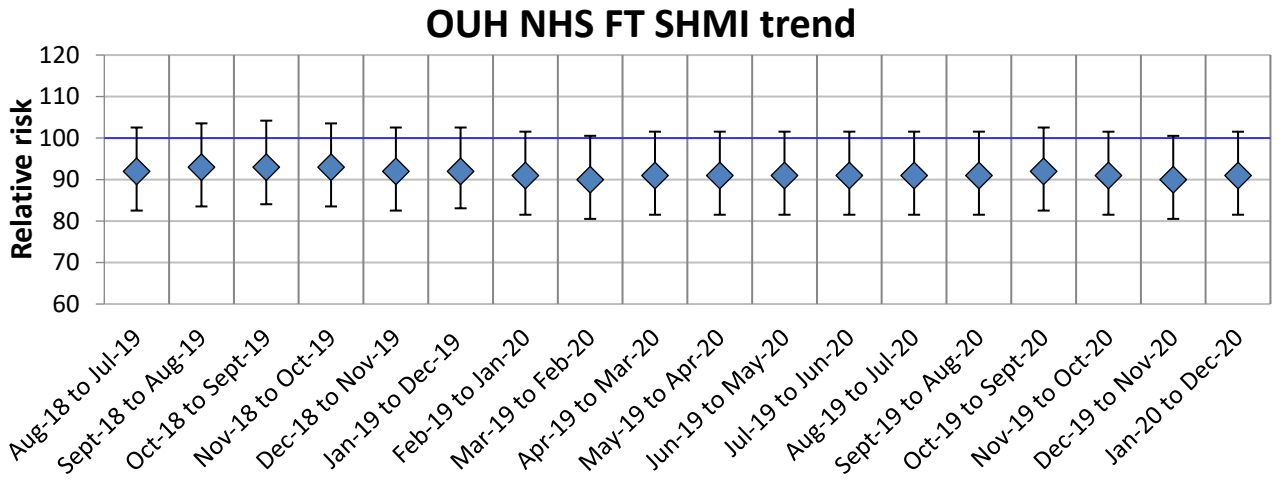
8.6. COVID-19 affects post-surgical recovery; Spinal surgery is now being delayed for patients with a COVID-19 infection, to allow full recovery.

9. Summary Hospital-level Mortality Indicator (SHMI) and Hospital Standardised Mortality Ratio (HSMR)

9.1. There have been no mortality outliers reported for OUH from the CQC or the Dr Foster Unit at Imperial College during 2020/21.

9.2. The SHMI for the data period 2020/21 is 0.91. This is rated 'as expected.' Chart 1 depicts the SHMI trend. The SHMI has remained rated 'as expected.'

Chart 1: SHMI trend (Presented with a baseline of 100 to enable comparison to the HSMR)



9.3. The HSMR is 91.2 for 2020/21. This is rated as 'lower than expected.' Chart 2 depicts the HSMR trend. The HSMR has remained rated 'lower than expected.'

9.4. COVID-19 activity is excluded from the SHMI. NHS Digital have advised that the SHMI is not designed for this type of pandemic activity and the statistical modelling used to calculate the SHMI may not be as robust if such activity were included. Activity that is being coded as COVID-19, and therefore excluded, is monitored in a new contextual indicator 'Percentage of provider spells with COVID-19 coding'.

Chart 2: HSMR trend

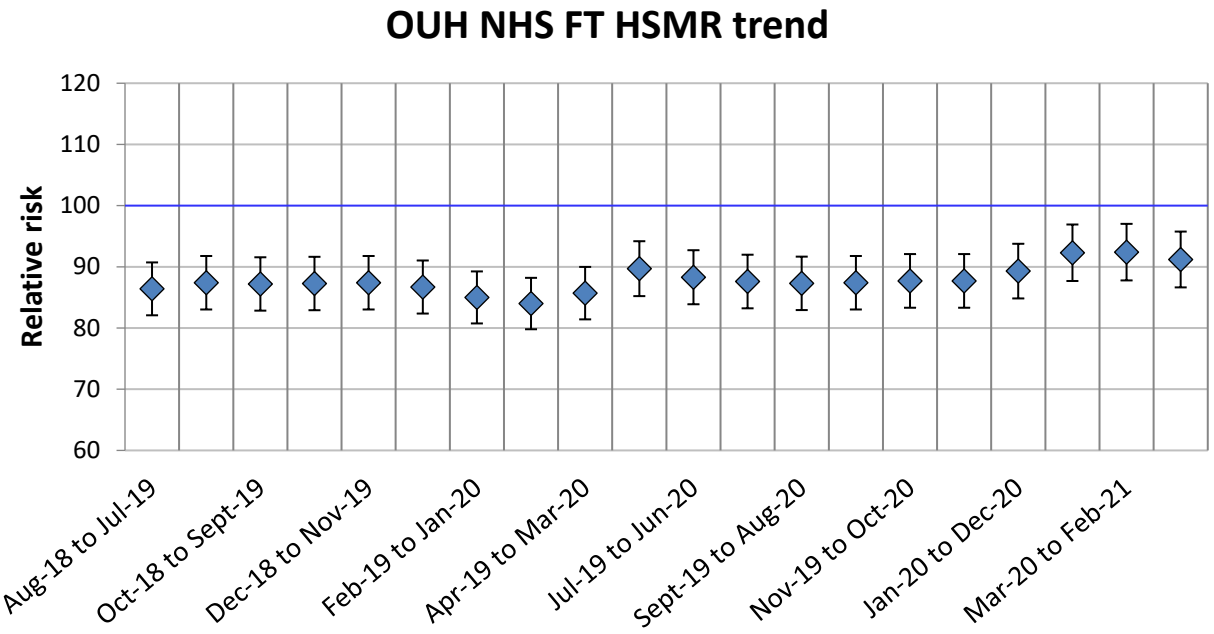


Table 1 – HSMR diagnoses with the highest numbers of deaths

Diagnosis group (CCS)	Obs	Exp	Obs. - Exp.	Relative Risk	Lower CL	Upper CL
Pneumonia	200	246.5	-46.5	81.1	70.3	93.2
Acute cerebrovascular disease	171	183.8	-12.8	93	79.6	108.1
Septicaemia (except in labour)	154	150.6	3.4	102.3	86.8	119.8
Aspiration pneumonitis food/vomitus	59	62.9	-3.9	93.8	71.4	121
Acute myocardial infarction	56	52	-4	107.7	81.4	139.9
Secondary malignancies	55	43.5	-11.5	126.5	95.3	164.6
Congestive heart failure, nonhypertensive	55	102.9	-47.9	53.4	40.3	69.6
Intracranial injury	54	61.8	-7.8	87.3	65.6	114
Acute and unspecified renal failure	54	60.6	-6.6	89.2	67	116.3
Cancer of bronchus, lung	49	51.1	-2.1	95.9	70.9	126.8

Table 2 – HSMR diagnoses with the lowest numbers of deaths

Diagnosis group	Obs	Exp	Obs. - Exp.	Relative Risk	Lower CL	Upper CL
Syncope	1	2.5	-1.5	39.2	0.5	218.2
Non-infectious gastroenteritis	1	1.8	-0.8	54.3	0.7	302.1
Abdominal pain	2	2.1	-0.1	96.9	10.9	350
Other upper respiratory disease	3	7.7	-4.7	38.9	7.8	113.8
Deficiency and other anaemia	4	8.4	-4.4	47.6	12.8	121.9
Peritonitis and intestinal abscess	4	5.6	-1.6	71.9	18.3	184.1
Chronic ulcer of skin	5	6.9	-1.9	72.4	23.3	169
Chronic renal failure	6	9	-3	66.7	24.4	145.2
Skin and subcutaneous tissue infections	8	17.9	-9.9	44.6	19.2	87.9

Cancer of stomach	8	8	0	99.5	48.2	196

9.5. The Trust HSMR is benchmarked:

- 3rd of 8 acute non-specialist peers
- 2nd of 7 peers with on-site hospice
- 3rd of 10 teaching trusts with similar volume

Crude Mortality

9.6. Crude mortality gives a contemporaneous but not risk-adjusted view of mortality across OUH. Chart 3 presents the crude mortality for OUH.

Chart 3: Crude Mortality

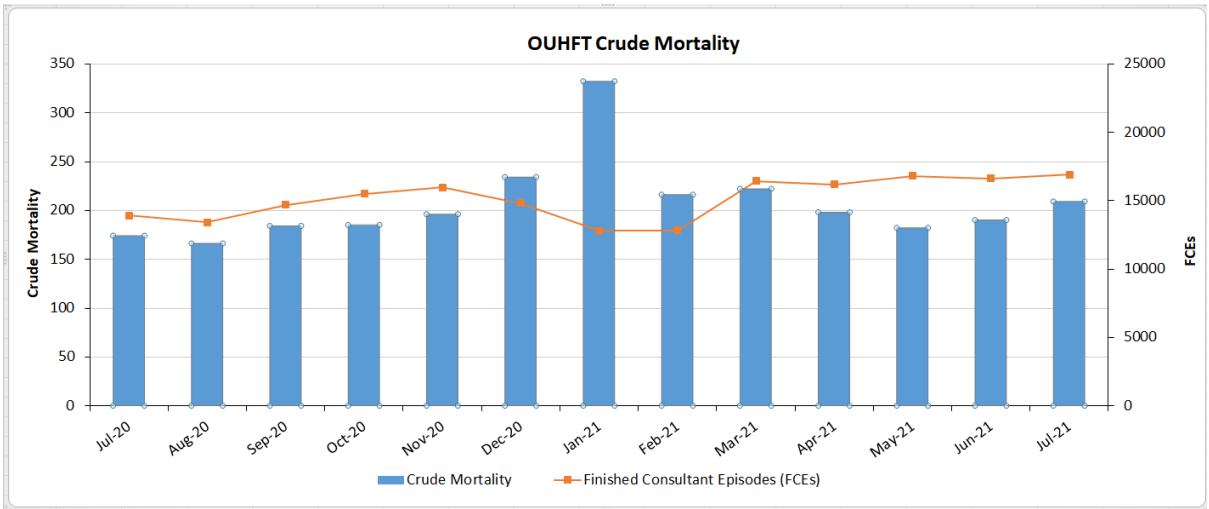
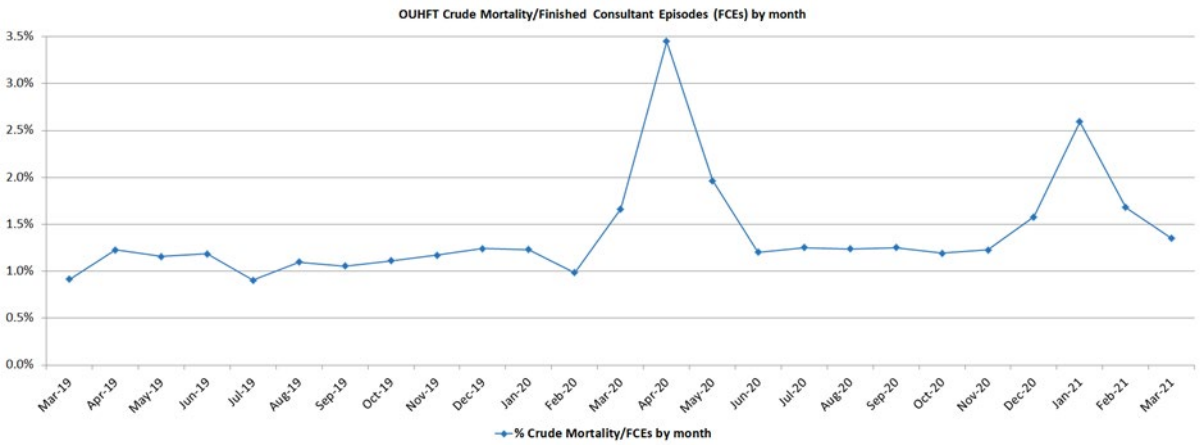


Chart 4: Crude Mortality rate by Finished Consultant Episodes (FCEs)

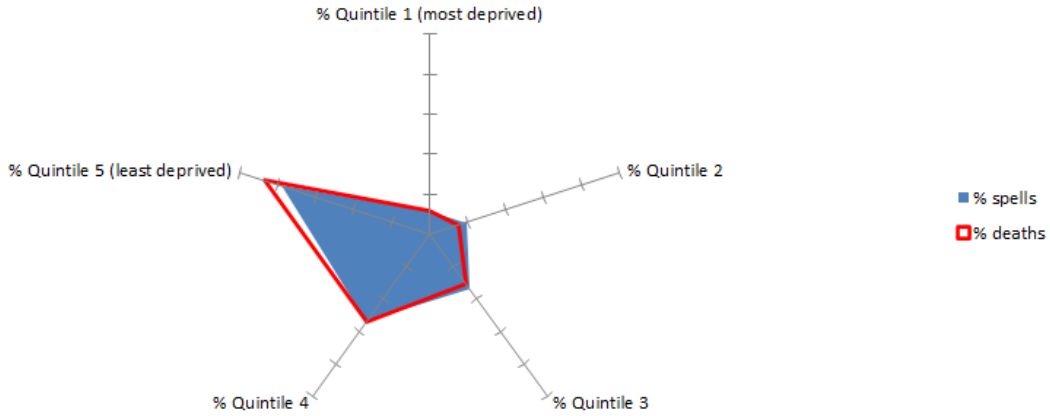


9.7. NHS Digital reference the same spell level information which was used to calculate the SHMI to report the percentage rates of deaths under each social deprivation quintile.

9.8. Deprivation quintiles are calculated using the Index of Multiple Deprivation (IMD) Overall Rank field in the Hospital Episodes Statistics (HES) dataset which is based on a weighted combination of factors such as income; employment; health deprivation and disability; education, skills, and training; barriers to housing and services; crime and living environment.

9.9. Chart 5 displays the percentage breakdown of spells and deaths by deprivation quintile. There remains a higher percentage of deaths in the least deprived group (quintile 5) relative to the percentage of spells attributed to those quintiles; conversely there were fewer deaths observed in quintile 2 relative to the number of spells linked to that group.

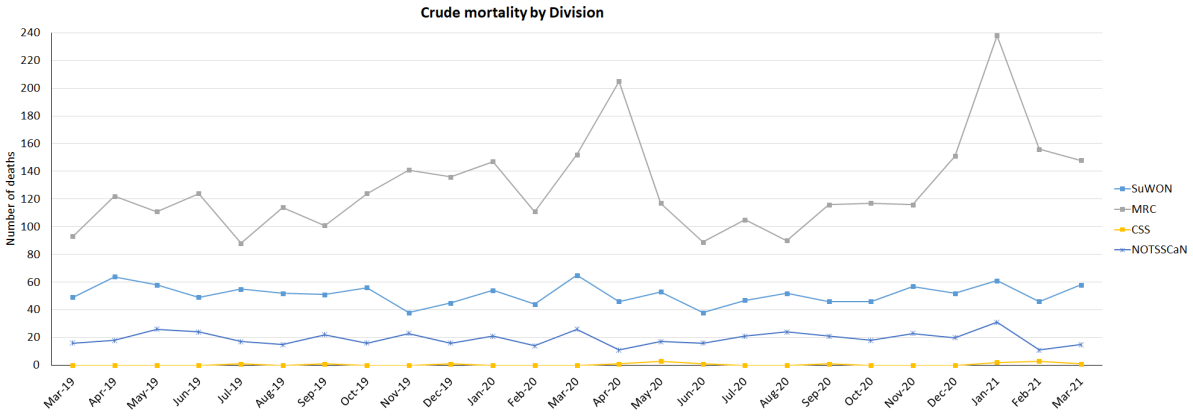
Chart 5: % SHMI spells and deaths by deprivation quintile



9.10. During 2020/21:

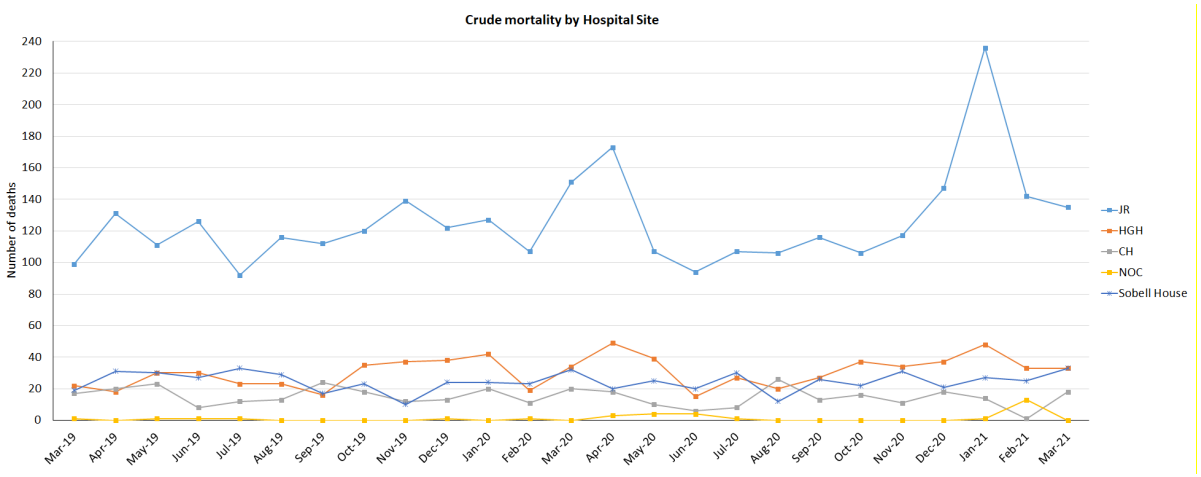
- Neurosciences, Orthopaedics, Trauma, Specialist Surgery, Children's, and Neonatology Division reported that 229 patients died from a total of 46,320 discharges.
- Medical Rehabilitation and Cardiac Division reported that 1672 patients died from a total of 54,501 discharges.
- Surgery, Women's and Oncology Division reported that 603 patients died from a total of 58,896 discharges.
- Clinical Support Services Division reported 128 deaths in the Critical Care Units from a total of 1,584 discharges.
- Chart 6 presents the crude mortality by Division.

Chart 6: Crude Mortality by Division



9.11. Chart 7 depicts the crude mortality by hospital site. Most deaths occur at the John Radcliffe Hospital which has the highest activity.

Chart 7: Crude Mortality by Site



8 Conclusion

8.1 In accordance with national mortality guidance, the Trust has implemented a revised mortality review policy and implemented structured mortality reviews since quarter three of 2017/18. This paper summarises the learning identified in the mortality reviews completed during 2020/21.

9 Recommendations

9.1 The Public Trust Board is asked to receive this paper for information and note the learning identified in mortality reviews.