The workload of a medical examiner service at an acute National Health Service hospital during the COVID-19 pandemic: The Norfolk & Norwich University Hospital experience

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Abstract
The COVID-19 pandemic commenced in March 2020. In May 2019, a new Medical Examiner system was introduced to scrutinise deaths of patients dying within acute National Health Service Trusts. The Coronavirus Act 2020 which came into force in March 2020 modified certification of death requirements. Newly formed Medical Examiner Services were advised they could suspend scrutiny during the pandemic. The Norfolk & Norwich University Hospital Medical Examiner Service (NNUH MES) continued to scrutinise patient deaths throughout. This study summarises the workload of the NNUH MES from 1st June 2020 to 31st May 2021 over which period 2856 deaths were recorded and 2687 scrutinised by the Medical Examiners.

Introduction
A Medical Examiner (ME) in England & Wales is an independent, senior doctor who reviews (scrutinises) deaths that are not investigated by the England and Wales coronial system.¹

In 2019 there were 530,841 deaths in England and Wales² with 219,900 (41.4%) notified to HM Coroner, and of these deaths postmortem examinations were held for 82,072 (37.3%). The overall number of deaths increased due to the Coronavirus pandemic in 2020 totalling 607,921² with proportionally fewer deaths notified to HM Coroner - 205,438 (33.7%). Postmortem (which may be held before HM Coroner decides to open an inquest) examinations were held for 79,400 (38.6%) of these deaths.³ There were 32,000 inquests (14.55% of deaths reported to the Coroner) opened in 2020 compared with 30,000 (14.60%) in 2019. When the ME system is fully implemented it is likely to be responsible for the scrutiny of up to 400,000 deaths per annum. The National Medical Examiner has reported that Medical Examiners scrutinised over 50,000 deaths in England and Wales in October-December 2021.⁴

The ME system is a new process established to improve the medico-legal investigation of death. It has been developed to address perceived gaps in review of all deaths, to identify patient safety issues, and to prevent previously identified scenarios where the concerns of families and whistle-blowers about care of the deceased have been ignored. The ME system is currently on a non-statutory footing, but that is likely to change to a statutory basis by 2022/2023.⁵

The term ME is referred to at para 17.29 of Dame Janet Smith’s 3rd report⁶ in which reference is made to establishing the role of Medical Coroner (‘17.29 The Society of Registration Officers suggested that the office of medical coroner should be a statutory post, independent from the NHS, with accountability passing up to a Chief Medical Coroner (the Society favoured the term ‘Medical Examiner’) at the head of a free-standing national agency’). It was more than 20 years after Harold Shipman was convicted and 10 years after the Coroners & Justice Act⁷ before a national rollout of MEs was begun, and then, not in the structure envisaged in the Act⁸. In the

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interim other hospital-based scandals have been the subject of major inquiries.9

The Report of the Mid-Staffordshire NHS Foundation Trust Public Inquiry10 identified numerous, serious failures in care between 2005 and 2009 and made specific reference to the need for an Independent Medical Examiner system. Table 1 shows the recommendations about MEs. The Report recognised that ‘Significant changes have occurred in the coronial court system since the events under review, including the appointment of a Chief Coroner and the creation of the new post of Independent Medical Examiner (IME)’. The Department of Health11 published a Consultation (Introduction of Medical Examiners and Reforms to Death Certification in England & Wales: Policy and Draft Regulations). The expectations and intended benefits for the new ME system were expressed in that document as:

‘It will be fair - all deaths will be scrutinised in a robust, and proportionate way regardless of whether they are followed by burial or cremation;

It will be independent - a medical examiner will scrutinise all medical certificates of cause of death (MCCD) prepared by the attending doctor;

It will be transparent - families will have the cause of death explained to them, including clarification of medical terms, and be able to ask questions or raise concerns;

It will be robust – there will be a protocol that recognises different levels of risk depending on the circumstances and stated cause of death;

It will be accurate - the medical examiner will be an experienced doctor, capable of ensuring that the MCCD is completed fully and accurately, providing the NHS, the Office for National Statistics, local authorities and wide range of other users with better quality cause of death statistics to inform health policy, the planning and evaluation of health services and international comparisons;

It will be efficient - it will help to make sure that the right cases are reported to coroners; and

It will improve safety – the new system will allow easier identification of trends, unusual patterns and local clinical governance issues and make malpractice easier to detect.’

From April 2019, a national system of MEs was introduced to acute NHS trusts (and some specialist trusts) in England, and local health boards in Wales. MEs supported by Medical Examiner Officers (MEOs) scrutinise all deaths that do not fall under the HM Coroner’s jurisdiction across a local area. MEs are trained, independent, senior doctors. MEs and MEOs are employed in the NHS system but have an additional, separate professional line of accountability to Regional and National ME teams. Independence is overseen by the National Medical Examiner supported by 7 Regional Teams of Regional MEs and Regional MEOs.5

Most trusts will have a Lead Medical Examiner supported by a number of MEs who may come from a range of different medical specialities. MEs generally work part-time.

Nine months into the roll-out of the national ME system, health services were facing unprecedented pressure. The

Table 1. Recommendations relating to medical examiners from the 2013 report of the Mid-staffordshire NHS foundation trust public inquiry.

| Recommendation |
|----------------|
| 275 Independent medical examiners. It is of considerable importance that independent medical examiners are independent of the organisation whose patients’ deaths are being scrutinised. |
| 276 Sufficient numbers of independent medical examiners need to be appointed and resourced to ensure that they can give proper attention to the workload. |
| 277 Death certification. National guidance should set out standard methodologies for approaching the certification of the cause of death to ensure, so far as possible, that similar approaches are universal. |
| 278 It should be a routine part of an independent medical examiner’s role to seek out and consider any serious untoward incidents or adverse incident reports relating to the deceased, to ensure that all circumstances are taken into account whether or not referred to in the medical records. |
| 279 So far as is practicable, the responsibility for certifying the cause of death should be undertaken and fulfilled by the consultant, or another senior and fully qualified clinician in charge of a patient’s case or treatment. |
| 280 Appropriate and sensitive contact with bereaved families. Both the bereaved family and the certifying doctor should be asked whether they have any concerns about the death or the circumstances surrounding it, and guidance should be given to hospital staff encouraging them to raise any concerns they may have with the independent medical examiner. |
| 281 It is important that independent medical examiners and any others having to approach families for this purpose have careful training in how to undertake this sensitive task in a manner least likely to cause additional and unnecessary distress. |
World Health Organization\textsuperscript{12} on March 11, 2020, declared the novel coronavirus (COVID-19) outbreak a global pandemic. In response to the pandemic the Coronavirus Act\textsuperscript{13} provided easements to improve the flow of excessive deaths. Despite the massively increased workload, and the option of pausing development, many ME Services opted to progress throughout. Indeed ME Services played an important role in the pandemic response in a variety of ways including supporting frontline clinicians in writing Medical Certificates of Cause of Death (MCCD) or becoming full-time certifiers of death releasing frontline doctors from this administrative task so that they could prioritise frontline caring duties. In part this was driven by the consideration that at times of pressure, more mistakes or errors might be made, and this was exactly the time when competent and independent oversight was required. Guidance was issued by NHS England & NHS Improvement about Coronavirus Act easements which simplified and streamlined many death certification functions and if anything, it appears that the coronavirus pandemic made the development of the ME system even more relevant.\textsuperscript{14} In March 2022 some of the Coronavirus Act easements have been removed to (for example for any medical practitioner to be able to complete the MCCD), whilst some are retained including the requirement for a deceased patient to have seen a doctor within 28 days of death (previously 14 days) and the Cremation Form 5 will not be reintroduced.\textsuperscript{15}

The initial phase of introduction of ME Services focused exclusively on acute hospital trusts and all were asked to set up (starting in April 2019) Medical Examiner Offices focusing on deaths within their own organisation on a non-statutory basis.

The role of the Medical Examiner within each local Medical Examiner Service (MES) is to consider, the following issues during scrutiny:

- What did the person die from? (ensuring accuracy of cause of death on the Medical Certificate of Cause of Death)
- Does the case need to be notified to a HM Coroner? (ensuring timely, appropriate referral)
- Are there concerns about the quality and safety of care provided? This is achieved by proportionate review of the medical record and by speaking to bereaved families and carers. (ensuring the relevant authority is notified)

The Norfolk & Norwich University Hospital (NNUH) is a National Health Service academic teaching hospital in the Norwich Research Park in Norwich, England. It has over 1200 acute beds and is one of the largest hospitals in the United Kingdom in terms of in-patient capacity. The hospital is part of the Norfolk and Norwich University Hospitals NHS Foundation Trust. It provides care to a population of around one million people from Norfolk and surrounding areas. It provides a full range of acute clinical services, including more specialist services such as oncology and radiotherapy, neonatology, trauma and orthopaedics, plastic surgery, vascular surgery, robotic surgery, bone marrow transplants, interventional radiology, brachytherapy, specialist cardiology, paediatric medicine and surgery.

**Aims**

The aim of this study is to provide an overview of the workload of the NNUH MES during the COVID-19 pandemic.

**Methods**

All deaths scrutinised by the NNUH were recorded on the ME-1B electronic form (see Figure 1) and data stored on a bespoke Excel database recording all essential functions of the Medical Examiner scrutiny. Data were extracted from this database.

**Results**

NNUH Medical Examiner Service (NNUH MES) data from the period 1st June 2020 to 31st May 2021 were reviewed. At this time the NNUH MES had 1 WTE Medical Examiner (made up of 8 part-time MEs) and 2 MEOs (recruited from 1st June 2020).

Within the relevant period, there were 2856 deaths in the Trust (excluding stillbirths which do not come within the remit of the MES). The MES reviewed and scrutinised a total of 2687 (94.08\%) of in-hospital deaths. 2682 (99.81\%) patients were coded as ‘white British’, 5 (0.19\%) were from an ‘unknown/other’ ethnic background.

Figure 2 shows the number of deaths for each month (June 2020-May 2021) compared with the number of cases scrutinised by the NNUH MES.

A total of 2394 (89\%) bereaved families were spoken to during this period. A total of 8 (0.29\%) families declined to speak to the MES; for 194 (7.21\%) cases there was no response when called and in 110 (4.09\%) cases there was no identified next of kin or informant (or contact details were unknown).

A total of 2052 (76.36\%) MCCDs were completed within 3 days of which 15 (0.56\%) MCCDs were rejected by the Registration Service at registration (e.g. the informant raised concerns during registration that the MES were unaware of such as asbestos exposure - no formal diagnosis and patient did not die of respiratory illness/disease).

A total of 11 paediatric deaths (0.41\%) were scrutinised by the MES during this time period, with all families of spoken to and given the opportunity to raise concerns.

Of the 2687 deaths reviewed, 11 (0.41\%) were classified as ‘urgent release’ and all were achieved within the appropriate time limit (24 h); 6 of these were for organ donation.
Figure 1. Locally adapted electronic ME-1B form (currently used by the NNUH MES to record scrutinies).

Figure 2. The number of deaths for each month (June 2020-May 2021) compared with the number of patients scrutinised by the NNUH MES.
and 4 for faith reasons (3 Muslim patients, 1 Jewish patient). One was for repatriation to another country.

**Notification to HM coroner**

In this period, 458 (17.04%) of deaths scrutinised were notified to HM Coroner for Norfolk. Coroners must decide whether they have a duty to investigate the death, as set out in Section 1 Coroners and Justice Act 2009, and may decide, without a postmortem, that the duty does not apply. In these cases a Form 100 A will be completed and sent to the registrar so that the registration of death process can be completed.

In the relevant period 192 (41.9%) Form 100As were issued. 252 (55%) cases were taken for inquest (135–29.4%) or postmortem (135–25.5%). 14 (3%) were ‘no further action’ and required the patient’s general practitioner to complete the MCCD.

Table 2 shows the reasons for notification of deaths to HM Coroner within the relevant time period.

**Table 2. Reasons for notification of death to HM Coroner.**

| Reason for notification               | Number of notifications (n = 458) | % of notifications | % of total deaths scrutinised (n = 2687) |
|---------------------------------------|----------------------------------|-------------------|---------------------------------------|
| Use of medicinal product, controlled drug or psychoactive substance | 3                                | 0.65              | 0.11                                  |
| Violence, trauma or injury            | 138                              | 30.13             | 5.13                                  |
| Self-harm/suicide                     | 13                               | 2.83              | 0.48                                  |
| Neglect, including self-neglect       | 35                               | 7.64              | 1.3                                   |
| Treatment, procedure, surgery         | 103                              | 22.48             | 3.83                                  |
| Employment related                    | 3                                | 0.65              | 0.11                                  |
| Unnatural (for any reason other than above) | 3                                | 0.65              | 0.11                                  |
| Custody or state detention            | 8                                | 1.74              | 0.29                                  |
| Cause of death unknown*               | 132                              | 28.8              | 4.91                                  |

*Cause of death was known in 326 cases but cases were notified for other reasons

**Non-Coroner escalations**

Table 3 shows the escalation numbers and processes within the hospital and community settings. 217 (8.07%) of all deaths scrutinised were escalated.

Of those escalated for Structured Judgement Review (SJR) 43 (19.8%) were for significant family concerns about the quality and safety of care provided. This represented 1.6% of all scrutinies. A total of 19 (8.75%) of those escalated for SJR were due to significant concerns about the quality and safety of care provided from either hospital staff or from the MES. A proportion of SJRs were mandatory escalations in line with national guidance (National Quality Board Learning From Deaths Guidance 2017). Of these 28 (12.9%) SJRs were for those with a diagnosis of a learning disability or severe mental illness and 16 were for deaths after an elective procedure. Two cases were escalated because the patients who died were homeless (a local policy initiative at NNUH).

Examples of those escalated to Morbidity & Mortality (M&M) meetings include: cases notified to Clinical Governance from the ME of office and/or referred to the Coroner’s office (e.g. fall in hospital resulting in injury); or where concerns had been raised by the family that did

**Table 3. Escalations via other routes within the acute hospital trust (some of these cases may also have been notified to HM coroner).**

| Escalation route                                      | Number of escalations (n = 217) | % of escalations | % of total deaths scrutinised (n = 2687) |
|-------------------------------------------------------|---------------------------------|------------------|---------------------------------------|
| Structured Judgement Review                            | 108                             | 49.7             | 4.01                                  |
| QIR Process (to an external agency)                    | 5                               | 2.3              | 0.18                                  |
| Norfolk Community Health and Care Trust               | 3                               | 1.38             | 0.11                                  |
| General Practices                                      | 2                               | 0.92             | 0.07                                  |
| Trust morbidity and mortality services                 | 31                              | 14.28            | 1.153                                 |
| Patients Safety Incident (reviewed at Serious Incident Group) | 18                              | 8.29             | 0.66                                  |
| Patient Advice & Liaison Service                      | 50                              | 23.94            | 1.86                                  |
not meet SJR criteria but where there was learning for the multi-disciplinary team.

Examples of the type of escalated patient safety incidents include: failure to respond to a deteriorating patient resulting in an unexpected cardiac arrest/death; fall in hospital resulting in head injury; accidental ingestion of a toxic substance by a patient and lack of adherence to the Mental Capacity Act. Where care delivery problems identified were considered to have potentially contributed to the death, the incident was reviewed by the Trust’s Serious Incident Group to identify the appropriate governance response including escalation to the Trust Serious Incident process.

Examples of those cases referred to the Patient Advice and Liaison Service (PALS) include: lack of communication (inability to get through on the phone, unable to speak to a doctor); lack of personal care/basic nursing needs (including nutrition and hydration); issues with visiting restrictions (due to COVID-19).

In many instances, there was cross-over in that for some cases, the ME office would submit a patient safety incident to the Trust Risk Management or escalate to SJR and notify M&M, as well as notify the Coroner’s office.

### Out of hours provision

An ME was available for telephone and email consultation out of hours receiving approximately 10 enquiries per month (120 per annum). Some of these queries were a result of ME staffing shortfalls in-hours when an ME was not available in the ME office during the weekday (e.g. because of study leave, annual leave or sick leave). This was an unfunded service.

The breakdown of these 120 enquiries was as follows: –

- 30 remote scrutinies were completed;
- 30 urgent emails were dealt with (e.g. clinical teams wishing to discuss complex cases; urgent management responses/meeting requests);
- 60 urgent phone calls from other stakeholders – 48 from the Norfolk Registration Office (with MCCD queries), 6 urgent calls from Coroner Officers regarding appropriateness of a notification and 6 urgent clinical matters (e.g. from Neonatal Intensive Care Unit Consultants to discuss process for child death certification).

### Discussion

The declaration of a global pandemic in March 2020 had the potential to pause the roll-out of the new Medical Examiner system in England & Wales. Paradoxically, it accelerated the development of the hospital-based MES and only served to highlight the value of the MES as a support to front-line clinical teams. The easements of the Coronavirus Act included enabling MEs who had not been directly involved in the care of deceased patients to completed the MCCD. At NNUH the view was taken that completing MCCDs is an important part of learning for junior doctors. The NNUH ME office, whilst supporting the clinical teams did not routinely write the MCCDs, although in some acute hospital Trusts the MEs took over this role.

The workload of the NNUH MES shows that in the vast majority of cases the MES was able to achieve the three key aims of a) ensuring accuracy of cause of death on the Medical Certificate of Cause of Death by discussion with the clinical teams; b) ensuring timely, appropriate notification of cases to HM Coroner as required by the notification requirements and c) identification of patient safety concerns associated with mortality by proportionate scrutiny of the medical record and by speaking to the bereaved.

It can be seen that in January 2021 almost 500 deaths were scrutinised. This is far in excess of what would usually be expected and by agreement the NNUH MES temporarily increased the number of sessions being undertaken by MEs to ensure that scrutiny needs were met as far as was possible. The national guidelines suggest that for approximately 3000 deaths, one whole time equivalent Medical Examiner (this may be for example from a pool of varying specialities including primary care on a rota) and three whole time equivalent MEOs provide adequate cover. The NNUH MES during this period only had two MEOs. The national guidelines provide little resilience for periods of excess deaths, nor for out of hours MES support to clinical, coronial and registration teams. Review of a 3 month period (Quarter 3 -2021-2022) shows NNUH MEs spent a mean of 17.1 minutes on scrutiny of medical

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#### Table 4. Ethnicity data for norfolk (derived from the 2011 census).

| Ethnicity                        | Norfolk | East of England | England |
|----------------------------------|---------|-----------------|---------|
|                                  | Count  | %               | Count  | %               | Count  | %               |
| Asian/Asian British              | 13017  | 1.5             | 278372 | 4.8             | 4143403| 7.8             |
| Black/African/Caribbean/Black British | 4609  | 0.5             | 117442 | 2                | 18454614| 3.5            |
| Mixed/multiple ethnic groups     | 10027  | 1.2             | 112116 | 1.9             | 1192879| 2.3             |
| Other ethnic group               | 2217   | 0.3             | 28841  | 0.5             | 548418 | 1               |
| White                            | 828018 | 96.5            | 5310194| 90.8            | 45281142| 85.4           |

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Payne-James et al.
records, whilst the MEO pre-review was a mean of 18 minutes. A mean of 11.4 minutes was spent in contact with the bereaved and a mean of 5.9 minutes with the Qualified Attending Practitioner (QAP - treating doctor). National funding guidelines will need to be reviewed as more data become available to determine if they are appropriate to the workload.

The number of deaths reported to coroners in 2020 decreased by 5474 (3%) to 205,438, the lowest level since 1995. However 32,000 inquests were opened in 2020, an increase of 7% compared to 2019. It is as yet unclear whether this increased rate of inquest following notification relates to the introduction of the ME system, implying more appropriate reporting or other factors such as the publication of the Notification of Deaths Regulations in 2019. Inquests are usually opened in less than 20% of all deaths reported to coroners. Almost 30% of NNUH MES referrals resulted in inquests. This increase on historic national figures may reflect better identification of cases requiring notification by the MES.

One key finding relates to the ethnic origins of the Norfolk population. Table 4 shows that the county has a disproportionately low count of non-white individuals, and this probably explains the reason for the very small percentage of expedited scrutinies. The MES is intended to put the bereaved at the heart of the process and to ensure their voice is heard. Not all cases where concerns are raised will require notification to the Coroner or clinical governance but it is important that the MES is in a position to escalate concerns to relevant bodies. It is also important for the bereaved and other stakeholders to recognise that the MES role is to raise concerns, but not to investigate them. In this study the most commonly used escalation routes were the SJR, the PALS, and the Trust morbidity and mortality meetings. Some cases may need to be escalated by more than one route, and the aims and outcomes of each route must be understood by the MES and the bereaved. It is essential that expectations of what may happen are appropriately managed and explained to the bereaved. SJRs are intended to look for strengths and weaknesses in the caring process, to provide information about what can be learnt about the hospital systems where care goes well, and to identify points where there may be gaps, problems or difficulty in the care process. In order to answer these questions, there is a need to look at: the whole range of care provided to an individual; both technical and holistic and the nuances of case management and the outcomes of interventions. PALS offers confidential advice, support and information on health-related matters and provides a point of contact for patients, their families and their carers. PALS has a number of roles relevant to the MES including providing information about the NHS complaints procedure, and how to get independent help if needed and how to contact support groups outside the NHS.

Another important but undefined role of the MES is to report praise (both individually and to teams) when families have praised care. Under 2% of cases of all those scrutinised required escalation for family concerns. The vast majority had no complaints and many had specific individuals or teams they wished to praise. The NNUH MES endeavours to ensure that all those (and their line managers) are contacted when praise is received.

Conclusions

The COVID-19 pandemic could have resulted in pause in the development of the MES. In practical terms the pandemic has probably accelerated the development of this new service and this has been in part because of the enthusiasm of those within the service, but also the other stakeholders with whom an MES will work closely. In the case of the NNUH MES there has been substantial support from the Norfolk Coroner Service, the Norfolk Register Office, the NNUH Mortuary Team and the NNUH senior management with close liaison with the Trusts risk and patient safety team.

Under the current national funding model the basic structure of the Medical Examiner system can struggle to have the resilience to function and appropriately scrutinise most deaths in hospital as a 5-day service. To provide this service requires substantial cooperation and good working relationships with some work being provided without funding. A 7-day service will only be possible if the current funding model is reviewed and funding increased. The next hurdle will be the roll out of the MES to the community and this is already in process.

As yet there is no consolidated system that allows identification of in-hospital or inter-hospital themes of patient safety issues and this is very much dependent on the establishment of a Medical Examiner office fully staffed with MEOs who will be more familiar with the overall workload and patterns of scrutiny of the MES locally.

The independence of the Medical Examiner system is crucial to ensure that the type of scandal that has resulted in its introduction is avoided. This remains a challenge and in many respects the Medical Examiner system would be better sited and funded alongside the coronial system as originally envisaged, as it is now a crucial step in the medico-legal investigation of death.

We believe that our experience confirms that the Medical Examiner system can fulfil its intended functions and more, but more significantly represents a step-change in the medico-legal investigation of death and if implemented appropriately will identify bereaved and healthcare professional concerns, escalate them independently and appropriately and improve patient safety. We believe it can provide a model for implementation in other jurisdictions.

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