

### 3. Results of study

#### Information available to pathologist prior to autopsy

In addition to individual autopsy reports, the coroners were requested to forward any additional documentation (kept on the coroner's file) that was available to the pathologist prior to the autopsy taking place (this was referred to as 'supporting documentation'). This enabled the advisors to inspect what the pathologists were provided with about each case through the coroner's office. Obviously, these data are critical to advising a pathologist about what sort of disease processes they might expect to find in each case; or that the underlying processes are simply not known.

Presented in this section is:

- Types of supporting documentation supplied alongside the autopsy cases;
- Details contained within the supporting documentation;
- Specific investigational requests;
- Overall quality of the supporting documentation;
- How coronial autopsies were requested.

#### Types of supporting documentation

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More than 2,958 pieces of supporting documentation were forwarded alongside 1,535 autopsy cases. Many combinations of supporting documentation were received, and in 53% (888/1,691) of the cases received at least two pieces of supporting documentation. Most commonly, it was a coroner's summary report (available for 57% of cases) or a sudden death report (available for 47% of cases). Table 3 shows the number and type of supporting documents that were forwarded to NCEPOD. In 156 cases, no supporting documentation was forwarded alongside the autopsy report.

	<i>n</i> =	% of cases
Formal request	326	21
Sudden death report	797	52
Coroner's summary	966	63
Medical extracts	79	5*
Ambulance forms	97	6
Other	693	45

*\*When stratified for deaths in hospital, the proportion of cases where medical extracts formed part of the supporting documentation rose to 23%.*

Supporting documentation that was categorised as 'Other' included:

- 'Report of death' to a coroner from the hospital in which the deceased had died;
- Correspondence between coronial staff and general (or other treating) practitioners;
- Checklists (for coronial use);
- Witness statements;
- Police incident logs;
- Other documents containing the circumstances of the death;
- Other documents containing the deceased's past medical history;
- Organ retention and tissue disposal consent forms.

A number of other documents were also forwarded to NCEPOD, but these were identified to have been generated after the autopsy had taken place, and were therefore not available to the pathologist prior to the autopsy taking place. These included:

- Histology and toxicology (and other ancillary investigational) reports;
- 'Preliminary' cause of death forms (from pathologists to coroners);
- Body release forms;
- Notices to Registrar's Office;
- Documentation relating to inquests;
- Covering letters from pathologists to coroners.

NCEPOD acknowledge that pathologists may have in fact had more information available to them when conducting the autopsy than was forwarded to NCEPOD. For example, pathologists may have received verbal information either over the phone or in person from coroners' office staff, hospital or police personnel. Furthermore, many pathologists may have had access to the deceased's medical casenotes. Obviously, due to the nature of the study, NCEPOD was unable to assess the quality of this information, or how such information may have impacted on the quality of the autopsy.

#### **Details contained within the supporting documentation**

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For each case, the supporting documentation was examined to identify whether or not it contained the following details (Table 4):

<b>Table 4:</b> Details contained within the supporting documentation (n=1535)		
	<b>n=</b>	<b>%</b>
Deceased's date of birth	1480	96
General / treating practitioner details	1151	75
Deceased's occupation*	686	45
Specific clinicopathological questions relating to the death (directed from the coroner to the pathologist) **	119	8
Specific investigational requests or instructions (directed from the coroner to the pathologist)	35	2

\* A comment that the deceased was retired was not considered to be a sufficient answer to this question, unless the supporting documentation contained the deceased's previous occupation(s). This figure excludes child cases (<=16 years). When stratified for sex, the deceased's occupation was more commonly available in male cases (51%, 448/881).

\*\* For example: "query pulmonary embolism", "query myocardial infarction".

Four percent of cases did not have the deceased's date of birth, which was surprising as it was expected that all persons would have some documentation available by the time an autopsy is requested (which is usually 24 hours or more after the death). The exceptions would be unidentified persons, and none of the cases in the study were of such a status.

The supporting documentation in 43 of the 410 hospital cases was selected at random and retrospectively reviewed to identify whether or not the name of the consultant in charge of the patient prior to death was present (hospital cases were all those cases categorised by the advisors as: 1) natural death in hospital, 2) associated to medical intervention and 3) mishap in hospital). In 23% (10/43) of this sample, the name of the consultant in charge was noted on the supporting documentation. Looking at the autopsy reports in the same sample of cases, it was noted that the consultant's name was present in 40% (17/43) of cases. Presumably, the pathologist had sought this information directly from the hospital in which the patient died, rather than gleaning it from the coroner's information. The significance is that if pathologists have questions for the clinician with overall responsibility for the deceased patient, they need to be able to contact the treating clinicians. The doctor informing the coroner of a death is usually not the consultant but a more junior doctor, and most of the coroner's summary forms do not have a box specifically for the name and contact details of the clinician in charge.

### **Specific investigational requests**

Thirty five cases were identified where the coroner had made a specific investigational request for the pathologist. Nine of these were requests for the pathologist to take blood for toxicology. Six requests were made for the pathologist to limit the autopsy to the thoracic cavity (in five of these cases that request was honoured). Other common requests included a direction for the pathologists to take or not take histology. In one particular case, the coroner had made a specific important investigational request to the pathologist, which was not performed (case study 1).

## Case study 1

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*An elderly resident died in a nursing home. In the history provided by the coroner (through his officer) was the following statement and request:*

*"It has been brought to my attention that the Public Health Department (PHD) are investigating this nursing home on the suspicion that residents could be dying from viral meningitis... The PHD has therefore requested that lung samples are obtained and also that blood is taken in order to grow cultures".*

*The autopsy report documented the following gross pathologies:*

*Leptomeninges - normal*

*Lungs - patchy consolidation and purulent exudation*

*The cause of death was stated as:*

*1a. Bronchopneumonia*

*There was no statement to indicate whether any tissue or fluid samples had been taken; and if not, why not. It is possible that, through discussion with the coroner in person, by telephone, or writing, the issue was resolved and by agreement nothing more needed to be done. But the advisors believed that a statement should have been included in the autopsy report. One might question why 'lung' and 'blood' samples were specified by the coroner, when meningeal and blood samples would be more appropriate. This could also have been addressed in the report.*

In another case, there was a request from the coroner to consider head injury (case study 2).

## Case study 2

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*An elderly resident of a nursing home had a complex history of immobility, type 2 diabetes, visual problems and recent falls, culminating in a fall from bed with a resulting grazed head. A few days later, the patient was admitted to hospital with drowsiness and general deterioration. Pneumonia was diagnosed and a CT scan showed a large acute-on-chronic subdural haematoma. The neurosurgeons did not consider the patient suitable for surgery and the patient died a week later.*

*There was no history provided in the autopsy report, but the coroner's history specifically raised the question of whether the subdural haematoma was contributory to the death.*

*The autopsy found that there was 54g of clotted blood and a chronic subdural membrane present over the right side of the brain, with an intact skull. There was also a well described old infarct in the brain, along with cerebral atrophy. The heart showed hypertrophy with old fibrosis, and coronary artery stenosis up to 70%. The lungs showed thromboembolism filling the pulmonary arteries; and residual thrombus was present in the veins of both lower limbs. The other organs were within normal limits for age. There was no clinicopathological correlation in the report and there was a comment in the report that "Death was due to natural causes". The cause of death given was:*

*1a. Pulmonary embolism*

*1b. Lower limb phlebothrombus*

## 2. Diabetes mellitus

*There was nothing in the report addressing the circumstances raised by the coroner.*

### Recommendation

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*Specific written requests for investigations, made by a coroner, should be followed, or an account rendered in the autopsy report as to why this was not addressed.*

### Overall quality of the supporting documentation

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Overall, the advisors considered the supporting documentation to be good, satisfactory or unsatisfactory in 16% (239/1,535), 71% (1,090/1,535) and 13% (206/1,535) of the cases respectively.

The advisors commonly marked the supporting documentation as 'unsatisfactory' because important case information that would have been available prior to the autopsy (as noted in the autopsy report) was absent in the supporting documentation. Other comments noted by the advisors where the supporting documentation was considered 'unsatisfactory' included (minima numbers are provided in parenthesis - these reflect the number of cases where the advisors made special notes as free text additions):

- Alcohol abuse not mentioned (4 cases);
- Drug usage, both prescribed and non-prescribed, i.e. illicit (28 cases);
- Schizophrenia, dementia, epilepsy not mentioned (3 cases);
- Significant medical history, including operations and diabetes, not mentioned (50 cases);
- The occupation of the deceased, including asbestos exposure or previous diagnosis of mesothelioma, not mentioned (13 cases);
- Not enough data on hanging or trauma related to death (15 cases);
- Information just too brief or muddled (59 cases);
- Information handwritten and illegible (4 cases).

There are no details contained within the Coroners Act or Rules that describe what information should be given to a pathologist when an autopsy is requested. The information chain is potentially complex, with data provided to the coroner or his/her officer from one or more sources (general practitioner, hospital doctor, police, ambulance staff, relatives etc), and then summarised into the documentation under discussion and conveyed to the pathologist.

A study assessing quality of information supplied to pathologists was conducted by Sampson et al in 1999<sup>3</sup>. They assessed the amount and quality of information supplied to pathologists before all autopsies performed over a one year period for the coronial jurisdiction of South Yorkshire (UK). Assessing the South Yorkshire Police's Sudden Death Reports for 656 autopsy cases, the authors found that 75.8% were deemed to be suboptimal or insufficient based on a set of standards defined by seven essential criteria (name; age/date of birth; date of death; where

body found; occupation; relevant medical history; and position of body). The authors concluded that the quality of information supplied to pathologists prior to an autopsy taking place may be "suboptimal", which could affect the thoroughness of the autopsy itself.

One of the standard texts on the coronial system<sup>4</sup>, notes that the pathologist is 'entirely reliant' on information provided by others, and goes on to provide a checklist of significant demographic, occupational, medical and scene of death data items that should go into the history provided. The advisors concur that it is most important that this information be as comprehensive as possible, within the resources available for the coroner and his/her officers. Otherwise the autopsy may be compromised in outcome and quality from the outset (case study 3).

### **Case study 3**

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*The history presented to the coroner in the case of the death of an elderly person was:*

*"In '93 suffered depression after [spouse] died. '96 macular degeneration, had TIA [transient ischaemic attack] in '97 further one in 2001, suffered hypertension in 2001, had a skin lesion removed in 2004. At place of death was found [a probiotic] of which a quantity was missing."*

*The autopsy found nothing significant externally, apart from blood oozing from the nose. Internally the heart was normal with coronary artery stenosis at a maximum of 40% in one artery and there was early bronchopneumonia in the right lung. The abdominal organs were normal and tablets/capsules were not seen in the stomach. The brain was normal and no significant abnormalities were seen in the musculo-skeletal system.*

*At the end of the autopsy report there is a further statement:*

*" I have received further information [a witness statement was available as part of the supporting documentation] that the deceased was found with a plastic bag over [the] head...in the absence of this information at the time of the post mortem I was unable to carry out some investigation which would have been done in the presence of this information. ... Toxicology was not taken. I was not able to examine the bag. In my view there is no alternative but to submit a cause of death as: 1a. Unascertained."*

*The advisors noted a serious problem of communication between the scene of death observers, the coroner's office and the pathologist, leading to lost opportunities in the proper investigation of suspected suicide.*

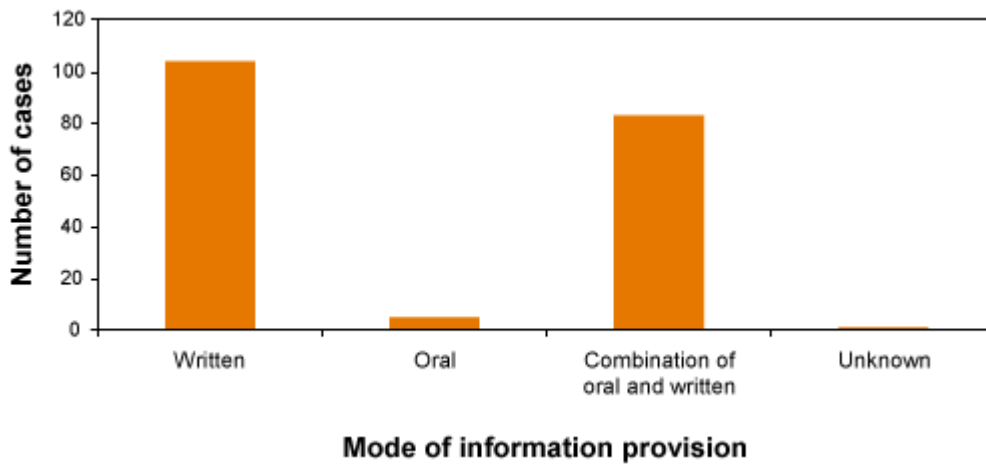
*The study could not examine the organisational issues around the training and supervision of coroners' officers. Although there is a Coroners Officer Association<sup>5</sup>, there is not a universal standardised training for officers. How the officers glean information relevant to a death evidently varies, as does how much they pass on to the pathologist. One possibility that might be considered is that coroners' officers pass on to the pathologist, without editing, all information from their enquiries.*

## How were coronial autopsies requested?

Most mortuaries are not located near coroners' offices; if they are, the coroner or his/her officer can actually discuss the case with the pathologist in person, observe the autopsy, and hear directly the pathologist's opinion as to the cause of death - if the latter can provide one at the time of the examination. However, for the majority of coronial autopsies, information about each case and the request to perform an autopsy needs to be transmitted to the pathologist reliably, from a distance. Faxes, combined with phone calls, are accepted now (posting a written request would take too long).

On the organisational questionnaire, NCEPOD asked how case information was usually provided. Mortuaries could answer as either written, oral, or as a combination of both written and oral. Results show that in the majority of mortuaries (97%, 187/193) information for the autopsy are either written, or were a combination of written and oral. In 2.5% (5/193) of mortuaries instruction for autopsy are given orally only (Figure 4).

**Figure 4: How autopsy case information is usually given to pathologists**



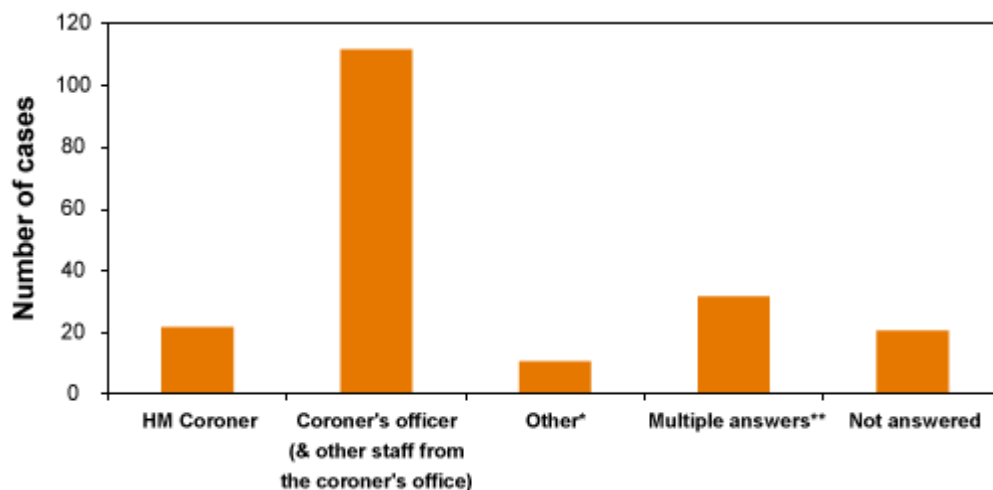
Reviewing the cases where an organisational questionnaire had been returned from the mortuary in which the autopsy was performed, it was noted with some surprise that in only 22% (30/1,360) of cases did a written request specifically to perform an autopsy form part of the supporting documentation. It may be, however, that the coroner's office reports were faxed to the mortuary and these were considered to constitute a written request for autopsy, although they were not categorised as such for this study.

These data were also correlated with mortuary type (local authority or hospital). Results showed that a higher proportion of pathologists were being given information orally in local authority mortuaries than in hospital mortuaries. Correspondingly, written only information was used more in hospital mortuaries than in local authority mortuaries (Table 5).

<b>Table 5: Mode of information provision by mortuary type</b>		
	<b>Hospital/combined mortuary</b>	<b>Local authority mortuary</b>
Written	96	7
Oral	3	2
Combination of written and oral	75	7
<b>TOTAL</b>	<b>174</b>	<b>16</b>
Not answered	1	

The data were examined with regard to who usually requests the pathologist to perform an autopsy. This question was answered with varying combinations, but most commonly 64% (111/173) of staff from the coroner's office (or specifically the coroner's officer) gave the request. In 12% (21/173) of mortuaries, it was specified that only the coroner him/herself usually requests a pathologist to perform an autopsy (Figure 5).

**Figure 5: Who requested an autopsy?**



\* 'Other' answers include bereavement officer, hospital consent form or clinician, police or police forms, and pathologist.

\*\* Multiple answers include HM Coroner and other; Coroner's officer and other; and HM Coroner and Coroner's officer.

As discussed in 'Overall quality of the supporting documentation', the advisors considered that the information that is provided to pathologists from coroners, and the method by which it is provided, is extremely important to assist the pathologist in carrying out his/her duties to the best of his/her ability. Many of the pathologist advisors could not believe that, in 2005, information and instruction about cases for autopsy were being conveyed solely by oral communication. The examination of a deceased person has such important implications for the stated cause of death for the individual, family and society that this communication process must be better standardised. Communication should be in writing and preferably typed as in some cases it was illegible.

In light of the observed quality of the supporting documentation in this study, and of the



information obtained from the organisational questionnaire, the following recommendation is made:

### **Recommendation**

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*The information provided by coroners' offices to pathologists should be in a standardised format that includes an agreed minimum clinical and scene of death dataset, including date of birth and occupation of deceased. Such information should be communicated in writing.*