
Issues surrounding a reduction in the use of internal autopsy in the coronial system

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In 2003 it was estimated that 2,700 full internal coronial autopsies were performed in Queensland at a cost of approximately A\$5.3 million. This large number of internal coronial autopsies (almost 95% of all matters referred to the coroner) is of concern not only due to the economic cost but also because of the public health risks, availability of specialist staff and significant religious and cultural sensitivities surrounding internal autopsies. In 2005 the authors began research funded by the Australian Research Council (ARC) to determine if unnecessary internal autopsies are being performed in Queensland and to establish guidelines for when an internal autopsy is required. This article highlights areas of potential concern when the issue of autopsy is reviewed within the coronial system through an examination of international literature on the issue of autopsy diagnosis and error rates more generally, and through preliminary discussion of the data obtained. The article considers the role and purpose of the autopsy generally as well as within the coronial system specifically; compares diagnostic error rates in hospital autopsies with those in the coronial system; the current situation internationally with regard to internal autopsies; and finally the specific circumstances existing in Queensland.

INTRODUCTION

An autopsy is any form of examination of the body of a deceased person.¹ Within Queensland, s 19(2)(b)(i) – (iii) of the *Coroners Act 2003* (Qld) allows coroners to order three different types of autopsies:

- a simple external examination consisting of a visual inspection of the body and the taking of a blood sample (external autopsy);
- the external inspection of the body as well as a partial internal examination where samples of blood and tissue are taken and there may be the opening of one or two of the body cavities (partial internal autopsy); and
- the external inspection and a full internal examination that consists of taking blood and tissue samples and examining all internal organs (full internal autopsy).²

While it might be argued that the major role of an autopsy in both hospital and coronial settings is to provide the cause and some circumstances of death, it is also of value for other reasons. The autopsy can provide information on co-existing conditions, including inheritable problems, where early detection may be advantageous for future treatment of family members. Additionally, autopsies

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¹ *Information Sheet on Post-mortem Examination Based on Faculty of Pathology Guidelines Information for Relatives* (2004): see <http://www.beaumont.ie/yourhealth/Information%20Sheet%20on%20Post%20Mortem%20Examinations.pdf> viewed 25 November 2004.

² Queensland Courts, Office of the State Coroner, *Coronial Investigations: Why a Coroner Investigates a Death* (2004): <http://www.justice.qld.gov.au/courts/coroner/pdfs/brochure.pdf> viewed 25 November 2004.

provide data for research into the nature, causes and prevention of diseases, education of the medical profession, and public health planning.³ However, there are also well-recognised problems with an internal autopsy. These include the religious and cultural sensitivities of the relatives of the deceased, economic costs, and public health issues such as exposure of governmental medical officers to infectious diseases during the autopsy procedure. There is also a worldwide decline in the number of hospital autopsies being performed while coronial autopsies have remained relatively constant.⁴

Problems in the coronial system itself include a lack of hard data on the quality of autopsies being performed and the increasing number of autopsies being performed by only a few forensic pathologists.⁵ A similar situation exists in the United States where there is growing concern that a workforce shortage exists in the field of forensic pathology, with complaints raised about the quality of work done and working conditions.⁶ Davidson, McFarlane and Clark⁷ also express concern over “a lack of uniformity amongst coroners, the poor quality of post-mortem examinations ... [and] poor understanding of medical matters by legally qualified coroners”.

For these reasons it has been argued that the number of internal autopsies being performed as part of the coronial system in Queensland should be reduced.⁸ Such a position is supported by the American Medical Association⁹ which argues that an internal autopsy is not always necessary when conducting a coronial investigation. This is further supported by Dame Janet Smith¹⁰ who, in the context of the Shipman Inquiry, concluded that in England too many coronial autopsies are carried out “by reason of automatic triggers” and “autopsies frequently add nothing to the knowledge about the deceased or the cause of death”.

The purpose of this article is to discuss central factors in internal autopsies within both the coronial and hospital systems with a view to raising issues of relevance in a model of best practice which would enable coroners to make informed decisions as to when an internal autopsy is required. First, the relationship between hospital and coronial autopsies, and the relevance of research on hospital autopsies to the coronial system, is investigated, followed by an outline of the role of internal autopsy in a number of coronial systems internationally, with a specific focus on Queensland. Finally, some suggestions are made for ways in which legal and medical discourses, pre-eminent in the coronial system, can work toward a system of best practice for autopsies which does not compromise either cause or circumstance of death.

HOSPITAL INTERNAL AUTOPSY

Bombi et al¹¹ wrote that in many countries over the last three decades there has been a fall in the number of autopsies performed. They identified that a “marked fall in the number of clinical autopsies performed around the world has been a matter of debate for some years”¹² and reported a decrease in

³ Australian Health Ethics Committee, *Organs Retained at Autopsy: Ethical and Practical Issues*, paper presented to Federal Minister for Health, Dr Michael Wooldridge (Commonwealth of Australia, NHMRC, August 2001) p 9.

⁴ Dame Janet Smith (chair), *The Shipman Inquiry. Third Report – Death Certification and the Investigation of Deaths by Coroners* (Command Paper CM 5854, 14 July 2003) p 221.

⁵ Pounder D, “Forensic Pathology Services” (2002) 324 *BMJ* 1409.

⁶ Jason D, Lantz P and Preisser J, “A National Survey of Autopsy Cost and Workload” (1997) 42 (2) *Journal of Forensic Science* 270.

⁷ Davidson A, McFarlane J and Clark J, “Differences in Forensic Practice between Scotland and England” (1998) 38 (4) *Medicine, Science and the Law* 283.

⁸ Parnell S, “State Move to Scrap Many Autopsies”, *Courier Mail* (2 November 2003) p 2.

⁹ Robertson J (ed), *Autopsy: Life's Final Chapter* (developed under the auspices of the 2001-2002 AMA – YPS Governing Council) (American Medical Association, 2002).

¹⁰ Smith, n 4, p 223.

¹¹ Bombi J, Ramierz J, Sole M, Grau J, Chabas E, Astudillo J and Balasch J, “Clinical and Autopsy Correlation Evaluated in a University Hospital in Spain (1991-2000)” (2003) 199 *Pathology Research and Practice* 9 at 11.

¹² Bombi et al, n 11 at 11.

Spain from 24 per 100 deaths to a current rate of 10% over a 15-year period from 1988. They also cited a study from the United States which reported an average autopsy rate of 12.4% in 1999.¹³

Similarly, Jason, Lantz and Preisser¹⁴ identified a decline in the total number of autopsies performed in their sample of United States medico-legal offices from just under 300,000 in 1980 to 230,000 in 1993. They pointed out that this was largely due to a fall in the number of hospital autopsies being performed and argued that, while the autopsy rate in their study fell from 15% of all deaths reported in 1980 to 11% in 1990, this was actually due to a significant decrease in the number of hospital autopsies being performed from 130,000 in 1980 to 48,500 in 1993. In the same period, however, they noted that there was a slight increase in the number of coronial autopsies from 160,000 in 1980 to 180,000 in 1993.¹⁵ Thus coronial (or medico-legal) autopsies in the United States increased from 53% of all autopsies performed in 1980 to 79% by 1993. Similarly, Smith¹⁶ identified that in England and Wales, the number of consent (or hospital) autopsies has declined markedly over the past 30 years while the number of coronial autopsies has remained stable. Overwhelmingly, the greater number of autopsies conducted are coronial autopsies – in 2001, 121,000 of 130,000 autopsies performed in the United Kingdom were within the coronial system.

In the United States it is claimed that such shifts in internal autopsies from the hospital to the coronial setting are based on the increasing number of violent deaths reported and requiring investigation.¹⁷ However, Walters¹⁸ wrote that there may be other factors directly contributing to fewer autopsies being performed outside the coronial system. She believed many physicians may feel that autopsies are no longer as important “in today’s high-tech world”.¹⁹ In addition, she argued that physicians may be more concerned about the potential for autopsies to uncover negligence “that could potentially be used against them in malpractice actions”.²⁰

In this regard, a 10-year retrospective study by Bombi et al²¹ of all autopsies performed at the hospital clinic, Barcelona, from 1991 to 2000 reported a correct clinicopathologic correlation with the underlying primary disease in 92.67% of cases, with 3.82% of incorrect diagnoses being minor discrepancies. Error rates of between 20%²² and 64%²³ have been discovered in some clinicopathological correlations, though importantly for coronial autopsies, most are of scientific interest only and have little clinical relevance.²⁴ The rate of serious error in hospital autopsies ranged

¹³ Bombi et al, n 11 at 11.

¹⁴ Jason et al, n 6 at 271.

¹⁵ Jason et al, n 6 at Fig 2.

¹⁶ Smith, n 4, p 221.

¹⁷ AMA, n 1.

¹⁸ Walters D, “Managing Risk Through Autopsies” (2000) *Legal Medicine* 24.

¹⁹ Walters, n 18.

²⁰ Walters, n 18.

²¹ Bombi et al, n 11 at 11.

²² Grundmann E and Menke G, “Autopsy Diagnosis Versus Clinical Diagnosis, Particularly in Malignant Disease. Comparison of Two Periods: 1961-1970 and 1978-1987”, *IARC Scientific Publications* (1991) No 112.

²³ Friederici H and Sebastian M, “Autopsies in a Modern Teaching Hospital. A Review of 2537 Cases” (1984) 108 *Archives of Pathology and Laboratory Medicine* 518.

²⁴ Bombi et al, n 11.

from 3.5%²⁵ to 40%.²⁶ Bombi et al²⁷ made the point that an error rate of 3.5% is closest to studies that estimated the number of hospital deaths due to medical errors. Moreover, the proportion of misdiagnoses has changed little over time.²⁸

Bombi et al²⁹ also found that the correlation with the immediate cause of death was correct in 87.54% of cases, with 6.57% of incorrect diagnoses considered to be minor discrepancies; most of these cases concerned patients who had only been in the hospital a few hours before their death.

In all studies, the difference in error rate discovered through internal autopsy appears to be due to either the methodology used (how much information was available prior to the internal autopsy being performed), and/or the specific area under investigation. Thus research on hospital internal autopsies offers information on two issues that impact on coronial internal autopsy decisions. First, the specific area under investigation is relevant to the error rate found through internal autopsy. Second, the amount of information available prior to an internal autopsy being conducted is relevant to the error rate discovered by the internal autopsy. As Aligbe et al³⁰ noted, “[I]t is mandatory to obtain as much information about each victim and the antecedent event as possible before beginning the autopsy”. The present authors would argue that, in a number of situations, such information may preclude the need for an internal autopsy to determine cause and circumstance of death in the coronial setting.

CORONIAL INTERNAL AUTOPSY

A number of studies have investigated the differing death investigation models in the United Kingdom, specifically that between England and Scotland. According to Davidson, McFarlane and Clark,³¹ in 1994 internal autopsies were performed in Scotland in only 41% of deaths reported to the Procurator Fiscal, the Scottish equivalent for the office of the coroner. This can be compared to England where 67.7% of deaths reported to the coroner received an internal autopsy.³² This is despite the death rates in both England and Scotland being similar – approximately 1% of their respective populations.

When comparing the coronial system to the Procurator Fiscal system, two significant differences need to be highlighted. Each has been argued to impact on the varying autopsy rates. First, the Procurator Fiscal is primarily interested in the detection of criminality and negligence as it investigates and prosecutes criminal activity.³³ As such, Davidson, McFarlane and Clark³⁴ believe the Procurator Fiscal is less concerned than the coroner with the accuracy of the death certificate, the major function of the coroner being to investigate and report on the cause and circumstances of death.

Second, fewer deaths are reported to the Procurator Fiscal (24%) than to coroners (33.5%), in part³⁵ due to different criteria for referral between the two jurisdictions. One of the most significant appears to be the “14 day rule” which in England requires that a doctor may only certify the death if he or she has seen the patient within 14 days of the death occurring. This may mean that more deaths by natural causes come within the jurisdiction of the English coroner.

²⁵ Bombi et al, n 11.

²⁶ Burton E, Troxclair D and Newman W, “Autopsy Diagnoses of Malignant Neoplasms: How Often are Clinical Diagnoses Incorrect?” (1998) 280 (14) JAMA 1245.

²⁷ Bombi et al, n 11.

²⁸ Grundmann and Menke, n 22.

²⁹ Bombi et al, n 11 at 11.

³⁰ Aligbe J, Akhiwu W and Nwosu S, “Prospective Study of Coroner’s Autopsies in Benin City, Nigeria” (2002) 42 (4) *Medicine, Science, Law* 322.

³¹ Davidson, McFarlane and Clark, n 7 at 284.

³² United Kingdom Department of Health, *Families and Post Mortems: A Code of Practice* (Crown Copyright, United Kingdom, 2003) p 4.

³³ Davidson, McFarlane and Clark, n 7 at 283-284.

³⁴ Davidson, McFarlane and Clark, n 7 at 284.

³⁵ Davidson, McFarlane and Clark, n 7 at 284.

While it is acknowledged that these two systems have some differences, the principal reason why most deaths reported to the Procurator Fiscal do not receive post-mortem examinations is that, prior to an internal autopsy being performed, the police and Procurator Fiscal undertake a “thorough investigation of the circumstances” of the death.³⁶ Specifically, in the majority of cases a typed report of sudden death is produced by the police, typically running to four pages and including relevant information for the Procurator Fiscal and pathologist, such as the past medical history of the deceased and the known circumstances surrounding the death. As this information is significantly more detailed than what most English coroners receive, the Procurator Fiscal is able to utilise the “view and grant” procedure. According to Davidson, McFarlane and Clark,³⁷ this allows a pathologist to issue a death certificate without the need for an internal autopsy. As the procedure involves a thorough external examination of the naked body, coupled with the history of the deceased and circumstances of death found in the report of sudden death, pathologists are able to issue the death certificate without conducting an internal autopsy. As “the vast majority of homicides are identified by the circumstances and an external examination”, they argued that there is no evidence that because of this practice Scotland has a higher concealed homicide rate than England.³⁸

Within the context of the coronial system in England and Wales, Sampson et al³⁹ examined raw data in the form of hospital notes or a police sudden death report that are given prior to a decision as to whether or not to order an internal autopsy. While many police services do have a form for recording information about a death that will be received by the coroner, Sampson et al⁴⁰ argued that often the information received is “suboptimal”. They⁴¹ listed several reasons as to why this may occur, including that the relatives of the deceased are too distressed to talk to police, the general practitioner cannot be found, or the police officer investigating the death seeks irrelevant information. Regardless of the reasons, they maintained that such suboptimal information adversely affects the quality of the internal autopsy. It could also be extrapolated that internal autopsies were therefore conducted unnecessarily, given that information often missing from reports may include an occupational disease or toxin contributing to death.

More recently, Rutty, Duerden and Clark⁴² attempted to assess whether the cause of death could be predicted accurately without the need for an autopsy. In this study, 568 reported deaths (excluding suspicious deaths and homicides) were studied to examine how accurately cause of death could be predicted on the basis of available history from the sudden death report without examination (including viewing) of the body. This was then compared with identified cause of death after the autopsy was performed.

The findings were consistent with previous studies. A capacity to make accurate predictions without conducting an internal autopsy was related to the specific area under investigation (eg, pathologists were 100% accurate in their predictions of carbon monoxide poisoning, hanging and mesothelioma) and the amount and quality of information available prior to a diagnosis. Moreover, the capacity to predict increased significantly (from 61% to 74%) when the diagnosis included viewing of the body, as opposed to simply accessing written clinical information contained in the sudden death report. However, the capacity to predict did not necessarily equate to an accurate prediction. The authors maintained that overall accurate diagnosis only coincided with predicted diagnosis between

³⁶ Davidson, McFarlane and Clark, n 7 at 285.

³⁷ Davidson, McFarlane and Clark, n 7 at 285.

³⁸ Davidson, McFarlane and Clark, n 7 at 285.

³⁹ Sampson H, Johnson A, Carter N and Rutty G, “Information Before Coronial Necropsy: How Much Should be Available?” (1999) 52 (11) *Journal of Clinical Pathology* 856.

⁴⁰ Sampson et al, n 39 at 856.

⁴¹ Sampson et al, n 39 at 856.

⁴² Rutty G, Duerden R and Clark J, “Are Coroner’s Necropsies Necessary? A Prospective Study Examining Whether a ‘View and Grant’ System of Death Certification Could be Introduced into England and Wales” (2001) 54 (4) *Journal of Clinical Pathology* 279.

39% and 46% of the time.⁴³ They concluded that their study gave “some support to the view that, given an adequate clinical history and knowledge of the circumstances surrounding the death, a view and grant system could be used in England and Wales”.⁴⁴ Nevertheless, they highlighted the potential for a diagnostic error rate of between 54% and 61% of cases.

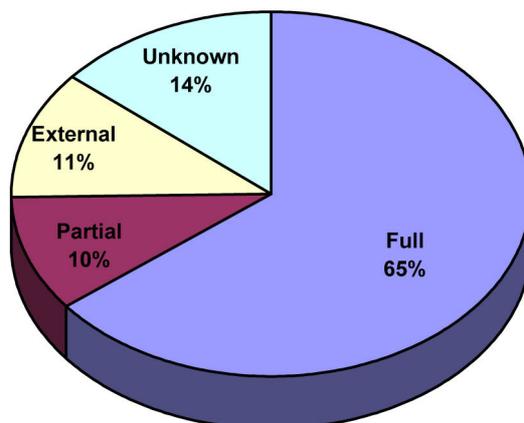
Leadbeatter, James and Davison⁴⁵ have challenged these findings and maintained that where adequate information was provided, the number of correct predictions ranged from 59% to 70%. They⁴⁶ argued that this is the true error rate of 30% to 41% as opposed to the 54% to 61% error rate asserted by Rutty, Duerden and Clark: “We would maintain that one should not include in any determination of error rate those cases where a prediction could not be made because of inadequate information: under the view and grant system an autopsy would have been carried out in such cases.”⁴⁷

It could therefore be argued that the more information available about the deceased and circumstances of death, prior to an internal autopsy being performed, the less likely an internal autopsy will be required to establish cause and circumstances of death. In addition, where an internal autopsy is required, the more information available prior to the autopsy the greater the quality of the autopsy.

QUEENSLAND: A CASE STUDY

In December 2003 a new *Coroners Act* was proclaimed, replacing the *Coroners Act 1958* (Qld). Since the proclamation of the *Coroners Act 2003* (Qld), a breakdown of autopsy rates has been available. Currently, for the period December 2003 to December 2004, full internal autopsies were conducted across the State in 65% of reported cases, external only in 11% of cases and partial internal autopsy in 10% of cases, with 14% unknown (see Figure 1).

FIGURE 1 Queensland autopsy rates, December 2003 to December 2004



Two issues appear relevant to this decline in reported deaths being fully autopsied: the amount and type of information given to the coroner prior to a decision being made; and the experience of the coroner and/or medical practitioner involved in the decision-making. As previously discussed, in the literature on autopsies in both the hospital and coronial system, each of these issues has been raised as a possible influence on accuracy of the autopsy and the capacity to predict.

⁴³ Rutty et al, n 42 at 279.

⁴⁴ Rutty et al, n 42 at 284.

⁴⁵ Rutty et al, n 42 at 284.

⁴⁶ Rutty et al, n 42 at 284.

⁴⁷ Leadbeatter S, James D and Davison A, “Are Coroner’s Necropsies Necessary?” (2002) 55 *Journal of Clinical Pathology* 879 (Correspondence).

Information gathering

Under the *Coroners Act 2003* (Qld), a centralised information-gathering system requires those attending the scene to be more rigorous in their data collection. In those matters that come to the coroner from the police, the new initial report (Form 1) requires the gathering of extensive demographic data, as well as the completion of a checklist of questions that have been formulated especially for the common categories of circumstances of death. Under the *Coroners Act 1958* (Qld), very scant information was provided in the initial report (Form 4). This generally included “some demographic data, particulars of time and place of the death and often a brief and, not infrequently, a less than clear account of the circumstances of the death”.⁴⁸

Because of the paucity of the information provided at the outset, coroners almost always ordered a full internal autopsy because they were unable to be confident that the cause of death could be ascertained with a less extensive examination of the body.⁴⁹

From the outset it was envisaged that such increased information as is now integral to the *Coroners Act 2003* (Qld) would enable coroners to be more involved in determining such issues as what type of autopsy should be undertaken and by whom, the guiding principle being that “the least intrusive examination that will resolve the issues in doubt should be ordered”.⁵⁰ Like the “view and grant” system in Scotland, the statewide statistics demonstrate that, when more information is made available to the coroner, less reliance is placed on a full internal autopsy to establish cause and circumstance of death.

Dame Janet Smith⁵¹ has taken a similar stance. In the context of the Shipman Inquiry, she recommended that “the quality of the information which comes into the coroner’s office at the time of a death be greatly improved”. Moreover, such information should enable the coroner to “certify the cause of death without the need to order an autopsy”. The information to which Smith referred includes “medical records, external examination of the body, and obtaining witness statements”.

However, as the present data reveal, a decrease in full internal autopsy from 95% to 65% has been as much associated with an increase in partial internal autopsy as with any increase in external autopsy. This most likely demonstrates that any change in practice will be gradual. Preliminary qualitative data from 2004⁵² reveal that the decision to undertake either a partial internal autopsy or an external autopsy is based upon extensive information-gathering about the circumstances of the death, and a thorough external autopsy in the case of partial internal autopsy, as well as toxicology. Such autopsies are therefore used to support and clarify a pre-existing understanding of cause and circumstance of death rather than to discover it (eg, in the case of suicide by hanging). The expectation is that with clearer guidance, coroners would be confident to determine the cause and circumstance of death in such situations through the ordering of an external autopsy only.

The authors are also aware that performing partial internal autopsies is considered inappropriate in many quarters. In the Shipman Inquiry, pathologists maintained that “once a decision had been taken to perform an autopsy, ... the autopsy should be carried out as thoroughly as possible”.⁵³ The present authors would tend to agree and maintain that such a process is simply transitional. As confidence and clarity increase, coroners will require only either external or a full internal autopsy to satisfy an understanding of cause and circumstance of death.

Personnel and region

In the *Coroners Act 2003* (Qld), a coroner is in control of a death investigation from when the death is reported until the necessary findings are handed down. While the investigative steps may be

⁴⁸ *Queensland State Coroners Guidelines* (2003) s 1, p 3.

⁴⁹ *Queensland State Coroners Guidelines*, n 48, s 1, p 3.

⁵⁰ *Queensland State Coroners Guidelines*, n 48, s 5, p 5.

⁵¹ Smith, n 4, pp 211-212

⁵² Queensland coronial files, January to April 2004.

⁵³ Smith, n 4, p 229.

undertaken by police officers, pathologists or other forensic experts, they are acting as the coroner's agents and are subject to the coroner's direction. Despite this, all regions continue to prioritise medical cause over legal circumstance in coronial investigations through an almost total reliance on internal autopsy. Certainly in the United Kingdom during the review of death certification and investigation in 2003, it was found that many "autopsies are ordered only because the coroner or his staff are insufficiently confident or medically knowledgeable".⁵⁴ This raises issues of the relationship between the investigation of cause and circumstance of death and may serve to highlight tensions between medical and legal discourse in the coronial inquiry.

As noted, the Queensland data reveal that a statewide decrease in full internal autopsy is occurring gradually. By way of example, of the cases reported to the Toowoomba coroner, 94.6% had a full internal autopsy, 4.46% had a partial internal autopsy and only one received an external autopsy to establish cause of death. In contrast, of the deaths reported to the Southport coroner, full internal autopsies were conducted in only 17.5% of cases, with partial internal autopsies predominating in 72.5% of cases.⁵⁵

While there has been a statewide decline in full internal autopsy since December 2003, the regional variations require further exploration. Such variations have international significance. In 2003, Luce found that the most common complaint against the coronial system was the "inconsistency and unpredictability between coroners".⁵⁶ While there can be justifiable reasons for such variations, including incidence of traumatic deaths and of deaths from occupational disease which can vary considerably between regions, as can deaths accounted for by overseas visitors with no accessible medical records, Luce argued that "it is unlikely that one would be able to find good justification for the scale of variation that exists".⁵⁷ While this statement was made in the context of the English coronial system, such variations as reported there are well within the extremes evidenced in Queensland.

LEGAL VERSUS MEDICAL DISCOURSE IN THE CORONIAL SETTING

One explanation for such regional variation is that some coroners prioritise medical over legal information when investigating a reported death. Within the literature on the investigation of reportable deaths through the coronial system, there are two central knowledge bases that compete for dominance. The first is the medical model of death investigation which prioritises cause of death while the second is the legal model which is most concerned with circumstances of death.

Since the last century, though the criminal law and justice system continue to operate as major control agencies, the medical model has progressively extended its jurisdiction over a diverse range of social problems, including some previously described as crimes, a process that is widely described as medicalisation.⁵⁸

It should be noted that other Australian jurisdictions conduct full internal autopsy in approximately three-quarters of all deaths reported to the coroner. In New South Wales the number of deaths reported to the coroner in 2001 totalled 6,440 (14% of all deaths reported) and of these 71.4% were fully internally autopsied.⁵⁹ In Victoria 4,160 deaths were reported to the coroner (13% of all deaths recorded) in the same year, and of these 74.6% were internally autopsied.⁶⁰

As discussed, prior to 2003 in Queensland, there was an almost total reliance on full internal autopsy for findings as to cause and circumstances of death across the State. This is despite coroners

⁵⁴ Luce T (chair), *Death Certification and Investigation in England, Wales and Northern Ireland: The Report of a Fundamental Review* (Crown Copyright, 2003) p 70.

⁵⁵ Queensland coronial database, 2004.

⁵⁶ Luce, n 54, p 71.

⁵⁷ Luce, n 54, pp 164-165.

⁵⁸ Edwards A, *Regulation and Repression: The Study of Social Control* (Allen & Unwin, Sydney, 1998) pp 100-101.

⁵⁹ Luce, n 54, p 19.

⁶⁰ Luce, n 54, p 19.

in all Queensland regions being legally trained and appointed as magistrates. This appears to prioritise the medical model of death investigation. However, this is not without its own tensions. Discovering cause via internal autopsy does not always establish circumstances and it could be argued, as the previous system in Queensland demonstrates, that an over-reliance on internal autopsy in coronial investigations can actually preclude the gathering of evidence to establish circumstances of death by prioritising medical over legal evidence. It is also significant that information to establish cause of death is often less complex in procedure than that establishing circumstance of death.

The investigation must extend beyond the *simple medical cause* of the death and seek to establish the circumstances that contributed to the death occurring and consider whether any changes to law or practice would reduce the likelihood of deaths occurring in the future.⁶¹

As Smith⁶² argued, “the coroner’s autopsy reveals the conditions in which the deceased has died, but not necessarily the condition which actually caused the death”. In the Shipman Inquiry, Smith⁶³ discussed these issues in detail, and demonstrated the problems that exist when a coronial system over-relies on the medical cause of death via internal autopsy to explain circumstance of death. In the case of Mr Barlow, killed by Shipman in 1995, she argued that “defective investigation missed evidence of an unlawful killing”.⁶⁴ This was despite a full internal autopsy being conducted on the deceased.

Moreover, Luce argued that the number of deaths reported to the coroner in England, Wales and Northern Ireland which were found to be the result of natural causes, suggested that both the resources and the primary purpose of the coronial system “is being subverted by an increase in referrals for reasons other than an unnatural or accidental cause of death [and that such] trends are not only unsustainable with current resourcing patterns, but are undesirable”.⁶⁵

This is a significant issue and points to the role and purpose of the coronial system generally and autopsy within that more specifically. As Knight⁶⁶ noted, “though in general the actual technique of an autopsy is very similar whatever the object of the examination, the medico-legal autopsy differs from the clinical autopsy *in the reasons for its performance*”. In contrast, in 2003, the Australian Health Ethics Committee’s discussion paper to the Federal Minister for Health on the issue of organs retained at autopsy⁶⁷ drew no distinction between hospital and coronial autopsies in terms of role, purpose and value. The 20 years between these two publications may, in fact, be significant and help to explain previous issues not raised about the decline of the hospital autopsy. As Smith⁶⁸ observed in the context of coronial autopsies, many families have strong feelings against autopsy and it is only within the coronial system that their consent is not required.

This issue alone may have led to a widening of the role and purpose of the coronial autopsy to encompass issues of inheritable diseases, for instance, due to the fact that such opportunities are now lacking in the hospital system. Whether increasing the ambit of the coronial system is the most appropriate response to this decline in hospital autopsies or whether it would be more appropriate for the importance of hospital autopsies to be highlighted by the medical profession in order to turn the trend around, is a discussion for another time. At present, however, such a shift is the background to any decision to decrease the ambit of internal coronial autopsy.

⁶¹ *Queensland State Coroners Guidelines*, n 48, s 7, p 7.

⁶² Smith, n 4, p 166.

⁶³ Smith, n 4, p 166.

⁶⁴ Smith, n 4, p 196.

⁶⁵ Luce, n 54, p 20.

⁶⁶ Knight B, *The Coroner’s Autopsy: A Guide to Non-criminal Autopsies for the General Pathologist* (Churchill Livingstone, Edinburgh, 1983) p iii.

⁶⁷ Australian Health Ethics Committee, n 3, p 7.

⁶⁸ Smith, n 4, p 197.

CONCLUSION

A discussion of the international literature and the preliminary data from Queensland have demonstrated that internal autopsies can be decreased without compromising the determination of cause and circumstance of death as long as adequate information is gathered prior to any decision being made and dependent upon the experience of the legal and medical practitioners. However, this article has also suggested that there are other issues which require further investigation prior to any decrease in the number of internal autopsies being conducted in the coronial setting being formalised. These include the dramatic decrease over the last 30 years in the number of hospital autopsies and the role of consent in this decrease; the role and purpose of the coronial system in light of this massive decrease in hospital autopsies and the fact that consent is not required for a coronial autopsy to take place; and the relationship between legal and medical discourse in establishing cause and circumstance of death in the coronial system. These issues aside, there is much to be gained from further investigation of the role and purpose of internal autopsies in the coronial setting.