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Autopsies in Norway and Czech Republic: A comparison
A look at international tendencies concerning autopsy rates, and whether these have had any impact regarding autopsy as a means of a retrospective diagnostic tool

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Written Declaration

I declare that I completed the submitted work individually and only used the mentioned sources and literature. Concurrently, I give my permission for this diploma/bachelor thesis to be used for study purposes.

Prague, 29.03.10 Astrid Teigland

Contents

INTRODUCTION

Autopsies have for centuries been performed as means of executing retrospective diagnostics to determine the cause of death on deceased people. The laws, legislations and norms when it comes to this procedure vary from country to country, and have changed immensely the last few decades; I will in my thesis elaborate the differences between Czech Republic and Norway, and in this respect compare the main causes of death in people of these two countries. I will further try to elucidate the worldwide trend when it comes to the recent decline in the number of autopsies performed; Why is it so, is this tendency likely to change, and what exactly are the pros and cons of performing as high a rate of autopsies as possible?

Autopsies have for long been the focus of interest, although the reasons for opening up dead bodies have changed with the years. Around 3000 BC, the ancient Egyptians were one of the first civilisations to practice the removal and examination of the internal organs of humans; however, unlike today, this was for religious reasons, as part of the process of mummification. By 150 BC, ancient Roman legal practice had established clear parameters for autopsies. In 44 BC, Julius Caesar was the subject of an official autopsy after he was murdered by his rival senators, and the physician could report that the second stab wound Caesar received was the fatal one. (1) This actually shows that *forensic* autopsies were more accepted than *clinical* ones; these were in many societies looked upon as heretical, and could, ironically enough, lead to prosecution.

The modern autopsy process derives from the anatomists of the Renaissance, and this interest led to both major advances of medical knowledge, as well as great influences on the art of this period. The major founder is said to be Giovanni Baptista Morgagni (1682-1771), an Italian physician who has been named "The Father Of Anatomical Pathology". He performed autopsies systematically as a direct tool in his research on pathological processes. In 1761 he published the book *De Sedibus Et Causis Morborum Per Anatomen Indagatis*

(The Seats And Causes Of Diseases Investigated By Anatomy). The book describes the cause and effect of diseases, and is based on experiences from about 700 dissections. By comparing a dead body with an alive, and sick organs with healthy organs, he found out a great deal about how pathological processes proceed, which were not obvious per se. (2)

Today, there are two main types of autopsies:

1) FORENSIC AUTOPSIES – these are in Norway and Czech Republic requested by the police (in the UK, USA and Australia, they are requested by a so-called coroner; he or she is in a position which is independent of both medical, police and jurisdictional authorities), and executed by forensic experts, which are pathologists who have further specialized in the field of forensics. These autopsies seek to find the cause and manner of death, and to identify the deceased person. They are generally performed in cases of violent, suspicious or sudden deaths, deaths where medical assistance has not been performed, or during surgical procedures. Generally, deaths are placed in one of 5 categories:
   *Natural
   *Accident
   *Homicide
   *Suicide
   *Undetermined
   Following an in-depth examination of all the evidence, the forensic expert will assign a manner of death as one of the five listed above, detail the evidence on the mechanism of the death, and send the report to the police as part of the data of their investigation.

2) CLINICAL AUTOPSIES – performed if the deceased died while receiving medical care (i.e. hospitalized). They aim to determine, clarify or confirm medical diagnoses that remained unknown or unclear prior to the patient's death. These autopsies serve two main purposes: To gain more

insight into pathological processes and determine what factors contributed to the patient's death, and to ensure the standard of care at hospitals. *In combination, one can say that autopsies can yield insight into how patient deaths can be prevented in the future.* (3)

Some also include *dissections* as an own entity; internal examination of dead bodies solely for the purpose of anatomical lessons for medical students. These bodies are usually immersed in formaldehyde, and can thus serve as educational "devices" for an extended period of time.

DEFINITION & DESCRIPTION

What exactly is an autopsy?

An autopsy, also called a necropsy or post-mortem examination, is defined as "dissection and examination of a body after death in order to determine the cause of death or the process of disease processes". (4) Literally, it means "see for yourself", which reflects the first-hand, direct way of viewing and assessing a person's body.

The body is generally examined at two levels: Macro- and microscopically. A full autopsy typically includes the removal and examination of all internal organs, including the organs of the central nervous system, thorax, abdomen and pelvis. Examination of individual organs includes subsequent microscopic investigation of the tissues; this part may take days to weeks. A toxicological sample from body fluids may also be obtained; this is standard procedure in forensic autopsies, but is performed in clinical autopsies only if indicated.

NATIONAL REGULATIONS CONCERNING AUTOPSIES

The Norwegian regulations from 1973 were revised in 2004; the changes included a shift from a written *objection by the next-of-kin* to perform an autopsy, to a written *consent.* The prevailing regulation as of 2004 thus states (in paragraph 5: "Information for the next-of-kin) that "the next-of-kin of the deceased shall, as far as possible, be informed that an autopsy may be done. Information should be given with regards to:

1) The obtained autopsy material may be used for educational or research purposes, and
2) The deceased and the next-of-kin have the right to object to autopsy and/or usage of the material for education and research

It should be clear, from the requisition form, that the next-of-kin are informed, and if that case whether they object to an autopsy or that the obtained material be used for educational or research purposes or not."

Paragraph 6 (Right of reservation) further states that "an autopsy shall not be performed if the deceased or the nest-of-kin have objections to it, or if there are reasons to believe that it opposes the beliefs of the deceased or the next-of-kin of the deceased." (5)

Norway, as part of a world-wide tendency, had already seen a decrease in the autopsy percentage before the new regulation of 2004. According to a study made by Lars Håheim, Livsforsikringsselskapenes Medisinsk-Statistiske Institutt, Ullevål Hospital, Norway, the overall percentage of autopsies was reduced from 13.8% in 1986 to 9.1% in 1994. The frequency decreased with age, was lower in women, and differed according to cause of death. (6) Today, the overall percentage of performed autopsies is estimated to be 10% (7) Concerning the forensic autopsies, the numbers are even lower, as seen from the table below (28) ,

and the numbers have steadily decreased further since this table was published. This table deals with the autopsy frequency in Norway in the period between 1986-1999, subdivided into clinical and forensic.

Year	Deaths	Clinical autopsy		Forensic autopsy	
	n	n	%	n	%
1986	43666	5765	13.2	3019	6.9
1987	44989	5431	12.1	3018	6.7
1988	45404	5050	11.1	3017	6.6
1989	45241	5001	11.1	3034	6.7
1990	46050 [3]	5172	11.2	2915	6.3
1991	44822	4680	10.4	2884	6.4
1992	44736	4541	10.2	2154	4.8
1993	46623	4645	10.0	1843	4.0
1994	44076	3751	8.5	1861	4.2
1995	45182	3842	8.5	1939	4.3
1996	43919	3935	9.0	1935	4.4
1997	44646	3456	7.7	2088	4.7
1998	44270 [4]	3242	7.3	2133	4.8
1999	?	3379	?	2007	?

The Czech Regulation on Autopsies and Burial of the Diseased (Paragraph 19, link 7) was revised in 1988, and has not been changed since. This regulation completely opposes the Norwegian law, and places full authority on the requitising physician. The next-of-kin has no formal

rights when it comes to objecting an autopsy, and can in theory even be done without the family of the diseased knowing about it. It further states that autopsies *must* be performed if "the diseased is under 18; if the cause of death is not determined; women whose death occurred while pregnant, during birth, abortion or puerperium; death occurring from infectious diseases that are obliged to be reported (HIV, plague, yellow fever..); soldiers (this is however nowadays considered obsolete, and is seen as a remnant from the legislations of the Communist Era); prisoners; suspicious deaths caused by another person." (8) In effect, this has resulted in a much higher prevalence of autopsies in Czech Republic than in Norway; today the estimate of performed overall autopsies in Czech Republic is at 30%. (8) In the forensic field, this number is even higher, estimated to be around 60 %.

CAUSES OF DEATH – NORWAY VS. CZECH REPUBLIC

In my thesis, I have chosen 2002 and 2008 as the reference years for comparison. The findings of the Norwegian statistics from 2008 are as follows:

A total of 41 700 died in Norway in 2008 (population: 4 600 000), with the female deaths accounting for 21 400. Two out of three deaths were caused by cardiovascular diseases and cancer. 10 % were caused by lung diseases. There are, as expected, large differences in causes of death at different age levels. Deaths from accidents are more common among the youngest than among the elderly.

163 children died during their first year of life, 102 of these were boys. More than 50% of these deaths were caused by diseases or conditions that arose in the perinatal period, and about 30% were caused by congenital diseases. 12 children died from sudden infant death syndrome.

A total of 148 deaths were registered in the age group 1-17; 88 of whom were boys and 60 were girls. Accidents were the cause of death for about one thirds of these incidents. Cancer was due to about 20% of the causes, whereas congenital diseases accounted for around 10%. Total deaths in this age group has fallen over the last decade.

Violent deaths are the cause of nearly 50% of the age group 18-48. More than three times as many men than women die from violent deaths. When it comes to diseases, cancer is the most common cause of death.

In the last 20 years, the decrease in total mortality in the age group 45-74 has been around 25% for women and 40% for men. This positive development is mainly due to the fact that cardiovascular diseases have declined by 65% in both sexes. Cancer is the main cause of death in this age group, but since 1997 the death rates for cancer have declined by 15% for women and 20% for men. For comparison, the death rates for chronic obstructive lung diseases, accidents and suicides have remained relatively stable.

In the last decade there has been a decline in cardiovascular diseases, while deaths caused by chronic diseases in the lower respiratory tract (mainly pneumonia) and cancer have increased in the age group over 75. However; despite the decrease in cardiovascular diseases, this still remains the main cause of death in this age group. Violent deaths account for 3% of deaths in the elderly population, to which accidental falls and unspecified fractures account for the majority of the incidents. (9)

According to the WHO's statistics, these are the Top 10 Causes of death in Norway (in 2002): (10)

CAUSE	**NUMBER**	**PERCENTAGE**
All causes	45 000	100
Ischemic heart disease	8 000	20
Cerebrovascular disease	4 000	11
Lower respiratory infections	2 000	6
Trachea, bronchus, lung cancer	1 000	4

Colon and rectum cancers	1 000	4
COPD	1 000	4
Prostate cancer	1 000	3
Alzheimer & other dementias	1 000	2
Falls	<1 000	1
Breast cancer	<1 000	1

The Czech statistics show that in 2008, a total of 104 948 died (population: 10 200 000), of which 53 076 were men and 51 872 women. For men, the biggest percentage was in the age group 75-79, for women 80-84. The tendencies were generally similar to the Norwegian trends: Cardiovascular, cerebrovascular and cancer are the main causes of death in the Czech population as a whole. Perinatal diseases account for the majority of deaths of the infants, and cancer and accidents/violent deaths are the main causes of the age groups 1-14. There is a higher percentage of males dying from accidents in all age groups. Cancer is the main cause of death of the middle-aged, with a small decrease in the incidents of cardiovascular deaths over the last decade. In the elderly, cardiovascular events, stroke and cancer are the most common causes of death. (11)

Let us take a look at WHO's listing from 2002 of the Top 10 causes of death in the Czech Republic. (12) The list slightly differs from the Norwegian one, as seen here:

CAUSE	**NUMBER**	**PERCENTAGE**
All causes	103 000	100
Ischemic heart disease	25 000	25
Cerebrovascular disease	15 000	15
Trachea, bronchus, lung cancer	5 000	6

Colon and rectum cancers	4 000	5
Lower respiratory infections	2 000	2
Breast cancer	1 000	2
Cirrhosis of the liver	1 000	2
COPD	1 000	2
Falls	1 000	2
Self-inflicted injuries	1 000	2

The main causes, such as ischemic heart diseases, cerebrovascular events, respiratory complications and cancer in general, are thus pretty similar among the two countries; however, national differences can be seen when it comes to causes such as dementias, cirrhosis and violent deaths.

DISCUSSION

Norway seems to be following an international trend when it comes to the decrease in the number of autopsies. The reasons seem diverse and varied: More power to the next-of-kin and less to the medical staff, changes in attitude from next-of-kin towards post-mortem examinations of beloved ones, changes in attitudes of the medical profession in general regarding whether an autopsy is necessary, better diagnostic tools throughout life so that cause of death usually is more clear, higher demand on pathologists when it comes to other tasks, such as increased number of biopsies etc etc. Czech Republic has also seen a decrease in autopsies in the later years, but the trend is not as prominent as for many other countries.

The question that is being asked is: With all the advantages that have been seen the last decades when it comes to diagnostics and imaging, are autopsies

really a necessary tool as an addition to the diagnostic work-up anymore? How often is a missed in vivo-diagnosis found, and can these findings compensate for the cases where the post-mortem findings are congruent with what one assumed was the cause of death?

The value of the autopsy

Autopsies are valuable in modern clinical medicine because they allow us to elucidate the cause of death, to see if the medical management was appropriate and sufficient, to explain fully and with certainty the cause of death to the family, to investigate how accurate the biopsy and imaging was, to monitor public health, to diagnose novel and rare diseases, and to train more medical students and pathologists. If a particular autopsy does not fulfil these purposes, one can still look for signs that may make it comparable to other unsolved cases and see if there is a pattern. Pellegrino (1996) found out that autopsies had been crucial in providing correlational data in the discovery of diseases such as HIV/AIDS, Ebola and Lyme disease. (13) An autopsy may also be seen as a monitor for imaging equipment; it may tell us if our imaging devices are not sufficiently discriminating and has missed something vital. McPhee (1996) could name three studies that showed not only a significant level of new findings post-mortem, but that 10-12% of post-mortems revealed treatable pathologies which – if identified and treated ante-mortem - , could have prolonged the patient's life. (14)

How often do autopsies turn up a major misdiagnosis in the cause of death? The studies done in this field have varying numbers. According to three studies done in 1998 and 1999 (15), the figure is about 40 %. A large review of autopsy studies concluded that in about one third of the misdiagnoses the patients would have been expected to live if proper treatment had been administered. George Lundberg, pathologist and former editor of the *Journal of the American Medical Association* has pointed out a surprising fact: The rates at which misdiagnoses is detected in autopsy studies have not improved in the US since 1938.

With all the recent advances in imaging and diagnostics, it may be hard to accept the fact that one not only get the diagnosis wrong in two out of five patients who die, but also that this has failed to improve over time. To see if this really could be correct, doctors at Harvard put together a simple study. They went back into their hospital records to see how often autopsies picked up missed diagnoses in 1960 and 1970, i.e. before the invention of computed tomography, ultrasound, nuclear scanning and other diagnostic technologies, and then in 1980, after those technologies became widely used. The researchers found no improvement. Regardless of the decade, physicians missed a quarter of fatal infections, a third of myocardial infarctions, and almost two thirds of pulmonary emboli in their patients who died. In most cases, it wasn't technology that had failed. Rather, the physicians did not consider the correct diagnosis in the first place. The perfect test or scan may in other words have been available, but the doctors did not order it. (15)

Another study, however, shows somewhat different results, although still in favour of seeing the value in autopsies. In "Changes in rates of autopsy-detected diagnostic errors over time" by Shojania/Burton/McDonald/Goldman in 2003 (16) , they collected data from 53 distinct autopsy series in the US over a 40-year period, and adjusted for the effects of changes in autopsy rates, country, case mix (general autopsies; adult medical; adult intensive care; adult and pediatric surgery; general pediatrics or pediatric inpatients; neonatal or pediatric intensive care; and other forms of autopsy), and also important methodological features of the primary studies. Of the 53 autopsy series, 42 reported major errors, and 37 reported class I errors (i.e. that may have affected the outcome). 26 series reported both major and class I errors. The median error rate was 23.5% for major errors, and 9.0% for class I errors. The relative decrease per decade was estimated to be 19.4% for major errors, and 33.4% for class I errors. Despite these decreases, it was estimated that a given institution could expect to observe a major error rate of 8-24%, and a class I error rate of 4-7%. They concluded that "the possibility that a given autopsy will reveal important unsuspected diagnoses has decreased over time, but remains sufficiently high that encouraging ongoing use of autopsy appears warranted".

Ravakhan of the Department of Medicine, Huron Hospital, Ohio, published, in 2006, a study called “Death certificates are not reliable: revivification of the autopsy”. (17) The objective was to evaluate the accuracy of death certificates in reporting vital statistics with an emphasis on cardiac deaths, with one community hospital being the aim of the study. During the study period, 1 619 patients died during hospitalization, of which 223 underwent autopsy. Clinical diagnoses were determined from the death certificate and the autopsy reports. Concordance of myocardial infarction as the underlying cause of death between the death certificate and the autopsy was measured, and new diagnoses discovered from autopsy were registered. The result showed that the death certificate missed acute myocardial infarction in 25 of 52 autopsy-proven cases, and conversely, wrongly attributed a death to a myocardial infarction in 9 of 36 cases. Autopsy showed these cases were actually pneumonia (5 cases), sepsis with ARDS (2), cerebral hemorrhage (1) and cardiac tamponade (1). He concluded that “Major discrepancies of omission and commission occur frequently between the death certificate and the autopsy. 1) Death certificates are often wrong 2) The time-honored autopsy is more valuable than ever 3) Physicians need to write better death certificates and correct them 4) Death certificate-based vital statistics should be corrected with autopsy results 5) Vital statistics should note deaths confirmed by autopsy 6) More autopsies would improve vital statistics and the practice of medicine.”

Another question is the attitude of clinicians concerning autopsies. They are the direct link between the next-of-kin and the pathologists, and are the ones responsible for obtaining an approval from the family before an autopsy can be executed. Could this be a factor in the decline of autopsies? A study from 1998, from the Institute of Morphology, Norwegian University of Science and Technology, Trondheim, Norway showed otherwise. (18) A questionnaire was sent to 166 general practitioners in the count of Sør-Trøndelag in Norway, and to 186 clinicians working at the St. Olav’s University Hospital in Trondheim. Answers were obtained from 250 physicians: 110 GPs and 140 hospital physicians. 179 of these (73.1%) felt that the possibility of having autopsies performed was of great importance in their daily work. Autopsy was considered to be a very important means of quality assurance in the health care system by 158 (66.4%). 102 physicians (41.2%) answered that improvements in medicine and technology during the last decades had not

reduced the importance of autopsy. Among the general practitioners, 73 (68.9%) welcomed the opportunity to have non-forensic autopsies performed on patients who died outside hospital care. The study showed differences in the attitude of clinicians towards autopsies, but the results still indicate that the value of autopsies for further clinical knowledge is acknowledged by most clinical physicians.

One can argue, however, that despite goodwill from clinicians towards retrospective diagnostics through autopsies, there is a different situation when it comes to actually obtaining the consent and filling out the requisition form. The main reason is said to be hesitation from clinicians in a situation of grief and mourning, and a feeling of inappropriateness.

Are autopsies still really necessary?

The reasons for the decline in autopsies are complex. A variety of societal, medical, economical and technological factors are responsible, and no single cause can be pointed out. (19)

*Economic considerations: The costs of autopsy expenses are supported through general operating expenses, and with some exceptions, autopsies are performed by pathologists as part of their professional service contract with, and closely connected, the hospital. Autopsies are expensive and include the cost of facility maintenance, such as space, personnel, supplies and equipment. An autopsy requires 4 to 10 hours of a pathologist's time, when macro- and microexaminations are included, as well as 3 to 6 hours on the part of autopsy assistants, histologists and secretaries. (20) The autopsy also includes laboratory costs, including histopathology, and if relevant, toxicology, chemistry, bacteriology and serology. During the late 70s and early 80s, an American study estimated autopsy costs to be from 900 to 2000 dollar, depending on the procedures performed. The costs were estimated to consist of approximately 47 % direct personnel expenses, 40 % for supplies and services, and 13 % for space, equipment and indirect costs. (21)

From an economic point of view, a critical factor in determining the appropriate rate of autopsies is marginal cost. Because the variable costs associated with autopsies are low, virtually all the costs of an autopsy service are fixed. While the autopsy can be considered a public good, with benefits that are generally intangible and widely distributed, the actual monetary costs of performing autopsies fall directly upon hospitals and may be difficult to regain. This may contribute to the "market failure" of autopsies from an economic point of view. (21)

*Fear of litigation: Fear of litigation or embarrassment may discourage clinicians from ordering autopsies. Excessive litigation, especially in the US, seems to have created the misconception that shortcomings are unacceptable and that all errors are avoidable. This dogma discourages physicians from requesting autopsies for fear of disclosure of errors. (22)

On the other hand, some research suggests that autopsies reduce the risk of financial loss from malpractice lawsuits. Autopsies eliminate suspicion and provide reassurance to families. Autopsy findings also replace speculation with facts, and allow defendants to construct a better defense. Autopsies have also been shown to reduce the number of erratic malpractice legal actions. (21)

*Unsatisfaction among the pathologists themselves: Autopsies are often perceived as unscheduled annoyances that may extend into evenings or occur on weekends. Autopsies take the pathologist away from the directly rewarding work of interpreting surgical and clinical laboratory specimens. Autopsies are lengthy, time consuming, dirty jobs, often unappreciated and usually thankless. (23)

*Clinicians: Many physicians are skeptical to the high levels of discrepancy between clinical and autopsy diagnoses and do not see a major role for autopsy in the clinical assessment. Despite the opinions of most professional organizations and the rich evidence to support the medical and scientific values of autopsies, many clinicians feel unable to justify the costs of autopsies within hospitals. (24) Some factors considered most influential in a clinician's decision to request an autopsy include the age of the patient, attitudes of relatives, and the clinician's confidence in the clinical diagnosis. New and sophisticated

diagnostic techniques have increased confidence in clinical diagnoses, with the result that autopsies are often considered to be outdated and unnecessary. (24) Clinicians may also lose interest in requesting autopsies due to poor quality autopsy reports from unmotivated pathologists (25)

Finally, the attitudes of the clinicians may be influenced by their personal experience as medical students or house staff, and later by the level of interest shown by senior colleagues and pathologists. A self-perpetuating cycle of low interest in autopsies is created when these influences are consistently negative. (24)

*Non-medical decision makers: Aside from medical personnel and the family of the deceased, other groups may also influence autopsies. This includes hospital administration, nursing home operators and funeral directors (21). Hospital administrators may dislike autopsies, since they are responsible for the financial support of the autopsy room, which spends money that could have been spent on other expenses such as clean linens, nurses, social workers, medicines and even cafeteria food. (23)Administrators generally prefer to spend their money on the living, not the dead. Administrators may also dislike autopsies because they prefer not to dwell on the unfavourable outcomes that may occur in their hospitals. (26)

Quality of care varies considerably among nursing homes, and it is possible that those homes with below average care might be less inclined to encourage autopsies, in case the findings may put them in a bad position.

An American study demonstrated that many funeral directors may have strong aversions to autopsies due to the inconvenience of transporting the body to the hospital when the death has occurred elsewhere, and delay in preparation of the body for the funeral service (21). In addition, the embalming procedure is a little more time consuming and difficult in an autopsied body than an intact one. This picture, however, does not apply to Czech Republic and Norway, because transport expenses are covered by the police if the autopsy is forensic, and by the insurance companies (CR) if clinical, and the families themselves are responsible for covering the expenses of embalming. In other words, the funeral agencies actually profit on autopsies.

*Miscellaneous factors: There has been shown a tendency towards growing concerns about potentially transmissible diseases such as AIDS, decreased emphasis on the autopsy in formal medical education, and the increasing number of people who die at home. (21, 22, 23, 27)

CONCLUSION

My thesis has been concerning trying to point out possible differences in statistics dealing with causes of death, exemplified by Norway and Czech Republic, based on autopsy results and whether changes in the percentage of autopsies performed has had much impact of the certainty of these statistics. It is a fact that Czech Republic has a higher percentage than Norway, especially the last decade, but whether this influences the certainty of the cause of death, remains controversial. It has been hard to find sure facts specific for these two countries, but internationally there has been extensive research on this topic; most in the favour of the value of autopsies, whereas some question the significance of high autopsy rates, especially when weighed upon the fact that autopsies are time consuming, expensive, and that pathologists have experienced an increasing demand for biopsies the later years, taking up more and more of their time.

Many of the articles I have referred to, have tried to explain the decline in the rate of autopsies, and they have mainly used two types of explanations; the "professional" and "technical". The first implicates declining professional standards, whether it be the pathologists or the clinicians, while the last point to the emergence of new diagnostic technologies as the main cause of the decline of the lower autopsy rates. My opinion here is that "one does not exclude the other"; they would be better understood if seen as two components of one large explanation.

In general, one can say that as improved diagnostic imaging lets us see what is going on inside the live body, there may be less need to see physically and

directly into the dead. Checking the efficacy of diagnostic imaging is not needed on every occasion, and is a redundant argument for performing more autopsies. The use of autopsy to diagnose new illness is unlikely to lose its vital role, and there may also be value in extending its role beyond medical education to that of the wider society. However, if the recent decline of autopsies is to be slowed down, then pathologists are going to have to do better jobs of informing clinicians and relatives of its merits, hospital administration must take the financial responsibility to maintain an adequate standard of autopsies, and clinicians need to bear autopsies in mind when dealing with the family of the deceased. A stronger focus of awareness of autopsies for the clinicians is in my opinion thus an uttermost necessity, as this seems to be one of the major brakes of performing autopsies. Without the clinician's request, there will be no autopsies. A better co-operation, understanding and closer connection between pathologists and clinicians would surely be beneficial. Patients coming to autopsy do not represent a random group from the hospital population, since clinicians are more likely to request an autopsy when the patient has created a diagnostic dilemma during life. For data to be meaningful, a mechanism must exist for obtaining a sufficiently representative sample of hospital deaths to permit statistical reliability. Other proposed steps to enhance the contributions of autopsy to clinical medicine should include: Improving the process of obtaining autopsy consent from the next-of-kin, standardizing the method for classifying unexpected autopsy findings, integration of autopsy findings into educational feedback systems, and research to determine the yield and cost effectiveness of the autopsy in specific clinical situations.

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"His Locus Est Ubi Mors Gaudet Succurere Vitae"

(This Is The Place Where Death Rejoices To Help Those Who Live)

(Commonly seen outside autopsy rooms, as a last respect to those who were willing to contribute to medicine even in the afterlife)