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Rethinking Morbidity and Mortality Meetings in Surgery

Repensando as Reuniões de Morbilidade e Mortalidade em Cirurgia

António Pedro GOMES [1], Vitor NUNES [1]
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ABSTRACT

Morbidity and mortality meetings were originally conceived as structured forums to improve surgical outcomes through reflective practice. Over time, they became institutionalized globally. However, in Portugal, no published evidence was found describing structured standards for morbidity and mortality meetings; available observations suggest that practices remain fragmented, unstandardized, and weakly integrated into clinical governance. The aim of this review to critically appraise the current model of morbidity and mortality meetings in Portuguese surgical departments and propose evidence-based reforms, drawing on successful international frameworks. This is a narrative review synthesizing historical developments, national regulations, and international models – such as the United Kingdom's National Confidential Enquiry into Patient Outcome and Death, the National Surgical Quality Improvement Program, and Australian and New Zealand Audit of Surgical Mortality. This work highlights gaps in the Portuguese context and proposes a multidimensional reform strategy. Despite legal references to morbidity and mortality in Portuguese regulations, there is no unified national guidance on case selection, meeting governance, or implementation of corrective actions. Cultural barriers such as blame avoidance and hierarchical dynamics limit psychological safety and learning. In contrast, international programs offer structured, audited, and data-driven approaches that promote accountability, transparency, and system-wide improvement. Based on these findings, the review recommends national guidelines, risk-adjusted benchmarking, multidisciplinary involvement, protected meeting time, and formal follow-up systems. Additional proposals include autopsy integration, shared morbidity and mortality across institutions, and public reporting. Morbidity and mortality meetings in Portugal must evolve from symbolic practices into powerful tools for patient safety, institutional accountability, and continuous learning. This requires regulatory leadership, cultural change, and structural reform aligned with international standards.

Keywords: Clinical Governance; Morbidity; Mortality; Patient Safety; Portugal; Quality Improvement; Specialties, Surgical/education; Surgery Department, Hospital/organization and administration; Surgical Procedures, Operative/education

RESUMO

As reuniões de morbimortalidade foram idealizadas como fóruns estruturados, sem culpabilização, para melhorar os resultados cirúrgicos através da reflexão. No entanto, em Portugal, não foi encontrada evidência publicada que descreva normas estruturadas para as reuniões de morbimortalidade; as observações disponíveis sugerem que as práticas permanecem fragmentadas, não normalizadas e pouco integradas na gestão clínica. O objetivo desta revisão é analisar criticamente o modelo atual de reuniões de morbimortalidade nos serviços cirúrgicos portugueses e propor reformas fundamentadas na evidência, inspiradas em modelos internacionais eficazes. Esta revisão narrativa integra evolução histórica, normas nacionais e experiências internacionais como o *National Confidential Enquiry into Patient Outcome and Death* (Reino Unido), o *National Surgical Quality Improvement Program* (Estados Unidos da América) e o *Australian and New Zealand Audit of Surgical Mortality*, identificando falhas e propondo uma estratégia multidimensional de reforma. Apesar de existirem referências a morbimortalidade nas regulamentações portuguesas, não existe um guia nacional sobre seleção de casos, condução das reuniões ou implementação de medidas corretivas. Barreiras culturais como o medo de culpabilização e dinâmicas hierárquicas dificultam o ambiente de segurança psicológica. Em contraste, os modelos internacionais oferecem abordagens estruturadas, auditadas e orientadas por dados. Recomenda-se a criação de diretrizes nacionais, *benchmarking* ajustado ao risco, participação multidisciplinar, tempo protegido, e sistemas formais de seguimento. Propõem-se ainda a integração do resultado de autópsias, partilha interinstitucional e publicação de resultados. As reuniões de morbimortalidade em Portugal devem evoluir de rituais simbólicos para instrumentos efetivos de segurança do doente e melhoria contínua, exigindo liderança regulatória, mudança cultural e reformas estruturais alinhadas com os padrões internacionais.

Palavras-chave: Especialidade Cirúrgicas/educação; Governação Clínica; Melhoria da Qualidade; Morbilidade; Mortalidade; Portugal; Procedimentos Cirúrgicos Operatórios/educação; Segurança do Doente; Serviço de Cirurgia/organização e administração

INTRODUCTION

Morbidity and mortality (M&M) meetings, once an innovative tool for surgical education, have become stagnant in many healthcare settings.[1-3] Originally conceived in the early 20th century to support reflective learning and improve outcomes, they offered clinicians a space to discuss complications and deaths constructively – not to assign blame, but to identify patterns and improve care. Over time, they became institutionalized globally, particularly in surgery where decision-making stakes are high.[3-8]

Today, M&M meetings are endorsed by professional bodies and embedded in accreditation frameworks.[2-7,9] Yet, in practice, they often fall short – more ritual than reflection, more symbolic than substantive. The lack of oversight and integration into broader quality systems, especially in countries like Portugal, has widened the gap between their intended and actual impact.[10-12]

Our objective was to assess the current state of M&M meetings in Portuguese surgical departments and compare them with international models.

1. Surgery Department. Hospital Fernando Fonseca. Amadora. Portugal.
✉ **Autor correspondente:** António Pedro Gomes. antonio.p.gomes@ulsasi.min-saude.pt
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METHODS

As a narrative review, this work synthesized historical developments, national regulations, and international frameworks. Searches were conducted in MEDLINE/PubMed, Embase, and Google Scholar, complemented by targeted searches of the grey literature, including institutional documents, regulatory publications, and congress proceedings. Particular attention was given to international programs such as the United Kingdom (UK)'s National Confidential Enquiry into Patient Outcome and Death (NCEPOD), the United States of America (USA)'s National Surgical Quality Improvement Program (NSQIP), and the Australian and New Zealand Audit of Surgical Mortality (ANZASM), which were analyzed to provide comparative perspectives.

THE CURRENT MODEL IN PORTUGAL: GAPS IN STRUCTURE, CULTURE, AND IMPACT

Portugal is a compelling case study. Morbidity and mortality meetings are a common feature of surgical practice in Portugal, but their structure and effectiveness vary widely across institutions. While legal instruments such as *Portaria* 186/2024/1,[13] and the *Declaração da Terceira,*[14] as well as and professional bodies – such as the College of General Surgery of the Portuguese Medical Association,[15] - mandate regular clinical meetings including bimonthly or quarterly M&M reviews (Table 1), there is no national standard guiding how these meetings should be conducted. The Portuguese National Health Plan 2021 - 2030[16] sets public health priorities but does not specifically address surgical morbidity and mortality. Although guidelines from the Directorate-General of Health (DGS)—such as *Norma* 002/2013[17] (Table 1)—promote internal audits and patient safety, and the World Health Organization[18] (WHO) recommendations have been incorporated into national policy, there remains no unified operational framework for conducting morbidity and mortality (M&M) meetings. As a result, implementation is inconsistent and unmonitored, and there is no mechanism to ensure follow-up of recommendations.

This lack of standardization fosters significant variability, and the absence of national data limits understanding of the true scope of the problem. Cultural barriers – hierarchical structures, fear of blame, and limited psychological safety – further impede open and constructive discussion. By contrast, international models from the UK, USA, Canada, and Australia have transformed M&M meetings into strategic tools for quality improvement, grounded in data, accountability, and system-wide learning.[3-9]

THE EVOLUTION OF SURGICAL MORBIDITY AND MORTALITY MEETINGS: A CENTURY OF TENSION AND TRANSFORMATION

Surgical M&M meetings originated in the early 20th century as surgery shifted toward a data-driven science. Ernest Codman's 1914 "End Result System*"* introduced the principles of outcome tracking, transparency, and continuous improvement.[19-22] Despite institutional resistance and his eventual ostracism, Codman's legacy laid the foundation for modern peer review and system accountability in surgery.

In the US, formal standardization began in 1950 with the Residency Review Committee for Surgery, and by 1983, the Accreditation Council for Graduate Medical Education integrated M&M into residency programs.[23-25] Parallel reforms arose in the Veterans Affairs system, culminating in the National Surgical Quality Improvement Program (NSQIP), which used risk-adjusted outcomes to drive surgical quality. NSQIP's success led to its civilian expansion by the American College of Surgeons (ACS) in 2004.[4] The ACS-NSQIP program has strengthened M&M processes through standardized, data-driven peer review. Participating hospitals collect risk-adjusted surgical outcome data and benchmark it nationally to identify trends, improve care, and monitor interventions. The ACS-NSQIP criteria increased complication detection in M&M meetings from 15% to 81% and improved mortality identification from 33% to 100%. Long-term NSQIP participation is associated with a 25% reduction in postoperative complications and declines in surgical mortality.[4,26-30]

The "To Err is Human*"* report from 1999 reframed patient harm as systemic rather than individual, advancing root cause analysis and the concept of a 'just culture'.[31,32] These ideas fundamentally reshaped M&M as a learning opportunity embedded within broader quality systems. Globally, M&M practices evolved in tandem.

In the UK, in 1987, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) introduced anonymized case reviews, inspiring the National Health Service's Learning from Deaths programme.[9,33-35] The NCEPOD uses random case sampling and blinded peer review to assess care quality, producing anonymized reports that identify systemic failures and guide national recommendations. Complementing, the Learning from Deaths policy requires all National Health Service hospitals to conduct structured reviews of in-hospital deaths using standardized formats. Significant findings must be escalated to medical examiners, discussed in M&M meetings, and reported publicly. Hospitals must demonstrate improvements via quarterly reporting, and visible implementation of changes.[8,9,12,34-36]

The Canadian Medical Protective Association (CMPA) shifted focus to cognitive error and system learning.[5] Australia and New Zealand launched the Australian and New Zealand Audit of Surgical Mortality (ANZASM) in 2005, requiring peer-reviewed audits of all surgical deaths.[7] The ANZASM is a mandatory, national peer-review program for all surgical deaths in public hospitals. Since its full implementation in 2010, it has captured nearly 100% of eligible deaths and helped reduce surgical mortality by 30% in Western Australia and by 15% nationwide between 2009 and 2013. The ANZASM's structured feedback process identifies modifiable care issues – such as delayed intervention or inadequate rescue after complications – informing both clinical education and system change. It has enabled publication of audits across common surgeries (e.g., cholecystectomy, pancreatic resections, liver resections), highlighting recurrent risks and guiding safer practice.[37-48]

All the programs mentioned above share core principles: standardized data collection, protected peer review, and integration with governance and education. Such national initiatives complement M&M meetings by enabling large-scale audits, benchmarking, and policy development. While hospital-level data are confidential, national summaries from ANZASM, NCEPOD, and ACS-NSQIP are publicly available, balancing transparency with internal learning.

Recent years have seen growing international efforts to structure surgical M&M practices, particularly in South America and Africa. For example, Ecuador launched a WHO-supported National Surgical, Obstetric, and Anaesthesia Plan (NSOAP) in 2023, followed by Brazil, Colombia, and Peru. However, the scope and pace of implementation vary across countries.[49-51] In Africa, countries like Tanzania, Rwanda, and Ethiopia have adopted NSOAPs that include M&M processes. Initiatives like SURG-Africa and COST-Africa show how structured M&M and mentorship can improve safety, even in resource-limited settings.[52,53]

Figure 1 provides a schematic overview of the key historical milestones in the evolution of morbidity and mortality (M&M) discussions.

KEY MOMENTS IN M&M MEETINGS REQUIRING STANDARDIZATION

International quality programs such as NSQIP, NCEPOD, and ANZASM promote M&M meetings as vital tools for safety, accountability, and learning. However, they rarely define operational standards in detail, leaving institutions to develop their own protocols, aligned with national frameworks.[6,54-61]

Case selection

Case selection is critical for the educational and quality assurance goals of M&M meetings. Key questions include: Which cases merit discussion, who selects them, and how can omissions be avoided? A core debate concerns whether to include all complications or only those considered 'unexpected'.[55] This term is subjective and prone to bias, and therefore a clearer clinical definition should consider preoperative risk, clinical trajectory, and whether the outcome aligned with prior expectations. For example, a death may be considered 'expected' if it occurred after high-risk surgery in a frail or severely comorbid patient and was discussed in advance with the patient and team.[54,55,57] In contrast, 'unexpected deaths' occur when mortality was not anticipated – such as a healthy patient dying from unrecognized sepsis after elective cholecystectomy, or a routine colectomy ending in fatal anesthetic complications. These warrant thorough review, as they may indicate diagnostic errors, management failures, or systemic issues. The use of risk prediction tools such as the American Society of Anesthesiologists Score,[62] Physiological and Operative Severity Score for the enUmeration of Mortality and morbidity (POSSUM),[63,64] or NSQIP[65] can help define risk more objectively. Some health services, like the ones used in Victoria and Canberra offer already structured systems to classify deaths as 'expected', 'unexpected', or 'opportunities for improvement'.[55] This facilitates consistent referral and prioritization for in-depth review.

Criteria for M&M case submission (Table 2)

In answering "Which patients should be referred to M&M meetings?", several case types stand out:

- **Deaths related to healthcare interventions**, especially unexpected ones or those involving potential medical error. In medico-legal systems, such cases often require statutory reporting.[56,66]
- **Adverse events and complications**, such as unplanned returns to the operating theatre or ICU, postoperative bleeding, hospital-acquired infections, or unexpected readmissions (e.g., within 30 days of discharge or 72 hours from the emergency department).
- **Near misses and 'close calls'**, especially if they reveal recurring system vulnerabilities.
- **High-risk but successful cases** with educational value, or those exposing latent safety issues.
- **Cases flagged by incident reporting systems** (e.g., Riskman, Victorian Health Incident Management System - VHIMS) or brought forward by patient/family feedback.

- **Breaches of care standards**, such as failure to implement sepsis protocols or thromboembolism prophylaxis.

These categories support education and quality assurance. Institutions should tailor criteria based on resources, patient volume, and time constraints – ensuring regular meetings and fixed agendas.

Meeting governance

Creating a psychologically safe environment is the cornerstone of effective M&M meetings. Participants must feel confident that the primary objective is learning and improvement, not judgment or blame. A no-blame culture, when authentically implemented, encourages open disclosure, constructive reflection, and collaborative problem-solving. Institutions should explicitly state that M&M meetings are educational spaces, not forums for disciplinary action. Physical and procedural elements also matter: meetings should be conducted in confidential settings, free from clinical interruptions, and ideally attended by a multidisciplinary audience, including nursing, anesthesia, and quality officers.

Cultivating this environment requires visible leadership support, institutional policies with code of conduct, and ongoing training. Without it, even the best-case selection process risks becoming performative rather than transformative.

For M&M meetings to be effective and sustainable, well-defined governance and clear assignment of roles are crucial.

Patient selection should be coordinated by the clinical governance lead or quality officers, ideally in collaboration with surgical, anesthetic, and nursing staff. Cases are typically presented by the involved clinician or trainee, following a structured format such as Situation - Background Assessment - Recommendation (SBAR)[56,58,67] or a root cause analysis template.[56] However, in some settings, an uninvolved presenter may be preferable to reduce potential bias.

A senior, neutral moderator should chair the meeting to ensure psychological safety and constructive discussion. Administrative staff or quality officers must document discussion points and action items are formally documented.

Regular audits of the M&M process by clinical governance bodies are necessary to maintain standards.

Importantly, junior doctors should actively engage in M&M meetings, which should be an integral part of their training.

Ultimately, departmental leadership must ensure the institutionalization of the process, its periodicity, and the allocation of time, space, and resources. They also serve as accountability anchors and should reinforce the no-blame culture.

Meeting agenda

A structured and pre-circulated agenda is fundamental to ensuring that M&M meetings are focused, time-efficient, and purposeful. The agenda should be disseminated in advance and include the list of cases to be discussed, names of presenters, and any specific learning objectives or themes (e.g., communication breakdown, delays in diagnosis, procedural error). The use of a standardized agenda template helps reinforce consistency across meetings and ensures time is allocated for discussion, recommendations, and follow-up of previous action points. The effectiveness of M&M meetings depends not only on their content but also on their timing and regularity. Irregular scheduling or skipped sessions can undermine their impact, while excessive delay between the adverse event and the meeting may reduce the relevance and clarity of the discussion.

Case presentation format

Presentations should be concise, factual, and objective, following a standardized format to facilitate clarity and focus. Common structures include SBAR or root cause analysis templates, such as the London Protocol or the Safer Care Victoria Systems-Focused Tool.[55] Ideally, the case should be presented by someone directly involved in care, supported by the responsible consultant or moderator. However, for sensitive or controversial cases, it may be advisable to assign presentation and analysis to an independent party to preserve neutrality and support psychological safety. The use of standardized templates reinforce consistency across meetings.

Case discussion and documentation

Root cause analysis should form the backbone of discussions, moving beyond superficial descriptions of error to understand contributing factors at system level (e.g., human factors, communication, environment, policy gaps).

Other models are also incorporated in different protocols worldwide like the Fishbone diagrams (Ishikawa) and the Swiss Cheese model to map system failures.[68] In cases of unexpected postoperative death, clinical autopsy remains a critical yet underutilized tool. Autopsy findings can help improve diagnostic accuracy, surgical decision-making, and perioperative management. In this context, clinical autopsy should be viewed not as an exception but as an essential tool for continuous learning and quality improvement.[69-71]

Documentation is essential for accountability and follow-up. Each meeting should record the case details, findings,

actions agreed upon, and attendance, ideally using standard templates.

Follow-up and dissemination

One of the most common failings of M&M meetings is the absence of effective follow-up. Each case must generate specific, measurable corrective actions with designated responsible individuals and deadlines. The Specific, Measurable, Achievable, Relevant, Time-bound (SMART) framework is frequently used to guide this process.

Documentation and registries

Formal documentation of cases reviewed, key findings, actions agreed, and attendance is critical for accountability and audit. A protected record of learnings and recommendation tracking should be maintained and periodically reported to governance structures. This documentation must balance transparency with legal and privacy obligations. Where possible, use standardized templates, and ensure data are regularly analyzed to identify recurrent themes or system vulnerabilities

Lessons learned should be shared beyond the meeting itself – through written summaries, internal training sessions, or quality updates. To support open discussion, cases may be anonymized or reviewed in a blinded format when necessary. These practices are vital to cultivating a culture of honesty, accountability, and continuous learning, and should be explicitly reflected in the institution's code of conduct.

Confidentiality and legal protection

Fear of legal consequences or professional blame may inhibit open discussion. Institutions must ensure legal protection for M&M discussions where applicable and establish clear policies on confidentiality. Where possible, cases should be anonymized or reviewed in a blinded format to preserve psychological safety while maintaining transparency. These measures are vital to fostering a culture of honesty, accountability, and learning. The code of conduct should include these issues.

National guidelines and legal framework

To ensure the sustainability, equity, and institutional value of M&M practices, national health authorities should integrate M&M meetings into clinical governance frameworks. The development of national guidelines would support consistency across institutions, promote adherence to best practices, and facilitate external benchmarking.

Moreover, M&M meetings should be incorporated into hospital accreditation and quality assurance programs. Regulatory bodies should mandate the submission of anonymized summary reports and the implementation of regular audits to evaluate compliance, effectiveness, and impact. Transparent reporting and feedback loops between institutions and national oversight entities would enable continuous improvement and knowledge dissemination across the health system.

Importantly, the results of M&M processes should be made publicly available in a suitable and anonymized format. This transparency is essential to support informed patient choice and truly informed consent. Without access to such information, patients may be denied a critical component of decision-making.

Figure 2 summarizes the workflow and assigned responsibilities within morbidity and mortality (M&M) meetings, as outlined by the referenced international models.

FROM RITUAL TO REFORM: WHAT SHOULD CHANGE IN PORTUGAL?

Morbidity and mortality (M&M) meetings have long been a cornerstone of surgical practice, yet they remain underutilized in Portugal.Despite their potential as tools for institutional learning, current M&M practices are still treated more as rituals than as meaningful mechanisms for change.

To transform M&M meetings into effective instruments of quality assurance and safety, Portugal must implement structural, procedural, and cultural changes. Based on international experience and the gaps identified in the national context, the following key priorities are proposed:

1. **National guidelines and central leadership.** Portugal must develop national guidelines that clearly define the operational standards of M&M meetings. These guidelines should be developed under the leadership of the DGS, in collaboration with the Portuguese Medical Association, surgical societies, and hospital governance bodies. Central leadership is essential to ensure alignment, accountability, and the dissemination of best practices across institutions.
2. **Definition of standardized criteria for case selection and discussion.** There must be a consistent, nationally agreed set of criteria for selecting cases for M&M meetings. Standardization will reduce variability, improve fairness, and ensure meaningful analysis. Another major challenge is the lack of risk-adjusted benchmarking between

institutions. Hospitals performing complex or high-risk surgeries – such as transplant, advanced oncologic resections, or trauma – naturally report higher complication and mortality rates. National guidelines should provide clear direction on how M&M metrics are to be standardized for inter-hospital benchmarking.

3. **Protected time and multidisciplinary involvement.** Morbidity and mortality meetings should be held at regular intervals in protected time slots, free from competing clinical duties. Attendance should be mandatory and multidisciplinary, including surgeons, residents, anesthesiologists, intensive care teams, nursing staff, and risk managers. This ensures a comprehensive view of events and fosters a culture of shared responsibility.
4. **Structured presentation, analysis, and documentation.** Each institution should have their own templates based on national guidelines. Analysis should employ structured methods (e.g., root cause analysis, fishbone diagrams, Swiss cheese model) to identify system-level failures. All findings and actions must be documented in a standard format and stored in an internal registry.
5. **On specialization and intra-hospital M&M silos.** In high-volume tertiary centers, subspecialization within surgical departments – such as hepatobiliary, colorectal, or endocrine surgery – has led to the tendency for each subspecialized team to review only their own cases. While this promotes clinical depth and peer familiarity, it may also reduce interdisciplinary learning, limit external critique, and foster insular thinking. Reflection is needed on the balance between focused expertise and broader institutional learning. Cross-subspecialty review of selected cases with systemic implications should be encouraged.
6. **Clinical autopsies.** Autopsy findings should be shared with the M&M review team as part of the formal case analysis. The rate of autopsy requests in eligible cases should be monitored as a quality indicator. Institutions should aim for a target rate (e.g., ≥ 50%) of autopsies in unexpected surgical deaths where no clear cause is established.
7. **Governance, oversight, and follow-up.** Hospitals should incorporate M&M reviews into their clinical governance structures. Designated committees must be responsible for ensuring follow-up of corrective actions, auditing compliance, and reporting trends. These processes should be subject to periodic external review as part of hospital accreditation or performance evaluation.
8. **Publicly available results and transparency.** Anonymized, aggregated data from M&M meetings should be published in institutional or national reports. This would support transparency, foster public trust, and empower patients to make informed decisions. Moreover, it would provide critical insights for benchmarking and policy development.
9. **Educational integration and culture of learning.** The meetings must be integrated into residency training programs and continuing medical education. Emphasis should be placed on psychological safety, open dialogue, and system thinking. Institutions should promote a 'no blame, no shame' culture that encourages honest reflection and shared learning. Furthermore, the potential for cross-institutional learning remains underutilized. Shared M&M meetings between hospitals could promote benchmarking, expose blind spots, and disseminate innovations in clinical practice and governance. Such initiatives would enhance transparency as well as help harmonize practices across different care settings, especially between high-volume tertiary centers and smaller district hospitals. However, their implementation requires careful consideration of practical and ethical challenges. Confidentiality remains a central concern, particularly when discussing identifiable complications or adverse events. In addition, cross-hospital M&M integration depends on interoperable information technology, standardized documentation systems, and sufficient human resources to coordinate scheduling, moderation, and follow-up.

CONCLUSION

International experience demonstrates that M&M meetings can become powerful drivers of institutional learning – provided they are grounded in clear criteria, protected spaces for open dialogue, structured analysis, and robust documentation. Portugal now stands at a decisive crossroads: either continue to rely on outdated formats of limited impact, or evolve toward transparent, auditable, and genuinely educational systems. Such reform is not merely technical; it requires cultural and institutional commitment, leadership, and regulatory support. Creating psychologically safe environments, cultivating a 'no blame' ethos, and embedding M&M meetings within both postgraduate training and continuing professional development represent essential conditions for meaningful change. A key limitation of this review is the lack of real-world data from Portugal. Despite targeted searches the only documented analytical approach is a departmental report presented at the Sociedade Portuguesa de Cirurgia's congress in 2014, which analyzed annual M&M outcomes for 2012 using locally defined methods.[72] While this initiative was publicly presented and accessible for peer and patient scrutiny, it was not standardized at the national level and must also be interpreted with caution as a self-citation.

No additional institutional reports or published accounts of M&M practices were identified, underscoring the urgent

need for systematic documentation and analysis of current approaches. Investigating how hospitals structure these meetings, and whether local guidelines or formal records exist, must therefore be a priority for future work. At the same time, broader questions remain unresolved and demand multidisciplinary reflection. Where does the threshold lie between a complication that should inform institutional learning and an event that warrants reporting as a medical error or malpractice? To what extent should patients and families have access to the conclusions drawn in these meetings? These are not purely medical dilemmas: they require input from legal and bioethical experts to ensure that M&M practices remain aligned with evolving human, ethical, and societal values.

By adopting these measures, Portugal can align its M&M practices with international standards – transforming them from symbolic rituals into pillars of patient safety, institutional accountability, and surgical quality. This review underscores the urgent need to reimagine M&M meetings in Portugal, shifting from fragmented and informal practices to structured, accountable, and learning-driven systems.

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AUTHOR CONTRIBUTIONS

All authors contributed equally to this manuscript and approved the final version to be published.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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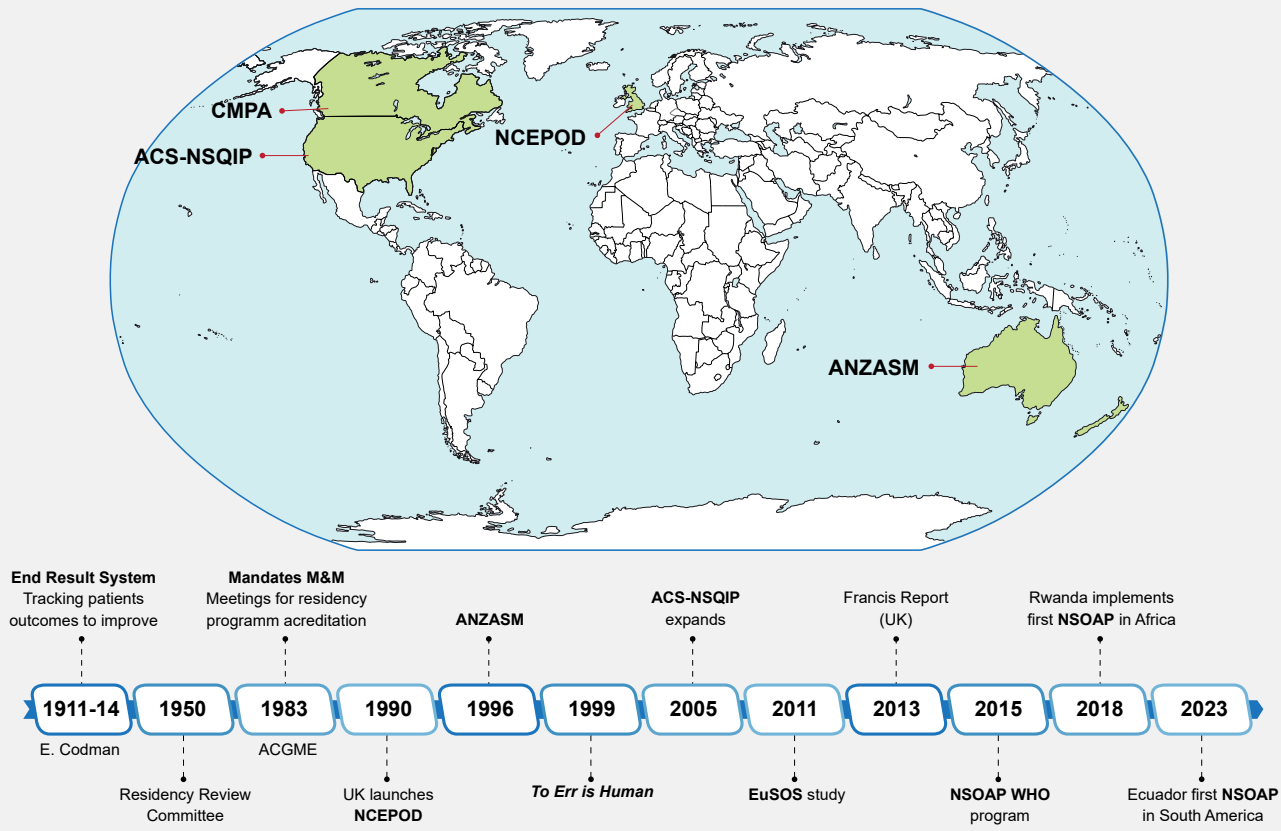

Figure 1 – Major milestones in M&M history

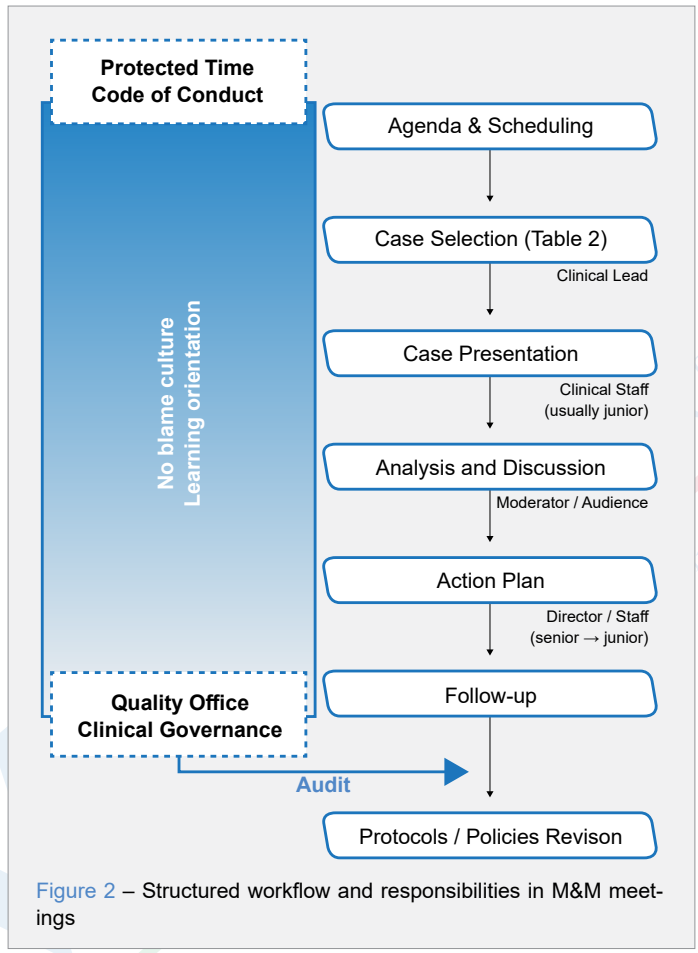

Figure 2 – Structured workflow and responsibilities in M&M meetings

Table 1 – Current regulatory and policy framework for surgical M&M meetings in Portugal

Source	Document / Policy	Content
College of the Specialty of General Surgery; Portuguese Medical Association[14,15]	*Declaração da Terceira, 2022* - Point 4.1.2, Annex 1 - Point 2.2 of Article 2nd and point 1.6 of Article 6 Annex 2 - Point 1, Chapter III *Criteria for the Assessment of Training Suitability and Training Capacity of General* Surgery Services - Point 2.2 Article 3rd - Point 1.2 Article 6th	"(…) morbidity and mortality analysis to be conducted on a bimonthly or quarterly basis; critical review of the caseload managed by the Service's Teams/Functional Units (…)"
***Portaria* 186/2024/1 (August 14th 2024)**[13]	"Approves the updated curriculum for specialty training in General Surgery"	"Presentation of (…) and analysis of morbidity and mortality during the clinical meetings of (…)."
DGS *Norma* 002/2013[16]	Safe Surgery – Objective 10	"Hospitals and public health systems shall establish routine surveillance of surgical capacity, volume, and outcomes."
National Health Plan (PNS 2021–2030)[17]	*Norma* 002/2013 recommends internal audits and analysis of adverse surgical events	Recommends audits and analysis of adverse surgical events, aligning with the aims of M&M meetings
WHO Surgical Safety Guidelines (e.g., JCI, ACSA standards)[18]	WHO Surgical Safety Guidelines (adopted in national regulations)	Some hospitals implement M&M meetings as part of broader quality and safety programs
LIMITATIONS No detailed operational standards provided (e.g., case selection, presentation format, documentation, follow-up, or moderation guidelines)		

Table 2 – Summary of recommended criteria for submission to M&M meeting

Category	Examples / Indicators	Justification / Purpose
Unexpected deaths	Mortality after low-risk elective surgery. Unanticipated deterioration post-discharge.	May signal errors in diagnosis, judgement, or system-level failures
Expected deaths with learning potential	High-risk surgery in frail patients. Deaths aligned with known prognosis.	Useful for reflecting on decision-making, communication, and end-of-life planning
Major adverse events / complications	Unplanned return to OR or ICU. Postoperative haemorrhage or sepsis	Identifies preventable harm, delays in recognition, or rescue failures
Readmissions / escalations of care	Readmission within 30 days. Unplanned ED revisits within 72 hours.	Suggests potential gaps in discharge planning or early detection of complications
Cases from incident reporting systems	Cases flagged in RiskMan, VHIMS, … Internal alerts or sentinel events.	Aligns clinical governance with incident management systems
Near misses/close calls	Events that nearly caused harm but were averted. Pattern of recurring vulnerabilities.	Highlights system resilience and opportunities for proactive correction
Breach of standard of care/KPIs	Failure to administer prophylaxis. Missed sepsis bundle application.	Supports accountability and audit of care delivery standards
Patient or family feedback	Serious complaints or reported dissatisfaction. Compliments after complex care.	Encourages responsiveness to patient experience and identifies blind spots
Positive deviance/high-risk successes	Excellent outcomes in high-risk settings. Innovative or multidisciplinary approaches.	Promotes learning from success, not just failure
Cases with system-wide learning potential	Issues crossing specialties (handover, coordination, resource delays).	Supports broader institutional learning and interdepartmental improvement

OR: operating room; ICU: intensive care unit; ED: emergency department; VHIMS: Victorian Health Incident Management System; KPIs: key performance indicators.