



Clinical governance in radiation oncology

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ABSTRACT

Clinical governance (CG) is an emerging framework that ensures accountability for delivering safe, effective, and continuously improving healthcare services. Originally introduced in the United Kingdom in the late 1990s as part of reforms in the National Health Service, CG draws upon principles of corporate governance to establish system-wide oversight of clinical quality, safety, and accountability. CG provides an overarching organisational framework encompassing leadership structures, clinical effectiveness, risk management, audits, professional development, and patient engagement. In radiation oncology, CG plays a critical role in enhancing treatment safety and quality by standardising protocols, conducting regular audits and peer reviews, implementing risk management strategies, and supporting continuous education for multidisciplinary teams. It also ensures accountability through transparent reporting to regulators, collaboration with patient groups, and commitment to evidence-based practice. Ethical principles — beneficence, non-maleficence, autonomy, and justice — are central to CG and provide the foundation for maintaining professional standards of care. Despite the increasing use of the term clinical governance, it is often only poorly understood. In the present review, we define the concept of clinical governance and discuss its role in healthcare, with a particular focus on the field of radiation oncology.

Keywords: clinical governance; radiotherapy; quality assurance

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Introduction

The concept of clinical governance (CG) was first introduced in the United Kingdom (UK) in the late 1990s [1, 2] following a governmental inquiry into the management of the National Health Service (NHS) [3]. The inquiry, led by Sir Roy Griffiths, identified numerous deficiencies in how the NHS was managed, most notably the lack of managerial accountability and the absence of processes to evaluate the quality of clinical practice and measure health care outcomes. Based on the findings of that

review, the UK government restructured the NHS to improve its effectiveness and efficiency [4]. They implemented a new governance model inspired by a well-established model from the business world — corporate governance — which was originally developed to help to manage and improve complex business organisations [5].

Clinical governance was first defined in 1998 by the UK Department of Health as “a framework through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by

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creating an environment in which excellence in clinical care will flourish” [5]. Broadly speaking, CG can be described as a framework that defines how a healthcare organisation operates to provide safe, high-quality care to patients. Although CG was initially developed as a governing framework for the NHS, it can also be applied at an institutional level (e.g., hospitals or hospital systems). Although the term “clinical governance” has been used over the years in various situations, the exact meaning of the term is rarely discussed.

In recent decades, a wide range of measures have been implemented to ensure patient safety and to improve the quality of radiation therapy [6]. These tools include comprehensive quality management systems [7], quality indicators [8], clinical audits (internal and external) [9, 10], and incidence reporting, among others [9, 10]. There has also been a growing focus on improving patient comfort and well-being by obtaining feedback from patients to identify needed changes. Similarly, current legislation provides patients with important rights in terms of access to information, informed consent, and data protection, with major sanctions for any breaches of these laws. This has resulted in additional responsibilities for healthcare organizations and hospitals in terms of patient communication [11].

Scant attention has been paid to defining how patient-centred changes in the care process should be structured. In this same line, there has been a notable lack of discussion about what “clinical governance” actually means in real-world clinical practice and how it applies to health care professionals involved in patient care [4, 12, 13].

It is crucial to recognize the profound impact of external and uncontrollable events — commonly referred to as *force majeure* — on the dynamics of patient–staff interactions. In recent years, such events have significantly reshaped these relationships, influencing not only the quality and outcomes of care but also patient well-being and the strategic organization of healthcare services. Among the most consequential of these external forces are the COVID-19 pandemic [14, 15], which placed unprecedented pressure on healthcare systems, and the war in Ukraine, which has led to the displacement of millions of people across Europe [16, 17].

In the present article, we review and define the concept of clinical governance in medicine

and discuss its relevance and application to the field of radiation oncology.

Defining clinical governance

Although the first formal definition of clinical governance was presented more than 25 years ago [5], CG is a difficult to precisely define in part because it is an umbrella term. The concept of CG is broad and covers a wide range of areas, including quality improvement, accountability, risk management, and patient safety, which can give rise to different interpretations depending on organizational context and professional perspective. Moreover, there can be substantial ambiguity regarding how clinical governance functions are divided among the many participants in a complex ecosystem, especially at the national level. Although numerous definitions have been proposed in recent years [3, 5, 18, 19] no single, consensus definition has yet emerged.

At its core, clinical governance can be seen as an overarching framework that encompassed two key areas: 1) leadership/managerial structures and 2) clinical responsibility. The ultimate aim is to ensure the efficient delivery of high-quality care while simultaneously aiming to achieve continuous improvement. In this regard, ongoing assessment of professional performance, together with regular training and development, are central to the purpose of CG.

Difference between clinical management and clinical governance

Although clinical governance and clinical management share many characteristics — and are sometimes confused — CG is a much broader concept that focuses on accountability at the organisational level for clinical management, quality, and improvement. In order to better understand the differences between clinical management and CG, it may be useful to examine the elements comprising these two concepts.

Clinical management mainly focuses on day-to-day oversight and coordination of clinical activities and patient care. This includes operational duties, workflow management, staff deployment, resource allocation, and implementation of clinical policies and procedures. It ensures effective service delivery by managing systems, supporting

clinicians, and responding to patient safety issues within a clinical area.

By contrast, clinical governance serves as an overarching system of accountability to maintain and improve standards of care, safety, and quality throughout a healthcare organisation. It comprises multiple pillars, including clinical effectiveness, patient safety, risk management, audits, staff training, and education/training.

According to Brennan and Flynn [18], the main difference between the two concepts is that clinical management concerns the direct organisation and coordination of patient care and operational functions while CG is a higher-level framework that ensures ongoing quality improvement, safety, integrity, and accountability in all aspects of health-care delivery. Stated differently, clinical management primarily refers to the technical or practical aspects of health care delivery while CG is an organisation-wide framework and structure that defines both operational and clinical processes, including the management of clinical staff and the interrelations between and among health care professionals.

Table 1 provides a summary of the differences between clinical management and clinical governance as described by Brennan and Flynn, together with a few additions and modifications.

In short, clinical management refers to the all of the aspects surrounding the delivery of care whereas CG focuses on establishing, monitoring, and improving the standards for that care.

The role of clinical governance in radiation oncology

Clinical management in radiation oncology refers to the direct, patient-centred coordination and delivery of radiation treatment for cancer patients. It encompasses the entire clinical pathway, including: referral and diagnosis; formulation of individualized treatment plans in close collaboration with medical physicists; administration of radiation therapy by technologists under supervision of radiation oncologists [especially image-guided radiotherapy (RT) and adaptive RT]; monitoring of patient response and side effects; and follow-up and survivorship care.

By contrast, clinical governance in radiation oncology refers to the system-wide framework that ensures quality, safety, and continuous improvement, including the following:

- training and credentialing of radiation oncologists, medical physicists, and other professionals;
 - ensuring transparency, accountability, and patient involvement in care decisions;
 - supporting research, innovation, and adherence to evidence-based practice;
 - ensuring patients’ rights to privacy and data security and compliance with regulations on access to information and informed consent.
- It may also involve certain activities, such as:
- implementation of standards and protocols to ensure safe and effective delivery of radiation therapy;

Table 1. Key differences between clinical management and clinical governance

Characteristic	Clinical management	Clinical governance
Scope	Operational and clinical processes	Organisation-wide framework
Accountability	Managers and clinicians	Hospital leadership; board of directors; all staff
Purpose	Implement and coordinate care	Ensure quality, safety, and continuous improvement
Components	Staffing, systems, workflow	Audits, risk assessment, training
Leadership	Unit or department managers	Executives and strategic leaders
Collaboration with patients	In the context of routine care, as appropriate	Collaboration with patient organisations, with patient feedback considered a key aspect of organisational improvement
Collaboration with other stakeholders	Only between individual professionals and industry representatives	Collaboration with governmental bodies and industry stakeholders

- multidisciplinary discussion of clinical cases;
- regular auditing, outcome assessment, and peer review to monitor treatment quality;
- implementation of risk management strategies to prevent radiation errors and minimize adverse events.

Some of these activities (e.g., multidisciplinary discussion) should also be included in clinical management and, from a practical point of view, arranged and executed at the department level. Certainly, auditing and implementation of risk management frequently require the involvement of other departments, and can thus be considered part of CG. In that case, these activities would be the responsibility of the directors of the institution.

The whole system of CG is overseen by leadership groups both within the institution (board of directors, hospital director, medical director, and department and unit heads) and outside of the institution (regulators: governmental and/or professional bodies), and internal and external auditors (quality assurance and compliance). This includes a wide range of protocols, standards, and tools designed to evaluate clinical output, including clinical audits, quality assurance, risk management, incident reporting, and continued professional development. Collaboration with patient organisations, governmental bodies, and even industry stakeholders would all come under this same umbrella.

The implementation of CG implies close assessment of clinical practice, including outputs, through organisation-based accountability. In many institutions, the application of CG necessarily implies a change in culture [3], with a more clearly defined system to control, monitor, measure, and assess clinical work and output. In radiation oncology, this requires not only an analysis and understanding of the routine processes that are carried out on a daily or weekly basis, but also of the relationships between and among the various groups involved, including patients (and their families), clinical professionals directly involved in radiation oncology (radiation oncologists, medical physicists, technologists, nurses), and other related professionals (medical oncologists, medical physicists working in the fields of diagnostic imaging/radiology and nuclear medicine, etc.). Other stakeholders must also be considered, including patient organisations, governmental bodies, regulators, the hospital and departmental

leadership. Accountability to outside stakeholders has become an important component. Given the increasing costs of cancer treatment, numerous studies have been performed to optimise radiotherapy delivery to ensure that public funds are properly allocated and efficiently used by health-care professionals [20, 21].

Ensuring that oncology specialists receive comprehensive and high-quality education remains a priority for society, which is why undergraduate and postgraduate training programmes must be closely evaluated to maintain and enhance professional standards [22]. Research focusing on reducing patient distress during radiotherapy without compromising treatment outcomes forms an essential part of the growing recognition of patients' needs [23].

Relative to the role of CG, particularly in radiation oncology, it is important to note that radiotherapy is often only one part of cancer treatment and care, which is usually administered before, after, or during other treatment methods (e.g., surgery, chemotherapy, targeted therapy, hormone therapy, and immunotherapy). Therefore, certain aspects related to quality of care (i.e., timely delivery of treatment or delays) requires close collaboration with other professionals or departments outside of the radiation oncology department, and even with other hospital groups. The current system of multidisciplinary decision-making prior to treatment initiation plays an important role in tracking the care pathway, even between different hospitals. In this regard, overall coordination of the care process — from diagnosis to supportive care (physiotherapy/rehabilitation) — is an important, yet highly challenging aspect.

In short, CG ensures that radiation oncology departments operate under a system of rigorous quality control to deliver care that is safe and effective. It also seeks to promote continuous improvement at all levels, from frontline clinicians to institutional leadership. This system provides an overarching quality and safety framework that ensures that all aspects of radiation cancer treatment meet high standards by applying systematic processes throughout the entire care pathway. It also has to consider events occurring during whole patient pathway before and after radiotherapy.

Table 2 summarizes the main components of clinical governance in radiation oncology.

Table 2. Main components of clinical governance in radiation oncology

Component	Activity
Clinical management	Referral and diagnosis Multidisciplinary tumour board Treatment planning with medical physicists Delivery of radiation therapy (technologists) Evaluation of response and side effects Follow-up and survivorship care
	Clinical audits* Risk management*
Professional development	Continuous development (courses, etc.) Conferences, research work, publications
Development of “soft” skills	Collaboration, as part of a team, with other health care professionals International collaboration
Accountability within the organisation and to outside stakeholders	Measurement and quantification of clinical results and audits Reporting of results to regulatory bodies Public transparency Collaboration with patient groups

*Note that there is some debate about whether these activities should be included in clinical management for radiation oncology or included under institutional quality management

The role of ethics in clinical governance

Ethics has long played an important role in medicine, as evidenced by the Hippocratic oath, which was developed more than 2000 years ago [24, 25]. In recent decades, regulatory bodies around the world have established standards for medical ethics and professionalism. Perhaps the most well-known standard is the “Good Medical Practice” (GMP) standard established by the General Medical Council (GMC) in the UK, which provided a clearly defined a set of comprehensive professional standards reflecting a commitment to patient-centred care, professionalism, and ethical medical practice [26].

One of the major aims of clinical governance is to ensure adherence to good medical practice. Consequently, ethical standards play a key role in the CG framework to help guide professional behaviour and by providing accountability mechanisms that ensure healthcare services are delivered safely and ethically.

In this regard, CG must necessarily include ethical principles (beneficence, non-maleficence, autonomy, and justice) into the framework that oversee clinical care quality and safety. Under this

framework, all healthcare professionals, managers, and governing bodies are accountable for maintaining patient safety, quality of care, and transparency in clinical decisions [18, 27]. Clearly, patient engagement in clinical decisions is another key aspect of ethical care.

An increasingly prominent topic of discussion is the rapidly expanding use of tools encompassed by the umbrella term artificial intelligence (AI). Self-learning algorithms are now emerging as potential decision-makers in radiotherapy [28]. The current role of AI in radiotherapy is to efficiently support and propose clinical decisions. However, this growing dependence on AI-driven recommendations may gradually erode the human specialist’s responsibility, as clinicians could become less able to critically assess the appropriateness of machine-generated advice.

Clinical governance: is the term too ambiguous?

As some authors have observed [27], the term “clinical governance” may lead to confusion, in large part because the meaning of the term is not self-explanatory. Moreover, the difference between “clinical governance” and “clinical management” is not readily apparent. In this regard, several alternative terms have been proposed, mainly centred around the themes of quality and safety in healthcare [27]. Some terms that have been proposed include “quality governance”, which emphasises the overall governance framework focused on quality assurance and improvement [19]. Another term is “healthcare governance”, which refers to the broader integration of clinical governance with corporate governance and other organizational oversight functions, reflecting a more holistic approach to healthcare management.

Nonetheless, given the growing use of clinical governance, it appears that this term is here to stay.

Conclusions

Given the widespread use of the term “clinical governance”, it is essential to clearly define this concept and the specific type of activities it encompasses.

Clinical governance represents an essential organisational framework through which healthcare

institutions are held accountable for the quality and safety of clinical care. Its integration into radiation oncology provides a structured approach to safeguarding standards, minimising risks, and promoting continuous improvement in a highly technical and multidisciplinary specialty. By incorporating systematic auditing, risk management, professional development, and ethical oversight, CG ensures that patient care is delivered in accordance with recognised best practices and evolving evidence. One of the most important aspects of CG is the emphasis on accountability, transparency, and patient engagement to improve the quality of care.

Author contributions

Overall concept and analysis of the material.

Conflict of interest

The authors declare no conflict of interests.

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