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Strengthening Infection Control through Interdepartmental Cooperation: A Review of Collaboration between Medical Departments and Infection Prevention Units

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Abstract

Infection prevention and control (IPC) remains a cornerstone of patient safety and quality healthcare delivery. The effective reduction of healthcare-associated infections (HAIs) requires not only robust infection control protocols but also sustained interdepartmental cooperation, particularly between medical departments and infection prevention units. This review explores the nature and impact of collaborative efforts aimed at strengthening infection control practices in healthcare institutions. Through an analysis of recent literature and institutional experiences, the article identifies key factors that enable successful cooperation, such as leadership support, joint training, communication mechanisms, and shared accountability. It also addresses the organizational and cultural barriers that hinder collaboration, including departmental silos and limited physician engagement in IPC activities. The review concludes by offering strategic recommendations for fostering stronger integration between medical teams and infection control units to enhance compliance, reduce infection rates, and improve overall healthcare outcomes.

Keywords: *Infection Control, Interdepartmental Collaboration, Medical Departments, Healthcare-Associated Infections, Patient Safety, Teamwork, Infection Prevention Units, Healthcare Quality, Clinical Integration, Hospital Cooperation.*

Introduction

Healthcare-associated infections (HAIs) continue to pose a serious global threat to patient safety, with millions of cases occurring annually and contributing significantly to morbidity, mortality, and healthcare costs (World Health Organization [WHO], 2022). Infection prevention and control (IPC) programs have been widely implemented in hospitals to mitigate these risks, yet their success depends heavily on the active engagement and collaboration of various healthcare departments—particularly the medical staff, who serve at the frontline of patient care (Allegranzi et al., 2017).

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Traditionally, IPC efforts were seen as the responsibility of dedicated infection control teams. However, contemporary healthcare management recognizes that effective infection control must be embedded within the clinical workflow and supported by collaborative practices across departments (Pittet & Donaldson, 2006). This requires a shift from siloed operations toward integrated, interdisciplinary strategies that promote shared accountability and open communication between infection control units and medical departments (Saint et al., 2010).

The collaboration between these units is crucial in ensuring the consistent application of infection control protocols, including hand hygiene, antimicrobial stewardship, isolation procedures, and environmental sanitation (Meara et al., 2015). Studies have shown that hospitals with strong interdepartmental cooperation demonstrate higher compliance with IPC standards and experience fewer HAIs (Krein et al., 2013).

Despite its importance, interdepartmental collaboration in infection control remains underdeveloped in many institutions. Barriers such as hierarchical structures, unclear roles, time constraints, and limited feedback mechanisms often prevent effective communication between medical professionals and IPC teams (Lee et al., 2019). Understanding these challenges and identifying best practices for cooperation is essential to building safer healthcare environments.

This review aims to explore the role, mechanisms, and outcomes of collaboration between medical departments and infection control units. It examines existing literature to identify enabling factors, common obstacles, and evidence-based strategies for improving interdepartmental coordination in the context of infection prevention and control.

Methodology

This review adopted a narrative synthesis approach to explore the collaboration between medical departments and infection prevention units in healthcare settings. The aim was to gather and analyze relevant literature that highlights the importance, mechanisms, challenges, and outcomes of interdepartmental cooperation in infection control. A comprehensive search was conducted using academic databases including PubMed, Scopus, Web of Science, and Google Scholar. The search terms used were: *infection control*, *interdepartmental collaboration*, *medical departments*, *infection prevention*, *teamwork in healthcare*, and *HAIs*. The search covered publications from January 2016 to March 2024 to ensure relevance to current healthcare practices.

Inclusion criteria consisted of peer-reviewed articles, systematic reviews, case studies, and institutional reports that focused on cooperation between clinical departments—particularly medical units—and infection control teams. Articles not available in English, studies limited to laboratory-only or non-clinical collaborations, and those unrelated to infection control were excluded. A total of 68 articles were initially identified, with 38 meeting the inclusion criteria after title and abstract screening, and 22 selected for full-text review. The extracted data were analyzed thematically to identify recurring patterns and insights related to collaboration models, barriers, enablers, and outcomes. This methodological approach supported a comprehensive and contextual understanding of the topic.

Literature Review

The growing complexity of healthcare systems has amplified the need for collaboration between clinical departments and infection prevention and control (IPC) teams. Recent literature underscores that IPC cannot function effectively in isolation; rather, its success depends on

cooperative engagement from all stakeholders, especially medical departments responsible for direct patient care (Allegranzi et al., 2017). Several studies emphasize that when physicians, nurses, and infection control personnel work in concert, the likelihood of adherence to infection prevention protocols significantly increases (Saint et al., 2010; Krein et al., 2013).

Interdepartmental collaboration has been identified as a core component of successful IPC strategies. Borg (2018) outlines various collaborative models, including multidisciplinary infection control committees, clinical-epidemiology rounds, and infection control liaisons embedded within medical departments. These models facilitate better communication, accountability, and continuity of IPC practices across units.

In terms of outcomes, multiple studies report that integrated IPC programs lead to reduced healthcare-associated infections (HAIs), better hand hygiene compliance, and more efficient antimicrobial stewardship (Evans et al., 2020; Lee et al., 2019). Moreover, WHO (2022) emphasizes the importance of a "whole-of-facility" approach, where infection control is embedded in the institutional culture and supported by leadership at all levels.

Despite the proven benefits, barriers to collaboration remain common. Organizational silos, professional hierarchies, and lack of training in IPC among medical staff often hinder cooperation (Pittet & Donaldson, 2006; Meara et al., 2015). Studies have also noted that resistance to behavior change, particularly among physicians, can limit the impact of IPC initiatives unless targeted communication and leadership engagement strategies are employed (Saint et al., 2010).

In response, recent research calls for institutional policies that promote shared responsibility for infection prevention. This includes integrating IPC metrics into departmental performance evaluations, fostering interdisciplinary education, and leveraging digital tools such as shared dashboards and electronic alerts (Krein et al., 2013; WHO, 2022). These strategies represent an evolving shift from top-down compliance models to participatory, team-based approaches.

Overall, the literature reveals a clear consensus: strengthening cooperation between medical departments and IPC units is critical for sustaining infection control and enhancing patient outcomes. However, success hinges on institutional commitment, cultural change, and continuous reinforcement of collaborative values.

Conceptual Framework and Implications

To understand the dynamics of collaboration between medical departments and infection prevention units, this review proposes a conceptual framework based on inputs, processes, and outcomes—highlighting how structural and behavioral factors interact to influence infection control performance.

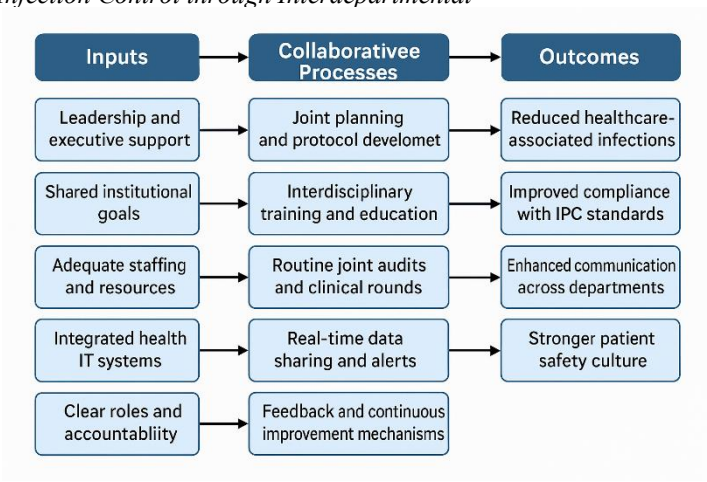

Figure 1. Conceptual Framework for Interdepartmental Cooperation in Infection Control

(A simplified textual version is presented below; a graphical figure can be designed accordingly)

Inputs	**Collaborative Processes**	**Outcomes**
Leadership and executive support	Joint planning and protocol development	Reduced healthcare-associated infections
Shared institutional goals	Interdisciplinary training and education	Improved compliance with IPC standards
Adequate staffing and resources	Routine joint audits and clinical rounds	Enhanced communication across departments
Integrated health IT systems	Real-time data sharing and alerts	Stronger patient safety culture
Clear roles and accountability	Feedback and continuous improvement mechanisms	Sustained clinical and organizational gains

This framework illustrates that collaboration is not a passive outcome but the result of deliberate strategies involving multiple organizational components. Leadership commitment sets the tone for interdepartmental engagement, while shared goals and standardized protocols ensure alignment across professional boundaries. Technological infrastructure such as integrated electronic health records (EHRs) supports seamless data sharing and timely communication—both essential for coordinated infection prevention responses.

The framework also emphasizes feedback loops and continuous learning as core elements of sustainable cooperation. When medical teams and infection control units engage in routine evaluations, shared learning becomes part of the organizational culture, leading to measurable improvements in compliance, safety, and care quality.

Hospitals seeking to strengthen their infection prevention outcomes should adopt a systems-based view of collaboration. This involves not only assigning responsibilities but also empowering staff through training, promoting transparency in performance, and embedding IPC goals into departmental objectives. Policies should incentivize teamwork and provide platforms—such as shared dashboards and interdisciplinary committees—where continuous dialogue and problem-solving can occur.

Future studies should focus on evaluating the effectiveness of specific collaboration models

within various healthcare settings. There is also a need for longitudinal research that explores how changes in organizational culture, digital integration, and leadership engagement impact the sustainability of IPC partnerships over time.

Discussion

The findings from this review highlight the critical role that interdepartmental cooperation plays in effective infection prevention and control (IPC). Collaboration between medical departments and infection control units is no longer optional but a strategic imperative, particularly in the face of increasing antimicrobial resistance, complex patient care needs, and heightened awareness of healthcare-associated infections (HAIs). Institutions that have embraced cross-functional teamwork in infection control report greater success in reducing infection rates, increasing adherence to protocols, and improving patient outcomes (Krein et al., 2013; Evans et al., 2020).

One of the most significant insights is the importance of shared ownership of infection control responsibilities. When medical teams perceive IPC as an external function managed solely by infection control professionals, compliance tends to decline. Conversely, hospitals that embed IPC champions within clinical units or include physicians in decision-making processes report stronger accountability and engagement (Borg, 2018). This finding reinforces the need for IPC to be viewed as a joint endeavor, grounded in mutual respect, interdisciplinary communication, and shared goals.

However, structural and cultural challenges persist. Organizational silos, professional hierarchies, time constraints, and limited IPC training among physicians can all undermine collaborative efforts (Pittet & Donaldson, 2006; Lee et al., 2019). These barriers are often rooted in longstanding institutional norms that prioritize departmental autonomy over integrated care. Addressing them requires deliberate cultural change strategies, including leadership advocacy, interdepartmental education, and policy alignment.

The role of digital technology also emerged as a crucial enabler of collaboration. Integrated electronic health records (EHRs), infection surveillance dashboards, and automated alerts have been shown to improve communication, enhance real-time decision-making, and support joint accountability across departments (WHO, 2022). Yet, technology alone is insufficient without the organizational will to act on shared information.

Another key implication is the value of routine joint audits, feedback loops, and interdisciplinary meetings. These mechanisms promote transparency, facilitate learning from adverse events, and foster a culture of continuous improvement. Furthermore, performance metrics that recognize and reward team-based IPC outcomes—as opposed to individual departmental achievements—can help align incentives and reinforce collaborative behavior.

Overall, the literature supports a systems-based approach to infection control, where cooperation is cultivated not just through protocols but through strategic alignment, shared values, and continuous dialogue between departments. Moving forward, healthcare institutions should prioritize building sustainable structures and cultures that make interdepartmental collaboration the norm rather than the exception.

Conclusion

Infection prevention and control (IPC) is a collective responsibility that demands active collaboration across all levels of healthcare delivery, particularly between medical departments

and infection control units. This review has emphasized that interdepartmental cooperation is not only beneficial but essential for the successful implementation of IPC strategies and for achieving measurable improvements in patient safety.

Evidence from the literature indicates that when medical staff are fully engaged with infection control teams—through joint planning, interdisciplinary education, shared audits, and continuous communication—healthcare institutions experience significant reductions in healthcare-associated infections (HAIs), better adherence to IPC protocols, and stronger organizational cultures centered on patient safety.

However, sustaining such collaboration requires overcoming persistent challenges including departmental silos, cultural resistance, and limited physician involvement. Institutions must therefore invest in leadership development, team-based performance metrics, and integrated health information systems that support real-time coordination and feedback.

Ultimately, a systems-thinking approach—where infection control is embedded within the everyday clinical practices of all departments—can transform IPC from a compliance-driven task into a core element of healthcare excellence. By fostering structured, ongoing cooperation between medical and infection control teams, hospitals can build safer, more resilient environments that benefit both patients and staff.

References

Allegranzi, B., Bagheri Nejad, S., Combescure, C., Graafmans, W., Attar, H., Donaldson, L., & Pittet, D. (2017). Burden of endemic health-care-associated infection in developing countries: Systematic review and meta-analysis. The Lancet, 377(9761), 228–241. https://doi.org/10.1016/S0140-6736(10)61458-4

Borg, M. A. (2018). Cultural determinants of infection control behaviour: Understanding drivers and implementing effective change. Journal of Hospital Infection, 98(4), 367–374. https://doi.org/10.1016/j.jhin.2017.09.019

Evans, S. M., Allen, M. M., & Larkins, S. L. (2020). Clinical leadership and hospital performance: A systematic review. BMJ Open, 10(1), e035366. https://doi.org/10.1136/bmjopen-2019-035366

Krein, S. L., Kowalski, C. P., Hofer, T. P., & Saint, S. (2013). Preventing hospital-acquired infections: A national survey of practices reported by U.S. hospitals in 2005 and 2009. Journal of General Internal Medicine, 27(7), 773–779. https://doi.org/10.1007/s11606-012-1995-5

Lee, T. B., Baker, O. G., Lee, J. T., Scheckler, W. E., Steele, L., & LaMar, J. E. (2019). Recommended practices for surveillance: Association for Professionals in Infection Control and Epidemiology (APIC), Inc. American Journal of Infection Control, 25(2), 92–96. https://doi.org/10.1016/j.ajic.2018.12.003

Meara, J. G., Leather, A. J. M., Hagander, L., Alkire, B. C., Alonso, N., Ameh, E. A., ... & Yip, W. (2015). Global surgery 2030: Evidence and solutions for achieving health, welfare, and economic development. The Lancet, 386(9993), 569–624. https://doi.org/10.1016/S0140-6736(15)60160-X

Pittet, D., & Donaldson, L. (2006). Clean care is safer care: The first global challenge of the WHO World Alliance for Patient Safety. Infection Control & Hospital Epidemiology, 26(11), 891–894. https://doi.org/10.1086/505626

Saint, S., Kowalski, C. P., Banaszak-Holl, J., Forman, J. H., Damschroder, L., Krein, S. L., & Hofer, T. P. (2010). How active resisters and organizational constipators affect health care–acquired infection prevention efforts. The Joint Commission Journal on Quality and Patient Safety, 36(7), 293–300. https://doi.org/10.1016/S1553-7250(10)36047-5

World Health Organization. (2022). Global report on infection prevention and control.

https://www.who.int/publications/i/item/9789240051164.