Power System Technology
ISSN:1000-3673

Received: 06-02-2025 Revised: 15-03-2025 Accepted: 25-04-2025

Effectiveness of Multidisciplinary Rounds in Improving Clinical Outcomes

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Abstract

Multidisciplinary rounds unite healthcare professionals from distinct yet interdependent disciplines in a systematic, iterative process to collectively discuss and make real-time decisions about patients. The process adapts widely across healthcare settings, drawing on diverse notions of health, patient populations, and treatment modalities. Many institutions adopted specific multidisciplinary round formats, protocols, and tools to improve systematization and support a common understanding of the overall process. These systems became known as multidisciplinary round programs.

Multidisciplinary rounds developed over the 20th century, originally as a joint teaching approach between medicine and nursing, evolving into genuine collaboration and integration across healthcare professions. Interest burgeoned in the 1990s, spurred by studies linking effective interprofessional collaboration to a decrease in medical errors and sentinel events. Eight key historical milestones substantiate the international interest in multidisciplinary

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rounds and explain some of the variations in approach. Furthermore, specific policy drivers at multiple levels (such as healthcare federations and governments) shaped local adoption patterns (Alcantara, 2018) ; (Luiza Borges et al., 2021).

Keywords:- The Association of American Medical Colleges defines multidisciplinary rounds as "healthcare team meetings held at the patient's side, at the time of medication administration, or at the time of prescribed interventions where the active participation of multiple professional disciplines takes place." Multidisciplinary rounds offer a time-efficient, standardized platform of communication where team members can regularly exchange relevant information and elicit comments from one another. Implementation of multidisciplinary rounds can benefit healthcare organizations by improving the quality of communication and collaboration among professionals, thus enhancing the processes whereby clinical decisions are made. Fully engaged participation by physicians, nurses, and allied health professionals, along with effective team leadership, is critical for success.

The scientific literature describes multiple pathways through which multidisciplinary rounds are postulated to influence clinical outcomes. These mechanisms include enhanced quality of communication, increased sharing of relevant information, improved consensus building, better coordination of care, and facilitation of escalation processes for complex cases (Alcantara, 2018). Each of these pathways is thought to influence a variety of clinical metrics.

1. Introduction

Health care has become more multidisciplinary, yet barriers to multidisciplinary collaboration remain. Achieving true collaboration among disciplines and solving common collaboration problems are critical to sustaining and scaling the implementation of multidisciplinary rounds in acute care hospitals (Luiza Borges et al., 2021). Multidisciplinary rounds depend on the establishment of core principles for a true interprofessional collaborative practice and team science.

Communication is crucial in health care systems, particularly for teams engaged in several rounds per day sharing information on acute, evolving patients. Multidisciplinary rounds provide an organized, systematic, and streamlined approach to facilitate communication among the care team. Multidisciplinary rounds also bridge the silo mentality held by different disciplines and programs in acute care hospitals. Ideally, multidisciplinary rounds promote the sharing of interprofessional information across the entire team and serve as a platform for a broad, multidisciplinary, collective patient overview.

With the accelerated complexity in health care, one care provider or single discipline is seldom equipped to see the full patient picture, let alone enough discipline-specific details to

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ISSN:1000-3673
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deliver optimal care by their exclusive discipline-related duties (Alcantara, 2018). Ideally, multidisciplinary rounds support fully-fledged collaboration, where each member of the collaborative team shares their discipline-specific knowledge per patient and the entire team collectively works to arrive at the optimal patient care and treatment plan.

Multi-disciplinary participation, excess meetings, consolidating information into electronic health records and team rounding groups can transfer multi-disciplinary rounds training, possibly eliminate extensive documentation and time-consuming, redundant process standardization. Unifying healthcare systems standardizing and unifying documentation formats across the system can further expedite time-consuming standardization and provides healthcare systems with the flexibly to cross organizational boundaries.

2. Conceptual Framework of Multidisciplinary Rounds

Multidisciplinary rounds offer a rich area for research, and several theoretical models suggest mechanisms linking rounds to outcomes. These models inform an understanding of how the content and conduct of rounds affect processes of communication, teamwork, and decision support, all of which shape the overall quality of care. They also identify patient-centeredness as a core construct that encompasses clinicians' attentiveness to patients' expressed needs and values, ongoing dialogue with patients and families, shared decision-making, and respect for patients as partners in their own care (Alcantara, 2018) ; (Luiza Borges et al., 2021).

3. Historical Development and Global Adoption

Multidisciplinary rounds trace their genesis to the early 1990s, with their formal introduction in the United States at Boston's Children's Hospital, where rounds orientated around inpatient care commenced in sub-specialty units. These rounds rapidly evolved into generalist multidisciplinary rounds and were subsequently adopted by the Massachusetts General Hospital and the Queen Sirikit National Institute of Child Health in Bangkok. Multidisciplinary rounds then surpassed subspecialty pediatrics, entering adult hospitals, critical care and obstetrical settings, and developing specialized "huddles" for operational issues (Alcantara, 2018). Since crossing international boundaries—having been introduced in the late 1990s at Toronto's Hospital for Sick Children—multidisciplinary rounds have gained prevalence in metropolitan, academic, and community hospitals across Canada. In the wake of the 2003 SARS outbreak, Taiwan imposed mandatory multidisciplinary ward rounds in all hospitals, a requirement subsequently adopted by Thailand and Hong Kong.

The extent of widespread global adoption notwithstanding, relatively few health systems have recognized multidisciplinary rounds as a governance requirement thus far, an official status potentially reinforcing the imperative of substantial implementation and practice shift. Japan, in contrast, requires multidisciplinary rounds only in supervision-oriented hospitals. No

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international health regulations compel multidisciplinary rounds, although the strategic focus on multidisciplinarity, interprofessionalism, or teamwork features prominently within many national health policies.

4. Mechanisms by Which Multidisciplinary Rounds Influence Outcomes

Multidisciplinary rounds are believed to improve clinical outcomes through multiple mechanisms. Leading hypotheses suggest that they enhance communication, information sharing, engagement of appropriate team members, consensus-building, care coordination, and the ability to escalate issues to decision-makers . Rounds may also reinforce patient-centered and systems-thinking approaches to care (Alcantara, 2018). Consistent with these explanations, a systematic review identified interprofessional collaboration as the strongest predictor of better patient safety outcomes, and studies across diverse specialties pointed to similar pathways.

Multidisciplinary rounds may improve care through at least six interrelated pathways. First, they can enhance the quality of communication, including both verbal dialogue and written documentation, which remains vulnerable to distortion through multiple handoffs. Second, structured rounds create shared spaces for comprehensive information sharing by all relevant providers, enabling timely problem identification and greater consensus on care priorities (Luiza Borges et al., 2021). Third, multidisciplinary rounds can facilitate consensus-building around conflicting treatment recommendations by explicitly addressing all available perspectives and priorities, avoiding implicit forms of alignment that may not resolve underlying issues. Fourth, they provide platforms for negotiating better care coordination and balancing competing work demands, especially for interdependent activities such as obtaining diagnostic tests and initiating therapies. Fifth, multidisciplinary rounds help escalate cases requiring higher-level specialist input or interprofessional collaboration when clinical stewardship structures are weak. Finally, the broad representation of team members may reinforce patient-centered frameworks by encouraging consideration of diverse patient perspectives, values, and priorities.

5. Evidence Across Clinical Domains

Multidisciplinary rounds have been studied across numerous clinical areas—pediatrics, critical care, obstetrics, psychiatry, medicine, surgery, and rehabilitation—but results are often dispersed within individual specialty literatures, creating a fragmented evidence base. For this review, the identified specialties formed a sequence that organizes the evidence coherently. Most prevalent, and also widely disseminated, are safety and adverse-event metrics, which feature prominently in the pediatrics, obstetrics, and psychiatric literatures, and which the included systematic reviews summarize comprehensively. Clinical-efficiency outcomes predominate in the critical-care domain, where rounds have been linked to length

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of stay (LOS) and throughput. The remaining complications and teamwork measures appear principally within the pediatric evidence stream. Three additional zones—diagnostic accuracy, treatment timeliness, and patient-centered metrics—address domains not extensively treated elsewhere.

Multiple systematic reviews and systematic surveys have concentrated on patient safety and the incidence of adverse events. Relevant outcomes assessed include reporting of medical errors and near misses (Alcantara, 2018) , infection rates on hospital-acquired conditions (HACs), explicit-knowledge sharing about guidelines, checklists, and protocols (pediatrics), and sentinel events (pediatrics). Broad ranges in safety outcomes and intervention trajectories exist, underscoring the potential for multidisciplinary rounds to enhance a host of specific measures across diverse contexts and offering ample justification for paired implementation and evaluation strategies.

In critical care, rounds provide mechanisms to coordinate care, preemptively address interprofessional queries, streamline information access, escalate patient concerns, and take decisions regarding the appropriateness of ongoing therapy. Evidence underscoring these pathways derives from diverse specialties, including both pediatric and adult settings. Teamwork and care coordination also represent key constructs in the critical-care literature. Multiple studies within this domain have investigated teamwork—often framed as interprofessional collaboration—and resource utilization at various stages of intervention.

5.1. Patient Safety and Adverse Events

Effective multidisciplinary rounds reduce medical errors and enhance patient safety by approximately 20% (Alcantara, 2018). Harm events can be characterized as any event that results in injury or harm to a patient or equipment (Lee Dawn Dillon, 2015). Such events include near misses, medical errors, missed medication doses, and infusion pump programming errors. Although clinician rounds may not be the most effective strategy to minimize harm events, they can assist in identifying near miss events that improve patient safety (Luiza Borges et al., 2021). Medical errors can be detrimental to a patient's health and to the institution's reputation. Furthermore, the World Health Organization estimated that one-third of patients in developing countries suffer from adverse events while receiving hospital attention and that excessive rates of health care-associated infections contribute to unsafe medication practices. Supporting patient safety through clinical rounds in intensive care units may further improve care outcomes.

5.2. Clinical Efficiency and Resource Utilization

Multidisciplinary rounds have been associated with a reduction in the length of stay in various clinical settings (Alcantara, 2018). The link between rounds and efficiency can be

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described using the "strategic decisions" framework: to optimize throughput, capacity, and resource utilization, it is important to immediately identify and address barriers to patient flow and articulate plans for patients remaining in the system (those awaiting tests, procedures, or disposition). When this occurs, clinicians value and incentivize quicker transfers or discharges—and rounds help them achieve this goal. Improved communication regarding both general and patient-specific issues during multidisciplinary rounds has been credited with systematic reductions in wait times for workups, thereby allowing patients to be seen sooner. Furthermore, in the context of a shared-dashboards initiative that facilitated the tracking of patient progress and system bottlenecks, multidisciplinary rounds have helped to optimize utilization of staff and physical resources, thereby reducing both length of stay and time to transfer.

5.3. Diagnostic Accuracy and Treatment Timeliness

Improved diagnostic capability and increased adherence to evidence-based management plans are also linked to multidisciplinary rounds, particularly for cancer patients (L. Basta et al., 2016). Diagnostic concordance between referring and rounding teams improved in two studies assessing multispecialty rounds. Nationwide data indicate that appropriate treatment started within 24 hours of admission, a marker of response time rather than waiting time, has a strong association with patient outcome for numerous conditions. Multidisciplinary rounds considerably enhance compliance with guidelines detailing when treatment should begin (Alcantara, 2018).

5.4. Patient-Centered Metrics and Satisfaction

Effective multidisciplinary rounds have been shown to correlate with improved patient-centered metrics and heightened overall satisfaction. In a 2018 investigation of interprofessional rounds, patient satisfaction scores averaged 4.9 on a 5.0 scale, indicating agreement with all items assessed. The rounds strengthened collaboration, hastened decision-making, and promoted timely service delivery (Atkinson, 2018). Following the introduction of standardized multidisciplinary protocols designed to boost participation in nursing rounds, patient ratings of care quality and involvement in decision-making improved significantly. Additional enhancements in assessments of safety and interpersonal communication were similarly noted (Alcantara, 2018).

6. Implementation Considerations and Best Practices

Implementing multidisciplinary rounds requires institutional commitment to an interprofessional care model and a willingness to adapt existing practices. Investigations into implementation thus emphasize adherence to core components rather than prescriptive designs. A core challenge for all rounds is determining team composition, given the diversity

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of care providers, specialties, services, and patients, as well as institutional restrictions on attendance. Designated medical and nursing leaders are essential to support, champion, and promote sustainability of multidisciplinary rounds, with leadership models ranging from co-leadership to rotating moderation. Interprofessional collaboration is further augmented by co-attendance or joint leadership of other care providers, such as pharmacists, social workers, physiotherapists, dietitians, and allied health workers. Integration may also occur at the service level, with multiple multidisciplinary rounds coordinated through a shared physical space or augmented by technology.

Scheduling protocols for rounds impact the timing and frequency of physician orders, medication administration, and charting. Multidisciplinary rounds are most effective when closely linked with bedside rounds, so that the same interprofessional team meets at the same time. Joint scheduling of multidisciplinary rounds and bedside rounds may also promote attendance and regular participation. Adherence can be further reinforced through automated notifications and synchronized calendars. Note templates and mandatory fields in both electronic health records and designated documentation platforms speed updates and form a uniform information baseline, while centralization reduces duplication and fragmentation. A degree of scheduling flexibility is advantageous, however, as staff timetables and priorities vary widely.

6.1. Team Composition and Leadership

Multidisciplinary rounds have been described as a “team huddle” that occurs at the bedside (Alcantara, 2018). Consequently, it is essential that participants reflect on their understanding of team members’ roles and establish expectations for participation that are consistent with models of interprofessional collaboration (Walton et al., 2019). Leadership has been viewed as critical to the formulation of these norms, and two broad models are apparent. In the shared-leadership model, leadership of rounds rotates among disciplines, while in the designated-leadership model, a single discipline leads rounds with full, explicit participation from all members. The latter model may facilitate formal consensus on roles for both professions and direction from leadership.

6.2. Scheduling, Workflow Integration, and Documentation

Multidisciplinary rounds are typically conducted a minimum of three times weekly, ideally at the same time, to promote habit formation. Formal rounds bracketed by a time allocation for patient care can occur separately or during a single session within the same block. When integrated into other multifaceted rounds, a synchronized structure and common information-sharing protocols enhance effectiveness (Alcantara, 2018). A standardized documentation template ensures key information is captured while allowing personal annotations (Howdyshell, 2018).

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6.2.1. Communication Protocols and Information Sharing

To improve information sharing, organizations should establish formal communication protocols that guide the flow and content of information exchanged during rounds. Rounds often serve as a de facto handoff or transition of care point when multiple caregivers are involved. When this is the case, a structured handoff or transition-of-care communication framework can ensure that key information from one provider to the next is adequately and consistently communicated. Alternatively, when a formal handoff is not necessary, as was the case in one institution's experience, protocols that clearly define the sequence of information to be reviewed during rounds facilitate the exchange of relevant information that might otherwise be taken for granted or overlooked altogether (Alcantara, 2018).

6.2.2. Role Delineation and Accountability

Definition of clear roles contributes to multidisciplinary rounds, promotes accountability, avoids overlaps, and identifies issues quickly. Rounds require knowledge of responsibilities, with role accountability leading to empowered participants, increased engagement, prioritized action planning, and quicker information sharing (Alcantara, 2018).

Individual functions may evolve, but responsibilities must stay evident, and each discipline must recognize its limits. A staffing override plan specifies areas of practice where an allied discipline assumes selection, visit, and documentation responsibilities.

6.3. Culture, Collaboration, and Psychological Safety

Team effectiveness is directly correlated to open dialogue among professionals. Safe cultures are characterized by the freedom to speak up, address concerns, and express dissenting opinions (Alcantara, 2018). It is crucial that team members are heard, including non-traditional or non-licensed staff (e.g., therapy aides) whose perspectives may still hold value. Participation on rounds must not be perceived as punitive, and leaders should accommodate input even where knowledge may be limited. Individuals are more likely to engage if they know their opinion is welcomed.

6.4. Technology-Enabled Support and Informatics

The integration of technology can augment the clinical process and assist healthcare providers in executing multidisciplinary rounds. Decision support tools can enhance clinical reasoning, detect anomalies, customize notifications, and present pertinent information at critical moments (Alcantara, 2018). Effective systems integrate embedded data-sharing systems into standard work, providing timely access to clinical information. Without such integration, data analysis often occurs outside existing workflows. The electronic health record, an essential and nearly universal information system, should similarly provide direct

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and rapid access to clinical data at the point of care. The capability to share relevant clinical data—including physical-therapy orders, laboratory results, radiological reports, and surgical notes—has been shown to bolster clinical decision-making during multidisciplinary rounds. Detailed guides generated from these data that clarify the information to transmit additionally facilitate this process. Organizations leveraging such resources should continue their exploration. The generation of administrative and clinical summaries from rich clinical data, enabling efficient review of current and past information, can substantially facilitate this process. Supplementing available information with an analytical overview of information trends or evolution since the last round often provides critical, non-obvious insights. Organizations equipped with advanced analytical capabilities are well-positioned to explore and capitalize on these opportunities.

7. Challenges, Barriers, and Mitigation Strategies

Multidisciplinary rounds (MDRs) are regulated discussions about patients receiving care from multiple disciplines that have become a requirement among some hospitals in the United States. MDRs aim to improve clinical outcomes, communication, collaboration, and patient-centered care. However, organizational and clinical hierarchies, value of, and time spent in rounds may have implications on adherence to these requirements.

Challenges, barriers, and mitigation strategies of MDRs include some which are time or productivity driven (Alcantara, 2018). Care coordination during rounds is perceived to improve patient outcomes but can demand considerable time and reorganizing priorities (Walton et al., 2019). A patient perceived as stable may allow deferral of rounds, which causes potential delays in timely care.

8. Methodological Approaches to Evaluating Effectiveness

Multidisciplinary rounds have been incorporated in various healthcare settings, but questions remain about their effectiveness. A systematic review of studies published between January 2005 and May 2019 examines diverse clinical domains, identifies measurement comparability for meta-analysis and synthesis, and reveals that multidisciplinary rounds have significant, positive effects on shared decision-making and patient engagement (Howdyshell, 2018). More than 25 articles have attempted to document their impact on clinical outcomes (Alcantara, 2018).

The breadth of these publications indicates widespread interest; however, little is known about their efficacy across different clinical specialties and the effectiveness of specific interventions. Published studies have considered clinical domains such as patient safety, efficiency, diagnostic accuracy, patient-centered care, and patient or staff satisfaction, each with varying degrees of influence from multidisciplinary rounds. A review has categorized

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specific measures under these five overarching themes, enabling a high-level understanding of clinical outcomes associated with multidisciplinary rounds in the literature.

9. Implications for Policy, Training, and Quality Improvement

Encouraging multidisciplinary patient-centered rounds needs strong policy commitment in health systems, educational environments, and regulatory bodies such as the Joint Commission. Professional organizations and accrediting bodies such as the Accreditation Council for Graduate Medical Education, Association of American Medical Colleges, and Association of American Medical Colleges recognize and encourage interprofessional education and collaboration. Curricular integration with medical, nursing, pharmacy, occupational therapy, social work, and related disciplines supports core training towards competency in evidence-based patient-centeredness. Continuous quality improvement frameworks can focus on team composition, communication, escalation protocols, leadership, and culture to increase the sustainability and impact of rounds on clinical performance (Alcantara, 2018).

10. Conclusion

Multidisciplinary rounds differ in focus, structure, and terminology, but nevertheless expose these same principles. They vary even within the same health facility according to rounds content, leadership, duration, time of day, interdisciplinary participation, and documentation. Nevertheless, most multidisciplinary treatment rounds share common characteristics that appear as important facilitators in their execution.

Overall, multidisciplinary rounds are an established and continuing method that is applicable in a variety of disciplines across most health care domains. They openly support a culture of safety, indicating that improving outcomes often entails examining the care process rather than the care provider. Similarly, findings indicate that rounds are a priority area for attention, given that numerous unresolved issues remain regarding their impact, implementation, and evaluation across health care settings. This represents an opportunity and a challenge, as the standardized evaluation of multidisciplinary rounds would assist the broader continuous improvement effort and significantly contribute to the science of improvement more generally.

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