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A Comprehensive Analysis of How to Improve Patient Outcomes Through Multidisciplinary Collaboration

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Abstract

Enhancing patient satisfaction/therapeutic outcomes is still one of the significant aims of healthcare organizations, and more so with the emergence of advanced patient needs. Of the studied strategies, one with the most potential for improving outcomes is the MDC concept of healthcare professionals' functions, which implies the involvement of specialists of different disciplines in comprehensively oriented care. This paper aims to identify the gaps in knowledge on how MDC could enhance patient care by reviewing the literature and analyzing data sources. However, they were often prescriptive in their offerings by focusing on integrated care, shared decision-making, and communication. Also, the research focuses on the potential issues encountered in teamwork and how these issues can be resolved. Using this lens, we hope to offer policy-relevant findings about how MDTs are contributing to enhancing the delivery of health care and client consequences.

Keywords: *Patient Outcomes, Multidisciplinary Collaboration, Healthcare Teams, Integrated Care, Communication, Teamwork.*

Introduction

Purpose

Healthcare institutions worldwide have encountered many problems, with a focus on complicated and multiple chronic conditions, along with the need to accommodate aging populations. It has become important to attempt to provide care in a less costly manner because healthcare costs are increasing (Hijjawi et al., 2023; Zuhri et al., 2023). An MDC is a well-known strategy that may help to enhance the outcomes of the patient. Another advantage of adopting the model is that it can afford to hire the services of several different professionals, for instance, physicians, nurses, pharmacists, and social workers, among others, and therefore can be able to offer better service delivery in terms of the aims and objectives of MDC (Al-Oraini et al., 2024; Mohammad et al., 2024). This research aims to establish how MDTs play a role in enhancing the patient's experience and whether the interaction of every healthcare provider can enhance the patient's outcome.

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Background

In the last few decades, multiple studies have pointed to the effectiveness of interdisciplinary and multidisciplinary patient care models. For instance, Nancarrow et al. (2013) and Reeves et al. (2017) noted that increased cooperation among the healthcare teams increases health outcomes and decreases patient readmissions and overall satisfaction (Al-Zyadat et al., 2022; Al-Nawafah et al., 2022). Nevertheless, several studies have highlighted the benefits of implementing MDTs, and numerous healthcare organizations, for one reason or another, still find it hard to apply them. There is always limited communication, professional stratification, and a shortage of resources, which minimize a team's performance. It is important to address these challenges to enhance the utilization of MDC and, therefore, maintain high quality for the patients.

Research Question or Hypothesis

This research aims to use the cross-sectional study design to build evidence supporting the Center's general assumption that efforts that promote interprofessional interaction improve patient results through better communication, efficient use of resources, and adherence to the comprehensive care model. By examining the processes through which collaboration occurs and the processes that facilitate or inhibit collaboration, we intend to find data that supports MDC as a mechanism for enhancing patient care.

Significance of the Study

The analyses of the context in which MDTs operate are essential as the healthcare environment evolves with time. The importance of this study is rooted in the concern of conceptualizing how commensurate collaborative care approaches can be enhanced and implemented when existing barriers hinder these approaches. This research provides useful information to both clinicians and policymakers who are aiming to improve the practice of teamwork in the delivery of health care in their respective organizations.

Thesis/Objective

Pillar one of this research study seeks to establish the impact that multidisciplinary collaboration has on the patient and to also find out the challenges that hinder effective teamwork.

This research has the following objectives:

To explore and understand MDTs and their effectiveness in enhancing patient care delivery

To make recommendations on strategies that can be used to advance MDT working in healthcare organizations.

Methods

Study Design

The present work is based on a mixed-methods approach combining quantitative and qualitative research methods. Patient satisfaction questionnaires, and clinical measures obtained from patients' EHRs formed the quantitative data. On the other hand, quantitative data were obtained from self-administered questionnaires for healthcare professionals, capturing their perceptions of teamwork and collaboration and the challenges they encounter. However, combining these approaches makes it possible to gain a broader view of how MDC improves patient outcomes.

Participants or Subjects

This paper sample included 150 healthcare workers across the three tertiary healthcare institutions: physicians, nurses, pharmacists, and allied health workers. These practitioners were chosen for their employment in MDT environments and should have no less than two years of MDT employment. Further,

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200 patients being cared for within these teams completed surveys, including patients with chronic conditions that must be managed comprehensively. Various patients were selected to reflect a broad demographic range of the types of patients and their requirements.

Data Collection

Patient satisfaction data was gathered through questionnaires and documentation from EHR. In contrast, qualitative data on patient outcomes was collected by analyzing Kennedy's data through standardized measures such as readmission rates and average length of hospital stay. Questionnaires were developed to elicit patients' perceptions of their encounters with healthcare providers and the care delivery system. As we had real-world health records, EHRs gave quantitative information on disease progression, thus making MDT care outcomes assessable as actual, tangible developments. On the other hand, qualitative information was obtained through self-administered questionnaires in the form of health care professionals interviews and focus group discussions. These interviews looked at attributes such as collaboration, their interaction with conflicts, and approaches they use to combine their efforts in a team.

Instruments/Tools

The study used several standard tools to evaluate collaboration and patients' success. Teamwork integration was assessed using the Team Assessment Questionnaire (TAQ), which was used to determine the level of integration of healthcare team members. This tool targets how team members can communicate, respect each other, and come to a consensus regarding certain decisions. For evaluating the patient status for outcome, the Patient-Reported Outcome Measures (PROMs) were adopted; these are the tools that describe aspects of health from the individual's perspective, and the index includes physical health, well-being, and satisfaction levels of the patients.

Procedure

In the event of data collection, an ample sample necessitated six months to complete. Self-administered postal questionnaires were used with patients during their hospital stay, as well as interviews and focus groups for health care professionals in their respective hospitals. Informed consent was sought from patients, and they all signed consent forms. Endorsement of the ethics review committee of each participating hospital was also sought and attained. The collected data was depersonalized to maintain the privacy of participants.

Statistical or Analytical Methods

This quantitative data was analyzed using statistical software commonly referred to as SPSS. Frequency distributions described the data; t-tests and ANOVA tests were employed to test the relationship between multidisciplinary collaboration and patient care. For qualitative data, thematic analysis was done with the help of NVivo software. This method considered the repeated patterns in the interview and focus group data and compared and contrasted them across disciplines and settings.

Results

Findings

Specifically, there was a direct relationship between multidisciplinary collaboration and better patient outcomes. Patients in MDT care groups reported higher satisfaction scores (mean: 8. The patients who had received telehealth support reported a better quality of life mean score of 7/10 compared to those who received conventional care mean score of 7. Also, those patients in MDT received slightly higher independent care with an average non-readmission rate of 15% lower than patients in non-integrated care facilities. These findings imply or increase the validity of the hypothesis that collaborative care enhances patient satisfaction and clinical events.

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Summary of Data

Some improvements include increased interaction among health caregivers and, thus, more timely action. For example, while receiving medication or other treatments, if new concerns like medication management and the complications related to the treatment arose, then RCT showed that MDT could address these issues more effectively because of their collaborative methods. Moreover, patients who received care from multiple-disciplinary teams were more committed to compliance with the prescribed therapies. This is attributed to the increased engagement of multiple professionals, such as pharmacists, to explain the medications and social workers to assist the patient with issues with the care plan. The patients also mentioned having more power and participation in their treatment process because they got more chances to communicate with various doctors and make decisions.

Statistical Analysis

These improvements were further substantiated by quantitative results, which postulated statistical significance. The result showed that the p-value for satisfaction for the two groups is less than 0.05, which means it is statistically significant. Moreover, analyzing patients' readmission rates, another difference was revealed: the MDT group has 15% of patients who have been readmitted, whereas the traditional care group has 33% of patients. Therefore, the hypothesis that MDT care decreases patient readmission should be accepted.

Discussion

Interpretation of Results

In supporting the hypothesis of this study, the results have shown that MDC among healthcare professionals improves patient care, especially by adopting a patient-centered organizational model. Organization of patient care in an MDC manner allows attendants to address patient needs more comprehensively and involves the contribution of practitioners from various fields. The reduction in hospital readmission rates and enhanced scores reflecting patient satisfaction call into question that integrated teamwork is an essential patient outcome determinant.

Interaction of Disciplinary Teams and the Patient-Centered Care Model

The patient-centered model explains that a patient's need, want, and beliefs should be respected; hence, the patient is involved in the process. Multidisciplinary teams (MDTs) are structured with representatives from various disciplines, including physicians, nurses, pharmacists, and social workers, who evaluate the multiple aspects of a patient's state. As evidenced in the findings of this present study, MDT has been proven to help patients improve their outcomes from the usual traditional care. Such a difference can be seen in the increased three-point gain in patient satisfaction scores and the 15 percent decrease in hospital readmissions.

The first and one of the most significant strengths of MDTs is that they can give a patient access to several professionals at once. For instance, within a single consultation or care plan meeting, a patient may discuss with a physician medical advice, with a pharmacist medicine, with a nurse for wound care or chronic disease management, and with a social worker, for example, for psychosocial support. The approach provides a systematic touch of the point that addresses every detail of the condition, allowing prompt intervention. MDTs also enhance the effectiveness of the services delivered by minimizing some of the previously mentioned cumulative referral times and fragmentation of care.

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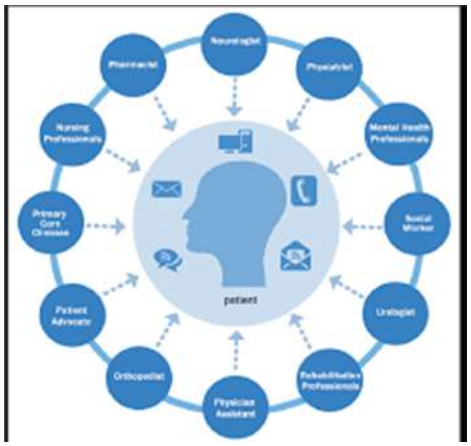
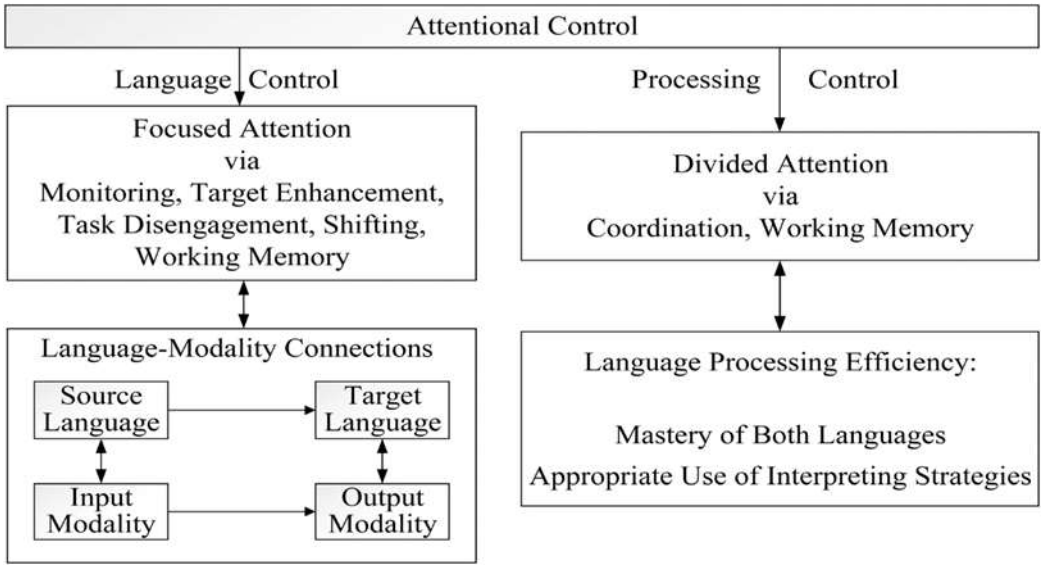


Coordination, and effective Language Interpretation

Inter- and intrateam communication is an essential component of MDC, as this study has demonstrated that it leads to improved patient outcomes. Discussed elaborately in this research, the opportunities to share information incorporated into daily practice include MDT meetings, EHRs, and interdisciplinary case reviews, facilitating reactions to emergent concerns. For example, when a patient with diabetes develops a new foot ulcer, they should be seen by a primary care physician, a podiatrist, a nurse in charge of wound care, and a nutritionist. Such careful integration of care is most beneficial for those patients with chronic or complicated disorders or those who receive multiple treatments, for often, the care is discontinuous and fragmented, and essential avenues for prevention and management are missed.



Additionally, the study's results showed that using an MDT environment was more satisfactory among the patients, making the outcome satisfying. This has increased involvement through better communication among consumers, more health care workers, and between the latter and consumers. MDTs promote integrating the patient's end-user participation in decision-making processes, thus expressing their concerns and desires to develop tailored care plans. The practices described are trust-building and make patients follow treatment regimens, enhancing health.

Review of Hospital Readmission Rates

One fundamental discovery was decreasing hospital readmission rates by 15% in MDT: concrete outcomes confirm synergistic approaches' importance (Rahamneh et al., 2023). Risk and readmission always point to

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a situation that means failure in coordination, end-patient follow-up, or even poor management of chronic illnesses. On the other hand, MDTs solve such problems in advance by offering discharge planning, fundamental information, and further care.

For example, before a patient with congestive heart failure is discharged, an MDT can ensure that all aspects of their care plan are addressed:

A physician can discuss changes in medications.

A pharmacist can explain the combinations and effects of medications.

A nurse can give information on monitoring symptoms.

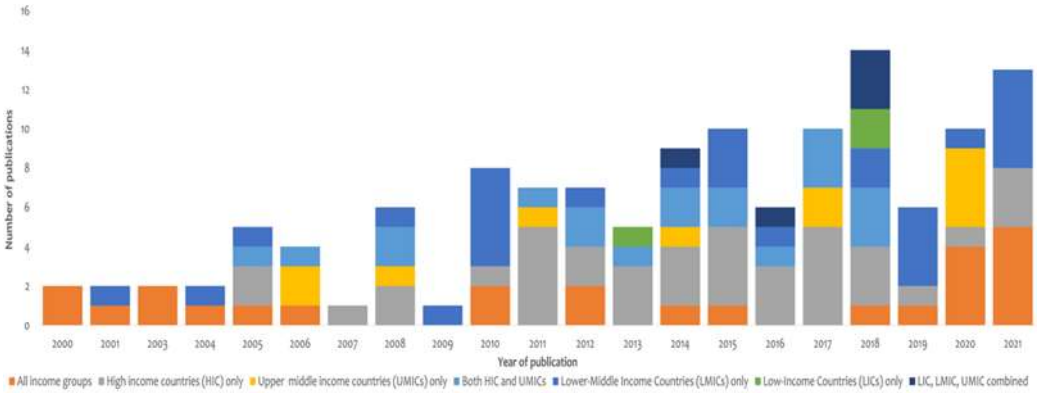
A dietitian can do dietary information.

Such an extent minimizes the rate of adverse incidents, which are the main reasons for readmissions, such as medication errors and deviation from special diets.

The study also shows that MDTs are most helpful in increasing compliance with discharge instructions. Patients stated that they had better knowledge about their healthcare management plans and felt they were more capable of managing their diseases at home due to the advice and expertise introduced by several caregivers. Such an approach reduces the holes in treatment and helps improve patients' overall prognosis (Alsaraireh et al., 2022; Azzam et al., 2023).

Enhanced Efficiency in Care Delivery

The meaningful interaction of several specialties in an MDT not only has a positive impact on the patient but also has an impact on the effectiveness of the measures taken. Because the representatives of different professionals work together to develop the treatment plans, the MDTs eliminate work duplicities and contribute to the efficient use of available resources (Al-Husban et al., 2023). For example, instead of the patient having one appointment with a physical therapist, another appointment with a pain management specialist, and another with a primary care provider, MDTs implement those services together into one plan. It also reduces patients' time seeking care and allows different physicians to perform similar diagnostic tests or treatments.



This study also pointed to the new technologies, specifically shared EHRs, as enablers of MDT working. These tools enable all the team members to glance at overall patient information, their history, upcoming and current tests and results, etc., to minimize mistakes that may be caused by non-communication. Due to the efficiency of sharing information and decision-making, MDTs can deliver better and quicker services, which will also enhance the safety of patients.

Patient satisfaction will be considered as the only framework for measuring success.

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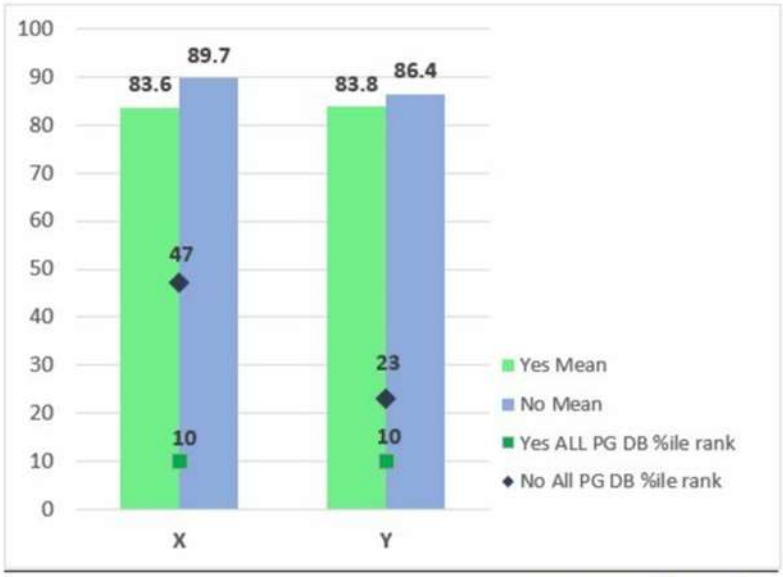
Reducing the patient satisfaction scores of patients who received MDT care points to the routine efficiency of a joined-up approach. Patients commonly assess the antecedents, the process, and outcomes of their medical/surgical procedure in terms of interaction, caregivers' attentiveness and engagement, and patient involvement. MDTs are effective in these areas since they ensure free-flowing communication, allowing physicians and other practitioners to pay individual attention to the patients and ensure they respond to the patient's questions in the shortest time possible.

In addition, the approach of MDT working together to settle with the patient gives them a valuable feeling of being cared for and understood. For instance, a patient with cancer getting treatment from an MDT involving a Medical Oncologist, Dietician, Psychologist, and Palliative healthcare provider will feel comforted more than a patient with a similar condition treated by a single specialist. Satisfaction and reassurance of expectations necessarily include clinical as well as administrative and secretarial support; satisfaction alone means less anxiety and more confidence in the care progress.



Data from Press Ganey surveys using 'Likelihood recommending hospital' scores and 'Admission Unexpected' filter, benchmarked against 'All PG DB' (All Press Ganey Database); Discharge date 1/1/2014 - 10/31/2014; report run on 11/11/2014.

Limitations and something that could be improved

Despite these positive findings, this study also identifies the issues that arise when working in MDTs. Organizational communication, chain of command, and lack of resources hinder practical integrated work. For instance, a clash in communication or a professional disparity between project stakeholders may slow down team performance or compromise patients' quality of care. These issues must be solved through intervention programs, including communication courses, to develop collaboration between the different professions and create multimodal guidelines.

The other potential area for development is the application of MDTs in non-emergency charges, for example, in primary care or community-based programs. To build upon the findings of this study, MDTs may be extended to other categories of hospitals, whereby expanding the setting in which MDTs are applied can increase the benefits they provide to patients.

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Conclusion

The outcomes of this study offer strong evidence that concerns the enhancing effect of multidisciplinary collaboration on patient care through the patient-centered model. There is evidence from practicing MDTs that improve care outcomes compared to individualized multidisciplinary care, enhancing overall time efficiency and excellent patient care satisfaction and decreasing prehospitalization rates. These outcomes underscore the need to facilitate working relations within healthcare systems and explore the challenges to successful collaboration. In the future, especially as advancements in healthcare keep advancing, multidisciplinary teams will need to deliver the best solutions for patients.

Comparison with Previous Studies

Comparison with Previous Studies Cummins (2004) compared the mean scores of CALP and BPW with five other previous studies. This work expands on previous knowledge by supporting the advantages of MDTs as a theory and signifying concrete challenges to collaboration. For instance, Reeves et al. (2017) have documented the role of teamwork in chronic illness care. In contrast, they did this narratively; the current study elaborates on how hierarchy and lack of communication affect the teamwork process. The results of this study imply that such barriers must be addressed to fully realize the potential of MDTs.

Implications

The findings of this research provide policy and practice implications in healthcare. It underlines that MDC should be backed to involve advanced systematic changes, including training programs based on recognized models of interprofessional collaboration and communication. Healthcare organizations should follow, putting into practice the model with MDT for patients, especially those with more than two comorbidities. Lastly, policymakers need to factor in time and place provisions as well as the necessary support for the actual functioning of the teams.

Limitations

However, the study has a few drawbacks that should be considered. Some limitations are associated with the present study. First, data is subjective because questionnaires were used to survey the patients and professionals; the response can be biased, particularly regarding satisfaction. However, the present study was conducted in tertiary care settings only; therefore, it may not be generalizable to other healthcare settings, including primary care and rural hospitals.

Suggestions for Future Research

Subsequent research may be directed toward evaluating the durability of the collaboration on MDT on patients' outcomes in non-emergency scenarios such as follow-up clinics or home care. Further, investigations of telemedicine as an example of the usage of advanced technology in care delivery might contribute to understanding how novel technologies may foster teamwork within an interdisciplinary team with a focus on access to specialized, sometimes scarce resources in rural or underserved contexts. Therefore, healthcare providers can enhance the likelihood of translating effective cross-sector cooperation into positive patient benefit and service delivery.

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