Challenges and Benefits of a Multidisciplinary Approach to Treatment in Clinical Medicine

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Abstract

Introduction: The multidisciplinary approach in healthcare unites professionals from different fields to deliver patient-centered care. This collaborative team, comprising care partners, hospitalists, nurses, pharmacists, and others, operates with shared goals, leveraging electronic records, regular assessments, and patient involvement. Objective: In this review, we aim to investigate the challenges and benefits of a multidisciplinary approach to treatment in clinical medicine. Methodology: In our study, we included English studies from online databases such as Web of Science, Scopus, Google Scholar, PubMed, and the Cochrane Library using the following keywords “delusions”, “pharmacotherapy”, “psychotherapy”, and “antipsychotics” till January 2024. Results: The result of the search using our search strategy was 2367 articles. We screened these articles to choose the articles related to our topic. We did a full-text screening of 344 articles after excluding the remaining articles by title and abstract screening. Finally, we used 50 articles to gather information about our topic and write this review. Scientific Novelty: Lies in its integration of diverse expertise, methodologies, and perspectives to address complex healthcare challenges. Practical Significance of the Results Obtained: Its practical significance lies in improving patient outcomes, optimizing resource utilization, and fostering innovation through collaborative problem-solving and evidence-based practices. Conclusion: This literature review focused on the multidisciplinary approach in medicine to ensure quality healthcare for patients. Stressing the advantages such as decreasing negative patient outcomes and increasing treatment strategies by collaboration among health care professionals.

Key Words patient-centered care, collaboration, healthcare delivery, patient satisfaction, medical speciality, planning conservative/medical and surgical treatment

1. Introduction

In a multidisciplinary approach, a patient-centered care paradigm, healthcare professionals from various specialties get together, form a team, and collaborate to offer their expertise and contribute in real-time, coordinated ways to patient care [1, 2]. Each member of the multidisciplinary team plays a part in patient care and includes hospitalists, care partners, nurses, pharmacists, case managers, social workers, and maybe physiotherapists and nutritionists [3].

In addition, doctors and bedside nurses provide information about the admission diagnosis, pertinent medical history, treatment plans, anticipated length of stay, and post-acute care plans [4]. Care coordinators and social workers handle discharge options and identify essential resources. In addition to changing patients’ sheets, administering medication and attending to their urgent needs, including pain management, are the responsibilities of bedside nurses [5]. Clinical chemists are useful in determining if a prescription is appropriate and in putting monitoring plans in place, especially when it comes to high-risk pharmaceuticals [6]. When it comes to identifying specialized service needs, physical therapists analyze mobility, transfers, and gait; nutritionists evaluate the patient’s nutritional state and provide well-informed food recommendations [7]. This strategy improves patient care through the utilization of each team member’s knowledge [8, 9].

It has been discovered that a multidisciplinary approach reduces patient mortality, complications, length of stay, and readmissions; enhances patient satisfaction; and leads to in-
increased use of ancillary services like physical therapy and nutritional services [10]. They also enhance communication between different healthcare disciplines, lessen near-miss events and errors, and lessen barriers that stand between patients, healthcare providers, and their families [11].

Although there are several benefits to using a multidisciplinary approach, staff members from various disciplines have expressed concerns about the effectiveness of rounds because of time allotment limitations [12]. More precisely, a few employees have noted that the amount of patients that may be covered in the allotted time is restricted, which makes it harder to manage a schedule that is already hectic. Some nurses also brought up the lack of chance for them to be included in the decision-making process [13], [14]. Other obstacles to MDRs being effectively implemented at the bedside include the hierarchical mentality that exists between doctors and nurses and the discomfort that patients, doctors, and nurses experience during bedside visits [15].

In this article, we aim to clarify the benefits and challenges of a multidisciplinary approach to treatment in clinical medicine.

2. Research Problem
The highlight of the focus is an in-depth evaluation of the problem and advantages of the multidisciplinary approach in clinical medicine. The major task here is to determine the basics of the challenges that hinder the healthcare systems and healthcare practitioners from implementing multidimensional healthcare models even though identify the reasons why the implementation of multi-dimensional healthcare models is better for patients as well as for the healthcare delivery.

A. Object of Research
The subject is classified as multilevel of multidisciplinary care; professions members of healthcare providers, patients’ perceptions, results, and experiences, health systems’ structures, and operations, as well as the relationship between multidisciplinary care in clinical medicine and healthcare ecosystems. It will reveal how different settings and contexts involving diversity in health care services are used to tantamount to, as well as supersede, challenges.

B. Purpose of the Study
The objective of the study is to assess a multidisciplinary approach in clinical practice, where professionals from different backgrounds are involved and who may influence, policy decisions and research. Concrete research questions are being formulated to resolve unknowns for instance, how multidisciplinary care influences patient outcomes, healthcare providers’ experience, organizational dynamics, and system-level factors among others.

The purpose of this research is to review the advantages and challenges associated with the multidisciplinary approach to treatment that exists in clinical medicine. Thus, I will look into the impact of these techniques on patient healthcare services, collaboration among professionals, and clinical effectiveness.

C. Research Questions
1) What are the most powerful barriers that block the way of the healthcare systems and healthcare practitioners from embracing a multidisciplinary approach in medical treatment and therapy?
2) What effect does the multidisciplinary model of care have on the efficacy of medical treatment including clinical outcomes, patients’ experience, and quality of life?
3) What are the benefits of multisector collaboration of healthcare workers in terms of care coordination, communication, decision-making, and administration?

D. Literature Review
The Power of Collaboration: Exploring the Benefits of a Multidisciplinary Approach in Clinical Medicine: The clinical medicine scene is always shifted to words the patient-centred care [16]. This is a place where the multidisciplinary approach works out. Several health professionals from different fields work together to achieve the best results for patients [17]. Through the combined knowledge of physicians, nurses, therapists, social workers, and other professionals, a multidisciplinary team makes the highest quality approach, that meets the requirements of each patient [18]. This approach offers several benefits that lead to improving patient outcomes, enhanced communication and coordination [15], [19]. Patient-centred care is one of the main importance of the multidisciplinary approach [20].

Improved Patient Outcomes: A Symphony of Expertise: Among the main benefits of the multidisciplinary approach is the possibility of dramatically improving the results for each patient [21]. Patients gain additional benefits from a more multidisciplinary involvement in the decisions about their condition from a broader viewpoint. This results in a more accurate determination of what the problem is, a more effective treatment strategy, and eventually, more chances at recovery or life quality improvement [22]. One of the main fields where the multidisciplinary approach has a great role is the oncology field. In the field of oncology, the multidisciplinary team consists of oncologists, surgeons, radiologists, and palliative care specialists [23]. The management plan is led by the oncologist, and the role of the surgeon is to remove the tumor. The radiologist ensures accurate diagnostic imaging to plan treatment, while the palliative care physician concentrates on reducing the symptoms of the patients [24]. This collaborative strategy guarantees a multidimensional attitude, thereby increasing the chance of success [25], [26].

Additionally, in the treatment of cardiovascular diseases, the solid healthcare team consists of cardiologists, cardiac surgeons, rehabilitation therapists, and dieticians [27]. Working in teamwork, they determine the patient’s heart condition and develop surgical treatments or medical plans. They educate the patient on post-surgery rehabilitation, dietary
recommendations, and other beneficial factors that should be adopted to maintain good heart health [28]. Through this synchronized care patients achieve early recovery, which has low complication risks and good long-term cardiovascular health [29].

Extending beyond the realm of specialized areas like oncology and cardiac health care, the benefits are far-reaching [30]. Let’s say, a patient suffering from a complex chronic disease such as diabetes has decided to go to a team of people who consist of a primary care physician, diabetes educator, nutritionist, and podiatrist [31]. This team effort guarantees that all issues of diabetes management are tackled, from making the medication adjustments and managing the blood sugar levels to having the dietary modifications and taking care of the feet [32]. Such cooperation in this way will not only raise the level of glycemic control but also be able to reduce the risk of long-term complications that are usually found in diabetes [33].

**Enhanced Communication and Coordination: Bridging the Gaps in Care:** The isolated healthcare system, where patients see the different specialists separately without the continuity of care, is a ground for uncertainty and missed opportunities [34]. A multidisciplinary approach that solves this problem supports seamless collaboration and synchronization among various health providers [35]. Team meetings that are scheduled repeatedly give a chance for an in-depth exploration of the patient’s condition, treatment choices, and progress [36]. Consequently, this type of team-based approach would ensure that all of the areas of care are managed consistently without medication errors, contradictory recommendations by different practitioners, or unnecessary tests and examinations [37].

Over and above, multidisciplinary care plans prepared by the team aid in the smooth flow of the patient’s journey. The plans specify the objectives of treatment, the drug schedules, rehabilitation protocols, and follow-up visits. These measures leave little doubt and cultivate a sense of security among patients and their families thus enhancing compliance with treatment plans.

**Patient-Centered Care: Putting the Patient at the Heart of the Process:** The greatest advantage of an interdisciplinary approach is based on the fact that it allows care to be patient-oriented [38]. Through the pooling of different talents of specialists, patients have the advantage of additional knowledge and views from several sides [39]. It enables a more rounded picture of the physiological, psychological, and social dimensions of their health problems [40].

Take that, for instance, a chronically sick patient may also undergo not only physical symptoms but also mental illness, like anxiety and depression [41]. A multidisciplinary team consisting of a therapist, and a counselor working with medical professionals can address both the physical and mental dimensionality of the disease [42]. Such a multidisciplinary approach in turn boosts positive coping skills, better emotional well-being, and patient-centered experience [43]. Research proved that patients receiving care from multi-disciplinary teams have a high satisfaction level with their treatment [44]. This is because of good communication, enlightenment about their condition, and a high level of engagement because they accept that they are a part of the treatment plan. The patients now establish a collaborative bond with the medical practitioners, thus making the healing process more positive and collaborative [45].

**Exploring the Obstacles of a Multidisciplinary Approach in Clinical Medicine:** With the multidisciplinary approach in clinical medicine, there have been multiple benefits including a broad perspective on health care, but the path is not without difficulties [46]. It is essential to find a middle ground to make this collaborative model sustainable especially in overcoming the complex landscape of challenges [47]. These problems could be solely classified into four sections including logistic problems, the reason for the conflicting ideas, and the expenses. The problems stated above need to be well handled. Otherwise, a multi-directional approach will not efficiently spread in the healthcare system [48].

**Logistical Hurdles: Syncing the Sounds of Schedules in Concert:** One of the main issues that involve multidisciplinary efforts is to break down operational difficulties [49]. Smoothly running a care delivery process which integrates various teams brings valid challenges that need detailed plans and substantial time and resources to be addressed [50].

**Scheduling Challenges:** It was a total headache to come face to face every day with the tight schedules of doctors who may be in the middle of their meetings and not available. The battle of trying to find the best moment for everyone to find common ground with all the schedules is not worth it.

**Communication Bottlenecks** These teams are driven by effective communication processes. In the same way, the coordination of interdepartmental activities and healthcare providers is not an easy one. This will cause the messages to be delivered hard and so there will be mistakes in decision making which will have an adverse effect on patient care [51].

**Resource Constraints:** Including an approach that synergizes the efforts of the different disciplines will need additional resources. This involves, for instance, a space for team meetings, and experts for communication and document keeping, and that must be supported by a technological platform which will facilitate the virtual collaboration. The act of securing these resources may become a daunting challenge to a system which is already struggling for resources due to the already thin healthcare budgets [52].

**Beyond Scheduling: The Labyrinth of Conflicting Opinions** Along with the many benefits of the multidisciplinary approach, there is also the risk of conflicting opinions and treatment recommendations. Diversity of knowledge and skills can be an advantage; however, the possibility of disagreements among the team members is also present [53].

**Cost Considerations: Balancing Benefits with Budgetary Constraints** When speaking about a multidisciplinary approach implementation cost is a very obvious...
question. Whilst the strategic benefits may trigger further investment through enhanced revenues, financial uncertainty is often a considerable challenge [54].

The Present and Future of Multidisciplinary Care Currently, multidisciplinarity in clinical medicine is being popularized, and the concept is being transferred from being an innovative idea into a more standardized approach. Yet its adoption by traditional healthcare systems is an ongoing process [55].

The Current Landscape: A Tapestry of Advances The implementation of multidisciplinary care is characterized by a haphazard manner in different health settings at the moment. While many hospitals and clinics across the country have fully embraced this collaborative model, other hospitals and clinics are catching on more slowly. The implementation outcome is determined by factors like available resources, leadership backing, and patient characteristics. However, not only technology but also telehealth is a way to enable multidisciplinary teamwork for better collaboration between caregivers. With the help of telehealth systems, even the most remote healthcare providers, or even those from different counties, can make a video conference or have an online consultation without any delays. That is, in turn, will promote maintaining high-quality patient care in time, and further development of equal healthcare for those who live far from specialized facilities [56], [57].

E. Future Directions: Optimizing Collaboration and Expanding Horizons

Standardization and Best Practices: Finally, formulated standardized procedures for communication at various levels, care planning, and dispute resolution will help ensure continuity and improve the effectiveness of healthcare unburdened to a particular care setting [58].

Data Sharing and Analytics The platforms of data sharing based on research and analytical tools will provide targeted information on the effectiveness of the team approach. It would be used, among other ways, for making treatment plans that are precise enough, with further plans depending on a particular case, resource allocation, and demonstration of long-term cost-effectiveness [59].

Telehealth Integration Developing telehealth technology, such as secure video-conferencing and home patient monitoring products enables better collaboration and provides care to many patients, especially for those in rural areas or patients with limited mobility [60], [61].

Cost-Effectiveness Analysis By generating comprehensive surveys to understand the long-term cost-effectiveness of the holistic approach objective, declarative statements on the usefulness of this approach will be produced and adequate funding ensuring the best outcomes from healthcare institutions will be secured [62].

3. Methodology
must be located and compared to conclude. We attempted a quantitative analysis in our research, but we could not identify specific results relevant to our subject or papers that presented similar data. To get strong evidence and current results and conclusions, we conducted a qualitative analysis of papers relevant to our topic, presented their findings, and compared them.

4. Results
The result of the search using our search strategy was 2367 articles. We screened these articles to choose the articles related to our topic. We did a full-text screening of 344 articles after excluding the remaining articles by title and abstract screening. Finally, we used 50 articles to gather information about our topic and write this review (Figure 1).

A case study from Montenegro was conducted by Ognjanović et al. with the goal of using a multidisciplinary approach to enhance the effectiveness and quality of healthcare services. They outlined the interdisciplinary approach and looked into the preliminary results of its use. The outcomes demonstrate that professionals in various sectors had positive reactions to the program and indicate that it makes good use of Montenegro’s national resources [63].

The most recent review, conducted in 2024 by Srinivas et al., looked into the phases of a multidisciplinary approach. They emphasized benefits, drawbacks, and constructive approaches to adopting it. They found that patients could receive better care when multidisciplinary teams used specialized techniques. It gathers data from numerous professionals to provide accurate diagnoses and customized treatments. Participation creates a fantastic learning environment that offers opportunities for lifelong learning and innovative medical breakthroughs. Although there are benefits to this approach, there may also be drawbacks, like communication gaps. Here, professional development and communication are usually the victors, and collaborative efforts end up the losers. Further research is needed in order to minimize medication adverse effects and promote multidisciplinary collaboration in order to provide the best possible patient care [64].

Multidisciplinary teams play a critical role in the care of head and neck cancers (HNCs), as highlighted by Taberna et al. These teams often consist of radiation and medical oncologists, as well as ENT and maxillofacial surgeons, among other specialized medical professionals. Many regular activities including breathing, speaking, and swallowing are significantly impaired with HNC, which lowers the quality of life for patients. Therefore, specialized experts such as dietitians, nurses, psycho-oncologists, social workers, and geriatricians should be included in these multidisciplinary teams and help patients with their various needs. To connect the basics with the clinic, the concept of assembling translational researchers offers a bridge. The assessment’s goal is to determine the contributions made by various disciplines to the multidisciplinary teams that support HNC patients in receiving the best care possible at every step (diagnosis, treatment, and follow-up) [65].

Multidisciplinary in-hospital units have been shown in a review to improve patient outcomes, lower adverse events, and raise staff and patient satisfaction. These teams, which are made up of employees from various care levels, collaborate to break down obstacles to communication as well as discipline and cultural issues. Enhancing teamwork leads to more efficient AE management, which has a cascade of positive effects, including improved health outcomes, shortened lengths of stay (LOS), and increased patient and staff satisfaction in ERs, hospital wards, intensive care units (ICUs), and operating rooms (ORs). By optimizing the performance of healthcare workers, the care coordination mechanism not only assures optimum patient safety, good perception, and employee satisfaction but also lowers hospital costs and complications. The review also serves as a reminder to hospital administrators of the fact that multidisciplinary teams are the cornerstone of the delivery of the highest quality of safe patient care which also keeps the staff motivated towards performing at their best [66].

Another study focused on the function of multidisciplinary teams in care organizations, paying attention to the different team structures as well as the working relationships between them. While socio-technical theory is the basis of this research, it will investigate care delivery for Multiple Sclerosis patients based on task organization within teams. The study compares hospitals with different organizational approaches: the organization that has functional coordination with crossing disciplines sometimes and others that have process orientation and stable multidisciplinary teams. The findings support the view that the higher the degree of process orientation, the higher the stability of work and the therapeutic relationship. In general, the research points to the necessity of noticing the role of work organization in the interaction of many professionals [67].

Our results revealed that the multidisciplinary approach plays an important role in medical practice as it improves health outcomes, shortened lengths of stay (LOS), and increased patient and staff satisfaction. Additionally, the multidisciplinary approach is responsible for a higher quality of life for patients, higher stability of work, and higher
effectiveness of the diagnosis and treatment of the patients.

5. Discussion
This literature review investigated the concept of the multidisciplinary approach in medical practice that seeks to incorporate knowledge from other disciplines to improve patient care. The strategy focuses on patient care thereby collaborating with healthcare professionals from different areas to enable healthcare delivery at its best. The evaluation specifically pinpoints some advantages of the cooperative model described. One of the significant advantages brought about a decrease in the number of negative outcomes for patients. Through the incorporation of the specialized knowledge of different experts, an interdisciplinary team will be able to identify the main concern and develop a more successful treatment strategy. As a result of this patients can overcome the disease or may feel better. This review illustrates cooperative effort in fields like cancer and cardiology, which require coordination for the attainment of positive health outcomes. The other advantage is that it is the development of communication and coordination. The classical healthcare systems are mostly based on individual patients meeting experts separately; further increasing the risks of miscommunication, as well as incoherence in the care rendered. Multidisciplinary teams do this by ensuring that communication between team members is faster through instruments such as team meetings, and shared care plans. This in turn leads to a decrease in medication errors, fewer test administrations, and an improved patient encounter. The review also studied the challenges that may face the multidisciplinary approach. The occurrence of conflicting schedules, the lack of flow in the communication system, scarcity of space, staff, and technology are some of the factors which can interfere with seamless collaboration. Besides, there is a problem of different views of individual staff members as a result of varying experience. The review recommends setting up transparent protocols of decision-making and promoting mutual respect within the team as a means of this challenge.

Hospitalized patients may present a wide range of symptoms, affecting different organ systems and requiring participation from multiple healthcare practitioners. Inpatient services are provided by multi-professional teams of hospitalists, nurses, dietitians, pharmacists, physiotherapists, and social workers. On the other hand, in complicated cases, other specialists may need to be consulted, including rheumatologists, oncologists, infectious disease specialists, and nephrologists [68]. Implementation of multidisciplinary teams has been associated with a number of positive effects such as better patient outcomes, reduced chance of errors, shorter hospital stays, faster discharges, and smoother patient flow, to top the list up. Communication across teams is strongly correlated with lower morbidity and mortality rates and higher levels of patient and family satisfaction because it can lead to quick disease detection, quick intervention, and quick referral [69], [70].

The pilot project which was conducted over a fifteen-month span and had a multidisciplinary approach in critically ill patients presented the potential cost savings of $1.0 – $2.3 million through the implementation of the multidisciplinary approach. The implementation of daily multidisciplinary rounds in an intervention group enabled the establishment of better communication among physicians and many other healthcare professionals including nurse practitioners, staff nurses, and other physicians when compared to the control group. Similar degrees of mutual understanding with physicians were reported by nurses in both interventions; nurses in the experimental group had good collaboration with nurse practitioners [71].

End-stage heart failure patients receiving ventricular assist therapy were included in another study that involved a multidisciplinary approach which led to significant reductions in the LOS for the postoperative patients, from 61 to 15 days, and on-floor LOS, from 35 days to 7 days. This approach not only resulted in cost saving but also a dramatic drop in the 30-day readmission rate compared to a single discipline approach [72].

The Geriatric Trauma Institute undertook a retrospective cohort study which demonstrated that implementing a multidisciplinary rounds approach in the emergency department resulted in better triage of patients, on average one and a half hours faster than the previous process. Nevertheless, the decrease observed in the time was not statistically significant. The number of patients who were discharged within 2 days and 4 days after being admitted increased by 6.

Moving to the challenges of the multidisciplinary approach, professional hierarchies are one of our main concerns. Professional hierarchies can sometimes impede multidisciplinary teamwork and effective communication during multidisciplinary rounds. To overcome the hierarchies between professions several methods including the establishment of common communication channels and the use of the same language. Another example is the SBAR (Situation, Background, Assessment, and Recommendation) technique, which aids in setting forth the significant clinical data in a structured fashion. Hospitals are implementing the use of things like checklists, daily care plans, and debriefings to enhance the communication process [74].

In addition to difficulties tackled by healthcare professionals, the studies also bring into focus additional issues among patients which are based on the multidisciplinary rounds (MDR) process. Some patients feel anxious about the situation, and some terms in medical terminology account for the misinterpretation. Although, patient comfort is questioned as the case may be, when there is more than one medical expert at the bedside, this is usually tightly crowded. The appearance of contradictory opinions in different doctors attending to a patient could impede patient participation in rounding sessions, and the presence of a group of experts may unwittingly intimidate the patient, making him/her reluctant to express his concerns [15].
6. Limitation
The major drawback of our study is that it is an overview in the form of a narrative review covering the majority of observational studies. The data from the summarized trials is apportioned into paragraphs and compared to each other without being pooled together. Therefore, true objectivity and subjects combined as one are impossible. A narrative review is the most recent publication that presents a complete roundup of the published evidence. Such a case can be also used for a complete examination of evidence. Since it fully disregards the hypothesis with which it is in disagreement, it does not guarantee that what is now believed to be true is actually true.

7. Conclusion
This literature review focused on the multidisciplinary approach in medicine to ensure quality healthcare for patients. Stressing the advantages such as decreasing negative patient outcomes and increasing treatment strategies through collaboration among health care professionals. It is due to this that clinical standardization assists in a better exchange of information and teamwork, thus avoiding mistakes and improving patient care. However, problems like syncing conflicts, communication breakdowns, and mixed points of view have raised the question mark.

suggestions for Future Research
Prospective studies might investigate the usefulness of including cutting-edge technologies like Artificial Intelligence and telemedicine into MDT strategies." As well, investigating the effects of multidisciplinary care over the long term on patient outcomes, the efficiency of the healthcare system, and cost-effectiveness would give out valuable information. The need to explore the role of patient engagement strategies and community involvement in the improvement of the effectiveness of multidisciplinary approaches should be further examined. Finally, this course may cover the implementation of multidisciplinary care in different cultural and socioeconomic contexts, which helps in identifying its applicability and effectiveness across different populations.

Conflict of interest
The authors declare no conflict of interests. All authors read and approved final version of the paper.

Authors Contribution
All authors contributed equally in this paper.

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