Improving the quality of patient care through multifactorial interventions: a literature review

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Abstract

This literature review identifies interventions that improve healthcare outcomes. Present healthcare systems have difficulty effectively communicating, resulting in frequent medication errors and staff burnout due to redundant work.

After analyzing a variety of literature reviews, systematic reviews, and randomized controlled trials, research aimed to resolve three key issues: patient and family satisfaction, staff burnout, and readmission rates. An effective intervention in these healthcare systems would mitigate poor healthcare outcomes, such as prolonged hospital stays. The length of patient stay could induce cognitive and physical impairment due to a lack of movement. Common themes identified across studies included staff collaboration, flexible visitation hours, access to outside resources, post-discharge interventions, and lowering readmission rates.

The most effective long-term interventions focused on staff collaboration and care beyond the inpatient stay, as they reduced staff burnout and mental decline after discharge. These interventions will resolve present problems in the healthcare system: evidence reveals that many patients have poor emotional outcomes after hospitalization, as they are impacted by staff burnout, which is correlated with higher rates of errors and poor patient care.

Future research should find interventions that effectively use resources, such as cost. Heavily researched interventions, including communication platforms and post-discharge, show consistent results in effectively mitigating present issues. However, there is limited high-quality evidence that takes into account the use of resources, like cost and burnout.

This literature review will determine effective interventions that showed promising improvements in the satisfaction of patients, family, and hospital staff.

Key Words: Multidisciplinary teams, interventions, randomized controlled trials, visitation hours, animal therapy, continuity of care, post-discharge, staff communication, readmission rates, emotional health

Dedication

Through my personal experience as a volunteer at Joe DiMaggio Children's Hospital and seeing my grandfather's mental health after long-term hospitalization, I began to sense firsthand the feelings of isolation and disinterest among these individuals. Working in the Child Life Center at the hospital, I have witnessed how even 30 minutes outside of the hospital room can lift the spirits of both the patients and their family members. I wrote this literature review to find positive interventions that should be implemented on a larger scale and raise awareness about the negative impacts of certain aspects of standard practices in hospitals.

Introduction

To mitigate the negative impacts of poor healthcare, it is crucial to evaluate the physical and mental perspectives of patients and their families. Mental health is a vital component, as it plays a significant role in an individual's overall physical well-being. Hospital patients often experience a decline in mental health following discharge. For example, a study of 675 patients found that 12.4% of patients reported symptoms of post-traumatic stress disorder (PTSD) after discharge, and 10.4% reported anxiety (Liu et al., 2020).

The key to improving hospital outcomes may lie in the integration of emotional priorities in patient care. Alterations in the mental health of individuals after hospitalization are a widespread problem that most patients experience (Liu et al., 2020). To mitigate this decline beyond the hospital, interventions focused on prescription errors, organization, and post-discharge care have shown improvements in the mental health of patients, especially since shortfalls within these domains, such as medication errors, prolong patients' stay and lower satisfaction. With 50% of errors occurring when medication is prescribed, these interventions could largely resolve medication errors occurring after hospitalization (Tariq et al., 2024).

Effective communication was seen across these interventions; analyzing how the hospital team interacts with each other is a crucial aspect to preserving the mental and physical health of patients. This literature review aims to identify evidence-based strategies to make hospital stays more comprehensive, cohesive, and collaborative among team members. Secondly, the interventions identified were reviewed based on their accessibility for implementation. As it was identified that there is a limited quantity of studies based on physical health, the research was expanded to include mental health-based interventions that promote positive outcomes for the overall patient.

This literature review aims to uncover how effective staff collaboration, flexible access to outside resources and family, and expanding interventions beyond inpatient stay are key to improving patient satisfaction and reducing readmission rates and staff burnout.

Methods

This literature review was conducted through Google Scholar, utilizing keywords such as multidisciplinary teams, interventions, randomized controlled trials, and longer visitation hours. The research question was refined by evaluating the efficacy of interventions based on readmission rates and patients' ability to acclimate after treatment, specifically analyzing mental health outcomes. After a review of available evidence and the highest quality studies, this literature review highlighted accessibility, burnout, and continuity of care.

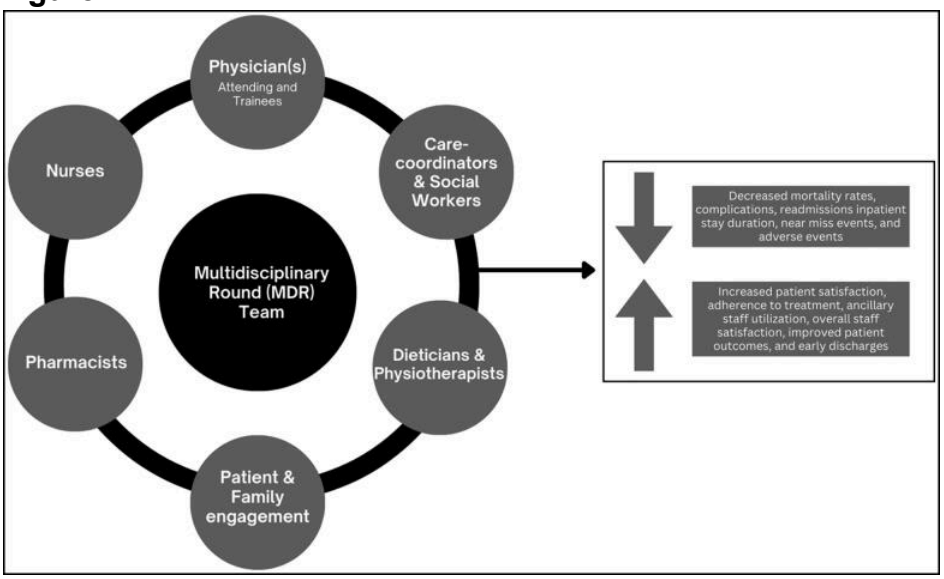
Literature Review

After utilizing the methods above, 10 articles were selected based on the common themes found among the interventions: accessibility, implementability, staff burnout, and continuity of care.

51.7 percent of hospitals across the United States utilize low or high-intensity multidisciplinary care (Kim et al., 2010). Multidisciplinary teams (MDTs) reduce patient length of stay, lower mortality and complication rates, and improve patient satisfaction after their stay (Srinivas et al., 2023). Professionals within MDTs combine their varied areas of expertise to understand and fulfill patients' needs. According to Nancy Epstein, Chief of Neurosurgical Spine, Education, and Research at Winthrop University Hospital, MDTs counteract siloed communication, where teams do not communicate with one another (Epstein, 2014; Vatanpour

et al., 2013). MDTs are also able to enhance communication and collaboration within healthcare systems, boosting patient outcomes.

Figure 1



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Child life specialists (CLSs) are an emerging member of MDTs. CLSs provide effective interventions, including therapy to reduce pain and fear amongst patients. CLSs also seek to improve the experience for both patients and families (Rosenblatt et al., 2023). A literature review concluded that CLSs are crucial to an MDT, as they ensure the patients are comfortable with the intervention and clinical staff do not experience severe burnout.

A randomized controlled trial (RCT) of patients with Parkinson's disease (PD) in Ontario, Canada, aimed to see if MDTs improve the outcomes of patients. 51 patients were treated with the intervention, receiving care from a team with movement disorders specialists, PD nurses, and social workers (Van der Marck et al., 2012). 49 patients were treated with the control, receiving care from a general neurologist without an MDT (Van der Marck et al., 2012). MDTs demonstrated a positive statistical impact on the motor skills, psychological function, and depression levels of participants with PD.

The likelihood of mistakes occurring among patients is increased with an unorganized hospital management system (Grischott et al., 2018). Poor communication among physicians and nurses leads to incorrect medication distribution. Medication-related errors are responsible for up to 22% of hospital readmissions after discharge (Tariq et al., 2024). A randomized controlled trial at the University Hospital Zurich tested the impact of a medication review system before hospital discharge, monitoring patients up to six months after discharge. The intervention reduced polypharmacy, defined as the use of five or more medications. Reducing medications resulted in decreased adverse effects (Grischott et al., 2018). Additionally, the medication review intervention can inadvertently reduce costs in the healthcare system and improve patient life outcomes. Furthermore, implementing medication reconciliations, including prescription checks and logs of missed therapy time, before discharge can reduce patient difficulties, ensuring their prescriptions are accurate and of high quality. Medication reconciliations reduced

medication-related interventions needed after discharge by 22 percent through an RCT conducted at a tertiary teaching hospital in Baden, Switzerland (Brühwiler et al., 2019). These studies reveal that enhanced communication and attention to detail among pharmacy staff reduced follow-up corrections in pharmacies and cost-related prescription issues after hospitalization. Implementing MDTs across healthcare systems would provide hospitals with the structured systems needed to improve communication across hospital staff (Srinivas et al., 2023).

Post-discharge care by hospital management systems improves patients' acclimation to the outside world, as well as their quality of life after hospitalization. Specifically, older people were at a lower risk of experiencing a decline in their function and independence after discharge. This was found to be effective through an RCT of 128 patients over the age of 65 in a metropolitan hospital in Australia, where the intervention group received an exercise program and follow-up care by a physical therapist and nurse until 24 weeks after discharge (Courtney et al., 2011). The patients who received the intervention showed statistically significant improvements in their ability to complete everyday tasks, showing a difference within the first four weeks after hospitalization.

Patient acclimation after treatment significantly increases with access to outside resources during hospitalization. First, the addition of pets within a hospital setting improves the well-being of patients, both physically and emotionally. A study conducted at the University of California, San Diego found that the majority of patients who were exposed to pets during their hospitalization experienced improvements in pain, blood pressure, stress, depression, anxiety, mobility, and socialization (Barchas et al., 2020). Moreover, loosening the restrictions on visitation hours increased the satisfaction of patients and family members. Researchers from Brazil concluded that flexible visitation hours reduced the chances of experiencing delirium by 61 percent (Nassar Junior et al., 2018). However, loosening the set restrictions can increase staff burnout, potentially resulting in lower quality of care over time.

Discussion

Patients worldwide have faced healthcare complications, dissatisfaction with their healthcare quality, and poor mental health outcomes after hospital discharge. Research must continue until more universally accessible interventions are identified, particularly those that enhance communication and mental health, as these interventions showed the most promising results.

One intervention with positive success after implementation was a medication platform to boost communication across the hospital staff. This platform reduced staff burnout rates, a significant improvement as most interventions posed a higher risk of staff burnout (Grischott et al., 2018). Burnout was prevented through the platform, as staff are not completing redundant work and spending less time organizing medication distribution strategies. According to the Johns Hopkins Nursing Evidence-Based Practice Model, staff burnout decreases care quality in the long term. This intervention and overall study were simple and effective, easing communication across staff and reducing polypharmacy. Additionally, the results are promising, as they were revealed in a high-quality RCT tested on a large population who were further monitored after discharge. Future research should aim to move this study into a real clinical process, as supported by the Johns Hopkins Nursing Evidence-Based Practice Model. The model suggests that the study should move from the smaller to a larger population set, putting it into a clinical setting. Next, the researchers should aim to get buy-in from hospital staff by

demonstrating the importance of the matter. By referencing the study conducted on the medication platform for nurses, MDs, and pharmacists, researchers can gain support to implement the intervention on a larger scale in hospitals.

As previously mentioned, only 51.7 percent of hospitals utilize MDTs despite them being identified as an effective measure to help improve healthcare quality across multiple studies. Future research should test more platforms that further enhance interactions between physicians, nurses, and pharmacists within a clinical setting. In the future, the construction of MDTs may be made more consistent across hospitals. For example, some hospitals include CLSs, while most teams exclude these beneficial members. The setback of including specific members in MDTs is the cost. Unfortunately, research lacked information on the cost of interventions, possibly limiting the research conducted on the implementability of potential solutions. The cost could make an intervention inaccessible, not lasting in the long term. This is seen in the RCT focused on patients with Parkinson's disease described earlier; the cost was overlooked, which lowers the validity of the study, as including staff with extra disciplines, such as a movement disorders specialist, may not be accessible across healthcare systems (van der Marck et al., 2012). To make future research practical, researchers must ensure appropriate staffing in relation to cost, with greater attention paid in future research on the cost and value of including novel members in MDT structures.

Similarly, for an intervention to be viable, it must be feasible for hospital staff, a factor that several interventions failed to consider. According to the Johns Hopkins Nursing Evidence-Based Practice Model, when a nurse faces burnout, their quality of care will decrease. Therefore, some interventions are not effective in the long term, as they will lead to a cycle of dissatisfaction when the quality of their care declines. With 40 percent of ICU staff already facing general burnout, an intervention aiming to improve patient and family satisfaction could put both staff and patients at risk if the demands on team members are high (Papazian et al., 2023). As mentioned before in the systematic review of implementing flexible visiting policies in ICUs, although family members had higher satisfaction levels, ICU professionals were at an increased risk of burnout (Nassar Junior et al., 2018). Following the model, these patients could face a greater risk of ICU mortality due to the lower care quality produced with a greater workload on staff.

A new intervention that could be suggested for further research is lessening restrictive visitation to two or three times a week. With spaced-out visitation hours, families will still express greater satisfaction, alongside staff who have off days (Dragoi et al., 2022). The intervention mentioned above does not allow ICU professionals to ease into the new rules and become overwhelmed by the stressful workload.

The RCTs analyzed in this paper failed to consider obtaining buy-in from workers, which would boost performance and patient satisfaction, as studies would focus on interested hospitals willing to participate. In a similar light, future research should consider surveying staff and patients on their thoughts surrounding the interventions. For example, during a six-month trial, researchers should send out a monthly survey and set routine meetings to adjust the intervention as needed. This would make the interventions more realistic and effective for implementation.

Figure 2

SUNY Upstate Medical University Health Sciences Library. (2025, July 25). *Johns Hopkins Nursing Evidence-Based Practice*. SUNY Upstate Medical University Health Sciences Library. https://guides.upstate.edu/c.php?g=1023176&p=7411225

To continue patient satisfaction in the long term, hospitals must not limit care only to a patient setting. Post-discharge interventions have shown positive outcomes on mental health. In an RCT that followed older adults at high risk of readmission, phone call check-ups and personalized physical therapy routines improved the independence and functional ability after discharge (Courtney et al., 2011). Research should continue to investigate post-discharge interventions due to their low cost and effectiveness.

When an individual has a poor experience, they are more likely to avoid returning to the same place. By encouraging better patient experiences, healthcare will be more effective, as patients can acclimate more easily to life outside the hospital.

Conclusion

Existing research has found various interventions to improve the patient experience. These papers show a promising direction for future research, especially those concerning post-discharge care. Post-discharge interventions show positive outcomes, such as boosting mental health and lowering readmission rates. As new studies emerge, hospitals can continue increasing the efficiency of patient care. However, research lacked a focus on the cost of interventions, possibly making them inaccessible across all healthcare systems. Future research should prioritize randomized controlled trials focused on multidisciplinary teams and relaxed visitation policies. Relaxed visitation policies are suited towards the patient's needs, including longer hours and a greater number of visitors (Dragoi et al., 2022). Research should further look into the influential impact of post-discharge care and other practices that can be done after hospitalization to reduce readmission rates. Despite these limitations, published research suggests that integrating emotion-based practices into patient care will improve both patient outcomes and reduce readmission rates. By following the suggestions for future research, the gap between research will close, and healthcare efficiency will improve across the entirety of the healthcare system.

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