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The impact of innovative practices on organizational management: The case of government hospitals in Northern Lebanon

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Abstract

Innovation in hospital management is increasingly recognized as a key factor in improving organizational performance, efficiency, and staff satisfaction. In resource-constrained contexts such as Lebanon, the integration of innovative practices is particularly critical to ensure sustainable healthcare delivery. This study examines the impact of innovative practices on organizational management in five governmental hospitals in Northern Lebanon, with a focus on their influence on administrative efficiency, staff satisfaction, and the role of external institutional support. A mixed-methods approach was employed, combining semi-structured interviews with hospital directors and a questionnaire administered to 312 employees across medical, administrative, and technical staff. Statistical analyses included Chi-square tests and logistic regression, complemented by thematic analysis of qualitative data. Results reveal that hospitals frequently introducing new methods and tools reported higher levels of employee satisfaction and organizational effectiveness. Logistic regression identified innovation and interdepartmental communication as the strongest predictors of satisfaction. Barriers included financial constraints, staff resistance, and insufficient training. While the Ministry of Health was perceived as providing meaningful support, the Ministry of Finance was seen as less effective due to delays in funding. Innovative practices are central to enhancing hospital management and employee engagement in Lebanon's public health sector. Overcoming structural barriers requires continuous training, participatory management, and more reliable financial support. Strengthening collaboration between ministries and hospitals is essential to create a sustainable framework for innovation and improved healthcare delivery.

Keywords: Innovation; hospital management; organizational performance; public hospitals; Lebanon

1. Introduction

Innovation is commonly understood as simply generating brilliant ideas; however, as Mark Zuckerberg highlights, it also crucially involves acting swiftly and continuously experimenting with new approaches (Favier, 2024). This emphasizes a vital dimension of modern innovation: not only ideation but rapid transformation of ideas into concrete actions. Historically, innovation has evolved from a mere concept of creation into a key driver of progress, emphasizing continuous improvement and practical application (Devalan, 2017). The nineteenth century introduced economic and managerial perspectives on innovation, shaping developments across sectors, including healthcare (Devalan, 2017). The managerial approach, developed in the 1970s, prioritizes organizational structures that support innovation, an approach relevant to hospitals where resource and technology management are crucial to enhancing care efficiency (Devalan, 2017). Hospitals have transitioned from simple infrastructure providers to complex care coordinators requiring interprofessional collaboration and integration of advanced medical technologies (Rillaerts, 2021). Technological innovations such as high-resolution imaging and robotic-assisted surgery have improved patient care precision and outcomes (Tedisel, 2023). Beyond technology, innovation also encompasses new management methods and organizational models, promoting participatory management to foster creativity within hospital teams (Jain, 2023; Humeau, 2024). Effective innovation integration demands robust quality management systems ensuring safety and efficacy, including continuous audits and responsive adaptations (Tedisel, 2023). In resource-constrained contexts like government hospitals in Northern Lebanon, innovation enhances care delivery efficiency through new technologies and service reorganization (Gautier, 2023). Sustained innovation depends on strong public policies and adequate funding, essential to maintaining long-term improvements in care quality. This study aims to explore how the implementation of innovative practices can transform organizational management in government hospitals in Northern Lebanon. The central research question is: *How does the implementation of innovative practices influence organizational management performance in government hospitals in Northern Lebanon?*

The objectives are to analyze innovative management practices, evaluate their impact on hospital organizational performance, identify barriers to adoption, and propose strategic recommendations to enhance operational efficiency, care quality, and patient satisfaction in these hospitals. To answer this question, the study employs a mixed-methods approach combining qualitative insights from semi-structured interviews with hospital directors and quantitative data from surveys administered to medical, administrative, and technical staff. This complementary approach enables a comprehensive analysis of the role of innovation in enhancing hospital management in Northern Lebanon.

2. Literature review

2.1 Definition and Scope of Innovative Practices in Hospital Management

Innovative practices in hospital management refer to the introduction and application of new methods, technologies, processes, or organizational structures aimed at improving healthcare delivery, patient outcomes, and operational efficiency. They encompass both incremental innovations**,** such as gradual improvements in administrative processes, and radical innovations**,** involving transformative changes like the adoption of advanced medical technologies or complete restructuring of service delivery models (Damanpour, 1991; Rogers, 2003; Kosiol, Silvester, Cooper, Alford, & Fraser, 2024).

In the healthcare sector, these practices can be classified into clinical innovations (e.g., minimally invasive surgical techniques), technological innovations (e.g., digital health records, telemedicine, predictive analytics), and managerial innovations (e.g., lean management, patient-centered care approaches). Each category addresses distinct aspects of hospital functioning but collectively contributes to improved quality of care and resource optimization (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Herzlinger, 2006; Omagomi, Elufioye, Ogugua, Daraojimba, & Akomolafe, 2024). Recent research highlights the growing role of data-driven tools**,** such as AI models for predicting inpatient length of stay (LoS) and interactive dashboards for capacity management, which enable hospitals to better allocate resources and respond to demand surges in real time (Turgay & Ozcelik, 2023).

The scope of innovative practices extends beyond technology adoption to include cultural and organizational change**,** emphasizing leadership commitment, staff engagement, and adaptability to evolving patient needs. In low-resource or unstable contexts, such as Lebanon, innovation must also account for constraints like limited budgets, human resource shortages, and political or economic instability, which influence both the feasibility and sustainability of new practices (Kaplan, et al., 2014; Tufael & Atiqur Rahman Sunny, 2022). Building an innovation-oriented organizational culture is increasingly seen as a key determinant of successful adoption, requiring integrated strategies that align technology, governance, and workforce development (Kosiol, Silvester, Cooper, Alford, & Fraser, 2024).

2.2 Theoretical and Conceptual Framework

The implementation of innovative practices in hospital management is underpinned by several theoretical models that explain how innovations are adopted, diffused, and sustained within complex healthcare organizations. Rogers' Diffusion of Innovations Theory remains a foundational framework, describing the process through which innovations spread among individuals and organizations, influenced by factors such as perceived advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). In the hospital context, these elements determine the speed and extent of adoption, particularly when introducing managerial or

technological changes (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Another widely applied approach is the Change Management Model (Kotter, 1996), which emphasizes leadership engagement, vision creation, and institutionalization of change. This is complemented by Continuous Quality Improvement (CQI) frameworks, which advocate iterative testing, measurement, and refinement to embed innovative practices into organizational routines (Kaplan, et al., 2014). In low-resource health systems, adaptation of these frameworks often requires integrating resource-dependency theory, highlighting how external partnerships and funding influence the feasibility of implementing innovations (Pfeffer & Salancik, 2003). Recent studies extend these classical theories by incorporating innovation ecosystem models that view hospitals as part of interconnected networks involving government agencies, private sector partners, and community organizations (Kosiol, Silvester, Cooper, Alford, & Fraser, 2024). Furthermore, digital transformation frameworks now emphasize interoperability, data governance, and patient engagement as critical dimensions for successful innovation (Tufael & Atiqur Rahman Sunny, 2022; Omagomi, Elufioye, Ogugua, Daraojimba, & Akomolafe, 2024). In Lebanon's public healthcare system, such frameworks must be adapted to the realities of political instability, funding fluctuations, and workforce migration, which significantly shape the adoption curve and long-term sustainability of hospital innovations (Sanayeh & Chamieh, 2023; Mrad, Fayad, & Zeine, 2025).

2.3 Implementation of Innovative Practices in Hospitals

The implementation of innovative practices in hospitals is a multi-stage process that progresses from idea generation to full integration into organizational routines. Common stages include: (1) initiation, where needs are identified and potential solutions explored; (2) adoption, involving leadership approval and resource allocation; (3) adaptation, where practices are tailored to the hospital's context; and (4) routinization, in which innovations become part of standard operations (Rogers, 2003; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Success depends heavily on leadership commitment**,** staff engagement**,** and organizational readiness for change (Kaplan, et al., 2014). Recent evidence indicates that teamwork quality and effective communication are decisive in fostering implementation success, while staff turnover and shortages can undermine it (McGruier, et al., 2024). Hospitals with strong cultures of continuous learning and open communication tend to integrate innovations more effectively, especially when supported by structured frameworks such as the SOLAR model**,** which prescribes clear steps for sustaining lean healthcare practices over time (Van Zyl-Cilié, Van Dun, & Meijer, 2024).

Digital transformation strategies now play a central role in accelerating implementation. Adoption of electronic health records (EHRs)**,** telemedicine platforms**,** IoT-enabled smart hospital systems, and AI-driven analytics requires not only robust infrastructure but also governance policies, cybersecurity measures, and capacity-building programs (Omagomi, Elufioye, Ogugua, Daraojimba, & Akomolafe, 2024). However, sustaining such innovations remains a challenge: studies show that many e-health tools fail to achieve long-term integration without dedicated

scaling strategies (Jaana, MacPhee, Sherrard, & Walker, 2024). Cutting-edge research also points to the need for interdisciplinary governance structures to ensure that advanced technologies, such as predictive analytics and hospital automation, are implemented in a way that aligns with clinical, ethical, and financial priorities (Coelho, Furtado, Tavares, & Sousa, 2025).

In the Lebanese context, public hospitals face particular obstacles, including budgetary constraints, political interference, and workforce shortages. Yet, targeted partnerships with NGOs, international donors, and academic institutions have facilitated adoption of select innovations such as hospital information systems and telehealth platforms. International experience shows that structured innovation programs, like those in leading U.S. health systems combining virtual nursing, innovation incubators, and technology pilots, can serve as scalable models for Lebanon's hospitals (Halawani & Mouawad, 2021; MOPH Lebanon, 2023; Falvey, 2024).

2.4 Impact of Innovative Practices on Organizational Management

The adoption of innovative practices in hospitals exerts a multidimensional impact on organizational management, influencing operational efficiency**,** service quality**,** financial sustainability**,** and workforce dynamics**.** From an operational standpoint, the integration of process innovations, such as lean management systems, automated patient flow monitoring, and AI-assisted decision-making, streamlines workflows, reduces bottlenecks, and enhances resource allocation (Van Zyl-Cilié, Van Dun, & Meijer, 2024; Coelho, Furtado, Tavares, & Sousa, 2025). Hospitals implementing these changes often report reduced average patient wait times, improved bed turnover rates, and optimized use of operating theaters.

In terms of service quality, patient-centered innovations such as telemedicine, remote monitoring, and personalized care pathways have been shown to improve patient satisfaction, reduce readmissions, and enhance clinical outcomes (Kosiol, Silvester, Cooper, Alford, & Fraser, 2024; Falvey, 2024). These benefits often arise from better continuity of care, enhanced access to specialized expertise, and the ability to deliver tailored interventions based on predictive analytics (Omagomi, Elufioye, Ogugua, Daraojimba, & Akomolafe, 2024). On the financial side, studies reveal that innovative practices can both reduce costs and generate new revenue streams. Efficiency gains from lean processes and automation lead to cost savings in staffing and supply chain management, while novel services like telehealth open additional reimbursement opportunities. However, the financial impact is not universally positive, high initial investments, training requirements, and technology maintenance can strain hospital budgets, especially in low-resource settings (Jaana, MacPhee, Sherrard, & Walker, 2024; Coelho, Furtado, Tavares, & Sousa, 2025).

Workforce management is also significantly influenced. Innovations that enhance communication, provide real-time data, and support decision-making can boost staff morale and retention (McGruier, et al., 2024). However, rapid technological change can also trigger resistance,

requiring robust change management strategies and continuous professional development to ensure sustained adoption (Kaplan, et al., 2014).

In the Lebanese public hospital context, the impact of innovative practices is conditioned by political, economic, and social factors. While some facilities have leveraged partnerships with NGOs and international agencies to implement targeted innovations, challenges such as underfunding, workforce migration, and political instability can dilute long-term benefits (MOPH Lebanon, 2023; Aoun & Tajvar, 2024). International case studies, such as integrated innovation programs in advanced health systems, demonstrate that sustained impact depends on aligning innovation with strategic goals, securing stable funding, and embedding a culture of continuous improvement (Falvey, 2024; Van Zyl-Cilié, Van Dun, & Meijer, 2024).

3. Research Methodology

This study employs a mixed-methods approach, beginning with a qualitative phase to explore in depth the implementation and impact of innovative practices in government hospitals of North Lebanon. Hospitals were selected using a purposive maximum variation strategy, ensuring diversity in size, service scope, and level of innovation adoption. Selection criteria included bed capacity, range of medical specialties, and documented evidence of recent innovation initiatives. Five participants, each representing a different government hospital, were selected for interviews based on their direct involvement in strategic or operational decision-making related to innovation. These participants included hospital directors, department heads, and senior administrative managers. Semi-structured interviews were conducted in person at the hospitals, each lasting between 45 and 60 minutes. The interview guide covered themes such as leadership commitment, innovation planning, resource allocation, staff training, and perceived outcomes. All interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis following Braun and Clarke's six-step approach. Data collection continued until thematic saturation was reached, when no new substantial themes emerged.

The qualitative findings informed the design of the quantitative phase, which tested the relationships identified in the interviews on a larger sample. A structured questionnaire, drawing on both the literature and the qualitative results, was distributed to a purposive sample of hospitals in the same region, again ensuring variation in size and innovation level. Variables measured included innovative practices (technological, process, and service) and organizational management performance (efficiency, quality, financial outcomes, workforce). Reliability was confirmed with Cronbach's alpha (>0.70), and the final quantitative sample size was determined through statistical power analysis**.** Based on the literature review and the findings from the qualitative phase, the following hypotheses were formulated for the quantitative analysis:

- H1: The implementation of innovative practices in the management of government hospitals in North Lebanon does not contribute to improving organizational management.

- H2: The main barriers to the implementation of innovative practices are high investment costs, staff resistance to change, and a lack of adequate training.
- H3: The Lebanese Ministries of Health and Finance play a key role in enabling the effective implementation of innovative practices in the organizational management of government hospitals.

These hypotheses were tested using chi-square for correlation test and logistic regression analyses to determine the strength and significance of the relationships between innovation dimensions and organizational performance indicators.

4. Findings

4.1 Results of Qualitative Study

The qualitative analysis, conducted through interviews with those responsible for public hospitals in Northern Lebanon, reveals that they play a central role in administrative, financial, technical, and medical management, with responsibilities that include strategic planning, interdepartmental coordination, and quality control of healthcare services. The identified success factors include strong leadership, a clear vision, the implementation of quality management systems, continuous staff training, and effective internal communication. However, several major constraints persist, such as the lack of resources, shortage of qualified personnel, dependence on supervisory ministries, and administrative rigidity. Among the innovative practices adopted are the modernization of management systems, partial digitalization of medical records, targeted training programs, and logistical optimization, which have contributed to improving service quality, staff motivation, and organizational efficiency, although the overall impact remains limited by budgetary and regulatory constraints. Finally, the directors highlight the need for more flexible ministerial support and express a vision focused on strengthening hospital autonomy, developing information systems, and diversifying partnerships.

4.2 Results of Quantitative Study

4.2.1 Descriptive analysis

The survey included a total of 312 respondents from five public hospitals in Northern Lebanon, providing a solid basis for describing the workforce profiles and perceptions. In terms of job categories, the vast majority of respondents were nurses (80.1%), followed by administrative staff (7.7%) and technicians (6.1%). Other categories were less represented: physicians (1.9%), pharmacists (1.3%), and midwives (1.0%), while roles such as department heads, security staff, inhalation specialists, and other paramedical staff each accounted (1.9%). This distribution indicates that the findings largely reflect the perspective of the nursing staff. Regarding tenure in their current position, the results show an experienced workforce. More than a third of respondents (35.9%) had been working in their current role for over 10 years, while 30.1% had between 3 and

10 years of experience. Another 23.7% reported a tenure of 1 to 3 years, and only 10.3% had been in their post for less than a year. This suggests a balance between long-standing expertise and relatively newer employees. As for the distribution by hospital, the largest share of responses came from Hospital D (30.8%), followed by Hospital B (30%) and Hospital E (19.6%). Smaller proportions were recorded at Hospital C (11.9%) and Hospital A (7.7%). This breakdown demonstrates that the dataset reflects a diversity of institutional contexts across the region.

4.2.2 Chi-square analysis of the factors associated with satisfaction

Table 1 reports chi-square test results between independent variables (job position, seniority, hospital, etc.) and satisfaction with administrative methods.

Table 1. Chi-Square Test Results

Independent variable	p-value	Significance	Summary interpretation
Current position	0.358	Not sig	No meaningful link between job position and satisfaction.
Seniority	0.987	Not sig	Length of tenure does not affect satisfaction.
Hospital	0.007	Sig.	Satisfaction varies significantly across hospitals.
Attachment to hospital	0.000	Sig.	Stronger attachment is associated with higher satisfaction.
Job search status	0.000	Sig.	Employees seeking another job are generally less satisfied.
Introduction of new tools/methods	0.000	Sig.	Regular introduction of innovations enhances satisfaction.
Participation in trainings	0.000	Sig.	Training participation is strongly linked to higher satisfaction.
Efficiency of tools/methods	0.000	Sig.	Perceived efficiency of tools and methods increases satisfaction.
Internal communication	0.000	Sig.	Strong internal communication clearly improves satisfaction.
Daily work improved by innovations	0.000	Sig.	Innovations that improve daily work lead to higher satisfaction.
Suggestions to improve work	0.000	Sig.	Employees who make suggestions are more satisfied.

The chi-square analyses demonstrate that not all factors equally influence satisfaction with administrative methods. Demographic and structural characteristics such as current position (χ^2, p

= 0.358) and seniority (χ^2, p = 0.987) did not show significant relationships with satisfaction. This indicates that job role and length of service alone are not decisive in shaping staff perceptions of administrative practices. By contrast, institutional and organizational factors revealed clear associations. Satisfaction varied significantly by hospital (χ^2, p = 0.007), suggesting that contextual differences in resources, policies, and leadership across institutions play a key role. Moreover, employees with a stronger attachment to their hospital reported higher satisfaction (χ^2, p < 0.01), while those actively seeking another job were generally less satisfied (χ^2, p < 0.01). These findings underscore the central role of institutional loyalty and job stability in shaping positive attitudes. The analyses also highlighted the importance of innovation and professional development. Staff who reported frequent introduction of new tools and methods were significantly more satisfied (χ^2, p < 0.01), as were those who participated in training programs (χ^2, p < 0.01). Similarly, perceptions of the efficiency of administrative methods were strongly linked to satisfaction (χ^2, p < 0.01), indicating that employees value modernization and efficiency in daily operations.

Finally, communication and relational factors emerged as powerful predictors of satisfaction. Strong internal communication was associated with markedly higher satisfaction (χ^2, p < 0.01), while employees who perceived that innovation improved their daily work also reported greater satisfaction (χ^2, p < 0.01). Furthermore, those who made suggestions for improvement were significantly more satisfied (χ^2, p < 0.01), showing that participatory practices and managerial openness positively shape employee perceptions.

4.2.3 Logistic regression analysis of the predictors of satisfaction

The logistic regression analysis provides several important insights into the impact of hospital-related factors, working conditions, and employee attachment on satisfaction with administrative methods.

First, the variable “hospital name” did not show a statistically significant effect (B = 0.191, p = 0.636), suggesting that belonging to a specific hospital does not influence employee satisfaction with administrative practices. By contrast, the degree of attachment to the hospital showed a significant negative effect for lower levels of attachment. For example, employees with weak attachment (category 4) had a coefficient of B = –1.407 (p = 0.003), indicating that weaker identification with the hospital reduces the likelihood of satisfaction. The variable “job search status” was not significant (B = 0.194, p = 0.576), implying that looking for another job does not directly affect administrative satisfaction. However, the introduction of new methods and tools had a strong and significant impact. Employees reporting frequent introduction of innovations had much higher odds of satisfaction (B = 2.087, p < 0.001; odds ratio = 8.061), confirming that innovation is strongly associated with positive perceptions of administrative methods. Regarding training and adaptation to new methods, the results were not significant (p = 0.321) despite a positive coefficient, which suggests that training in this context may not play a major role in shaping satisfaction. On the other hand, inter-service communication and collaboration showed a

significant positive effect (B = 8.475, p = 0.037). This result highlights the importance of transparent and collaborative communication channels in enhancing staff satisfaction.

In summary, the logistic regression results indicate that the introduction of new methods/tools and the improvement of inter-service communication are the key predictors of satisfaction with administrative methods. Attachment to the hospital and job search status play weaker or context-dependent roles, while training does not appear as a decisive factor. These findings underline the central role of innovation and internal communication in improving employee satisfaction in hospital settings.

5. Discussion

The first hypothesis suggested that the introduction of innovative practices would not contribute significantly to organizational improvement. However, both the questionnaire results and interviews with hospital directors contradict this assumption. Employees working in hospitals where innovations are introduced frequently reported higher satisfaction with administrative methods, and logistic regression confirmed the strong impact of innovations on satisfaction. For instance, staff at Hospital B, where new practices are regularly implemented, expressed clear improvements in daily work. Therefore, H1 is rejected, and the evidence supports the view that innovation enhances organizational management in governmental hospitals. The second hypothesis is strongly supported by both qualitative and quantitative findings. Directors, particularly at Hospital C, emphasized that limited financial resources are a major obstacle. The high costs of medical equipment and advanced technologies, combined with limited funding, restrict innovation. In addition, many directors highlighted staff resistance as a barrier. Hospital A reported difficulties in implementing changes due to reluctance among technicians and support staff, particularly in hospitals where innovations are infrequent. For lack of training, several directors also pointed to insufficient training as a challenge. At Hospitals C and E, innovations were hindered by the lack of time and resources for continuous training. This was echoed in the questionnaire, where 12.8% of respondents stated that they never receive training or workshops for adapting to new methods. Overall, H2 is validated: high costs, staff resistance, and lack of training are indeed the main barriers to innovation. However, some initiatives, such as partnerships to reduce costs (e.g., at Hospital B), show that these obstacles can be partially overcome. For the third hypothesis, the findings show a mixed picture. Directors acknowledged that the Ministry of Health provides important support, both material and moral. For example, Hospital A benefits from regular donations and equipment that ease the introduction of new technologies. However, in some cases (e.g., Hospital C), directors noted that ministry involvement was limited mainly to inspections, with little direct engagement in the implementation process. The support of the Ministry of Finance was perceived as weaker. Directors expressed frustration with delayed payments and difficulties in fund allocation, which hinder the timely implementation of innovative practices. Hospital C reported that promised funds often failed to arrive on time, limiting

innovation efforts. Thus, H3 is only partially validated. While the Ministry of Health plays an active role in facilitating innovation, the Ministry of Finance is less effective, largely due to administrative delays and insufficient funding.

6. Conclusion

This study contributes to the literature on hospital management by showing that innovative practices are not only technical adjustments but also key drivers of organizational change and employee satisfaction. In the case of governmental hospitals in North Lebanon, the results clearly indicate that institutions which integrate innovation more systematically, through the introduction of new methods, tools, and stronger interdepartmental communication, achieve greater employee satisfaction and more effective administrative performance. These findings are consistent with previous studies that highlight innovation as a catalyst for organizational efficiency in healthcare systems. The verification of the hypotheses reinforces these conclusions. The rejection of the null hypothesis (H1) confirms the positive contribution of innovation to organizational improvement. At the same time, the validation of H2 demonstrates that structural barriers, such as financial limitations, resistance to change, and insufficient training, remain major obstacles to the adoption of innovative practices. Finally, the partial validation of H3 reveals that while the Ministry of Health plays a supportive role, particularly in providing equipment and moral support, the Ministry of Finance does not yet guarantee the financial stability needed to sustain innovation.

From a managerial perspective, these findings underline the importance of investing in continuous training programs and participatory management approaches to reduce resistance to change and enhance employee attachment. Structurally, hospitals must seek partnerships and alternative funding strategies to overcome financial constraints, while public authorities, particularly the Ministry of Finance, should ensure more timely and reliable funding mechanisms. Strengthening collaboration between ministries and hospitals will be essential to create an enabling environment for innovation. In conclusion, innovation emerges as a decisive factor for the modernization of hospital management in Lebanon. By fostering communication, staff engagement, and financial support, governmental hospitals can improve not only their internal efficiency but also the quality of healthcare services provided to citizens.

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References

Aoun, N., & Tajvar, M. (2024). Healthcare delivery in Lebanon: a critical scoping review of strengths, weaknesses, opportunities, and threats. *BMC Health services research, 24*(1122), 1-12. doi:10.1186/s12913-024-11593-w

Coelho, F., Furtado, L., Tavares, M., & Sousa, J. (2025). A complex intervention to minimize medication error by nurses in intensive care: A case study. *Healthcare, 13*(66). doi:10.3390/healthcare13010066

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal, 34*(3), 555-590. doi:10.5465/256406

Devalan, J. (2017). Evolution of innovation: From creation to practical application. *Innovation and progress journal, 12*(3), 45-59.

Falvey, A. (2024). 52 hospitals and health systems with great innovation programs. *Becker's hospital review*. Retrieved 01 21, 2025, from https://www.beckershospitalreview.com/lists/51-hospital-and-health-systems-with-great-innovation-programs-2024

Gautier, M. (2023). Innovation in resource-constrained healthcare: The case of northen Lebanon government hospitals. *Journal of healthcare management, 35*(2), 130-145.

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: Systematic review and recommendations. *Milbank quarterly, 82*(4), 581-629. doi:10.1111/j.0887-378X.2004.00325.x

Halawani, J., & Mouawad, D. (2021). Implementation of e-health innovative technologies in North Lebanon hospitals. *Eastern mediterranean health journal, 27*(9), 892-898. doi:10.26719/EMHJ.21.030.

Herzlinger, R. (2006). Why innovation in health care is so hard. *Harvard business review, 84*(5), 58-66.

Humeau, S. (2024). Partipatory management as a catalyst for hospital innovation. *Journal of leadership in healthcare, 15*(1), 55-70.

Jaana, M., MacPhee, E., Sherrard, H., & Walker, M. (2024). Sustaining e-health innovations in a complex hospital environment: learning through evidence. *Frontiers in digital health, 6*. doi:10.3389/fdgth.2024.1346085

Jain, N. (2023). Transforming creative ideas into results: Innovation in healthcare management. *Healthcare management review, 38*(4), 200-215.

Kaplan, H., Brady, P., Dritz, M., Hooper, D., Linam, W., Froehle, C., & Margolis, P. (2014). The influence of context on quality improvement success in health care: A systematic review of the literature. *Milbank quarterly, 92*(4), 667-717. doi:10.1111/1468-0009.12088

Kosiol, J., Silvester, T., Cooper, H., Alford, S., & Fraser, L. (2024). Revolutionising health and social care: innovative solutions for a brighter tomorrow – a systematic review of the literature. *BMC Health services research, 24*(809), 1-15. doi:10.1186/s12913-024-11099-5

McGruier, M., Kolko, D., Aarons, G., Schachter, A., Klem, M., Diabes, M., . . . Wolk, C. (2024). Teamwork and implementation of innovations in healthcare and human service settings: a systematic review. *Implementation science, 19*(49), 1-19. doi:10.1186/s13012-024-01381-9

MOPH Lebanon. (2023). Lebanon National Health Strategy-Vision 2030. MOPH. Retrieved 11 15, 2024, from https://www.moph.gov.lb/userfiles/files/About%20MOPH/StrategicPlans/National-Health-Strategy%E2%80%93Vision2030/LHS_220124.pdf

Mrad, J., Fayad, N., & Zeine, H. (2025). Reevaluating the healthcare system in Lebanon in the light of economic crisis. *International journal of innovative research and scientific, 8*(2), 2551-2558. doi:10.53894/ijirss.v8i2.5735

Omagomi, T., Elufioye, O., Ogugua, J., Daraojimba, A., & Akomolafe, O. (2024). Innovations in hospital management: A review. *International medical science research journal, 4*(2), 224-234. doi:10.51594/imsrj.v4i2.820

Rillaerts, P. (2021). The evolving role of hospitals inptatien care coordination. *Healthcare systems journal, 22*(6), 85-100.

Rogers, E. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Sanayeh, E., & Chamieh, C. (2023). The fragile healthcare system in Lebanon: Sounding the alarm about its possibl collapse. *Health economics review, 13*(21). doi:10.1186/s13561-023-00435-w

Tedisel, V. (2023). Technological innovation and quality improvement in hospital care. *Medical technology today, 40*(5), 220-235.

Tufael, M., & Atiqur Rahman Sunny, A. (2022). Enhancing patient outcomes through innovative hospital management practices. *Journal of Primeasia, 3*(1), 1-8. doi:10.25163/primeasia.319820

Turgay, S., & Ozcelik, O. (2023). data-driven approaches to hospital capacity planning and management. *Information and knowledge management, 4*(4), 6-14. doi:10.23977/infkm.2023.040202

Van Zyl-Cilié, M., Van Dun, D., & Meijer, H. (2024). Toward a roadmap for sustainable lean adoption in hospitals: a Delphi study. *BMC Health service s research, 24*(1088). doi:10.1186/s12913-024-11529-4