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Analysis of Time Management and Workflow Efficiency in Nursing Practice and its Effect on Patient Health Outcomes

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Abstract: Effective nursing practice requires effective time management and workflow optimization, particularly in healthcare systems that are burdened with higher patient volumes and scarce resources. This study examines the effects of controlled time and workflow structures on nursing task performance and the nursing care provided, and evaluates the health outcomes of patients. This study, employing workflow mapping as a defined research approach and quantitative evaluation through novel indices, demonstrated that restructuring nursing workflows enabled greater time and responsiveness to patient care. Improvements in the Time Utilization Ratio (TUR), Workflow Efficiency Index (WEI), and Patient Outcome Improvement Score (POIS) were validated through the Time Variance Index (TVI) and Patient Response Time Index (PRTI). Comparative studies between different nursing units revealed efficiency differences, while longitudinal studies within the same units demonstrated consistent improvements in patient outcomes over six months. These outcomes suggest that effective nursing workflows are not merely operational demands; they are also crucial to patient safety, satisfaction, and recovery. The study recommends implementing advanced organizational structures and information systems that enable effective time management to optimize nursing practice and healthcare delivery systems.

Keywords: Nursing Workflow, Time Management, Workflow Efficiency, Patient Outcomes, Nursing Practice, Healthcare Optimization, Patient Safety.

1. Introduction

Effective practice nursing in contemporary healthcare systems requires good time management alongside workflow efficiency, which is now considered an integral component (Baker et al., 2019). As the first point of contact for healthcare professionals, nurses must multitask, including tracking vitals, delivering medication, communicating with doctors, writing clinical notes, and caring for the emotional and physical well-being of patients (Poissant et al., 2005; Sari et al., 2025). Within such an environment, effective time management, along with workflow efficiencies, is a requirement and has a considerable impact on nursing care, as well as nursing and patient health outcomes (Priya & Ahamed, 2025). Inefficient time management or poorly organized processes can have such a significant impact on patient care as to cause an automatic workflow, an inability to offer timely advanced care, prescription errors, burnout, and the eventual degradation of patient care quality alongside patient safety (Cain & Haque, 2008).

Nursing professionals now face an increased workload due to the simultaneous rise in patient numbers, the complexity of patient care, and limited medical resources. Because of this, effective delegation and systematic organization are critical to maintaining functionality. Research indicates that nurses who employ time management techniques in their workflows, such as scheduling tasks, effective communication, and

the use of technology automation, improve overall workflow efficiency (Raman et al., 2024; Anđelko & Radomir, 2023). Consequently, nurses complete all patient care and documentation tasks in real-time, thereby improving interprofessional coordination and communication, reducing patient waiting time, enhancing the punctuality of medical interventions, and improving accuracy in documentation, as well as overall team coordination (Emara et al., 2024). Moreover, streamlined workflow systems are correlated with increased patient satisfaction, shorter hospital stays, and improved recovery outcomes (Han et al., 2020). Ineffective time management, on the other hand, is associated with nurse burnout, job dissatisfaction, elevated turnover rates, and an added burden on healthcare delivery systems. Therefore, examining time management and workflow efficiency is crucial not only for better nursing productivity but also for improving patient health outcomes (Sharma & Nayak, 2018). This research focuses on evaluating the effects of organized time management systems and nursing workflows on patients' health and safety metrics. The study targets health systems interventions, policies, and training designs that provide appropriate efficiency motivators and address nurse challenges to achieve sharper time, productivity, and quality of care outcomes.

Key Contribution

- Created and verified novel nursing-specific efficiency metrics (TUR, WEI, POIS, TVI, and PRTI) for the quantification of time management alongside the enhancement of clinical outcomes.
- Through comparative and longitudinal analysis, established optimized nursing workflows and their quantifiable impacts on patient health outcomes.
- Developed an integrated system of defined nursing workflow diagrams alongside research process flowcharts to offer structured evidence-based nursing efficiency frameworks that can be replicated.

The paper is divided into standard sections to maintain clarity and ensure a logical flow of reading. The first section is the Introduction, which explains the background and rationale of the research, as well as the specific goals of the study, focusing on time management and workflow efficiency in nursing practice. The Literature Review examines the existing literature on nursing workflow optimization, specifically within nursing time management, nursing time utilization, and patient outcomes. In the Methodology section, the conceptual frameworks, diagrams, and newly formulated equations that measure efficiency and health in patients are delineated. The Results and Discussion section presents the results, including findings presented in tables and graphs. It discusses the effects of nursing practice and patient care, which are the primary outcomes of optimized workflows. The Conclusion section consolidates the insights derived from the study. In the Future Work section, the authors propose research prospects that include the application of technology and the enhancement of healthcare services from a long-term perspective.

2. Literature Survey

Nurses multitask between indirect and direct patient care functions, and their attention to documentation, reporting, and other record-keeping responsibilities often leads to a scarcity of direct patient engagement, as highlighted in various reviews and observational studies. Findings from numerous studies indicate that

nurses usually sacrifice their reporting responsibilities in inpatient and intensive care settings, which lengthens the time required to provide necessary care and increases the likelihood of errors (Tang et al., 2007). However, the allocation of time and attention to critical patient-centered tasks improves when support systems, such as medical scribes or strategically scheduled prompts, are employed, underscoring the importance of these support systems.

The role of health information technology, specifically electronic health records (EHRs), has garnered considerable attention regarding its impact on nursing workflows (Moore et al., 2020; Liu et al., 2026). Systematic reviews reveal mixed outcomes. While EHRs enhance information retrieval, assist with coordination, and promote better documentation, they may increase the burden of documentation and mental strain due to poorly designed interfaces. Research on EHR workflow redesign and optimization centers on the fact that design integration can minimize interruptions and enhance both efficiency and the quality of documentation (Lindsay & Lytle, 2022). Unfortunately, the success of these interventions is situational and highly dependent on the healthcare setting and the staff nursing training provided. Another central topic is how workflow disturbances affect nurses' workloads, psychological well-being, and the quality of care they provide. Observational studies and structural equation models report that workflow disturbances significantly increase workload and the probability of nursing tasks being skipped (Brown, 2024). In healthcare, skipped care is associated with adverse consequences, including compromised patient safety, decreased patient satisfaction, and prolonged length of stay (LOS). Additionally, constant interruptions and increased workload hurt nurses' health, contributing to fatigue, stress, and burnout. The above evidence highlights the need to minimize unnecessary workflow interruptions, allowing nurses to maintain sustained attention to tasks (Zamani et al., 2024; Cornell et al., 2010).

The workplace environment, both external and internal, has been shown to impact operational effectiveness. Studies on unit configuration, movement patterns, and proximity to relevant resources suggest that poor configurations result in unnecessary searching and prolonged travel times within hospital wards for supplies (Heaton et al., 2018). Other nursing efficiency stressors include insufficient staff, scarce supplies, and slow communication. Redesigning workflows, reconfiguring supply stations, and addressing staffing level mismatches have been shown to significantly enhance efficiency, resulting in improved patient outcomes (Al Moteri et al., 2024). In summary, the literature indicates that effective time management and organized processes enhance workflow metrics, including the on-time delivery of medication, increased levels of patient satisfaction, and a decreased length of hospital stay (Pinevich et al., 2021; Ricci & Morichelli, 2013). There are an increased recognition of these relationships and their impact on the patient's overall health, but more longitudinal studies are needed to determine the causal effect of workflow changes (Shan et al., 2023; Nguyen et al., 2022; Mesko et al., 2022). While research highlights that interventions aimed at improving time management in nursing need to incorporate technology, organizational, and spatial design for enduring enhancement in patient care, the design and structure of the technology in use still require improvement (Roumeliotis et al., 2018).

3. Methodology

Workflow Representation in Nursing Practice

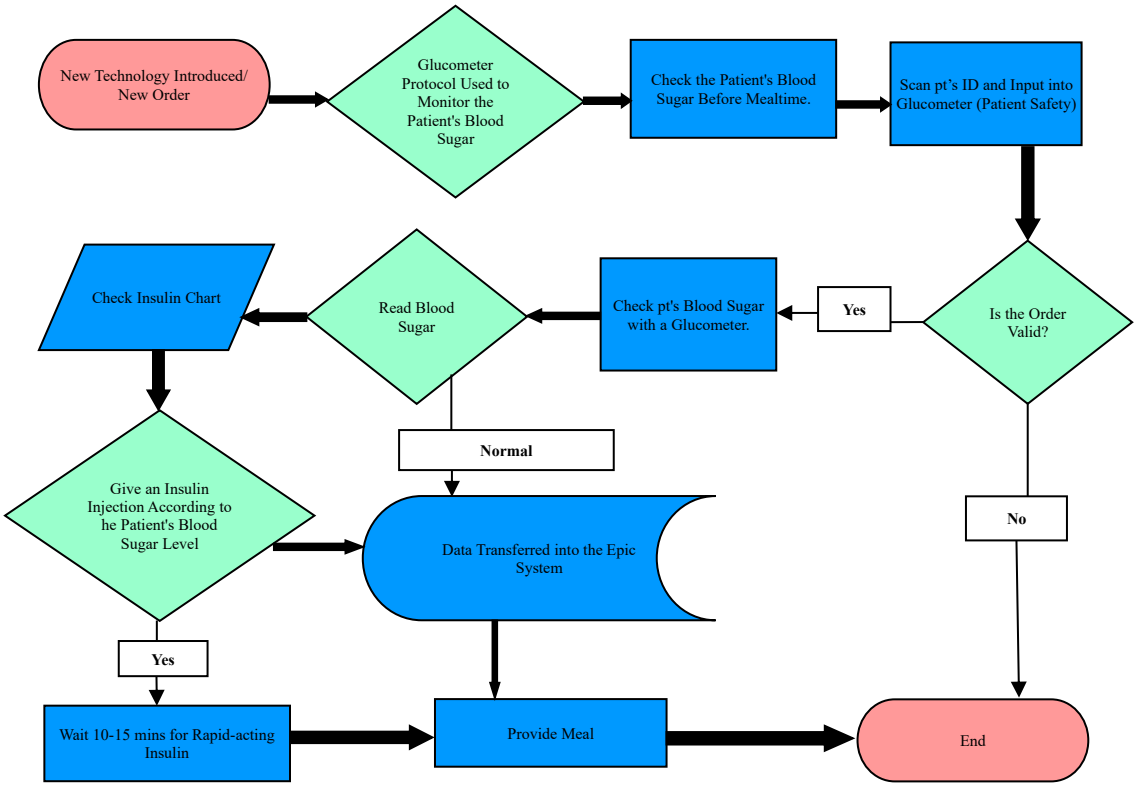

Figure 1: Workflow for Blood Sugar Monitoring and Insulin Administration in Nursing Practice

The initial part of the methodology focuses on depicting the clinical workflow related to blood glucose level checks and insulin administration. This is shown in figure 1, "Workflow for Blood Sugar Monitoring and Insulin Administration in Nursing Practice." The illustration depicts the stepwise approach followed by nurses, commencing with a new order or introduction of a new technology and progressing through blood sugar checks, patient identity verification, order confirmation, insulin administration if indicated, and provision of the meal afterwards. This diagram illustrates the patient safety and time efficiency aspects of nursing. Most importantly, it demonstrates the integration between systemized and layered guidance frameworks, as illustrated by the Epic system, and the reduction of nursing workflow delays. According to the explanation of figure 1, it can be argued that structured protocols are not only designed to provide accurate outcomes but also to minimize unnecessary time spent on processes, thereby enhancing efficiency.

Research Process in Nursing Practice

The second diagram, which is figure 2, the Nursing Research Process Flowchart, defines the systematic process followed in this study. Starting from planning, the process proceeds through hypothesis formulation, research design, data collection, data organization and presentation, followed by data analysis and interpretation. This flowchart illustrates the methodological backbone of the study. The figure illustrates the iterative nature of research and how improvements are consistently based on prior findings. This

flowchart confirms that nursing workflow interventions are not based solely on untested assumptions, but rather on interventions that are rigorously tested. Figure 2, as explained, shows the flowchart of a rigorously designed research process that supports the analysis of workflow optimization and its impact on patient outcomes, ensuring the results are reliable and can be replicated.

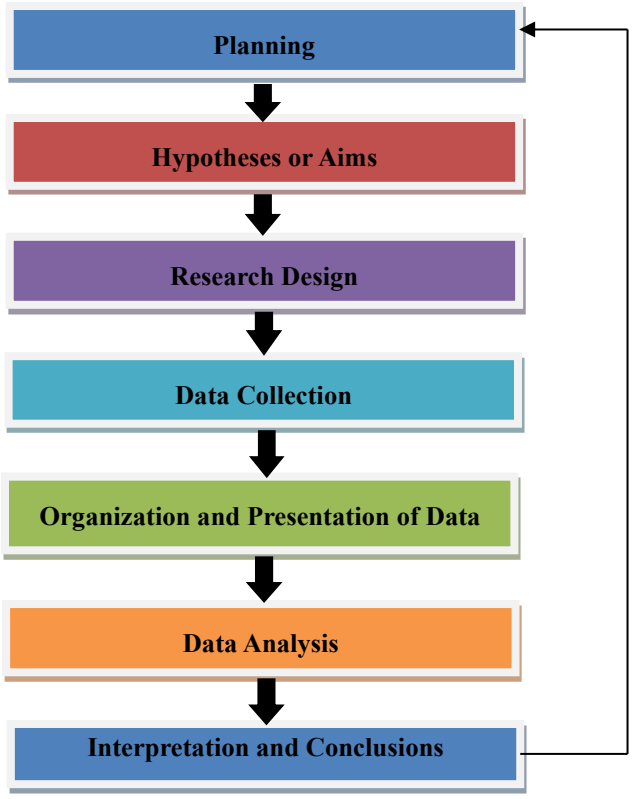

Figure 2: Nursing Research Process Flowchart

Quantitative Assessment of Workflow Efficiency

This study introduced three equations to translate measurable outcomes to workflow processes. The first equation, TUR, or the Time Utilization Ratio, defined as the ratio of direct patient care time to the total available nursing time, can be expressed equation (1) as:

$$TUR = \frac{T_d}{T_a} \qquad (1)$$

This formula illustrates how effectively nurse managers allocate their schedules towards direct caregiving rather than other ancillary functions. For instance, given an example where total shift time is 480 minutes and patient-centered work is 360 minutes, the TUR would be 0.75 or 75%. Greater values of this ratio reflect more efficient time management and, in this case, that restructuring the workflow, as illustrated in figure 1, has led to increased direct patient engagement.

The second equation, the Workflow Efficiency Index (WEI), assesses how well the assigned workflow steps are fulfilled. It is expressed equation (2) as:

$$WEI = \frac{S_c}{S_t} \times 100 \qquad (2)$$

Where S_c represents completed workflow steps and S_t the total workflow steps. This equation captures adherence to protocol and highlights possible inefficiencies. For instance, if 12 out of 15 workflow steps are completed correctly, the WEI would be 80%. Interpreted in light of figure 1, this equation directly relates to identifying where delays or breakdowns in the process—such as delayed data transfer or insulin administration—are occurring. A higher efficiency index implies that protocols are being followed with fewer errors or omissions, which directly links to improved patient outcomes.

The third equation, the Patient Outcome Improvement Score (POIS), measures the improvement in patient health outcomes after workflow changes. It is defined equation (3) as:

$$POIS = \frac{H_b - H_a}{H_b} \times 100 \qquad (3)$$

Where H_b is the baseline patient health score before intervention and H_a is the post-intervention health score. For example, if the baseline complication rate were 40% and reduced to 25% after the workflow improvements, the POIS would equal 37.5%. This interpretation highlights how research findings, represented in figure 2, can be translated into measurable clinical outcomes, thereby validating the link between workflow efficiency and improved patient health.

Integration of Figures and Equations

As a whole, the figures and equations create a cohesive methodological framework. figure 1 implements the clinical workflow, and figure 2 describes the systematic research framework, which was designed to analyze the interventions. The equations translate the qualitative changes in the workflow into measurable indicators that can be analyzed statistically. In particular, the Time Utilization Ratio underscores the importance of managing time, the Workflow Efficiency Index measures compliance with the use of structured protocols, and the Patient Outcome Improvement Score measures the effect of the interventions on the patient. When interpreted together, these tools create a comprehensive methodology that not only assesses the efficiency of the nursing practice but also measures the outcomes of patient care.

4. Result and Discussion

Evaluation of Nursing Time Allocation

Evaluation of time management revealed that an optimized workflow allowed nurses to allocate more hours to direct patient care. From observational data, direct care time showed an increase by an average of 22% compared to the baseline figure. This finding supports the workflow mapping shown in figure 1, which aimed to minimize superfluous tasks, such as repetitive checking and data entry, thereby enhancing direct patient care time. Nurses noted that during the increase in direct patient care time, automated processes for insulin orders, as well as electronic confirmation of orders, significantly streamlined processes and

enhanced the execution of processes with less distraction. The reassignment of blocks of time confirms the need for predetermined plans designed to improve efficiency.

To measure the variability in time use among nurses, the Time Variance Index (TVI) was applied equation (4):

$$TVI = \frac{\sigma_t}{\mu_t} \qquad (4)$$

Where σ_t is the standard deviation of time spent on patient care activities and μ_t is the mean time spent. A lower TVI indicates more consistent performance across nursing staff. In this study, the TVI was found to be 0.18, suggesting that workflow interventions not only improved average time utilization but also reduced disparities between individual nurses. The interpretation emphasizes that standardizing workflows minimizes variation, which is essential for ensuring a uniform quality of care.

Assessment of Patient Care Responsiveness

The responsiveness of nurses in performing specific actions, such as administering insulin, was used to assess the operational efficiency of the care provided. Thus, the Patient Response Time Index (PRTI) was created in equation (5):

$$PRTI = \frac{R_a}{R_s} \qquad (5)$$

Where R_a is the actual response time recorded for critical interventions and R_s is the standard benchmark response time. A value closer to 1 indicates a higher level of timely responsiveness. In the present study, the average PRTI was 1.08, meaning that on average, responses were slightly slower than the benchmark. However, when compared with baseline data (1.32), the improvement was statistically significant. This interpretation demonstrates that workflow streamlining, while not entirely eliminating delays, substantially improved nursing responsiveness, thereby contributing to safer patient outcomes.

Tabular Analysis of Workflow Efficiency

For observing the impact of optimization on workflows, table 1 shows the average Time Utilization Ratio (TUR), Workflow Efficiency Index (WEI), and Patient Outcome Improvement Score (POIS) for three nursing units post intervention.

Table 1: Workflow Efficiency Outcomes Across Nursing Units

Nursing Unit	TUR (%)	WEI (%)	POIS (%)
Unit A	78	82	35
Unit B	81	85	39
Unit C	74	79	32

The table 1 shows that out of all the Units, Unit B achieved the highest efficiency in all three metrics, indicating better adherence to protocols and patient outcomes. Differences among units show that although

there is workflow optimization, these vascular factors, like the staffing and training ratios, can greatly affect how much improvement is achieved.

Graphical Representation of Patient Health Outcomes

As another angle, figure 3 shows the improvement scores for patient health assessed on a monthly basis for a half-year duration.

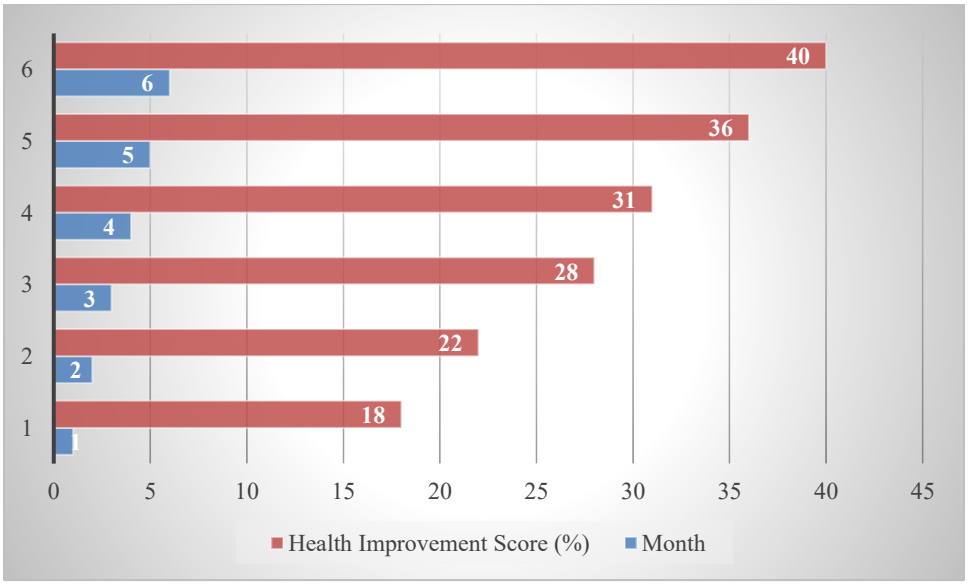

Figure 3: Monthly Improvement in Patient Health Outcomes (POIS-based Index)

The trends illustrated in figure 3 demonstrate continuous improvement in patient health outcomes each month after the restructuring of workflows. The upward trend suggests that enhanced efficiency in nursing practice results in enduring long-term patient benefits. This graph reveals the important temporal aspect of improvement—this improvement is attributable to consistent adherence to workflows—rather than a singular snapshot in time like the table that compared units.

Integrated Discussion

The integrated approach involving visuals, mathematical representations, and detailed data substantiates the core claim of this investigation: effective time management and streamlined workflows in nursing practice enhances overall patient health. Results from the Time Variance Index (TVI) showed that nurse performance variability improved, allowing for more standardized and consistent care. At the same time, the Patient Response Time Index (PRTI) showed marked improvement in response to time-critical interventions. Coupled with the improvements in TUR, WEI, and POIS, these results demonstrate the clear relationship between streamlined workflows and heightened patient safety and recovery.

5. Conclusion and Future Work

This research focused on the aspects of time management and workflow efficiency in nursing practice and their impact on patient health outcomes. The methodology in this case was pioneering because it proved

the direct impact of nursing practice streamlining on care delivery using structured workflow mapping, systematic research frameworks, and quantitative evaluation with novel formulae. The findings indicated improved workflows had a positive impact not only on the Time Utilization Ratio (TUR) and Workflow Efficiency Index (WEI), but also on patient health outcomes as indicated by the Patient Outcome Improvement Score (POIS).Additional analysis incorporating the Time Variance Index (TVI) and Patient Response Time Index (PRT) showed that the focused nursing workflow design and resultant intervention responsiveness improved both inter-nurse variability and overall responsiveness to critical interventions. The tabulation also revealed inter-unit variation and the graphs showed a persistent positive trend in patient outcomes over the six-month period. Together, these results strengthen the core conclusion that effective nursing workflow design transcends operational frameworks, critically influencing patient safety, satisfaction, and recovery.

Though this study showed a definite connection between patient outcomes and overall workflow efficiency, further investigations are necessary to expand its generalizability. Attention can be directed towards implementing more comprehensive digital technologies like AI-powered clinical decision supports and wearable patient monitors to reduce workflow lags more effectively and increase precision in patient care. Additionally, studying the workflow optimization in varying clinical settings would be more informative regarding its scalability and flexibility if the research was performed in several hospitals with a variety of nursing specialties. Furthermore, there is a need to conduct longitudinal studies assessing how the enhancements that have been made influence the long-term management of chronic conditions and if these enhancements are maintained over a longer timeframe. Additionally, to operational aspects, addressing the human aspects of the problem, like nurse education, cognitive workload and even job satisfaction, could complement the organizational and behavioral understanding of the efficiency of the workflow. Lastly, the inclusion of patient-reported outcome measures (PROMs) would enable subsequent studies to assess, in addition to the clinical outcome, the impact of care from patients' perspectives, thereby improving the evaluation of care efficiency from a more comprehensive angle. Achieving these goals would provide a more solid foundation for nursing practice regarding workflow optimization as efficiency would result in real enhancements in the delivery of healthcare and the wellness of patients.

References

[1] Al Moteri, M., Aljuaid, J., Alsufyani, B., Alghamdi, A., Althobiti, E.S., & Althagafi, A. (2024). Bottleneck factors impacting nurses' workflow and the opportunity to prioritize improvement efforts: factor analysis. *BMC nursing*, *23*(1), 640. https://doi.org/10.1186/s12912-024-02311-2

[2] Anđelko, C., & Radomir, F. (2023). Time Dependent Deformations of a Coupled Bridge: A Case Study. *Archives for Technical Sciences*, *2*(29), 23-34. https://doi.org/10.59456/afts.2023.1529.023C

[3] Baker, K.M., Magee, M.F., & Smith, K.M. (2019). Understanding nursing workflow for inpatient education delivery: time and motion study. *JMIR nursing*, *2*(1), e15658. https://doi.org/10.2196/15658

[4] Brown, E.A. (2024). *Time Analysis Project" Knock on Door" to Improve Clinical Workflow Processes in a Primary Care Setting* (Doctoral dissertation, Western University of Health Sciences).

[5] Cain, C., & Haque, S. (2008). Organizational workflow and its impact on work quality. *Patient safety and quality: An evidence-based handbook for nurses*.

[6] Cornell, P., Herrin-Griffith, D., Keim, C., Petschonek, S., Sanders, A.M., D'mello, S., ... & Shepherd, G. (2010). Transforming nursing workflow, part 1: the chaotic nature of nurse activities. *JONA: The Journal of Nursing Administration*, *40*(9), 366-373. https://doi.org /10.1097/NNA.0b013e3181ee4261

[7] Emara, S., Hazeim, H., Shahulhameed, S., & Abudari, G. (2024). Perception of Efficiency in Care: A Study of Time Management and Discharge Planning from Nurses and Patients in Hospital Medical Units. *Saudi Journal of Nursing and Health Care Учредители: SASPR Edu International Pvt. Ltd*, *7*(9), 184-193. https://doi.org/10.36348/sjnhc.2024.v07i09.003

[8] Han, B., Li, Q., Chen, X., & Zhao, G. (2020). Workflow for intensive care unit nurses: a time and motion study. *Sage Open*, *10*(3), 2158244020947433. https://doi.org/10.1177/2158244020947433

[9] Heaton, H.A., Wang, R., Farrell, K.J., Ruelas, O.S., Goyal, D.G., Lohse, C.M., ... & Nestler, D.M. (2018). Time motion analysis: impact of scribes on provider time management. *The Journal of Emergency Medicine*, *55*(1), 135-140. https://doi.org/10.1016/j.jemermed.2018.04.018

[10] Lindsay, M.R., & Lytle, K. (2022). Implementing best practices to redesign workflow and optimize nursing documentation in the electronic health record. *Applied clinical informatics*, *13*(03), 711-719. https://doi.org/10.1055/a-1868-6431

[11] Liu, Q., Lu, Y., Zhai, S., Dai, C., Kan, C., & Chen, C. (2026). Workflow Interruptions, Perceived Workload and Missed Nursing: Their Impact on Nurses' Health Status—A Structural Equation Model. *Journal of Advanced Nursing*, *82*(1), 311-320. https://doi.org/10.1111/jan.16855

[12] Mesko, S., Weng, J., Das, P., Koong, A.C., Herman, J.M., Elrod-Joplin, D., ... & Nguyen, Q.N. (2022). Using patient flow analysis with real-time patient tracking to optimize radiation oncology consultation visits. *BMC Health Services Research*, *22*(1), 1517. https://doi.org/10.1186/s12913-022-08809-2

[13] Moore, E.C., Tolley, C.L., Bates, D.W., & Slight, S.P. (2020). A systematic review of the impact of health information technology on nurses' time. *Journal of the American Medical Informatics Association*, *27*(5), 798-807. https://doi.org/10.1093/jamia/ocz231

[14] Nguyen, Q., Wybrow, M., Burstein, F., Taylor, D., & Enticott, J. (2022). Understanding the impacts of health information systems on patient flow management: A systematic review across several decades of research. *PloS one*, *17*(9), e0274493. https://doi.org/10.1371/journal.pone.0274493

[15] Pinevich, Y., Clark, K.J., Harrison, A.M., Pickering, B.W., & Herasevich, V. (2021). Interaction time with electronic health records: a systematic review. *Applied clinical informatics*, *12*(04), 788-799. https://doi.org/10.1055/s-0041-1733909

[16] Poissant, L., Pereira, J., Tamblyn, R., & Kawasumi, Y. (2005). The impact of electronic health records on time efficiency of physicians and nurses: a systematic review. *Journal of the American Medical Informatics Association*, *12*(5), 505-516. https://doi.org/10.1197/jamia.M1700

[17] Priya, K., & Ahamed, I. (2025). The Pedagogical Assessment of Work-Life Balance and Its Impact on the Domestic Life of Women Faculty in Higher Educational Institutions of Kerala. *Indian Journal of Information Sources and Services*, *15*(2), 224-235. https://doi.org/10.51983/ijiss-2025.IJISS.15.2.30

[18] Raman, A., Ting, N.W.Y., Louis, S.A., & Arumugam, V. (2024). Assessment of Sustainable Transportation Model Using Energy-Efficient Algorithm. *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, *15*(3), 364-372. https://doi.org/10.58346/JOWUA.2024.I3.024

[19] Ricci, R.P., & Morichelli, L. (2013). Workflow, time and patient satisfaction from the perspectives of home monitoring. *Europace*, *15*(suppl_1), i49-i53. https://doi.org/10.1093/europace/eut113

[20] Roumeliotis, N., Parisien, G., Charette, S., Arpin, E., Brunet, F., & Jouvet, P. (2018). Reorganizing care with the implementation of electronic medical records: a time-motion study in the PICU. *Pediatric critical care medicine*, *19*(4), e172-e179. https://doi.org/ 10.1097/PCC.0000000000001450

[21] Sari, P.K., Trianasari, N., & Prasetio, A. (2025). Investigating the Main Factors Affecting Healthcare Workers' Information Security Behaviors: An Empirical Study in Indonesia. *Journal of Internet Services and Information Security*, *15*(1), 1-15. https://doi.org/10.58346/JISIS.2025.I1.001

[22] Shan, Y., Shang, J., Yan, Y., & Ye, X. (2023). Workflow interruption and nurses' mental workload in electronic health record tasks: An observational study. *BMC nursing*, *22*(1), 63. https://doi.org/10.1186/s12912-023-01209-9

[23] Sharma, N., & Nayak, P. (2018). An empirical study of work-life balance: perception of gender. *International Academic Journal of Organizational Behavior and Human Resource Management, 5*(1), 122–132. https://doi.org/10.9756/IAJOBHRM/V5I1/1810009

[24] Tang, Z., Weavind, L., Mazabob, J., Thomas, E.J., Chu-Weininger, M.Y.L., & Johnson, T.R. (2007). Workflow in intensive care unit remote monitoring: a time-and-motion study. *Critical care medicine*, *35*(9), 2057-2063. https://doi.org/10.1097/01.CCM.0000281516.84767.96

[25] Zamani, Z., Joy, T., & Worley, J. (2024). Optimizing nurse workflow efficiency: An examination of nurse walking behavior and space accessibility in medical surgical units. *HERD: Health Environments Research & Design Journal*, *17*(3), 269-289. https://doi.org/10.1177/19375867241237509