

# Innovation and Quality Improvement

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April 2024

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## 1. National Survey of Patient Safety Experiences in Hospital Medicine During the COVID-19 Pandemic

**Authors:** Carter, Danielle;Rosen, Amanda;Applebaum, Jo R.;Southern, William N.;Crossman, Daniel J.;Shelton, Rachel C.;Auerbach, Andrew;Schnipper, Jeffrey L. and Adelman, Jason S.

**Publication Date:** 2024

**Journal:** Joint Commission Journal on Quality & Patient Safety 50(4), pp. 260-268

**Abstract:** During the COVID-19 pandemic, hospitals were caring for increasing numbers of patients with a novel and highly contagious respiratory illness, forcing adaptations in care delivery. The objective of this study was to understand the impact of these adaptations on patient safety in hospital medicine. The authors conducted a nationwide survey to understand patient safety challenges experienced by hospital medicine clinicians during the COVID-19 pandemic. The survey was distributed to members of the Society of Hospital Medicine via an e-mail listserv. It consisted of closed- and open-ended questions to elicit respondents' experience in five domains: error reporting and communication, staffing, equipment, personal protective equipment (PPE) and isolation practices, and infrastructure. Quantitative questions were reported as counts and percentages; qualitative responses were coded and analyzed for relevant themes. Of 196 total responses, 167 respondents (85.2%) were attending physicians and 85 (43.8%) practiced at teaching hospitals. Safety concerns commonly identified included nursing shortages (71.0%), limiting patient interactions to conserve PPE (61.9%), and feeling that one was practicing in a more hazardous environment (61.4%). In free-text responses, clinicians described poor outcomes and patient decompensation due to provider and equipment shortages, as well as communication lapses and diagnostic errors resulting from decreased patient contact and the need to follow isolation protocols. Efforts made to accommodate shortages in staff and equipment, adapt to limited PPE, and enforce isolation policies had unintended consequences that affected patient safety and created a more hazardous environment characterized by less efficient care, respiratory decompensations, diagnostic errors, and poor communication with patients.

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## 2. Comparing hospital leadership and front-line workers' perceptions of patient safety culture: an unbalanced panel study

**Authors:** Forbes, Jayson and Arrieta, Alejandro

**Publication Date:** 2024

**Journal:** BMJ Leader

**Abstract:** Background/aim: This article examines the relationships between workers' hospital leadership status, hospital front-line status and patient safety culture in hospitals throughout the USA. By identifying possible disparities in perception, targeted interventions can aim at decreasing differences between the two groups to increase the quality of healthcare.; Method: Data from 1 739 083 individuals, spreading across 1810 hospitals between 2008 and 2017 were collected. 115 228 (6.63%) self-identified as leaders, and 772 505 (44.42%) self-identified as front-line workers. The participants also filled in information describing their demographics in reference to the hospital, such as how long they have worked at the facility, their working unit and their occupation.; Results: Results showed that leaders responded more positively to items that are directly related to management, such as 'my supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures' (0.33,  $p < 0.01$ ), where 0.33 signifies that leaders had an average response more positive by 0.33 compared with all other occupations on a Likert scale of 1-5. Based on multiple F-tests, all items have shown a statistical significance between leadership and front-line groups.; Conclusion: The findings highlight a compelling link between leadership roles and patient safety culture in hospitals, as well as between front-line worker status and patient safety culture. Moreover, a pronounced divergence in viewpoints regarding patient safety culture exists between hospital leaders and front-line staff. An in-depth investigation is necessary to comprehend the ramifications of these outcomes.;

### 3. Construction of A Smart Hospital Innovation Platform Using the Internet + Technology

**Authors:** Lin, Xiaoyi;Duan, Guangrong;Huang, Jian;Zhou, Quan;Huang, Huiyong;Xiao, Jianxiang;Xu, Zhifeng;Shen, Hongju and Zhuo, Hai

**Publication Date:** 2024

**Journal:** Alternative Therapies in Health and Medicine

**Abstract:** Objective: This study aims to investigate the practical application of "Internet + technology" leveraging medical big data to enhance the development of a smart hospital platform. Specifically, the focus is on optimizing patient care processes, refining medical data management systems, and enhancing operational efficiency within the hospital setting.; Methods: With the help of traditional Internet and mobile Internet technology, we analyzed the patient behavior big data accumulated in our hospital for many years, simplified the diagnosis and treatment links, refined the service connotation, and improved patient satisfaction before, during and after diagnosis; With the help of barcode, RFID and 5G networks, the links that are easy to produce medical security incidents can be monitored to improve medical quality, such as digital operating room system, establishment of multidisciplinary consultation center (MDT), electronic medical record system based on digital signature, etc.; Integrate the existing data of human resources, equipment and consumables, drugs, general supplies and finance, establish the hospital ERP system, introduce BI, and realize the dynamic monitoring of revenue and cost; Artificial intelligence technologies such as natural language processing (NLP) and machine learning are used to extract, clean, transform and analyze a large number of hospital medical information data to form a medical data platform, which can assist the hospital knowledge base to be applied in diagnosis and treatment, clinical research, clinical medicine, clinical medicine and other fields. The effectiveness of these technologies was assessed through a comprehensive analysis of their impact on patient care processes, medical data management, and overall operational efficiency within the hospital setting.; Results: The study yielded significant outcomes across three critical domains. Firstly, in patient care, the implementation of expanded mobile medical services, mobile applications for records and rounds, and the establishment of digital signature-based records and intelligent surgical assistance enhanced accessibility and quality of care. Secondly, operational efficiency was notably improved through the integration of ERP and BI systems, streamlining resource management and surgical procedures. Lastly, advancements in data management, including the development of a medical data platform and the deployment of AI technologies, facilitated efficient analysis and utilization of clinical data. Quantitatively, reductions in patient visit time and medical costs were observed, alongside improved diagnostic accuracy facilitated by comprehensive records. These findings collectively underscore the transformative impact of "Internet + technology" integration on hospital operations and patient outcomes.; Conclusion: The integration of "Internet + technology" in a smart hospital setting has demonstrated numerous benefits. This study has revealed novel findings regarding the tangible improvements in patient outcomes and hospital efficiency resulting from technology integration. Specifically, the implementation of mobile medical services, digital records, and AI-driven systems has led to significant reductions in patient visit times and medical costs. Moreover, the streamlining of operational processes through ERP and BI systems has enhanced resource management and surgical procedures. These findings underscore the transformative potential of technology in revolutionizing healthcare delivery, ultimately leading to better patient care and operational effectiveness in smart hospital environments.

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### 4. Safety incident reporting and barriers (SIRaB) study: Strategies and approaches for investigating patient safety events in a hospital set-up

**Authors:** Mukherjee, Shatavisa;Roy, Siddhartha and Era, Nikhil

**Publication Date:** 2024

**Journal:** Journal of Evaluation in Clinical Practice

**Abstract:** Background: Unsafe patient events not only entail a clinical impact but also lead to economic burden in terms of prolonged hospitalization or unintended harm and delay in care delivery. Monitoring and time-bound investigation of patient safety events (PSEs) is of paramount importance in a healthcare set-up.; Objectives: To explore the safety incident reporting behaviour and the barriers in a hospital set-up.; Methods: The study had two sections: (a) Retrospective assessment of all safety incidents in the past 1 year, and (b) Understanding the barriers of safety reporting by interviewing the major stakeholders in patient safety reporting framework. Further root cause analysis and failure mode effect analysis were performed for the situation observed. Results were statistically analyzed.; Results: Of the total of 106 PSEs reported voluntarily to the system, the highest reporting functional group was that of nurses (40.57%), followed by physicians (18.87%) and pharmacists (17.92%). Among the various factors identified as barriers in safety incident reporting, fear of litigation was the most observed component. The most commonly observed event was those pertaining to medication management, followed by diagnostic delay. Glitches in healthcare delivery accounted for 8.73% of the total reported PSEs, followed by 5.72% of events occurring due to inter-stakeholder communication errors. 4.22% of the PSEs were attributed to organizational managerial dysfunctionalities. Majority of medication-related PSE has moderate risk prioritization gradation.; Conclusion: Effective training and sensitization regarding the need to report the patient unsafe incidents or near misses to the healthcare system can help avert many untoward experiences. The notion of 'No Blame No Shame' should be well inculcated within the minds of each hospital unit such that even if an error occurs, its prompt reporting does not get harmed. (© 2024 John Wiley & Sons Ltd.)

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## 5. The PRO-HOME Project. A multicomponent intervention for the protected discharge from the hospital of multimorbid and polytreated older individuals by using innovative technologies: A pilot study

**Authors:** Pilotto, Alberto;Volta, Erica;Barbagelata, Marina;Argusti, Alessandra;Camurri, Antonio;Casiddu, Niccolò;Berutti-Bergotto, Carlo;Custodero, Carlo and Cella, Alberto

**Publication Date:** 2024

**Journal:** Health Expectations 27(1), pp. 1-10

**Abstract:** Background: Discharge planning from the hospital of frail older patients is an important step to avoid inappropriate long-stay hospitalizations and to prevent the risks related to the prolonged hospitalization. In this frame, we developed an experimental trial—'PRO-HOME', a multicomponent programme of interventions for multimorbid and polytreated hospitalized older patients. Aim: The main aim of the study was to develop a protected discharge facility using a mini apartment equipped with advanced architectural and technological components to reduce the length of hospital stay of older participants (aged 65+ years old) admitted to the hospital for an acute event, deemed stable and dischargeable. Materials and Methods: This is a pilot randomized controlled study, comparing 30 hospitalized participants included in a multidimensional, transitional care programme based on information and communication technologies to 30 patients in standard usual care until hospital discharge. Results: We presented the study design of the PRO-HOME programme, including architectural and technological components, the enrolment procedures, the components of the intervention that is physical activity, cognitive training and life-style education and the evaluation method of the intervention based on the Comprehensive Geriatric Assessment to explore the changes in the individual domains that are target of the multicomponent intervention. Conclusions: The final results will suggest whether the PRO-HOME programme represents a useful and feasible intervention to reduce the length of hospital stay of multimorbid and polytreated hospitalized older patients and improve their physical and cognitive performances and overall quality of life. Patient or Public Contribution: Due to the characteristics of the population of interest of the PRO-HOME study, we involved in the study design and programme of the activities the participants enrolled in a previous smart home-based project named MoDiPro carried-out during a 3-year period. The elderly participants from the local population involved were asked, by means of focus groups, for feedback on their

experience in MoDiPro, and their suggestions were integrated into the design phase of the current PRO-HOME project. The focus groups included open group interviews with a qualitative collection of the patients' feedback so that the participants could interact with each other.

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## **6. Impact of short-notice accreditation assessments on hospitals' patient safety and quality culture-A scoping review: A scoping review of the current literature to understand the impact of short-notice accreditation processes on health service organizations patient safety and quality culture**

**Authors:** Scanlan, Robyn;Flenady, Tracy and Judd, Jenni

**Publication Date:** 2024

**Journal:** Journal of Advanced Nursing

**Abstract:** Aim: To explore the published evidence describing the impact of short-notice accreditation assessments on hospitals' patient safety and quality culture.; Design: Arksey and O'Malley (2005)'s scoping study framework and Preferred Reporting Items for Systematic Reviews and Meta-Analysis Extension for Scoping reviews (PRISMA-ScR).; Methods: A scoping review was conducted to identify papers that provided an evaluation of short-notice accreditation processes. All reviewers independently reviewed included papers and thematic analysis methods were used to understand the data.; Data Sources: PubMed/MEDLINE, CINAHL, and ProQuest databases were searched to identify papers published after 2000.; Results: Totally, 3317 records were initially identified with 64 full-text studies screened by the reviewers. Five studies were deemed to meet this scoping review's inclusion criteria. All five studies reported variable evidence on the validity of health service or hospital accreditation processes and only three considered the concept of patient safety and quality culture in the context of accreditation. None of the five included studies report the impact of a short-notice accreditation process on a hospital's patient safety and quality culture.; Conclusions: Limited evidence exists to report on the effectiveness of hospital short-notice accreditation models. No study has been undertaken to understand the impact of short-notice accreditation on patient safety and quality cultures within hospital settings.; Implications for the Profession And/or Patient Care: Understanding this topic will support improved hospital quality, safety, policy, and governance.; Impact: To provide an understanding of the current knowledge base of short-notice accreditation models and its impact on hospital patient safety and quality culture.; Reporting Methods: PRISMA reporting guidelines have been adhered to.; Patient or Public Contribution: No patient or public contribution. (© 2024 The Authors. Journal of Advanced Nursing published by John Wiley & Sons Ltd.)

### **Sources Used:**

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