



Feature Review

Open Access

Nursing-Sensitive Indicators and Quality Improvement for Inpatient Adverse Events Among Older Patients

Leiming Shen ^{1*}, Mingzi Huang ^{2*}, Yeli Huang ³ ¹ Jingbei Medical Area, Chinese People's Liberation Army General Hospital, Haidian, 100094, Beijing, China² Liuliquiao Outpatient Department, Jingnan Medical Area, Chinese People's Liberation Army General Hospital, Southern Medical Branch of Chinese PLA General Hospital, Haidian, 100039, Beijing, China³ The Sixth Medical Center, Chinese People's Liberation Army General Hospital, Haidian, 100048, Beijing, China

*These authors contributed equally to this work

 Corresponding author: huangyeli88@163.comInternational Journal of Clinical Case Reports 2026, Vol.16, No.2 doi: [10.5376/ijccr.2026.16.0007](https://doi.org/10.5376/ijccr.2026.16.0007)

Received: 20 Jan., 2026

Accepted: 28 Feb., 2026

Published: 08 Mar., 2026

Copyright © 2026 Shen et al., This is an open access article published under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.**Preferred citation for this article:**Shen L.M., Huang M.Z., and Huang Y.L., 2026, Nursing-sensitive indicators and quality improvement for inpatient adverse events among older patients, International Journal of Clinical Case Reports, 16(2): 66-83 (doi: [10.5376/ijccr.2026.16.0007](https://doi.org/10.5376/ijccr.2026.16.0007))

Abstract With the rapid aging of the population, older adults have become a major proportion of hospitalized patients, and their risk of experiencing adverse events during hospitalization is significantly higher than that of other age groups. Adverse events such as falls, pressure injuries, infections, delirium, and medication-related harm not only threaten patient safety but also contribute to prolonged hospital stays, functional decline, and increased mortality, with a substantial proportion considered preventable. Nursing care plays a critical role in both the occurrence and prevention of these events. Nursing-sensitive indicators (NSIs), which reflect changes in patient outcomes influenced by nursing structures, processes, and interventions, provide essential tools for evaluating nursing quality and supporting continuous quality improvement. Based on a comprehensive review of domestic and international literature, this article summarizes the epidemiological characteristics and major risk factors of adverse events among hospitalized older patients. It focuses on the conceptual foundations, key categories, and selection principles of nursing-sensitive indicators related to adverse events, and examines their current applications and limitations in nursing quality evaluation, risk surveillance, and quality improvement initiatives. The findings suggest that establishing an NSI-oriented quality management framework can facilitate early identification of risks and targeted nursing interventions for hospitalized older adults. Future efforts should prioritize the standardization, geriatric specificity, and digital integration of nursing-sensitive indicators to further enhance patient safety and nursing quality in geriatric inpatient care.

Keywords Older patients; Adverse events; Nursing-sensitive indicators; Nursing quality; Quality improvement

1 Introduction

With the accelerating process of population aging in China, older adults have become an important component of the hospitalized population. A large body of research indicates that, due to multiple factors such as age-related physiological decline, multimorbidity, frailty, complex treatment regimens, and geriatric syndromes, older patients face a significantly higher risk of experiencing adverse events (AEs) during hospitalization than other age groups. Systematic reviews show that in large general studies of adverse events, the incidence of AEs among hospitalized older medical patients is approximately 5%-6%; however, when geriatric syndromes such as falls, delirium, incontinence, and pressure injuries are included within the scope of adverse events, the incidence can be as high as 60%. Common hospital-associated adverse events include infections (e.g., pneumonia, urinary tract infections, sepsis, and wound infections), delirium, falls, pressure injuries, venous thromboembolism, and medication-related harm (Alotaibi et al., 2025). These adverse events not only pose direct threats to patient safety but also lead to prolonged hospital stays, increased healthcare resource utilization, functional decline, and even increased mortality risk. Importantly, a substantial proportion of these events are considered at least partially preventable.

Among the many influencing factors, nursing activities are closely associated with both the occurrence and prevention of adverse events in older hospitalized patients. Previous studies have shown that many adverse events occurring during hospitalization-particularly falls, pressure injuries, infections, medication-related harm, and delirium-are strongly associated with inadequate nursing assessment, insufficient ongoing monitoring, and