

Supplementary Material S1. Electronic search strategies for PubMed, Scopus, and Web of Science Core Collection

Searches were run on **15 February 2026** in the following databases: **PubMed, Scopus,** and **Web of Science Core Collection**. Searches were limited to **English-language** records within each platform, and eligibility required **English full text**, which was assessed during full-text screening rather than through database filters. Field tags and syntax were adapted by the database while maintaining an equivalent concept structure aligned to inpatient fall prevention using monitoring data and AI-enabled decision support triggers.

1) PubMed (n = 71)

Platform: PubMed

Fields: Title/Abstract

Limits: English language

((wearable*[tiab] OR “remote monitoring”[tiab] OR “patient-generated”[tiab] OR self-monitor*[tiab] OR sensor*[tiab] OR acceleromet*[tiab] OR “bed sensor”*[tiab]) AND (“artificial intelligence”[tiab] OR “machine learning”[tiab] OR “deep learning”[tiab]) AND (fall*[tiab] OR “fall prevention”[tiab] OR “fall risk”[tiab] OR “bed exit”[tiab]) AND (patient*[tiab] OR inpatient*[tiab] OR hospital*[tiab] OR ward*[tiab]) AND (clinic*[tiab] OR nurs*[tiab])) AND english[lang]

2) Scopus (n = 93)

Platform: Scopus

Field: TITLE-ABS-KEY

Limits: LIMIT-TO(LANGUAGE, “English”)

Additional refinement: Publication years were restricted to **2016 to 2026** in the results interface.

TITLE-ABS-KEY(wearable* OR “remote monitoring” OR “patient-generated” OR self-monitor* OR sensor* OR acceleromet* OR “bed sensor”*)

AND TITLE-ABS-KEY(“artificial intelligence” OR “machine learning” OR “deep learning”)

AND TITLE-ABS-KEY(fall* OR “fall prevention” OR “fall risk” OR “bed exit” OR “bed-exit”)

AND TITLE-ABS-KEY(inpatient* OR “in-patient” OR hospital* OR ward* OR “acute care” OR “medical-surgical” OR “stroke unit”)

AND TITLE-ABS-KEY(alert* OR alarm* OR notification* OR “nurse call” OR sitter* OR escalation OR “real time” OR realtime OR “real-time” OR “bed-exit alarm” OR “bed exit alarm”)

AND (LIMIT-TO(LANGUAGE, “English”))

3) Web of Science Core Collection (n = 36)

Platform: Web of Science Core Collection

Field: Topic (TS)

Limits: LA = English

Additional refinement: Publication years were restricted to **2016 to 2026** using the Refine panel.

TS=(wearable* OR “remote monitoring” OR “patient-generated” OR self-monitor* OR sensor* OR acceleromet* OR “bed sensor”)

AND TS=(“artificial intelligence” OR “machine learning” OR “deep learning”)

AND TS=(fall* OR “fall prevention” OR “fall risk” OR “bed exit” OR “bed-exit”)

AND TS=(inpatient* OR “in-patient” OR hospital* OR ward* OR “acute care” OR “medical-surgical” OR “stroke unit”)

AND TS=(alert* OR alarm* OR notification* OR “nurse call” OR sitter* OR escalation OR realtime OR “real-time” OR “bed exit alarm” OR “bed-exit alarm”)

AND LA=(English)

Search results were exported from each database on the search date and deduplicated prior to screening.

(End)