Supplementary Information: Full Database Search Strategies

Search date: 15 August 2026. Coverage: database inception to the search date. Eligible language: English. Counts are records retrieved before deduplication. Searches used database-specific title, abstract and keyword syntax; no additional databases or citation-chasing procedures are claimed.

PubMed (n = 227)

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(("artificial intelligence"[Title/Abstract] OR "machine learning"[Title/Abstract] OR "deep
learning"[Title/Abstract] OR "neural network*"[Title/Abstract] OR "random forest*"[Title/Abstract] OR "support
vector machine*"[Title/Abstract] OR "gradient boosting"[Title/Abstract] OR XGBoost[Title/Abstract] OR
LightGBM[Title/Abstract] OR CatBoost[Title/Abstract]) AND ("oral anticoagulant*"[Title/Abstract] OR "oral
anticoagulation"[Title/Abstract] OR "direct oral anticoagulant*"[Title/Abstract] OR DOAC*[Title/Abstract] OR
NOAC*[Title/Abstract] OR warfarin[Title/Abstract] OR apixaban[Title/Abstract] OR rivaroxaban[Title/Abstract] OR
dabigatran[Title/Abstract] OR edoxaban[Title/Abstract]) AND (adheren*[Title/Abstract] OR persist*[Title/Abstract]
OR discontinu*[Title/Abstract] OR bleed*[Title/Abstract] OR hemorrhag*[Title/Abstract] OR
haemorrhag*[Title/Abstract] OR thromboembol*[Title/Abstract] OR stroke[Title/Abstract] OR "risk
prediction"[Title/Abstract] OR "risk stratification"[Title/Abstract] OR dose[Title/Abstract] OR
dosing[Title/Abstract] OR INR[Title/Abstract] OR "time in therapeutic range"[Title/Abstract] OR TTR[Title/Abstract]
OR monitor*[Title/Abstract] OR "treatment optimization"[Title/Abstract] OR "treatment optimisation"[Title/Abstract]
OR "treatment selection"[Title/Abstract] OR "decision support"[Title/Abstract] OR personaliz*[Title/Abstract] OR
personalis*[Title/Abstract]))
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Europe PMC (n = 203)

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((TITLE_ABS:"artificial intelligence" OR TITLE_ABS:"machine learning" OR TITLE_ABS:"deep learning" OR
TITLE_ABS:"neural network*" OR TITLE_ABS:"random forest*" OR TITLE_ABS:"support vector machine*" OR
TITLE_ABS:"gradient boosting" OR TITLE_ABS:XGBoost OR TITLE_ABS:LightGBM OR TITLE_ABS:CatBoost) AND
(TITLE_ABS:"oral anticoagulant*" OR TITLE_ABS:"oral anticoagulation" OR TITLE_ABS:"direct oral anticoagulant*" OR
TITLE_ABS:DOAC* OR TITLE_ABS:NOAC* OR TITLE_ABS:warfarin OR TITLE_ABS:apixaban OR TITLE_ABS:rivaroxaban OR
TITLE_ABS:dabigatran OR TITLE_ABS:edoxaban) AND (TITLE_ABS:adheren* OR TITLE_ABS:persist* OR TITLE_ABS:discontinu*
OR TITLE_ABS:bleed* OR TITLE_ABS:hemorrhag* OR TITLE_ABS:haemorrhag* OR TITLE_ABS:thromboembol* OR TITLE_ABS:stroke
OR TITLE_ABS:"risk prediction" OR TITLE_ABS:"risk stratification" OR TITLE_ABS:dose OR TITLE_ABS:dosing OR
TITLE_ABS:INR OR TITLE_ABS:"time in therapeutic range" OR TITLE_ABS:TTR OR TITLE_ABS:monitor* OR
TITLE_ABS:"treatment optimization" OR TITLE_ABS:"treatment optimisation" OR TITLE_ABS:"treatment selection" OR
TITLE_ABS:"decision support" OR TITLE_ABS:personaliz* OR TITLE_ABS:personalis*))
```

Scopus (n = 554)

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TITLE-ABS-KEY(
("artificial intelligence" OR "machine learning" OR "deep learning" OR "neural network*" OR "random forest*" OR
"support vector machine*" OR "gradient boosting" OR XGBoost OR LightGBM OR CatBoost)
AND
("oral anticoagulant*" OR "oral anticoagulation" OR "direct oral anticoagulant*" OR DOAC* OR NOAC* OR warfarin OR
apixaban OR rivaroxaban OR dabigatran OR edoxaban)
AND
(adheren* OR persist* OR discontinu* OR bleed* OR hemorrhag* OR haemorrhag* OR thromboembol* OR stroke OR "risk
prediction" OR "risk stratification" OR dose OR dosing OR INR OR "time in therapeutic range" OR TTR OR monitor* OR
"treatment optimization" OR "treatment optimisation" OR "treatment selection" OR "decision support" OR personaliz*
OR personalis*)
)
```

Note: Broad management terms were retained to maximize sensitivity. Eligibility required a substantive patient-level AI/ML role in oral-anticoagulation dosing, clinically actionable outcome prediction, or treatment selection; adherence-only and workflow-only studies were excluded during screening.