

## Barriers and Facilitators to Artificial Intelligence (AI) Adoption in Supporting Chronic Disease Management in Primary Care Settings: A Scoping Review Protocol

INPLASY202610096

doi: 10.37766/inplasy2026.1.0096

Received: 29 January 2026

Published: 29 January 2026

Tan, JY(B); Li, MY; Wang, HY; Sharma, S; Wang, T; Terry, D.

**Corresponding author:**

Tao Wang

alison.wang@unisq.edu.au

**Author Affiliation:**

University of Southern Queensland.

**ADMINISTRATIVE INFORMATION****Support** - No funds were received.**Review Stage at time of this submission** - Data extraction.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202610096**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 January 2026 and was last updated on 29 January 2026.**INTRODUCTION**

**Review question / Objective** The main aim of this review is to identify and synthesise the barriers and facilitators influencing the adoption of AI in primary care settings for chronic disease management. To identify and synthesise the barriers and facilitators influencing the adoption of AI in primary care settings for chronic disease management.

**Background** Artificial intelligence (AI) is being increasingly incorporated into healthcare to enhance the efficiency of clinical practice, such as chatbots and machine learning (Albashayreh et al., 2024). These AI-based approaches were applied to support more efficient continuing care and self-management for patients with chronic conditions, such as cancer and diabetes. However, real-world adoption of AI is a complex and challenging process, as it can be influenced by various factors, such as ethical concerns associated to patient safety, the extent to which AI tools fit into routine clinical workflows, and data accessibility alongside

ethical and legal accountability (Ahmed et al., 2023; Hassan et al., 2024; Mache et al., 2025).

**Rationale** Existing reviews have examined AI adoption in general healthcare rather than focusing on the primary care chronic disease management. A recent review by Hassan et al. (2024) reported that trust, governance, and regulatory considerations are the central for AI adoption in the healthcare settings. Similarly, other reviews have examined AI adoption in healthcare management, providing cross-cutting insights into AI use from a broad perspective. (Assadullah et al., 2019; Chomutare et al. 2022; Jacob et al. 2025). Given rapid advancements in AI, this scoping review will identify and synthesise the barriers and facilitators influencing the adoption of AI in primary care settings for chronic disease management.

**METHODS**

**Strategy of data synthesis** Key search terms will be used to develop the search strategies. The

details of the search strategy for PubMed are as follows:

("Primary Care" or "Primary Healthcare" or "General Pract\*" or "Practice Nurs\*" or "Community Health\*" OR "family medicine") AND ("Intelligence, Artificial", OR "Machine Learning" OR "artificial intelligen\*" OR "AI" OR "big learning" OR "deep learning" OR "automation" OR "cognitive computing" OR "neural networks" OR "intellig\* computing" OR "natural language processing" OR "chatbot\*" OR "chat robot" OR "conversational agent" OR "expert system" OR "Robotics") AND ("adoption" OR "implementation" OR "barrier\*" or "hinder\*" or "obstacle\*" or "challenge\*" or "difficult\*" or "enable\*" or "empower" or "facilitat\*") AND ("chronic disease" OR "disease, chronic" OR "diseases, chronic" OR "Chronic condition" OR "chronic illnesses" OR "chronic\*" OR "Long-Term Care" OR "Long-term\*" OR "Longterm\*" OR "Non-communicable\*" OR "chronic illness" OR "chronically ill" OR "chronic patient" OR "heart attack" OR "cardiovascular disease" OR "neoplasm\*" OR "tumo\*" OR "neoplasia" OR "cance\*" OR "carcinom\*" OR "malignant" OR "Oncolog\*" OR "chronic obstructive pulmonary disease" OR "COPD" OR "chronic pulmonary disease" OR "chronic respiratory diseases" OR "asthma" OR "diabetes" OR "musculoskeletal conditions" OR "Chronic Pain").

Similar search strategies will be adopted for other databases. Moreover, hand searching and reviewing the reference lists of the included studies will be undertaken to identify any additional studies.

**Eligibility criteria** Population: Patients with chronic disease or long-term conditions, including but not limited to diabetes, hypertension, cancer. Interests/Topic: Focusing on the use any AI technologies in any primary care settings. Study design: Studies using either qualitative, quantitative, or mixed-methods study design. Language: Published in English with an accessible full text. Timeframe: studies published in the last 15 years (from 2010).

**Source of evidence screening and selection** (1) Electronic databases: MEDLINE (via PubMed), IEEE Xplore, Scopus, Cochrane Library, EMBASE, PsycINFO, and CINAHL. (2) Manual search: References of included studies will be reviewed to identify alternative research until no further relevant articles are identified.

**Data management** EndNote (version 20) and excel will be used.

### Reporting results / Analysis of the evidence

Methodological quality appraisal of the included studies will not be undertaken, as this is not required component of scoping review. This approach is consistent with established scoping review guidance, which indicates that critical appraisal is optional rather than mandatory (Tricco et al., 2018). This is a scoping review with a broad topic, descriptive statistics and narrative synthesis will be used to summarise and report the findings.

**Language restriction** English.

**Country(ies) involved** Australia.

**Keywords** Artificial intelligence; primary care; chronic disease; barriers; facilitators.

**Dissemination plans** The scoping review will be published in a peer-reviewed journal.

### Contributions of each author

Author 1 - Jing-Yu (Benjamin) Tan - Conceptualization, design, quality assurance, and manuscript revision.

Email: benjamin.tan@nd.edu.au

Author 2 - Mengyuan Li - Methodology, implementation and quality assurance.

Email: mengyuan.li@unisq.edu.au

Author 3 - Haiying Wang - Conceptualization, design, quality assurance, and manuscript revision.

Email: emily.wang@unisq.edu.au

Author 4 - Sita Sharma - Manuscript revision and quality assurance.

Email: sita.sharma@unisq.edu.au

Author 5 - Tao Wang - Conceptualization, design, quality assurance, implementation, manuscript drafting and revision.

Email: alison.wang@unisq.edu.au

Author 6 - Daniel Terry - Conceptualization, design, quality assurance, implementation, manuscript drafting and revision.

Email: daniel.terry@unisq.edu.au

### Reference

Ahmed, M. I., Spooner, B., Isherwood, J., Lane, M., Orrock, E., & Dennison, A. (2023). A systematic review of the barriers to the implementation of artificial intelligence in healthcare. *Cureus*, 15(10).  
Albashayreh, A., Bandyopadhyay, A., Zeinali, N., Zhang, M. I. N., Fan, W., & Gilbertson White, S. (2024). Natural language processing accurately differentiates cancer symptom information in electronic health record narratives. *JCO clinical cancer informatics*, 8, e2300235.

- Chomutare, T., Tejedor, M., Svenning, T. O., Marco-Ruiz, L., Tayefi, M., Lind, K., Godtliebsen, F., Moen, A., Ismail, L., & Makhlysheva, A. (2022). Artificial intelligence implementation in healthcare: a theory-based scoping review of barriers and facilitators. *International Journal of Environmental Research and Public Health*, 19(23), 16359. <https://doi.org/https://doi.org/10.3390/ijerph192316359>
- Hassan, M., Kushniruk, A., & Borycki, E. (2024). Barriers to and Facilitators of Artificial Intelligence Adoption in Health Care: Scoping Review. *JMIR Hum Factors*, 11, e48633. <https://doi.org/10.2196/48633>
- Jacob, C., Brasier, N., Laurenzi, E., Heuss, S., Mougialakakou, S.-G., Cöltekin, A., & Peter, M. K. (2025). AI for IMPACTS Framework for Evaluating the Long-Term Real-World Impacts of AI-Powered Clinician Tools: Systematic Review and Narrative Synthesis. *J Med Internet Res*, 27, e67485. <https://doi.org/10.2196/67485>
- Mache, S., Bernburg, M., Würtenberger, A., & Groneberg, D. A. (2025). Artificial intelligence in primary care: support or additional burden on physicians' healthcare work?—A qualitative study. *Clinics and practice*, 15(8), 138.
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D., Horsley, T., & Weeks, L. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of internal medicine*, 169(7), 467-473.