

Presenting Author Name

Madelyne Senécal

Presenting Author Category

Undergraduate Student

Research Category

Community Health / Policy

Abstract Title

Exploring Artificial Intelligence Driven Development of TREKK Pediatric Emergency Resources for Healthcare Providers

Background

This project explored the use of artificial intelligence (AI), specifically ChatGPT, to support the development of resources for Translating Emergency Knowledge for Kids (TREKK; trekk.ca), a national pediatric emergency knowledge mobilization network. Two resource formats were tested: 1) Evidence Repositories (ERs), which compile high-quality guidelines and studies; and 2) Bottom Line Recommendations (BLRs), which summarize assessment and management of common pediatric emergencies.

Objective

The primary objective was to evaluate AI's ability to update and create ERs and BLRs, with a secondary objective of testing AI's role in French translation.

Methods

ChatGPT was trained on TREKK guidelines, roles, and existing resources across five pediatric topics (acute otitis media, bronchiolitis, diabetic ketoacidosis, gastroenteritis, urinary tract infection). Training included uploading related PDF documents and directing ChatGPT to analyze and store information. ChatGPT performance was then tested by updating ERs and BLRs for burns and concussions, creating drafts under assigned roles, revising and finalizing outputs. ERs and BLRs were generated from scratch for croup and eating disorders. All final versions were translated into French and compared to TREKK's professionally developed resources.

Results

AI-generated ERs achieved 80-85% accuracy after source verification, though early drafts included hallucinated references. BLRs captured 70-75% of TREKK content but frequently omitted safety warnings and clinical thresholds critical for decision making. French translations reached 85-90% accuracy but occasionally used literal phrasing or inconsistent medical terminology. Overall, AI outputs replicated TREKK's process and produced usable drafts, but require expert review to ensure completeness, accuracy and linguistic precision.

Conclusion

ChatGPT demonstrated the ability to replicate TREKK processes, accelerate evidence organization, generated drafts of ERs, BLRs, and translations. However, expert oversight remains essential to guarantee accuracy and safety. A hybrid, human-AI workflow offers the most effective pathway to enhance efficiency in pediatric knowledge mobilization while maintaining high standards of patient care.

Authors

Name	Role	Profession
Madelyne Senécal	Presenting Author	Undergraduate Student
Apoorva Gangwani	Co Author	
Opemipo Oduntan	Co Author	Undergraduate Student
Megan Bale-Nick	Co Author	
Lisa Knisley	Co Author	Assistant Professor