

NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

Submission Id: 6343

Title

AI-Drive Targeted Qualitative Analysis: A Useful New Method for Primary Care Research

Priority 1 (Research Category)

Qualitative research

Presenters

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Abstract

Context: Integration of artificial intelligence (AI) tools into qualitative data analytic software may enhance analysis and reduce the time needed in order to conduct a thorough understanding of the phenomenon under study. We utilized AI tools in the qualitative software program Atlas.ti to complete an analysis of qualitative data collected from primary care clinician and staff perspectives on the use of anti-obesity medications. This analysis was part of a larger implementation study called PATHWEIGH, which provides a toolset embedded in the Epic™ electronic health record and other supportive services to help practices provide weight management to their patients. Objective: To describe the use of AI tools and a targeted analytic technique in supporting qualitative data analysis. Study Design and Analysis: Qualitative study involving key informant interviews over two years. These data were first coded in Atlas.ti using thematic analysis. A targeted AI-assisted analysis was then conducted, including eight steps: 1) identification of key words, 2) AI-assisted search for key words, 3) review of initial query results, 4) manual adjustment of identified quotations to capture sufficient text/context, 5) review of the revised query report, 6) research team members individually summarizing primary themes, 7) generation of AI-derived summary, and 8) comparison of research team and AI-generated summaries. Setting or Data Set: Baseline and follow-up semi-structured interviews conducted with clinicians and staff between February 2021 and August 2023 (N=220). Population Studied: Practice members from 57 primary care practices in one Colorado health system who participated in the PATHWEIGH study. Intervention/Instrument: Semi-structured interview guide including questions about weight management. Outcome Measures: Key themes from the targeted analysis. Results: The use of AI tools with targeted key words provided a means for analyzing qualitative data in a more efficient and yet also impactful way. The combination of manual qualitative analysis supported with the use of AI can provide a more comprehensive understanding of data. This analysis may be limited to specific types of study

questions. Conclusion: The use of the AI tools has a place for some types of qualitative analysis. These methods may be useful in reviewing summaries of large data sets and provide additional context for analysis.

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