


## MLA 2025 Annual Meeting Research Awards

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**Cite as:** Blake LE. MLA 2025 Annual Meeting Research Awards. *Hypothesis*. 2025;37(2). doi:10.18060/28904.



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Congratulations to the award-winning research papers and posters from MLA '25 Pittsburgh!

The MLA Research Caucus is pleased to announce the winners for best research papers and posters presented at the MLA 2025 Pittsburgh annual meeting. Thank you to all the judges who volunteered their expertise to help select these deserving awardees both in the pre-judging phase and during the conference. To learn more about the awards and selection process, visit the Research Caucus on [MLAnet.org](https://mlanet.org).

## MLA 2025 Annual Meeting Contributed Paper Awards

### **1<sup>st</sup> Place – Readability and understandability of online patient education in semaglutide: Recommendations for consumer health librarians.**

Authors: Alexandria Q. Wilson, Senior Medical Librarian, R. Eric Heidel, Shauntá Chamberlin, and Kelsey L. Grabeel, University of Tennessee Graduate School of Medicine.

**Objectives:** Media attention and public interest in semaglutide medications like Ozempic have led to increased numbers of people searching for information about this drug online. Given that national estimates suggest that many people struggle with health literacy, we hypothesize that most online semaglutide information will be written at or above the recommended level of 8th grade for most people. The primary objective is to assess the readability of online information about semaglutide. The secondary objectives will be to assess the understandability and quality.

**Methods:** Web links were collected by searching three terms ('Ozempic,' 'Wegovy,' and 'Semaglutide') on Google in private incognito browsers using three different public computers. The non-sponsored results on the first five pages for each search were manually imported into Excel and screenshots of each result page were saved. Duplicate links were removed and screened against inclusion/exclusion criteria by two researchers independently. Web links were excluded if they met the following criteria: (1) main purpose is advertisement, (2) patient testimonials, (3) content for healthcare professionals, (4) non-text material, and (5) research articles. Inconsistencies were solved by discussion. The text from included web links will be extracted and evaluated by two researchers independently. Included web links were evaluated for readability using the SMOG Readability Formula and Flesch Reading Ease, for understandability using the Patient Education Materials Assessment Tool (PEMAT) and for quality using DISCERN. A statistician ran reports for interrater-reliability (Cronbach's alpha), medians and interquartile ranges, and frequency statistics of the evaluations.

**Results:** Three searches resulted in n=143 links. After duplicate removal, n=125 links were screened for inclusion and n=61 met evaluation criteria. Inter-rater reliability coefficients ranged poor ( $\alpha = 0.37$ ) to perfect ( $\alpha = 1.00$ ) between reviewers. Median scores for SMOG and FRE were 13th grade level and College, respectively. Fewer than 10% of the documents were found to be at or below the recommended reading grade level. The documents at or below were from hospital or international government websites. For understandability, the median score of PEMAT was 62%. For quality, the median overall score of DISCERN was 4 out of 5.

**Conclusions:** While the average quality was good, the majority of patient education

available online about semaglutide medications is not written at the appropriate reading level for the average consumer. Patient education on semaglutide needs to be rewritten to be at the recommended 8th grade reading level. Additionally, with the median understandability at 62%, more needs to be done to improve the education to make it easier for the reader to understand. These findings are likely not unique to semaglutide medications, but the popularity of these medications suggests an increased need for patient education that is more understandable and readable. Librarians who distribute online patient education to the public should be aware of the potential high reading grade level for this topic.

## **2<sup>nd</sup> Place – “Social media is imperfect, but it’s the best we have”:**

### **Understanding and addressing sexual health information seeking challenges among young adults.**

Author: Nick Vera, User Experience and Educational Strategist, Medical University of South Carolina.

**Summary:** This session explores the critical role of health sciences librarians in addressing sexual health information disparities among young adults in South Carolina. By investigating how young adults use social media platforms as primary sources for sexual health information, this study identifies key barriers such as misinformation, algorithmic biases, and challenges in evaluating content credibility. Through a dual-method qualitative approach, semi-structured interviews, and digital walkthroughs. This session provides insights into young adults’ strategies and experiences when navigating social media for sexual health information. It highlights opportunities for health sciences librarians to develop targeted digital health literacy resources, including workshops, fact-checking initiatives, and resource guides designed to equip young adults with the skills needed to critically assess and use online sexual health information. Attendees will gain practical strategies for implementing digital literacy programs that enhance health information accessibility and empower young adults to make informed decisions about their sexual health.

**Objectives:** Young adults in South Carolina face increasing challenges when seeking accurate sexual health information due to limitations in traditional and authoritative sexual health education and healthcare access. This paper investigates the future of libraries and health science librarians by exploring how young adults use social media platforms to seek sexual health information. It identifies the primary barriers young adults face and investigates opportunities for developing innovative digital health literacy resources.

**Methods:** This study employed a dual-method qualitative approach, utilizing 90-minute semi-structured interviews and digital walkthroughs with 20 young adults aged 18-25 from across South Carolina. The interviews explored participants’ experiences and strategies when using social media to seek sexual health information, while the digital walkthroughs provided real-time observations of their navigation patterns, platform choices, and interactions. This dual-method approach allowed for an in-depth analysis of the role that social media functionalities, algorithms, and community interactions play in shaping the information-seeking practices of young adults. The data included for analysis consisted of transcribed participant narratives and screen recordings of participants’ digital walkthroughs. All data were analyzed thematically using NVivo to identify salient patterns, challenges, and opportunities for

interventions such as digital health literacy workshops, collaborative fact-checking initiatives, and the development of educational resources tailored to guide young adults in critically assessing and navigating social media for accurate sexual health information.

**Results:** Preliminary findings show that while social media offers accessible sexual health resources, young adults struggle to find credible and relevant information. Barriers include misinformation, algorithmic biases that obscure accurate content, and challenges in assessing creators' credibility. There is also mistrust of medical professionals due to perceived cultural incompetence in addressing young adults' needs, resulting in alternative strategies to navigate these obstacles. These findings emphasize the need for targeted interventions, such as resource guides and digital literacy programs, to improve digital health literacy and provide young adults with the skills to evaluate and effectively use online sexual health information critically.

**Conclusions:** The study emphasizes the crucial role of health sciences librarians in connecting young adults with credible sexual health information on social media. Instead of focusing solely on users' information gaps, health librarians can shift their approach by developing resources that align with young adults' existing social media habits. This involves creating resource guides and digital literacy programs that teach fact-checking techniques, identify trustworthy content creators, and explain platform algorithms. By offering these targeted services, health sciences librarians enhance the accessibility and quality of health information while positioning themselves as central figures in addressing sexual health disparities. This proactive approach meets the evolving information needs of users and highlights the future role of health sciences librarianship in advancing digital health literacy.

### **3<sup>rd</sup> Place – Identifying strengths and gaps in health equity research: A portfolio analysis of federally funded grants utilizing community engaged research methods.**

Authors: Poppy Krump, Information Scientist, Taneya Koonce, Consuelo Wilkins, Spencer DesAutels, Mallory Blasingame, Alicia Cavanaugh, Laura Logie, Tiffany Vassell, Braveheart Gillani, Jasmine Bell, and Nunzia Guise, Vanderbilt University Medical Center.

**Summary:** To advance the science of community-engaged research, gaining an understanding of previously funded research is required. Analysis of federal grants can provide insights into community engagement trends. This analysis was able to identify the trends and gaps in community engaged research, presenting opportunities to improve the way research could be conducted and funded in the future. Information scientists, given their expertise in information retrieval and data organization, can play key roles in interpreting, structuring, and implementing grant portfolio analyses.

## **MLA 2025 Annual Meeting Contributed Poster Awards**

### **1<sup>st</sup> Place – What does the body know? Nursing students' epistemic beliefs about embodied health misinformation.**

Author: Brynne Campbell Rice, Librarian for Health Sciences: Nursing, New York University.

**Summary:** Academic health librarians are deeply invested in helping future healthcare professionals develop the information literacy skills necessary to navigate an increasingly fraught information landscape. In that vein, this poster presents initial results from a qualitative study exploring how nursing students contend with a particularly complex form of health misinformation. Specifically, this study investigates nursing students' perceptions and epistemic beliefs related to "embodied health misinformation" - the misinformation that arises in the messy intersection where bodily experiences conflict with biomedical evidence. In investigating how nursing students respond to this type of misinformation, the study aims to reveal how they engage with information outside of traditional scholarly evidence, challenging simplistic binaries in the study of misinformation. In doing so, this study contributes to the scholarly conversation around how health professionals' information literacy practices can balance epistemic justice with a commitment to evidence-based health care.

**Objectives:** The objective of this research is to explore nursing students' perceptions and evaluation of "embodied health misinformation" - misinformation that is woven into bodily experience, where an individual's intimate knowledge of their own body is positioned as more credible than biomedical evidence. Healthcare professionals need well-developed personal epistemologies to navigate these complexities, yet there's limited research into how they perceive this type of information. To fill that gap, this study asks: (1) What are nursing students' perspectives on the body as a source of health information and misinformation? and (2) What are nursing students' epistemic beliefs related to embodied health misinformation?

**Methods:** This study follows a qualitative methodology, employing a series of in-depth, semi-structured interviews with nursing students. In order to elucidate their thoughts on how to contend with bodily information when it appears to convey misinformation, participants are asked to respond to two conflicting information sources on the same topic: a personal health narrative that incorporates subjective, affective health experiences, and an evidence-based information source. The audio of the recorded interviews is transcribed and transcripts are coded inductively for emergent themes in the nursing students' perspectives on bodily information, and deductively for any specific epistemic beliefs they reveal in their responses.

**Results:** Preliminary results following the analysis of 6 interviews with undergraduate nursing students reveal key initial themes and topics that include: triangulation of bodily information with external sources of information; the practice of bodily listening; issues of individual vs. generalized health claims; and considerations of time and risk in evaluating health information.

**Conclusions:** This project is ongoing, but it is anticipated that the results will contribute to broader conversations about the development of sensitive information evaluation practices among students who are entering health professions. Specifically, understanding nursing students' perceptions and beliefs around embodied information can inform how librarians help prepare health professionals to contend with the full complexity of the health misinformation that they will encounter, as both information consumers and eventually, trusted sources of health information themselves.

**2<sup>nd</sup> Place – Automatic indexing errors in PubMed: Sometimes the apple does fall far from the tree.**

Author: Paije Wilson, Health Sciences Librarian, University of Wisconsin-Madison.

**Summary:** The objective of this study was to explore the prevalence and characteristics of precision errors in a convenient sample of automatically indexed MEDLINE records in PubMed. Specifically, the sample was comprised of records automatically indexed with the MeSH term, Malus (the genus name for apple tree).

**Objectives:** Since 2022, fully automatic indexing has been used to assign Medical Subject Heading (MeSH) to MEDLINE records in PubMed. Though automatic indexing has improved efficiency, there have been concerns relating to its precision. The objective of this study was to explore the prevalence and characteristics of precision errors in a convenient sample of automatically indexed MEDLINE records in PubMed. Specifically, the sample was comprised of records automatically indexed with the MeSH term, Malus (the genus name for apple tree).

**Methods:** The following search string was used in PubMed to capture records automatically indexed with the MeSH term, Malus: "Malus[mesh] AND indexingmethod.automated". The search retrieved 1,705 records, which were exported from PubMed and then imported into EndNote 21. Title/abstract screening was conducted in EndNote 21, wherein records were categorized as being correctly indexed (i.e., the record was about Malus, meaning they referred to the literal tree or fruit), incorrectly indexed, or uncertain (i.e., there was not enough information in the title/abstract to verify if they were correctly indexed with the MeSH term, Malus). Records identified as being incorrectly indexed or uncertain were exported into an Excel sheet, wherein they underwent full text screening. During full text screening, records were labeled as being correctly indexed, incorrectly indexed, or "could not determine" (i.e., the full text couldn't be accessed for the record). Data extraction was performed for records labeled as being incorrectly indexed during full text screening, which consisted of copying quotations where variations of the term, Malus, (e.g., apple, apple tree, etc.) were used in the record, and pasting them into an Excel sheet. These quotations were then labeled with the type of indexing error (e.g., figurative language, names, acronyms, etc.).

**Results:** 1,705 records were automatically indexed with the MeSH term, Malus. Of these records, 1,562 (91.6%) were correctly indexed, 135 (7.9%) were incorrectly indexed, and 8 (0.5%) could not be determined. Of the 135 records incorrectly indexed, 80 (59%) were due to the use of figurative language (e.g., "comparing apples to oranges", "apple shaped", etc.). 50 (37%) were due to names (e.g., Apple, Inc., Miyake-Apple Technique, apple snails, etc.). 4 (3%) were due to acronyms (e.g., "Access to Post Partum LARC in Edinburgh South (APPLES)"). 1 (1%) was due to a passing reference to Sir Isaac Newton.

**Conclusions:** With the recent implementation of the National Library of Medicine's newest automatic indexing algorithm, MTIX, to PubMed in 2024, studies documenting automatic indexing errors in PubMed are especially vital. In addition to bringing attention to automatic indexing errors, such studies may inform future refinements to the MTIX algorithm to reduce erroneous indexing. Though limited, this study gives some insight into the prevalence and characteristics of automatic indexing errors in PubMed. As demonstrated by this study, the automatic indexing algorithm can experience errors when encountering words used in non-literal contexts. Until automatic indexing errors can be resolved, librarians should be mindful of their existence, and instruct researchers on how to potentially avoid future indexing errors in their own manuscripts.

**3<sup>rd</sup> Place – A multi-modal evaluation: Harnessing generative AI to understand the state-of-the-art of literature search automation.**

Authors: Taneya Koonce, Deputy Director, Annette Williams, Dario Guise, Jing Su, Mallory Blasingame, Poppy Krump, and Nunzia Giuse, Vanderbilt University Medical Center.

**Summary:** In collaboration with informatics colleagues at our institution, this investigation explores the feasibility of delegating tasks currently undertaken by our library team to generative artificial intelligence (AI) tools. Through a meticulously designed research endeavor, we sought to comprehensively assess the contemporary capabilities of generative AI in the domain of PubMed search compilation. Objectives: In collaboration with informatics colleagues at our institution, this investigation explores the feasibility of delegating tasks currently undertaken by our library team to generative artificial intelligence (AI) tools. Specifically, we explored the efficacy of AI tools in formulating reliable search strategies; we will be reporting on the current state-of-the-art of AI tools while engaged in the capacity of “searcher.” Through a meticulously designed research endeavor, we sought to comprehensively assess the contemporary capabilities of generative AI in the domain of PubMed search compilation.

**Methods:** The project leverages an internally-developed “Quick Clinical View” feature of our institutional medical record that aims to provide clinicians with rapid insights into patient conditions at the population level by highlighting concepts with high strengths of associations. It uses the database of population-level associations created by an institutional natural language processing (NLP) system, which maps free-text terms from all non-image clinical documents at our medical center to the Unified Medical Language System (UMLS) terminology. Our team is exploring whether generative AI has advanced enough to automatically integrate literature searches into this system—a potentially transformative feature that could rapidly identify unfamiliar/unexpected clinical associations. From the “Quick Clinical View” of ten health conditions (e.g., small cell lung carcinoma, orthostatic hypotension), we selected two concepts each (i.e., 20 condition/concept pairs) that occur rarely in the general population. To assess the feasibility of automating the literature search integration, the team created generative AI prompts designed to produce PubMed search strategies in the PICO format. Our team evaluated search strategy results for the 20 selected condition/concept pairs across three different large language models (LLMs): ChatGPT, Google Gemini, and Microsoft Copilot by comparing them to the team’s gold-standard search output.

**Results:** The LLM tools generated collectively 150 terms/phrases tagged as MeSH, of which, 58 (39%) were accurate. ChatGPT generated accurately labeled MeSH terms 45% (41/92) of the time and Copilot 31% (17/56). Gemini labeled two terms as MeSH; neither were accurate. The 64 relevant citations identified by our team through their gold-standard searches were furthermore compared to the search results of each LLM. The LLM tools’ search results included 47% (30/64) of these citations overall; ChatGPT included 17% (11/64), Gemini included 22% (14/64), and Copilot included 8% (5/64), with instances yielding zero search results.

**Conclusions:** The generative AI-created search strategies often failed to produce PubMed results, were frequently inaccurate in labeling search terms/phrases as MeSH, and for the searches that did yield results, the gold-standard selected citations were

present less than half of the time. Moving forward, it will be important to evaluate the entire set of citations retrieved by the LLM tools as they may offer value-added to the citations identified by the librarians. This study, once more, underlines the critical importance of having knowledge workers with the necessary domain knowledge involved in assessing and evaluating the performance of generative AI tools.