THE ECOSYSTEM OF EVIDENCE

Lessons learned in the pandemic era and future challenges

10th International Conference for EBHC Teachers and Developers
10th Conference of the International Society for EBHC
Taormina, 25th - 28th October 2023

#EBHC2023

GIMBE EVIDENCE FOR HEALTH

Medsyntax

A new, free and open source tool for enhanced literature research
www.medsyntax.org

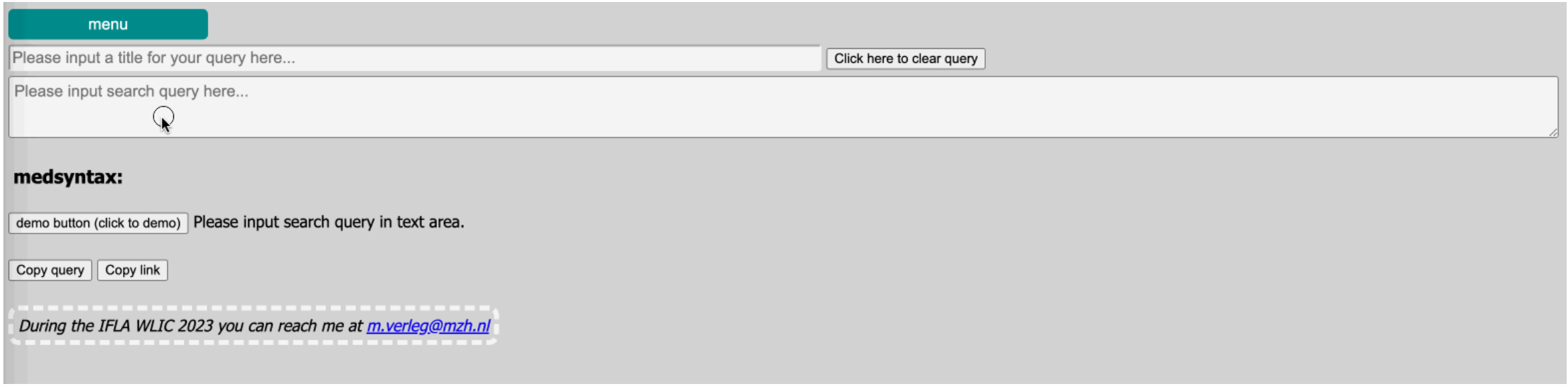
Margot Gremmen-Verleg and Ted Gremmen-Verleg
Martini Hospital Groningen

m.verleg@mzh.nl
https://www.linkedin.com/in/margotverleg/

Background

- Literature research is often seen as difficult.
- 92.7% of systematic reviews contain errors in the search.
  (Salvador-Oliván, Marco-Cuenca, & Arquero-Avilés, 2019)
- Syntax differs from database to database.
- **Errors without feedback lead to frustration.**

Demo

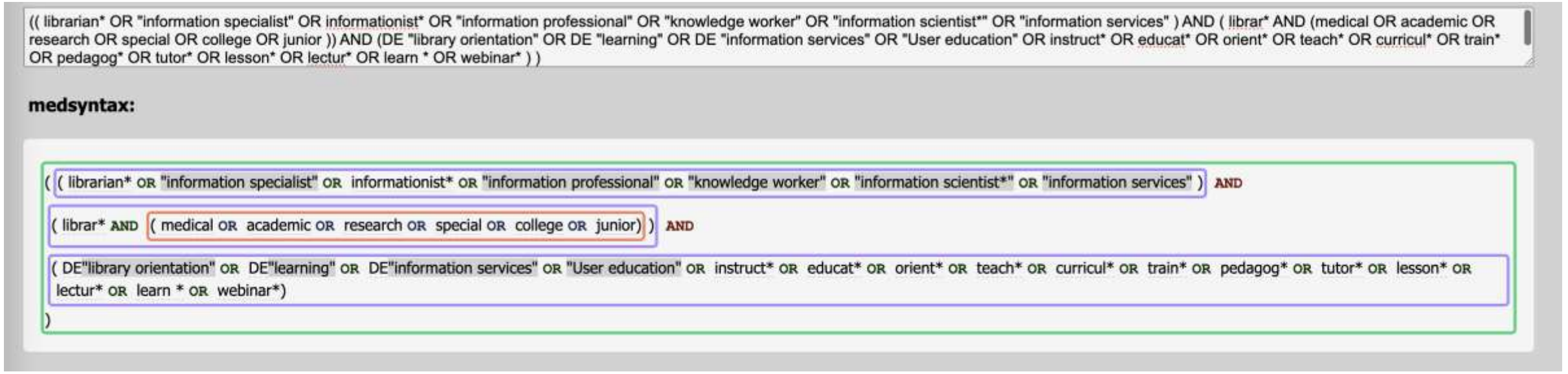

menu
Please input a title for your query here...
Click here to clear query
Please input search query here...
medsyntax:
demo button (click to demo)
Please input search query in text area.
Copy query
Copy link
During the IFLA WLIC 2023 you can reach me at m.verleg@mzh.nl

Medsyntax

- Medsyntax is a free, open-source tool for visualizing and editing search queries to make literature research in scientific databases more accessible.
- Medsyntax transforms search terms, Boolean operators, and bracket groupings into HTML elements to create a clear and editable visualization of the search query.

Features

- Checks if brackets and quotes are properly balanced
- Understands Boolean logic
- Real-time error detection
- Scope driven editor
- URL visualisation sharing
- Easily adaptable to the syntax of other databases and search engines



Technique

- Regex to recognize patterns

```
var embaseRe = new RegExp('(([\/][A-Za-z])\\w+|([\:][A-Za-z])\\w+|
([,][A-Za-z])\\w+|([.][A-Za-z])\\w+)', 'gi');
```

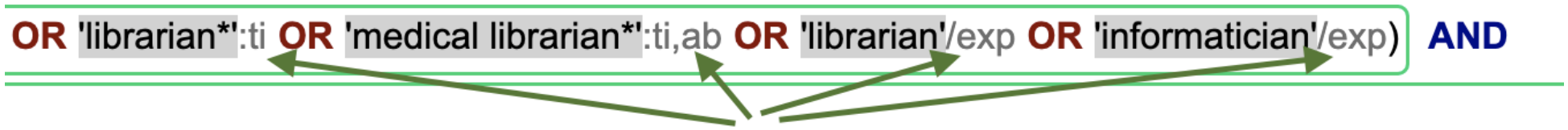
- Takes the query, finds the pattern and executes function on pattern

```
str = str.replace(embaseRe, function (x) { return embaseFunction(x); });
```

- Function transforms pattern into an HTML element

```
function embaseFunction(x) {
x = "<div class=embase>" + x + "</div>";
return x;}
```

- Uses standard CSS to make the pattern visible and recognizable



Medsyntax PICO

- Used to teach and explain literature research to novice searchers.
- Combine search terms between quotes with the OR Boolean operator in the corresponding PICO field.
- Users benefit from structured search strategies based on the PICO format.

(handover OR "Patient Handoff"[Mesh] OR handoff OR "patient transfer") AND (SBAR OR ISBAR OR SBAR-R OR ISBARR OR ISOBAR) AND (teamwork OR "inter-professional communication" OR "communication"[Mesh] OR communication OR "Interdisciplinary Communication"[Mesh] OR "Patient Safety"[Mesh] OR "patient safety" OR "safety culture")

Results

- Combined with the e-learning, instead of weeks, it now only takes a few hours to go from a clinical question to a PICO and formulate a functional search strategy.
- Used by librarians worldwide.
- Improves the quality of search queries.

Summary

- When you create search queries. Making errors without feedback leads to frustration.
- Visualization assists with quickly interpreting search queries.
- Medsyntax is easily adaptable to additional databases or search engines.
- Structured search tools like the Medsyntax PICO help novice searchers to focus on semantics, rather than syntax.