Linking Literature Search Requests to Our Users: What Information Do They Need? Using a Database to Evaluate Clinician Information Needs Based Upon MeSH Term Usage Frequency

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The purpose of the project was to determine literature review topics requested by specific categories including residents, faculty, nursing, area physicians and others in order to support research, patient care, curriculum development and continuing education.
Setting or Participants

Preston Medical Library is an integral part of the University of Tennessee Graduate School of Medicine and its partner hospital UT Medical Center. Resources and services are provided to residents and faculty of UT GSM as well as physicians, nurses, hospital administrators and health professionals in the 26-county area of East Tennessee.
Tailoring information needs of health care providers through novel approaches in collection development is well-documented.
Rationale (Cont.)

Some methodologies include:

• A balance compromise of access versus ownership of recommended titles based on information needs (1);

• A zero-based collection development- continually assures that the collection process remains dynamic (4);

• Comparing journal’s impact factor (IF) with cited references (CR) in published articles by hospital researchers (2);

• Usage data correlation to core list of journals in the collection (3).
Rationale (Cont.)

Our approach uses MeSH term usage frequency analysis correlated to a search description in order to improve access to sources most aligned to the information needs of our clinicians.
Design and Methodology

Microsoft Access 2007 database management system was used in this endeavor. Construction of the database, including the fields from the search request paper form and MeSH terms used in the specific searches, formed the foundation of the database. A series of forms, queries, and reports were designed for data entry, data extraction and analysis, and data reporting, respectively.
Front End User Interface

MeSH Analysis System

- Add/Edit MeSH Term
- Add/Edit Clinicians
- Print MeSH Term Details
- Print MeSH Term Usage Frequency

Find a Clinician: [Input Field]

View Record For Selected Clinician
Main Entry Form for MeSH Terms recorded from manually entered terms on Computer Search Request Sheets.
Add/Edit Clinicians Form

Main Data Entry Form from Computer Search Request Sheets
Print MeSH Term Details

Prints a report of the MeSH Term with along with a brief description of the associated search request.
The Selection Filter:
• Additional feature obtained directly from the MeSH Term Details Report
• Provides additional information for the collection development, especially for high recurring MeSH terms.
Print MeSH Term Usage Frequency Reports

Arranges usage frequency MeSH terms in ascending order, simplifying the tracking process of high recurring terms.
Preliminary Results from the MeSH Analysis Database

MeSH TERM USAGE SUMMARY

(The Pivot Chart developed from the MeSH Term Usage Query)
Preliminary Results from the MeSH Analysis Database (Cont.)

Usage Frequency of Individual MeSH Terms

(Measure vs. MeSH TERM)

(The Pivot Chart developed from the Highest Recurring MeSH Term Query)
Preliminary Results from the MeSH Analysis Database (Cont.)

Usage Frequency of Individual MeSH Terms

(The Pivot Chart developed from the Highest Recurring MeSH Term Query)
Preliminary Results from the MeSH Analysis Database (Cont.)

Usage Frequency of Individual MeSH Terms

(The Pivot Chart developed from the Highest Recurring MeSH Term Query)
Preliminary Results from the MeSH Analysis Database (Cont.)

MeSH Term Usage Frequency Clustered by Clinician Status

(The Pivot Chart developed from the Highest Recurring MeSH Terms By Status Query)
References


