The Core or Not-so-Core Clinical Journals Subset: 
Data-driven Evidence on Clinical Utility

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Evidence-based Health Policy
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Core Clinical Journals/ Abridged Index Medicus Subset History

• **1970** – initiated by National Library of Medicine (NLM)

• Abridged Index Medicine became Core Clinical Journals (CCJ) subset

• Standardized list intended for clinical practice
Abridged Index Medicus/Core Clinical Journals: Clinicians' viewpoint:

• Per NEJM in 1970, the subset “certainly requires continuous review”

• Per JAMA in 1969, “All fields of clinical medicine are covered”


HSLS Clinical Librarians attended Morning Report

- HSLS’ Clinical Librarian Program: 1988-2012
- Answered 1-2 clinical questions daily
- 2007 – online Morning Report blog initiated
Purpose/Objective of the Project

To compare the physician-approved literature used for Morning Report in the Internal Medicine Department with journals listed in the PubMed Core Clinical Journals/Abridged Index Medicus (AIM) subset...

...in order to determine the Core Journals subset’s suitability for contemporary clinical searching and patient-centric decision-making.
Methods: Morning Report Blog
Searchable by subject tags or date

Health Sciences Library System
Serving the University of Pittsburgh and UPMC

Morning Report
Educate, Communicate, Share

January 17th, 2012

Renal failure in antiphospholipid syndrome


Tags: Antiphospholipid Syndrome, kidney diseases
Study Methodology

- Populate EndNote Library with blog citations and send to Excel
- Use Bradford’s law; Add AIM status, ISI Impact Factors, MeSH Subjects
- Analyze for impact, currency, recall and precision
Methods: Bradford-Ranked\(^2\) – Tier 1

<table>
<thead>
<tr>
<th>Group 1</th>
<th>27 jmls w/208 articles</th>
<th>approx 27 w/ 208 articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 2</td>
<td>92 jmls w/212 articles</td>
<td>approx 27 x 3=90 jmls w/209 articles</td>
</tr>
<tr>
<td>Group 3</td>
<td>206 jmls w/208 articles</td>
<td>approx 90 x 3=180 jmls w/210 articles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Journal Title</th>
<th>Frequency (#articles)</th>
<th>ISI Impact Factor</th>
<th>Core/Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Engl J Med</td>
<td>37</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Clin Infect Dis (incorporates Rev Infect Dis)</td>
<td>16</td>
<td>8.186</td>
<td>N</td>
</tr>
<tr>
<td>Chest</td>
<td>13</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Radiology</td>
<td>11</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Am J Gastroenterol</td>
<td>9</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Ann Intern Med</td>
<td>9</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Cochrane Database Syst Rev</td>
<td>9</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Kidney Int</td>
<td>8</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Arch Intern Med</td>
<td>7</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>AJR Am J Roentgenol</td>
<td>7</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Am J Med</td>
<td>6</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Circulation</td>
<td>6</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Hepatology</td>
<td>6</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Medicine (Baltimore)</td>
<td>6</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Lancet Neurol</td>
<td>5</td>
<td>21.659</td>
<td>N</td>
</tr>
<tr>
<td>Neurology</td>
<td>5</td>
<td>8.017</td>
<td>Y</td>
</tr>
<tr>
<td>Am J Kidney Dis</td>
<td>5</td>
<td>5.242</td>
<td>N</td>
</tr>
<tr>
<td>J Neurol Neurosurg Psychiatry</td>
<td>5</td>
<td>4.791</td>
<td>N</td>
</tr>
<tr>
<td>Cleve Clin J Med</td>
<td>5</td>
<td>3.495</td>
<td>N</td>
</tr>
<tr>
<td>Am Fam Physician</td>
<td>5</td>
<td>1.547</td>
<td>Y</td>
</tr>
<tr>
<td>CDC.org</td>
<td>4</td>
<td>null</td>
<td>null</td>
</tr>
<tr>
<td>JAMA: The Journal of the American Medical As</td>
<td>4</td>
<td>30.011</td>
<td>Y</td>
</tr>
<tr>
<td>J Clin Oncol</td>
<td>4</td>
<td>18.97</td>
<td>N</td>
</tr>
<tr>
<td>Gut</td>
<td>4</td>
<td>10.614</td>
<td>Y</td>
</tr>
<tr>
<td>Blood</td>
<td>4</td>
<td>10.558</td>
<td>Y</td>
</tr>
<tr>
<td>Am J Respir Crit Care Med</td>
<td>4</td>
<td>10.191</td>
<td>Y</td>
</tr>
<tr>
<td>J Clin Endocrinol Metab</td>
<td>4</td>
<td>6.495</td>
<td>Y</td>
</tr>
</tbody>
</table>
### Methods

ISI Medicine, General & Internal Journal Impact Factors

A screenshot from the ISI Web of Knowledge showing a journal summary list with journals sorted by impact factor. The top journals in this category and their impact factors are highlighted:

- **NEW ENGL J MED**: Impact Factor 53.486
- **LANCET**: Impact Factor 33.633
- **JAMA-J AM MED ASSOC**: Impact Factor 30.011
- **ANN INTERN MED**: Impact Factor 16.729
- **PLOS MED**: Impact Factor 15.617
- **BRIT MED J**: Impact Factor 13.471
- **ANNU REV MED**: Impact Factor 12.457

The table includes columns for the journal title, impact factor, total cites, and other metrics. The ranking is based on the user's journal and sort selections.
Broad Subject Terms are assigned by NLM® to MEDLINE® journals to describe the journal's overall scope. All of these broad subject terms (about 120) are valid MeSH® headings.

The links below run a search in the NLM Catalog. Once back in the NLM Catalog, a Subject Terms search can be further limited to currently indexed journals by selecting the Journal Subsets choice called Journals currently indexed in MEDLINE from the Limits page.

Not all journals in the NLM Catalog have these broad subject terms in addition to the more specific MeSH terms. Broad Subject Terms are only assigned to MEDLINE journals.

A

Acquired Immunodeficiency Syndrome
Aerospace Medicine
Allergy and Immunology - Includes Hypersensitivity, Lymphology, Serology, Serotherapy, and Interferons
see also Transplantation
Alternative Medicine see Complementary Therapies
Anatomy - includes Morphology
see also Cell Biology; Embryology; Histology; Pathology
Anesthesiology - includes Resuscitation
# Methods: Recall and Precision Formula

Recall and precision are two important metrics in evaluating the performance of information retrieval systems. They help in determining how well the system is retrieving relevant information.

## Recall Formula
Recall is defined as the ratio of relevant documents retrieved to the total number of relevant documents.

\[ \text{Recall} = \frac{a}{a + c} \]

- **a**: Core journals used in Morning Report in a subject.
- **c**: Core journals not used in Morning Report in a subject.

## Precision Formula
Precision is defined as the ratio of relevant documents retrieved to the total number of documents retrieved.

\[ \text{Precision} = \frac{a}{a + b} \]

- **b**: Non-Core journals used in Morning Report in a subject.

## Table Overview

<table>
<thead>
<tr>
<th>Database</th>
<th>Core Clinical Journals (Relevant)</th>
<th>Non-Core Journals (Not Relevant)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used in Morning Report</td>
<td>a</td>
<td>b</td>
<td>a + b</td>
</tr>
<tr>
<td>Not Used in Morning Report</td>
<td>c</td>
<td>d</td>
<td>c + d</td>
</tr>
<tr>
<td>Total</td>
<td>a + c</td>
<td>b + d</td>
<td>n (Total journals in that subject)</td>
</tr>
</tbody>
</table>

- **n**: Total journals in that subject.

### Notes
- **a**: Core journals used in Morning Report in a subject.
- **b**: Non-Core journals used in Morning Report in a subject.
- **c**: Core journals not used in Morning Report in a subject.
Results: Clinically, How Core?

Journals Used in Morning Report: NLM Core Clinical Subset

- 16% (53/325) Core Clinical
- 84% (272/325) Non-Core Clinical

Articles Used in Morning Report: NLM Core Clinical Subset

- 30% (189/628) Core Clinical
- 70% (439/628) Non-Core Clinical
### Results: ISI Top 20 High Impact Medicine Journals
7 Titles Overlap with Morning Report

<table>
<thead>
<tr>
<th>Morning Report Top 20 by Bradford rank</th>
<th>ISI General, Internal Medicine Top 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>• New England Journal of Medicine</td>
<td>• New England Journal of Medicine</td>
</tr>
<tr>
<td>• Clinical Infectious Diseases (incorp Rev Infect Dis)</td>
<td>• Lancet</td>
</tr>
<tr>
<td>• Chest</td>
<td>• JAMA</td>
</tr>
<tr>
<td>• Radiology</td>
<td>• Annals of Internal Medicine</td>
</tr>
<tr>
<td>• American Journal of Gastroenterology</td>
<td>• PLOS Medicine</td>
</tr>
<tr>
<td>• Annals of Internal Medicine</td>
<td>• British Medical Journal</td>
</tr>
<tr>
<td>• Cochrane Database of Systematic Reviews</td>
<td>• Annual Review of Medicine</td>
</tr>
<tr>
<td>• Kidney International</td>
<td>• Archives of Internal Medicine</td>
</tr>
<tr>
<td>• Archives of Internal Medicine</td>
<td>• Canadian Medical Association Journal</td>
</tr>
<tr>
<td>• AJR American Journal of Roentgenology</td>
<td>• Cochrane Database of Systematic Reviews</td>
</tr>
<tr>
<td>• American Journal of Medicine</td>
<td>• Journal of Internal Medicine</td>
</tr>
<tr>
<td>• Circulation</td>
<td>• BMC Medicine</td>
</tr>
<tr>
<td>• Hepatology</td>
<td>• Mayo Clinic Proceedings</td>
</tr>
<tr>
<td>• Medicine</td>
<td>• American Journal of Medicine</td>
</tr>
<tr>
<td>• Lancet Neurology</td>
<td>• Annals of Family Medicine</td>
</tr>
<tr>
<td>• Neurology</td>
<td>• Annals of Medicine</td>
</tr>
<tr>
<td>• American Journal of Kidney Disease</td>
<td>• Medicine</td>
</tr>
<tr>
<td>• Journal of Neurology, Neurosurgery, &amp; Psychiatry</td>
<td>• American Journal of Preventive Medicine</td>
</tr>
<tr>
<td>• Cleveland Clinic Journal of Medicine</td>
<td>• Cleveland Clinic Journal of Medicine</td>
</tr>
<tr>
<td>• American Family Physician</td>
<td>• Preventive Medicine</td>
</tr>
</tbody>
</table>
Results: How often does Current vs Classic Literature Answer the Question?

- Articles <5 yrs old: 63% (396/628)
- Articles 5-10 yrs old: 22% (136/628)
- Articles >10 yrs old: 12% (74/628)
- Articles 20-38 yrs old: 4% (23/628)
Results: Precision & Recall by Journal Subjects

58% of subjects had 0% precision and 0% recall
MedPrint

Medical Serials Print Preservation Program

The National Network of Libraries of Medicine (NN/LM) and the National Library of Medicine (NLM) are working together to ensure the preservation of and continued access to the literature through a national cooperative medical serials print retention program (MedPrint).

1. Approximately 250 AIM and PMC titles have been identified as the primary set of materials to preserve in print.

In actuality, when was AIM last updated?

<table>
<thead>
<tr>
<th>Subset Code</th>
<th>Journal/Citation Subset</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIM</td>
<td>Abridged Index Medicus is a list created in 1970 of approximately 120 core clinical English language journals that corresponds to &quot;Core clinical journals&quot; journal category selection in filters.</td>
</tr>
</tbody>
</table>

http://www.ncbi.nlm.nih.gov/books/NBK3827/table/pubmedhelp.1.3.24/

Last accessed April 23, 2013
As noted in numerous 1970 publications, the original AIM list included 100 journals.

In 1979, the list has 26 additions and 8 deletions made for a resulting 119 titles.

In 2013, the Core Clinical Journal subset has 119 titles.
Conclusions

within our study...

16% of relevant journals were AIM/Core Clinical Journal (CCJ) titles.

35% of journals overlapped with ISI Internal Medicine high impact set.

We could not identify a current system for regularly evaluating or updating the CCJ subset.

• The current AIM/CCJ collection may have limited relevance for hospital-based clinical care.

• Clinically valuable journals may differ from academically important titles.

• The continued use of the AIM/CCJ subset within the PubMed database warrants its regular and systematic review and updating to ensure clinical relevance.
Limitations

- This is only one Morning Report Team at a large tertiary care hospital. Smaller or community hospitals may have different journal usage.
- Journals used for decision-making within community-based physician practices may vary.
References & Acknowledgments

1. NLM correspondence
5. PubMed Online Help
6. ISI Journal Citation Reports

- Other Morning Report Librarians included at various times Charlie Wessel, Ahlam Saleh, and Linda Hartman
- Bedda L. Rosario-Rivera from Pitt’s Clinical and Translational Science Institute assisted with developing our recall/precision formula.
36 Subjects with 0 Recall, 0 Precision

1. Acquired Immunodeficiency Syndrome (No Core)
2. Anesthesiology
3. Anti-bacterial Agents (No Core)
4. Biochemistry (No Core)
5. Biology (No Core)
6. Brain
7. Chemistry (No Core)
8. Chemistry, clinical (No Core)
9. Clinical Laboratory Techniques
10. Diagnostic Imaging
11. Drug Therapy
12. Epidemiology (No Core)
13. Geriatrics
14. Hospitals
15. Microbiology (No Core)
16. Molecular Biology (No Core)
17. Neoplasms
18. Nephrology
19. Nuclear Medicine (No Core)
20. Otolaryngology
21. Pharmacology
22. Physiology (No Core)
23. Psychiatry
24. Psychology
25. Psychophysiology (No Core)
26. Public Health
27. Radiotherapy (No Core)
28. Science (No Core)
29. Sexually Transmitted Diseases (No Core)
30. Therapeutics
31. Transplantation (No Core)
32. Traumatology
33. Urology
34. Veterinary medicine (No Core)
35. Virology (No Core)
36. Vital Statistics (No Core)