The development of a MEDLINE search filter to find PPI (patient and public involvement) research literature

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PPI filter project

Why is PPI important?

Finding PPI literature

And why do we need a filter?

Developing and testing a search filter for PPI
Patient and Public Involvement (PPI)

That which is done with or by patients and the public rather than to, for, or about them

INVOLVE 2014
Why is PPI important?

The process of involvement encourages a more open-minded approach to what research should be carried out, what forms of healthcare are worth investigating and which health outcomes are important


The public have the ‘right to be involved, directly or through representatives, in the planning of healthcare services’

NHS Constitution 2013

That “lay people, and organisations representing their interests, have opportunities to contribute to developing NICE guidance, advice and quality standards, and support their implementation”

National Institute for Health and Care Excellence 2013
Finding PPI literature in research

• Not often the focus of the research
• Confusing terminology
• Poorly defined
• Hard to separate from general patient literature
Search filters

• Individual validated search strategies

• Designed to retrieve records with a common theme (typically study design)

• Facilitate the non-retrieval of irrelevant references while preserving capture of relevant references

• Designed to use in combination with a broader search strategy

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Example of a filter: randomized controlled trials

1 randomized controlled trial.pt.
2 controlled clinical trial.pt
3 randomized.ab.
4 placebo.ab
5 drug therapy.fs
6 randomly.ab
7 trial.ab
8 groups.ab
9 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10 exp animals/ not humans.sh
11 9 not 10
Steps for designing a filter

Step 1: Develop a gold (or reference) standard and divide into 2 sets: Test Set & Development Set

Step 2: Select search terms from Development Set

Step 3: Create and refine strategy (filter) using Development Set

Step 4: Test filter using Test Set
Step 1: Development of the Gold Standard

- Refs from PenPIG library N=114
- Refs from INVOLVE N=27
- Refs from SRs N=62
- Hand-searching journals N=6

- 209 records
  - Not relevant 37 records
  - Not on MEDLINE 45 records
  - Reference Standard 172 records
    - Reference Standard for MEDLINE filter 127 records
      - Development set 59 records
      - Test set 68 records

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Coverage of gold standard papers across 3 databases

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Word cloud generated from PPI filter Gold Standard

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Step 2: Selection of search terms

<table>
<thead>
<tr>
<th>Search terms</th>
<th>Sensitivity Number of key records (% retrieved)</th>
<th>Total number of records retrieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>MeSH (Medical Subject Headings)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer participation</td>
<td>34 (58%)</td>
<td>14548</td>
</tr>
<tr>
<td>Patient participation</td>
<td>17 (29%)</td>
<td>18396</td>
</tr>
<tr>
<td>Search phrases (in the title and abstract fields)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public involvement</td>
<td>11 (19%)</td>
<td>344</td>
</tr>
<tr>
<td>Consumer involvement</td>
<td>10 (17%)</td>
<td>221</td>
</tr>
<tr>
<td>User involvement</td>
<td>9 (15%)</td>
<td>431</td>
</tr>
<tr>
<td>Participatory research</td>
<td>7 (12%)</td>
<td>1981</td>
</tr>
<tr>
<td>Patient participation</td>
<td>4 (7%)</td>
<td>1346</td>
</tr>
<tr>
<td>Patient involvement</td>
<td>3 (5%)</td>
<td>1084</td>
</tr>
<tr>
<td>Public participation</td>
<td>3 (5%)</td>
<td>461</td>
</tr>
<tr>
<td>Consumer participation</td>
<td>2 (3%)</td>
<td>233</td>
</tr>
<tr>
<td>Public engagement</td>
<td>2 (3%)</td>
<td>274</td>
</tr>
<tr>
<td>User participation</td>
<td>2 (3%)</td>
<td>131</td>
</tr>
<tr>
<td>Community engagement</td>
<td>1 (1%)</td>
<td>654</td>
</tr>
<tr>
<td>Community participation</td>
<td>1 (1%)</td>
<td>2125</td>
</tr>
<tr>
<td>Community involvement</td>
<td>1 (1%)</td>
<td>1166</td>
</tr>
</tbody>
</table>
## Step 3: Developing the filter

<table>
<thead>
<tr>
<th>Combinations of search terms</th>
<th>Number of key records (% retrieved)</th>
<th>Number retrieved in total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involv* AND (patient* or lay or people or public or consumer* or user* or citizen*) AND (health or research)</td>
<td>44 (75%)</td>
<td>73863</td>
</tr>
<tr>
<td>Participat* AND (patient* or lay or people or public or consumer* or user* or citizen*) AND (health or research)</td>
<td>29 (49%)</td>
<td>49379</td>
</tr>
<tr>
<td>Engag* AND (patient* or lay or people or public or consumer* or user* or citizen*) AND (health or research)</td>
<td>16 (27%)</td>
<td>15010</td>
</tr>
<tr>
<td>(Partners or partnership) and (health or research)</td>
<td>9 (15%)</td>
<td>27929</td>
</tr>
</tbody>
</table>

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PPI search filter developed for MEDLINE

1 consumer participation/
2 patient participation/
3 1 or 2
4 (patient* or public or lay or people or consumer* or user* or citizen*).ti,ab.
5 (participat* or involv* or engag*).ti,ab.
6 (health or research).ti,ab.
7 4 and 5 and 6
8 (partners or partnership).ti,ab.
9 6 and 8
10 3 or 7 or 9

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Step 4: Testing the filter

<table>
<thead>
<tr>
<th></th>
<th>Number of references retrieved (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development set</td>
<td>59/59 (100%)</td>
</tr>
<tr>
<td>Test set</td>
<td>67/68 (98.5%)</td>
</tr>
</tbody>
</table>
Limitations

- Small data set used
- Filter has not been tested for specificity – as standalone search it returns 168,500+ hits
- Record missed described population by condition
Useful references/links


The InterTASC Information Specialists' Sub-Group Search Filter Resource https://sites.google.com/a/york.ac.uk/issg-search-filters-resource/home
Get in touch!

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Any questions?