Creating value through altmetrics: Challenge 2.0 for health libraries

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Comparison

Journal Impact Factor

- Measures the impact of a **journal** through citation counts
- Inclusion of journal articles only
- Accumulation of citation counts for impact measurement takes years
- Measurement for academics (e.g. promotion and tenure)

- Discipline bias: some disciplines publish more in scientific journals than other disciplines (who may use other publication platforms such as patents in Chemistry)
- Susceptible to data manipulation (gaming)

Altmetrics

- Measures the impact of an **article** through number of downloads, views, mentions, etc. (no common intent)
- Inclusion of other means of publication such as grey literature, software, data sets
- Instant impact measurement
- Possibility to measure impact for audiences outside the scientific community

- Difficult to find altmetrics data for "older" articles (<2010)
- Variable output per altmetrics aggregator
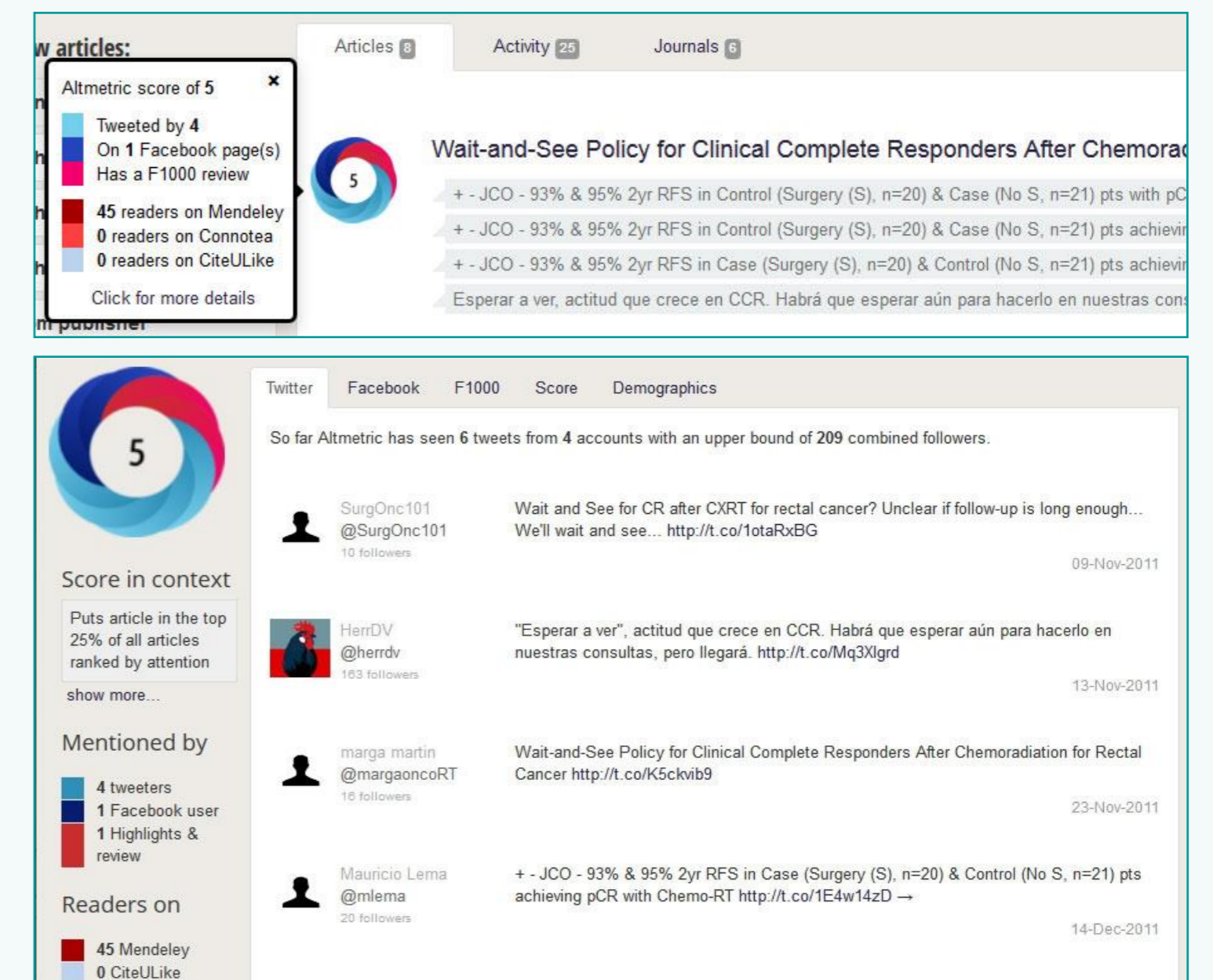- Susceptible to data manipulation (gaming)

Figure 1. Example of altmetrics data of an article published by one of our surgeons, both general (top view) and detailed (bottom view). Each colour corresponds with another form of impact: Twitter tweets (turquoise), Facebook mentions (dark blue), F1000 review (pink), readers of the article on Mendeley (dark red), etc.

Incorporating altmetrics into your daily practice: How?

1: Choose an altmetrics provider

Altmetric
Impactstory
PLUM ANALYTICS

There are several altmetrics aggregators available.

For our research, we used Altmetric.com

2: Data collection from institutional repository

The institutional repository of Orbis Medisch Centrum, maintained by our hospital library, is a database with records of scientific articles published by the hospital staff. We accumulated **repository data from 2011 to 2014**, which mainly consists of articles referenced in PubMed. This data was entered in the altmetrics aggregator by Altmetric.com: the **Altmetric Explorer** (see figure 1 for an example).
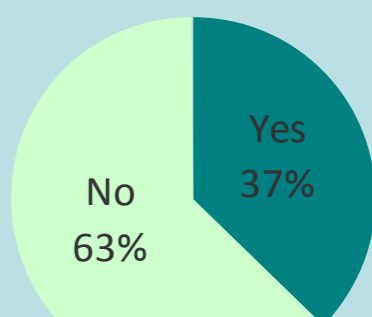
Dependent on the intended use, one can choose to accumulate data for example per scholar, research project group or department. For analytical purposes, we chose to generate altmetrics data on publications per specialism.

3: Data analysis

What do you want to analyze?
Examples: comparison between departments, common published journals, overview of comments on a particular research subject
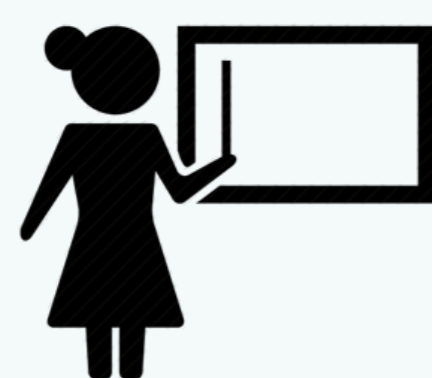
Altmetrics data available for Orbis Medisch Centrum's articles

Yes 37%
No 63%

Out of the 164 publications from our hospital staff between 2011 and 2014, altmetrics data was available for 61 publications

4: Purposes of altmetrics data analysis
The added value of altmetrics data for libraries

Altmetrics education

Not many people are yet familiar with altmetrics. Health libraries can add it to their portfolio of information literacy education[1].

Ideas to educate altmetrics as information skill:
- **one on one sessions**
- **presentations for research project groups**
- **group presentations or workshops**

Educate the participants in using altmetrics and/or social media to:
1) analyze their impact
2) make use of the possibilities to make their work known
3) participate in the scholarly community on a whole new level

Business intelligence

As altmetrics matures, it can be applied for business intelligence purposes to complement other measures such as user statistics.

Ideas to use altmetrics to gather management information:
- overview of altmetrics score of articles per research project, to **assist in the acquirement of research grants**
- overview of journals that are frequently published in, to aid in the decision making process for the **allocation of the library collection budget** (see figure 2)
- overview of the institutional publications or the publications per specialism, to **measure hospital-wide scholarly output**

Research support

A health library can provide research project teams with valuable information: an add-on to the "traditional" literature search.

Ideas to use altmetrics as an aid in research support:
- **Add to your existing institutional repository by including altmetrics data**. It offers a quick glance into your institutions' research impact on the world wide web
- **Inform project members about related articles, blog and social media posts about the research subject** found through altmetrics. This allows them to stay on top of their research subject

Considerations

- A vast amount of articles has **no altmetrics data available**, even those articles that have a PubMed ID or DOI
- Altmetrics data **varies between aggregators**
- **No differentiation in altmetrics data** between academic and 'popular' scientific research
- Gaming (e.g. automated scripts to generate page views, bought tweets)[2]
- Altmetrics data can be hard to interpret, because it consists of several metrics (e.g. a score for downloaded, viewed, cited)

Journals most frequently published in (Hospital-wide)

British Journal of Surgery | Academic Emergency Medicine | Journal of Crohn's and Colitis | BMC Neurology
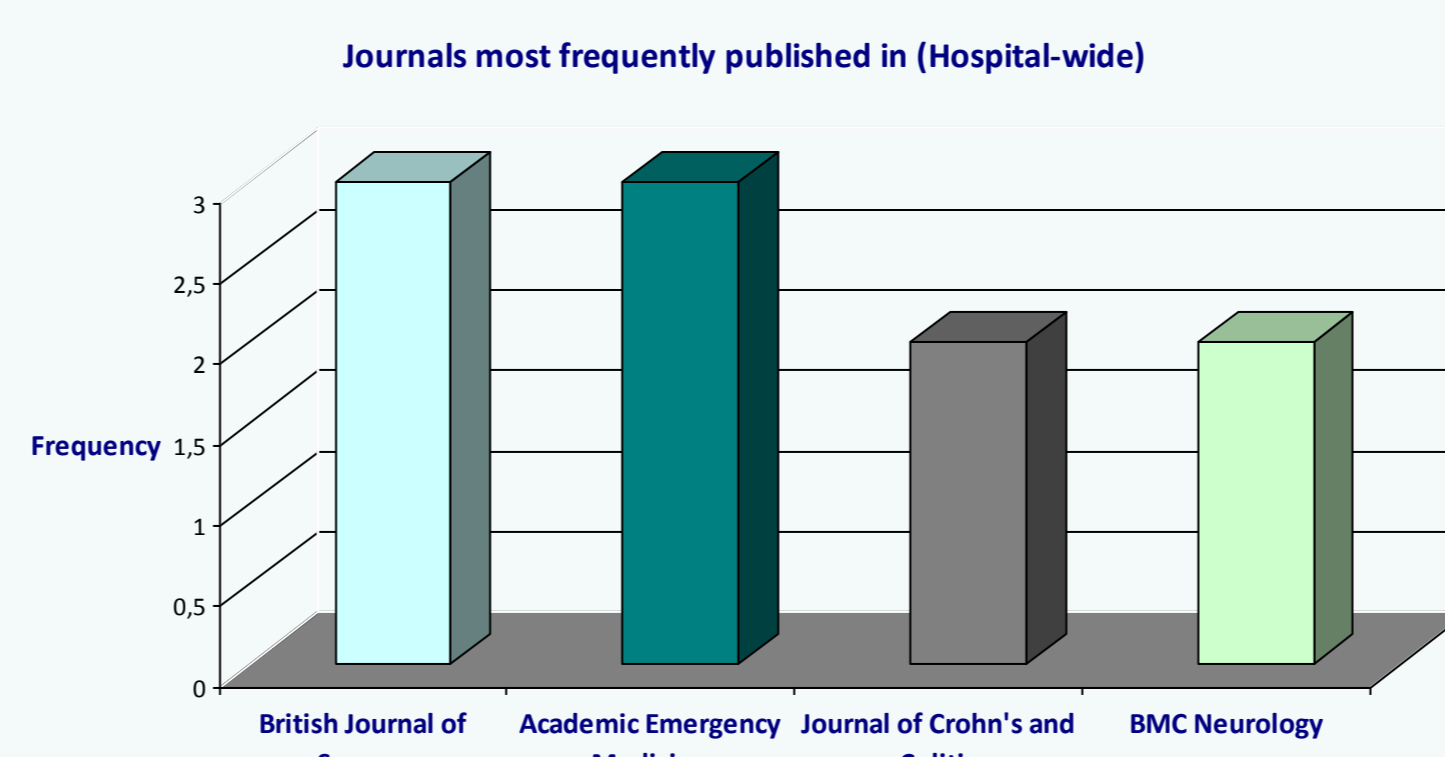
Figure 2. In Microsoft Excel, a count formula was generated to display the frequency of journal publications per journal. In the above graph, our top 4 is displayed. The other 41 journals all had a frequency of 1 publication per journal. We do not have a subscription to two out of four journals. One could argue that, in the future, the above data will be useful as a guide when deciding about buying new journal subscriptions.

Conclusion

Before altmetrics can be widely adapted and health libraries can start to use it as a reliable tool, many obstacles need to be overcome.

For the time being, the asset of altmetrics for health libraries lies in the guidance of our visitors in improving their information literacy skills and educating them to make the most of the current available resources.

Once altmetrics is more established, one can start to consider using altmetrics data in other health library areas, such as collection development.

References:

[1] Lapinski S., Piwowar H., Priem J. (2013). Riding the crest of the altmetrics wave: How librarians can help prepare faculty for the next generation of research impact metrics. *College & Research Libraries News*, 74(6), 292–300.

[2] Taylor, M. (2014, Feb 20). Altmetrics: a primer [Webinar]. In *Library Connect Webinar Librarians & altmetrics: tools, tips and cases*. Retrieved from http://libraryconnect.elsevier.com/sites/default/files/LCW4_slides_Feb-20-2014.pdf

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LM information delivery