Altmetric Data – What can it Mean for You?

December 9th, 2015

Ben McLeish,
Product Sales Manager, Europe
ben@altmetric.com
What we’ll cover

• Definition of altmetrics
• Why altmetrics; why now?
• Why altmetrics matter to Pharma
• Who we are – where you see our data
• How we do it & What we track
• Examples and Demo
What are altmetrics? In the broadest sense they measure...

- Attention
- Immediacy (snapshot NOT time lapse)
- Non-academic engagement
  - Beyond scholarly academic publishing
- Non-traditional sources
  - Beyond academic journals
- Non-traditional research outputs
  - Provide data for all outputs, not just research articles (code, data, software, images, etc)
What are they not?

- Web analytics
  - Searches/sessions/platform performance
- Quality indicators
  - Kim Kardashian versus Nelson Mandela
- Proxies/predictors for citations
- Social media monitoring
  - Hootsuite, etc
- Media media monitoring
  - Cision, Meltwater, etc
What do they indicate? Attention/engagement on a *spectrum*

- Superficial
- Article may or may not have been read
- Many potential readers but few actual
- Cost-light (er)

- Article more likely to be read
- Cost-heavy (ier)
- Readers = practitioners (?)
- Actionable (?)

@BenMcLeish
@altmetric
What *audiences* are they indicators for?

Practitioners

Scholars

Professional Communicators

Interested Parties
In a nutshell? Altmetrics are...

- Dynamic attention and immediacy indicators
- From non-traditional sources
- Indicating non-traditional use by many audiences

QUALITATIVE!

@BenMcLeish @altmetric
Why altmetrics and why now?
Digitally native research is openly available... *Everyone*, not just researchers, *can read research...and talk about it*

- **44K** online mentions of scholarly articles every day.
- **1** mention every 2 seconds!
- **50K** unique articles are shared each week.
- **>4.5M** articles with tracked attention data.

Source: Altmetric internal data, November 2015

@BenMcLeish
@altmetric
Democratization of information: *Everyone* can read peer-reviewed research

- Practitioners
- General Public
- Scholars
- Professional Communicators
- Interested Parties

@BenMcLeish
@altmetric
Print based paradigm in a digital age: Lagging indicators

Article metrics for:
The evolution of cichlid fish egg-spots is linked with a cis-regulatory change
M. Emília Santos, Ingo Braasch, Nicolas Boileau, Britta S. Meyer, Loïc Sauteur, Astrid Böhne, Heinz-Georg Belting, Markus Affolter & Walter Salzburger

Nature Communications 5, Article number: 5149 (2014) doi:10.1038/ncomms6149

Last updated: 14 October 2014 13:45:47 EDT

Total citations

Data not available  Data not available  Data not available
Web of Science  CrossRef  Scopus

Online attention

Altmetric score (what's this?)
Tweeted by 48
On 6 Facebook pages
Picked up by 12 news outlets
Blogged by 1

This Altmetric score means that the article is:
- in the 99 percentile (ranked 281st) of the 38,911 tracked articles of a similar age in all journals

USA News
The cichlids egg-spots: How evolution creates new characteristics
Daily News
The evolution of new traits with novel functions has normally posed a challenge to evolutionary biology. Studying the colour mar ..

2014-10-09T10:17:50+01:00
Traditional metrics = scholarly use

- Pharma
- Government agencies
- Funders
- Non-traditional use
- Foundations
- Academic institutions
Why altmetrics should matter to *pharma*
A sector with unique needs

- Regulatory compliance
- Competitive benchmarking
- Audience engagement
- Reputation management
How can we help?
Who are we?

Altmetric is a data science company that tracks attention to research outputs, delivering output level metrics via visually engaging, intuitive interfaces.
Where will you see our data? Publishers
Institutions: reputation management, fundraising, funding evaluation/compliance
Where will you see our data? **Other metrics providers**
Where will you see our data? Platforms

- **QxMD**
  - Recommendation Engine Integration for Medical research Apps

- **HighWire**
  - Integrating Altmetric service into publishing platform

- **Silverchair**
  - Altmetric Integration for JAMA and others to monitor research impact

- **scienceOPEN.com**
  - Integrates Altmetric data for over 1 million articles
Where will you see our data? **Books**

The Growth of INCARCERATION in the United States

Exploring Causes and Consequences

Status: Final Book
Downloads: 10,785

Total PDF Downloads: 10,785

PDF Downloads Over Time

What is an Altmetric score?

Altmetric calculates a score based on the online attention a publication receives. Each colored thread in the circle represents a different type of online attention and the number in the center is the Altmetric score. The score is calculated based on two main sources of online attention: social media and mainstream news media. Older publications will typically score higher because they have had more time to get noticed.

For a more detailed description of Altmetric, the Altmetric score, and sources used, please see Altmetric's information page.
Altmetrics are about **reach**: A robust strategy can...

- Help identify optimal user/platform targeting
- Help you understand segments of attention
  - Regions
  - Therapeutic areas
  - Practitioners, etc
- Mitigate PR crises/fires
- Identify new journals, communities, audiences, practitioners, target outlets
- Identify pockets of misinformation
So how do we do it?

The Altmetric database: Tracking 4.5M articles and growing
How do we populate our database? **3 things needed**

- **An output** (journal article, dataset, etc)
- **An identifier** attached to the output (DOI, NCT, PubMed etc)
- Mentions in a **source we track**
Sources we track... MORE than social media

News outlets
- Over 1,300 sites and growing every day
- Manually curated list
- Text mining
- Global coverage

Academic blogs and social media
- Twitter, Facebook, Google+
- Public posts only
- Manually curated list
- Almost 10K academic/field specific blogs

Post-publication peer review
- Publons
- PubPeer

Reference managers
- Mendeley, CiteULike
- Reader counts

Other sources
- Wikipedia
- YouTube
- Reddit
- F1000
- Pinterest
- Q&A
- Citations (by end of 2015)

Policy documents
- NICE Evidence
- Intergovernmental Panel on Climate Change
- Many more...
Unique IDs we track... **MORE** than DOIs

<table>
<thead>
<tr>
<th>ID Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOIs</td>
<td>General</td>
</tr>
<tr>
<td>PubMed ID</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>arXiv ID</td>
<td>Physics, Mathematics &amp; Computer Sciences</td>
</tr>
<tr>
<td>ADS ID</td>
<td>Astrophysics data system</td>
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<tr>
<td>SSRN ID</td>
<td>Social Sciences</td>
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<tr>
<td>RePEEC ID</td>
<td>Economics</td>
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<tr>
<td>Handles</td>
<td>General</td>
</tr>
<tr>
<td>ClinicalTrials.gov Records</td>
<td>Medicine/biomedical</td>
</tr>
</tbody>
</table>
Visuals we provide... *More* than just numbers

<table>
<thead>
<tr>
<th>Volume</th>
<th>Sources</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>The score for an article rises as more people mention it.</td>
<td>Each source category contributes a different base amount to the final score.</td>
<td>Assess the author of each mention in terms of their reach, promiscuity and bias.</td>
</tr>
</tbody>
</table>

- Tweeted by 293
- Blogged by 4
- On 200 Facebook pages
- Mentioned in 6 Google+ posts
- Picked up by 1 news outlets
- Mentioned in 1 LinkedIn forums
- reddited by 2
- On 1 videos

- 166 readers on Mendeley
- 1 reader on Connotea
- 3 readers on CiteULike
A sector with unique needs
A sector with unique needs
Data we provide... **MORE** than just numbers; *auditable data*
Using the Altmetric database
Explorer for Institutions

- Reporting from article level to entire organization
  - Therapeutic area? Drug? Region? Phase?
- Visualizations/alerts
- Access to full Altmetric database
  - ~4.5M+ articles including competitor data
- Easy implementation; little reliance on researcher maintenance
- Custom reporting
- Access to complete Altmetric database (not just your/your firm/company’s data)
Competitive benchmarking: Altmetric database retains data for 4.5M+ growing
Integrated PubMed Advanced Search

Matching PubMed query

3 results fetched from PubMed, 3 matched when no time filter applied.
"/1 cyclohexyl 4 1,2 diphenylethyl"

Fetch PubMed results

Funded by

MT-45, a new psychoactive substance associated with hearing loss and unconsciousness.
Clinical Toxicology (15563650)

Understanding the availability, prevalence of use, desired effects, acute toxicity and dependence potential of the novel opioid MT-45.
Clinical Toxicology (15563650)

MT-45: a new, dangerous legal high.
Journal of Opioid Management
Competitive benchmarking: Filter by Pubmed query for “Alirocumab”
Competitive benchmarking: Filter by Pubmed query for “Alirocumab”

<table>
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<tr>
<th>Score</th>
<th>Journal</th>
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<tbody>
<tr>
<td>35.78</td>
<td>New England Journal of Medicine</td>
</tr>
<tr>
<td>25.25</td>
<td>European Heart Journal</td>
</tr>
<tr>
<td>16</td>
<td>Nature Reviews Cardiology</td>
</tr>
<tr>
<td>14.85</td>
<td>JAMA: Journal of the American Medical Association</td>
</tr>
<tr>
<td>6.2</td>
<td>BMC Medicine</td>
</tr>
<tr>
<td>6.0</td>
<td>Vascular Health and Risk Management</td>
</tr>
<tr>
<td>5.2</td>
<td>Expert Opinion on Drug Metabolism &amp; Toxicology</td>
</tr>
<tr>
<td>4.8</td>
<td>Circulation: Cardiovascular Genetics</td>
</tr>
<tr>
<td>3</td>
<td>Journal of the American College of Cardiology (JACC)</td>
</tr>
<tr>
<td>3</td>
<td>Trends in Cardiovascular Medicine</td>
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<tr>
<td>3</td>
<td>mAbs</td>
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<td>3</td>
<td>Current Atherosclerosis Reports</td>
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Comparing Publicly-funded vs Industry-funded trials
Reg. Compliance: Tracking ClinicalTrials.gov NCT records

<table>
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<tr>
<th>Rank</th>
<th>NCT Number</th>
<th>Title</th>
<th>Recruitment</th>
<th>Study Result</th>
<th>Conditions</th>
<th>Intervention</th>
<th>Sponsor/Coll Gender</th>
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<tbody>
<tr>
<td>1</td>
<td>NCT0173308</td>
<td>The Mycophi Recruiting</td>
<td>No Results</td>
<td>A Heart Transplantation, Kid Genentech, I Female</td>
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<tr>
<td>1</td>
<td>NCT0174410</td>
<td>Multicente Recruiting</td>
<td>No Results</td>
<td>A Nasal Conge</td>
<td>Drug: pseud Perrigo Cm Both</td>
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<tr>
<td>1</td>
<td>NCT0259425</td>
<td>phase 2 Stud Recruiting</td>
<td>No Results</td>
<td>A Dental Carie</td>
<td>Drug: C16G2 C3 Jian, Inc,</td>
<td>Both</td>
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<tr>
<td>1</td>
<td>NCT0258615</td>
<td>Effect of RVX Recruiting</td>
<td>No Results</td>
<td>A Diabetes Me</td>
<td>Drug: RVX00 Resverlogix C Both</td>
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</tr>
<tr>
<td>1</td>
<td>NCT0257263</td>
<td>Phase I Stu Recruiting</td>
<td>No Results</td>
<td>A Pneumococ</td>
<td>Biological: Pr ImmunoBio Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>NCT0190559</td>
<td>Phase III Tr Recruiting</td>
<td>No Results</td>
<td>A Carcinoma</td>
<td>drug: nirapai Tesaro, Inc,</td>
<td>Both</td>
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<tr>
<td>1</td>
<td>NCT0146047</td>
<td>Immunother Recruiting</td>
<td>No Results</td>
<td>A NSCLC</td>
<td>Lung: Biological: Pr Rombio SL Both</td>
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</tr>
<tr>
<td>1</td>
<td>NCT0261606</td>
<td>comparative Recruiting</td>
<td>No Results</td>
<td>A Trauma ,</td>
<td>Pair Drug: Transd Dailchi Sanky Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>NCT0261352</td>
<td>safety and in Not yet recr</td>
<td>No Results</td>
<td>A Malaria</td>
<td>Biological: Pf Sanaria Inc,</td>
<td>Both</td>
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<tr>
<td>1</td>
<td>NCT0259632</td>
<td>Study Inve Recruiting</td>
<td>No Results</td>
<td>A Allergy</td>
<td>Asth: Drug: Mitizai Abbott</td>
<td>Linic Both</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>NCT0257894</td>
<td>Diclofenac</td>
<td>Not yet recr</td>
<td>A Cancer of the Radiatio</td>
<td>F: Blue Earth Dl Male</td>
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<tr>
<td>1</td>
<td>NCT0254415</td>
<td>Evaluation of Recruiting</td>
<td>No Results</td>
<td>A Irritable Bow Drug: LubiIn Sucampo AG Both</td>
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<td></td>
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<tr>
<td>1</td>
<td>NCT0254200</td>
<td>Safety and El Recruiting</td>
<td>No Results</td>
<td>A Coronary Art Device: Orbis OrbusNeich</td>
<td>Both</td>
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<tr>
<td>1</td>
<td>NCT0250068</td>
<td>the Safety, T Recruiting</td>
<td>No Results</td>
<td>A Influenza, Hu</td>
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<tr>
<td>1</td>
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<td>No Results</td>
<td>A Highly Drug: i Drug: UCB09 UCB Biophar Both</td>
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<tr>
<td>1</td>
<td>NCT0249143</td>
<td>Randomize Recruiting</td>
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<td>A Female</td>
<td>Infer Drug: Dydrog Abbott</td>
<td>PRA Female</td>
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<td>1</td>
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<tr>
<td>1</td>
<td>NCT0240104</td>
<td>Multi-Cent Recruiting</td>
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<td>A Diffuse Large Drug: Ibrutin Pharmacyclic Both</td>
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<tr>
<td>1</td>
<td>NCT0239193</td>
<td>study of Intr Recruiting</td>
<td>No Results</td>
<td>A Intrinsic Aqin</td>
<td>Drug: RCS-01 RepliCelli Life Both</td>
<td></td>
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<tr>
<td>1</td>
<td>NCT0238527</td>
<td>Study of CR Recruiting</td>
<td>No Results</td>
<td>A Coronary Ste</td>
<td>Device: MIST: ECRI bv</td>
<td>Mice Both</td>
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<tr>
<td>1</td>
<td>NCT0234990</td>
<td>tesosulfan-b Recruiting</td>
<td>No Results</td>
<td>A Primary Imm</td>
<td>Drug: Teosus medac Gmbh Both</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>NCT0234938</td>
<td>Maintaining Recruiting</td>
<td>No Results</td>
<td>A Cancer of the Drug: BHR-2I BHR Pharma</td>
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<tr>
<td>2</td>
<td>NCT0233305</td>
<td>tesosulfan-b Recruiting</td>
<td>No Results</td>
<td>A Acute Lymph</td>
<td>Drug: Teosus medac Gmbh Both</td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>NCT0230104</td>
<td>Safety and El Recruiting</td>
<td>No Results</td>
<td>A Tendinos</td>
<td>T Drug: RCT-01 RepliCelli Life Both</td>
<td></td>
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<tr>
<td>2</td>
<td>NCT0231870</td>
<td>GS-5565 Pha Recruiting</td>
<td>No Results</td>
<td>A Diabetic Peri Drug: DS-556 Daichi Sanky Both</td>
<td></td>
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<tr>
<td>2</td>
<td>NCT0229815</td>
<td>A Study of At Recruiting</td>
<td>No Results</td>
<td>A Non-small Ci</td>
<td>Drug: ateziol Incyte Corpo Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>NCT0229769</td>
<td>phase II Trial Recruiting</td>
<td>No Results</td>
<td>A Breast Canc</td>
<td>Biological: Ni Cancer Insig Both</td>
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<tr>
<td>2</td>
<td>NCT0229628</td>
<td>safety and El Not yet recr</td>
<td>No Results</td>
<td>A Radiation</td>
<td>Pn Drug: Pirfeni Beijing Conti Both</td>
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<tr>
<td>2</td>
<td>NCT0227952</td>
<td>Clinical Tri Recruiting</td>
<td>No Results</td>
<td>A Fatty Liver</td>
<td>Drug: Aramci Galmed Phar Both</td>
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<tr>
<td>2</td>
<td>NCT0227372</td>
<td>evaluation of Recruiting</td>
<td>No Results</td>
<td>A CKD Anemia</td>
<td>Drug: Epoetin FibroGen</td>
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<tr>
<td>2</td>
<td>NCT0226804</td>
<td>study of RTX Recruiting</td>
<td>No Results</td>
<td>A Diffuse Large Biological: RT Maxbience S Both</td>
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<tr>
<td>2</td>
<td>NCT0226466</td>
<td>observations Recruiting</td>
<td>No Results</td>
<td>A Pancreatic N Drug: sunitin Pfizer</td>
<td>Novar Both</td>
<td></td>
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<tr>
<td>2</td>
<td>NCT0217859</td>
<td>open-label S Recruiting</td>
<td>No Results</td>
<td>A Infection, Hu</td>
<td>Drug: DTG S III Healthc Both</td>
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<tr>
<td>2</td>
<td>NCT0214922</td>
<td>SAPVAC Pha Recruiting</td>
<td>No Results</td>
<td>A Globlastomi</td>
<td>Drug: APVAC immatics Bio Both</td>
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<tr>
<td>2</td>
<td>NCT0213813</td>
<td>long-term Ss Recruiting</td>
<td>No Results</td>
<td>A Constipation</td>
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<td>2</td>
<td>NCT0212730</td>
<td>phase 4 Stud Recruiting</td>
<td>No Results</td>
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<td>2</td>
<td>NCT0207716</td>
<td>ibritinib in C Recruiting</td>
<td>No Results</td>
<td>A Relapsed Dif Drug: Ibrutin Pharmacyclic Both</td>
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<tr>
<td>2</td>
<td>NCT0207242</td>
<td>dexamabans vs. Recruiting</td>
<td>No Results</td>
<td>A Atrial Fibrilla</td>
<td>Drug: edoxadai Daichi Sanky Both</td>
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<td>2</td>
<td>NCT0205231</td>
<td>safety and El Recruiting</td>
<td>No Results</td>
<td>A Anemia in In Drug: FG-45S FibroGen</td>
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<tr>
<td>2</td>
<td>NCT0184219</td>
<td>efficacy and Recruiting</td>
<td>No Results</td>
<td>A Constipation</td>
<td>Drug: Lubipri Sucampo AG Both</td>
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</tr>
</tbody>
</table>
Edit group article list

Enter a list of up to 10,000 DOIs, arXiv IDs, RePEc identifiers, handles or PubMed IDs corresponding to the articles you are interested in below. Each one should be on a separate line.

NCT01733082
NCT01744106
NCT02594254
NCT02586155
NCT02572635
NCT01905592
NCT01460472
NCT02616068
NCT02613520
NCT02596321
NCT02578940
NCT02644150
Competitive analysis: Custom reporting/alerts

Altmetric Explorer summary report for:
Alerts on Industry-funded Trials

2,053 total articles
8,791 distinct mentions
8,489 score of first 1k articles

Top articles

<table>
<thead>
<tr>
<th>Score</th>
<th>Article</th>
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<tbody>
<tr>
<td>106</td>
<td>Safety, Tolerability and Efficacy for CGF166 in Patients With Bilateral Severe-to-profound Hearing Loss ClinicalTrials.gov</td>
</tr>
<tr>
<td>89</td>
<td>Study of Efficacy and Safety in Premenopausal Women With Hormone Receptor Positive, HER2-negative Advanced Breast Cancer (MONALEESA-7) ClinicalTrials.gov</td>
</tr>
<tr>
<td>83</td>
<td>An Efficacy and Safety Study of JNJ55021927 in Participants With Chemotherapy-naive Metastatic Castration-resistant Prostate Cancer (mCRPC) ClinicalTrials.gov</td>
</tr>
<tr>
<td>78</td>
<td>Confirmatory Study of Eteplirsen in DMD Patients (PROMMTD-150) ClinicalTrials.gov</td>
</tr>
<tr>
<td>76</td>
<td>International EXPAND Heart Pivotal Trial (EXPANDHeart) ClinicalTrials.gov</td>
</tr>
</tbody>
</table>

9,136 Total score
2,053 Articles
ClinicalTrials.gov Journal

Sources of attention paid to top 1k articles

<table>
<thead>
<tr>
<th>Mentions in timeframe</th>
<th>Count</th>
</tr>
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<td>Twitter</td>
<td>6,948</td>
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<tr>
<td>Blogs</td>
<td>116</td>
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<tr>
<td>Traditional media</td>
<td>659</td>
</tr>
<tr>
<td>Facebook</td>
<td>916</td>
</tr>
<tr>
<td>Google+</td>
<td>79</td>
</tr>
</tbody>
</table>

Go to reports
Thanks!

(Questions?)

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