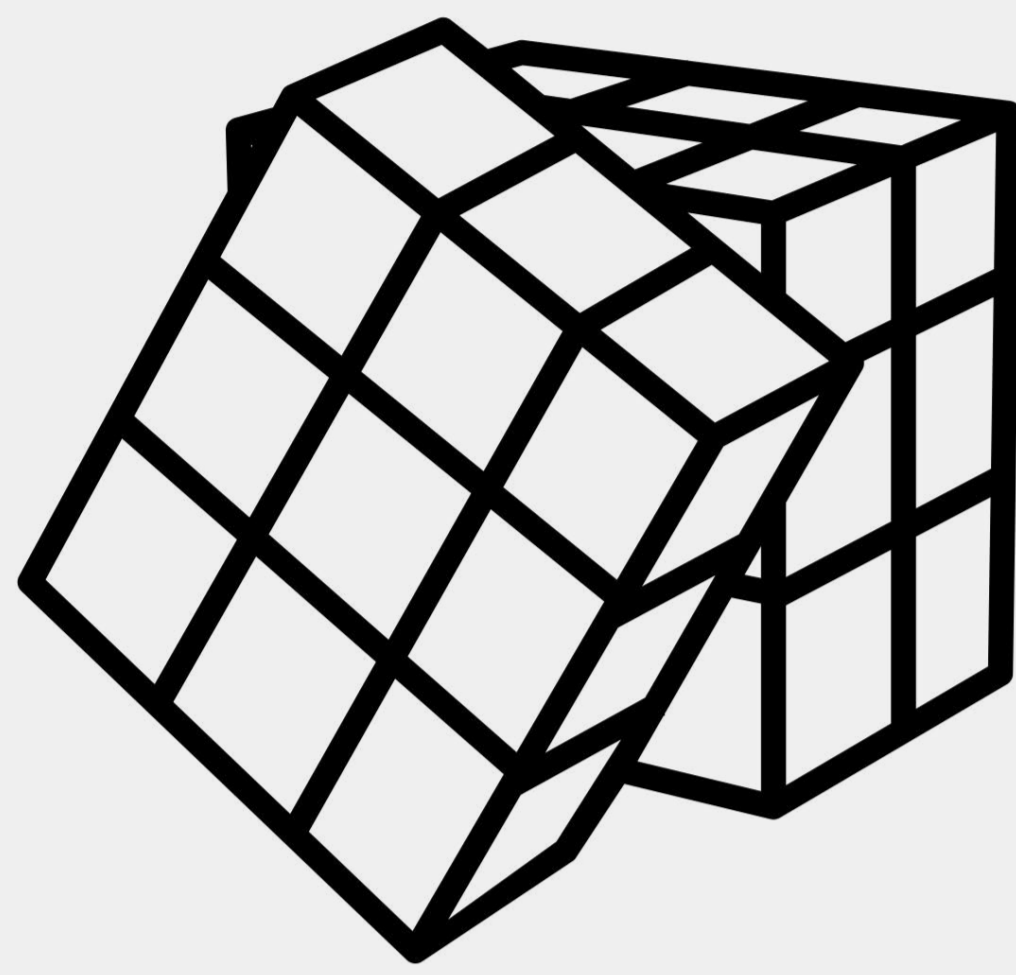# The role of new metrics in evaluating non-traditional scholarly outputs

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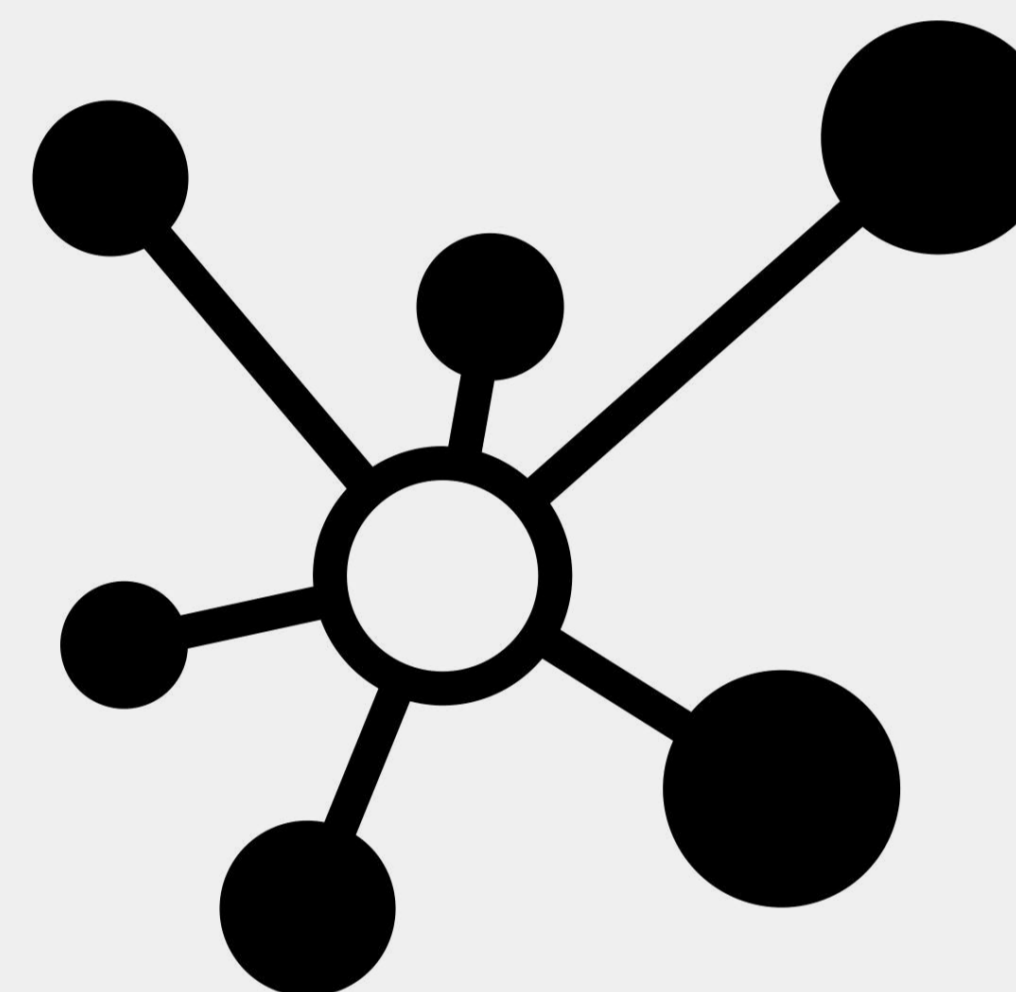
The Challenge

Tracking and reporting on the online attention surrounding research presents a huge challenge for the scholarly system - but such insights are important to help researchers, institutions and funders understand how their work is being received and interpreted beyond the academic sphere.

In today's open, digital world taxpayers and other stakeholders want, and have a right, to understand where their money is being spent and what the outcomes of their investment are. This includes economic and social impacts, which for the most part have required very manual collection and analysis.

So how can new tools, developed to monitor the online shares and discussion of published work, help? What value might they add to process and how might they inform future investment strategies?

Perhaps more importantly, how can we ensure such tools are used in an appropriate way, and that this complex data is communicated in a clear and transparent format?

Beyond articles and citations

Traditional bibliometrics, often used as a proxy for impact, bring with them many limitations. Citations are slow to accrue and give little insight into the immediate uptake and dissemination of a piece of work. Download counts alone tell you nothing about who has read the work, nor how they have intepreted it.

Crucially, citation metrics serve the science and medical disciplines far better than they do other fields, such as art or education, where the preffered publication format is not necessarily the journal article.

In a recent survey conducted by Altmetric, 78% of humanities and social science scholars indicated that they sometimes or always struggled to find data to help them demonstrate the value of their work to funders or for their professional development activities.
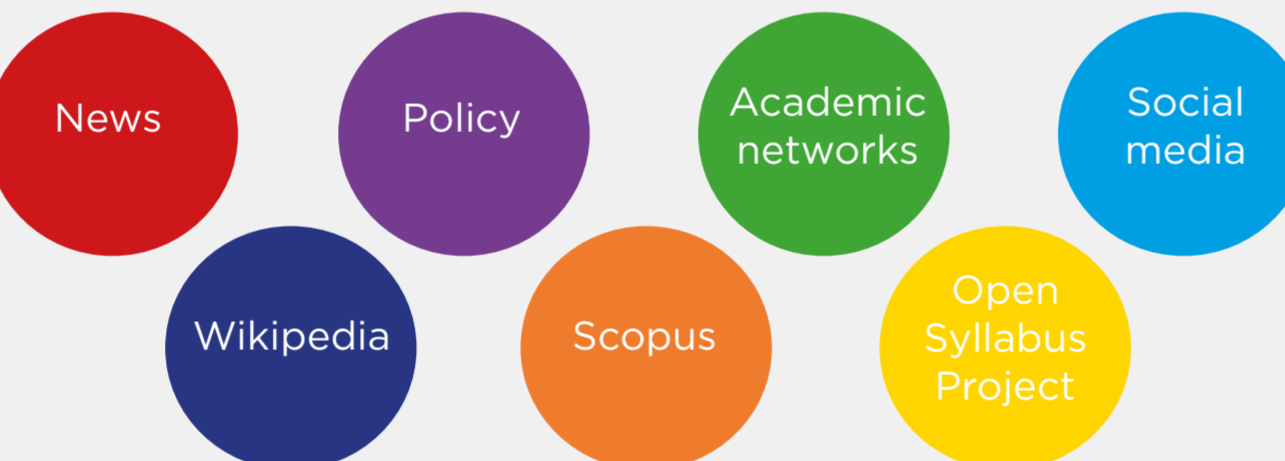
The challenge, therefore, is how to provide scholars of all disciplines with the ability to easily monitor and evaluate the online activity, discussion and engagement generated by their work, with the aim of providing useful insights that can use to build their reputations and increase the visibility of their work.

Altmetrics, such as the data provided by Altmetric, go some way to achieving this:

Mentions and shares of....
- Journal articles
- Books and book chapters
- Datasets
- Clinical trials
- Images, posters, multimedia
- ... and much more

From a range of scholarly and non-scholarly sources

News · Policy · Academic networks · Social media · Wikipedia · Scopus · Open Syllabus Project

- ✓ Real time and immediate following publication
- ✓ Transparent: see who is saying what
- ✓ Reflect the response of a broader audience
- ✓ Complementary to traditional bibliometrics

Recommendations

Altmetrics hold the potential to deliver valueable, immediate feedback to authors and audiences of a wide variety of content. The data provided is transparent and timely, further encouraging public engagement with research and policy.

In order to fully realise the opportunities that these technologies offer, it is important that the underlying metadata and structures are formatted to enable consistent and reliable reporting.

A secondary but important consideration is the use of these data. Librarians and academic engagement officers have a key role to paly in ensuring that they are used reponsibly; not as a proxy for quality, but to help tell the full story of a piece of research. Used effectively, altmetrics can help scholars to better demonstrate the value of their work, build new networks, and discover alternative reading content. Likewise, they can help institutions, funders and other organisations understand how their work has been received, and to more easily identify potential future impacts that may result from the early engagement relating to it.

We therefore recommend the following:

- That researchers and their institutions work with publishers and techonology providers to broaden the data available relating to dissemination of their research outputs
- That librarians actively work to educate their faculty around best practice and responsible use of such metrics
- That technology providers continue to actively engage with the research community to understand workflows and specific use cases, develop tools and technology to accommodate them where possible

Keeping an open dialogue with funders and bibliometric experts will also form an important part of the future developments of these new technologies, with their expertise on research evaluation and networks becoming a core component of how the field evolves.

Finding attention and engagement for...

Clinical trials

About the content

ClinicalTrials.gov is an online registry of proposed, on-going and completed clinical trials. It is run by the United States National Library of Medicine at the National Institutes of Health, and is the largest clinical trials database in the world. Data was first made available to the public in February 2000.

Why collate attention?

The ClinicalTrials.gov site holds records for over 200,000 clinical trials from over 170 countries around the world. Tracking the online activity surrounding these records means that patients, researchers, healthcare professionals, regulators, and many others can now read the conversations and media coverage surrounding specific clinical trials, even before results have been published. Bringing this new level of transparency provides context that can help audiences of all types make more informed judgements about any given trial, and highlight any contentious factors that may need to be taken into consideration. It also provides an opportunity for the organisations running the trials to better monitor public opinion and demonstrate a willingness to engage with their audiences.

Monitoring the data

Since Altmetric.com began tracking ClinicalTrials.gov study records in 2015, over 130,000 'mentions' have been found - including 8,000+ news stories and almost 500 instances of the trial records been referenced in public policy documents. Such information highlights the huge amount of value of these trial records hold for global organisations such as the World Health Organisation, as well as local or regional policy makers.

Often, it's possible to see patient or advocacy groups engaging with the trials - with the Altmetric details page for each record providing evidence of communications that were previously scattered across a variety of networks and communities.

fig 1. The ClinicalTrials.gov site

fig 2. Summary chart of Altmetric attention collated for clinical trials from January 2016 to 18 oct 2016

Websites and non-traditional outputs

About the content

Discovering the Genome, created by a team at the University of Pennsylvania, is a web-based curriculum for science classes. Modules include videos, activities, discussion questions and other tools that can be used in the classroom.

Project Vox, from Duke University, aims to recover the lost voices of women who have been ignored in standard narratives of the history of modern philosophy. The site hosts reading materials and teaching aids to help students and educators engage with their stories.

Why collate attention?

Tracking the online discussions and coverage relating to both of these sites will help their stakeholders understanding which communities are engaging with their content, and why. It will also help the teams build more effective outreach strategies for promoting their resources, and enable them to measure the success of those efforts more directly. –

Monitoring the data

Mentions and shares of the website content are tracked based on the unique (canonical) URLs of each page. So far the teams behind each site are yet to formally promote them, but any attention they receive is already being recorded in the Altmetric database. Early attention has included mentions on Twitter, and announcements on Faacebook and several blogs, where one commenter described the project as "the Guerrilla Girl of early modern philosophy!"
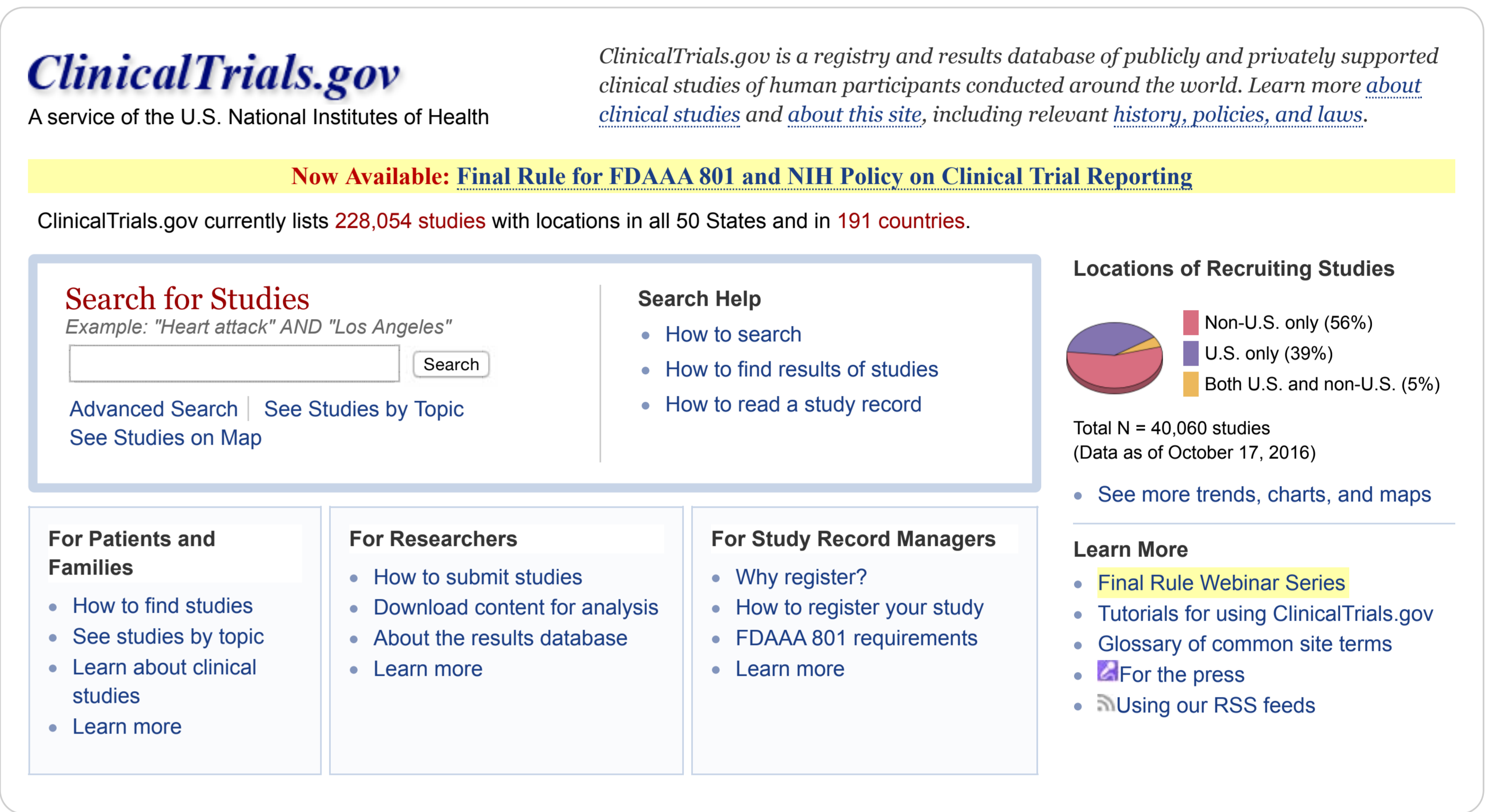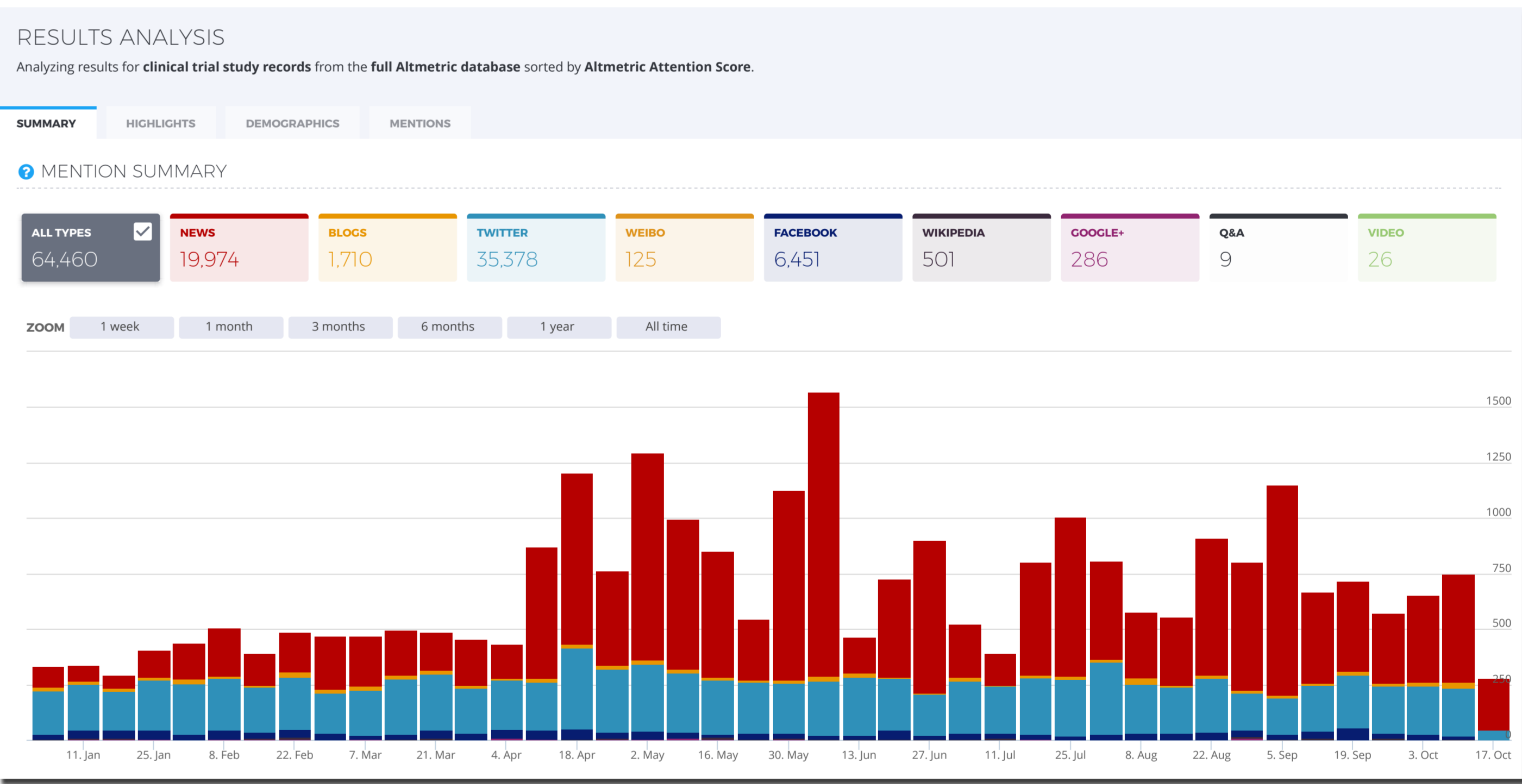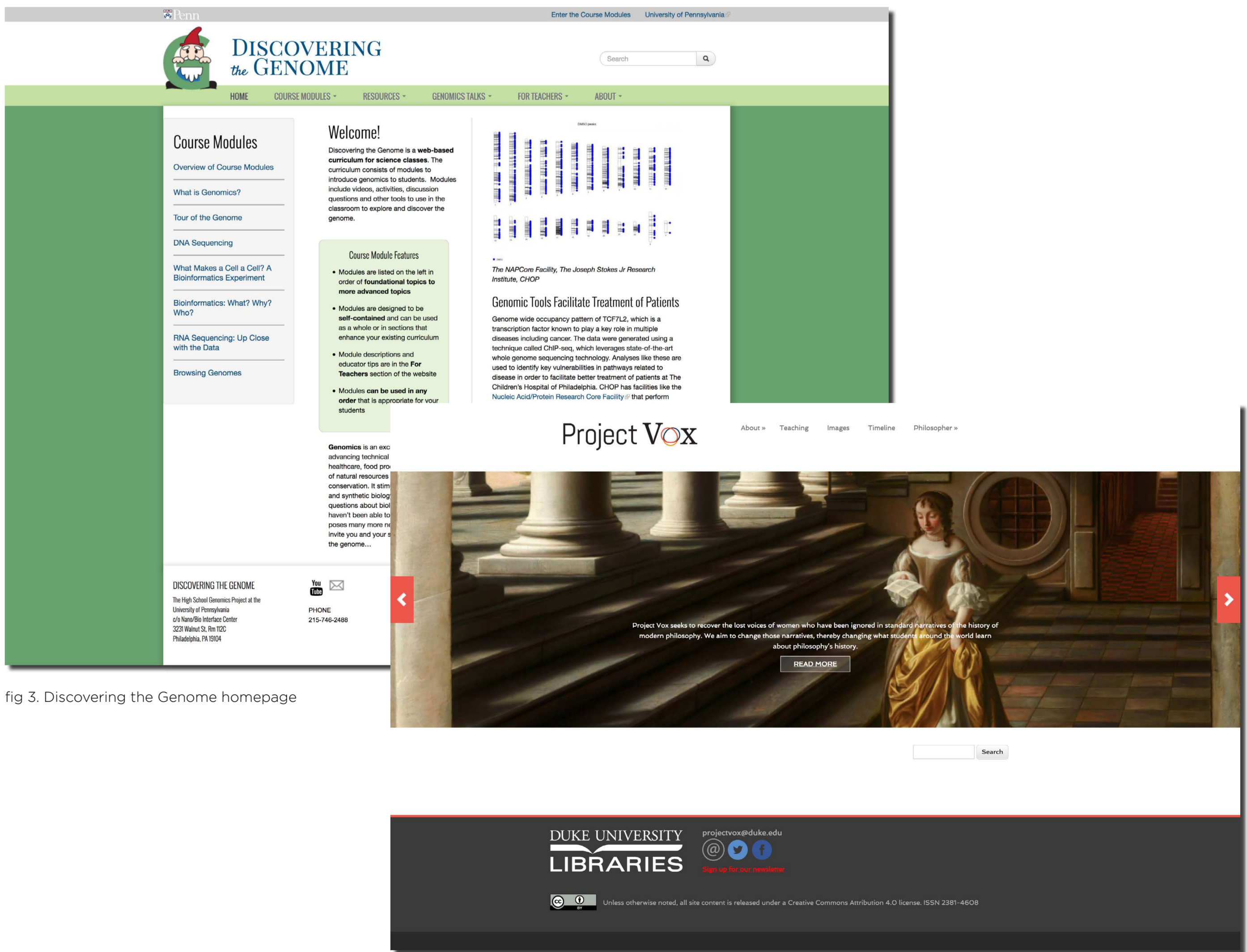
fig 3. Discovering the Genome homepage

fig 4. Project Vox homepage