The mosaic of translation: an analysis of translational medicine publications
Karen Gutzman, Pamela Shaw, Ehsan Mohammadi, Kristi Holmes
Galter Health Sciences Library, Northwestern University Feinberg School of Medicine

Topical Analysis

PubMed
Using PubMed, we found 43,086 publications recorded in CTSA grants from 2008-2016. Titles and abstracts were exported to a CSV file for analysis. Search 'Biology' (U1U1TR[Grant Number]) OR U1U1TR[Grant Number] OR U1U1R[Grant Number] OR U1U1R[Grant Number]. Grant numbers were identified using NIH Reporter.

Visualization
Using VOSviewer software, titles and abstracts of the 43,086 PubMed records were parsed to produce a list of noun phrases and their frequencies in the publications. VOSviewer uses an algorithm to discover relevant terms and remove non-meaningful terms. The size of each term circle indicates the number of times the term was used in the title or abstract of publications within the dataset. The visualization was created in VOSviewer on 3/31/2016.

Analysis of Indexing

Medical Subject Headings (MeSH)
The term “Translational Medical Research”[Mesh] was introduced in 2012 (2010) and refers to the application of discoveries generated by laboratory research and preclinical studies to the development of clinical trials and studies in humans. A second area of translational research concerns embracing the adoption of best practices. As of 02/03/2016 there are 6,481 PubMed records indexed with this “Translational Medical Research”[Mesh] term.

Visualization
This map shows top activities. Text titles and abstracts of 6,481 PubMed records indexed with the “Translational Medical Research”[Mesh] term. Coloring is based on term cosses which were calculated based on the average age of publication for the term. For each of the 2,158 terms identified, a reference score was calculated. Based on this score, the top 620 (corresponding to 1,295 terms) most relevant term were selected for the visualization. The term circles are sized by the number of times the term was used in the title or abstract of the publications within the dataset. The visualization was created in VOSviewer on 3/31/2016.

Analysis of Institutions

Web of Science
Using Web of Science, we found 22,771 publications connected to CTSA grants from 2008-2016. The results were exported to a CSV file for analysis. Search 'Biology' (U1U1TR[Grant Number]) OR U1U1TR[Grant Number] OR U1U1R[Grant Number] OR U1U1R[Grant Number]. Grant numbers were identified using NIH Reporter.

Visualization
Using Tableau software, we mapped the top 35 institutions when ranked by number of publications. The circles are sized by number of publications and colored by number of citations. This map was created on 4/27/2016.