

Neglected Tropical Disease Research Analysis: Identifying contributions to global NTD research using co-authorship network analysis

Summary:

Scientific authors are linked to each other through participation in one or more publications. Bibliographic and scientometric data on individual author's publication activity and co-authorship interactions can be extracted from peer-reviewed literature databases and used to understand patterns of scientific collaboration within social (scientific peer) networks.

New computerized tools allow systematic empirical analyse of scientific networks by quantifying (and ranking) individual authors contributions by both traditional indicators (e.g. number of publication, h-index) and innovative network parameters (e.g. betweenness centrality).

We aim to use data from peer-reviewed literature databases for social network analysis (SNA) of neglected disease researcher's networks to indicate the individual researchers involved, capacities they hold, their author interactions, scientific collaborations and broader research networks.

Improving (free) computing technologies allows social network analysis that uses empirical analysis and visualisation (e.g. mapping) of circuits of interconnected nodes (representing individual authors within the co-author network) and ties (representing collaborative work between individual authors). To better understand research networks, the locations of nodes – or pivotal researchers - are evaluated and ranked within the network and their productivity (H-index) and centrality is measured. To quantify the "importance" or "influence" of a particular node (or group) different network parameters (e.g. betweenness centrality) are calculated.

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Project coordinator:
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Bender ME, Edwards S, von Philipsborn P, Steinbeis F, Keil T, Tinnemann P (2015) Using Coauthorship Networks to Map and Analyse Global Neglected Tropical Disease Research with an Affiliation to Germany. PLoS Negl Trop Dis 9(12).