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Title: MeSHOPs: Medical Subject Heading Overrepresentation Profiles

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MEDLINE®/PubMed® currently indexes over 18 million biomedical articles, providing unprecedented opportunity and challenges for text analysis. Using Medical Subject Heading Overrepresentation Profiles (MeSHOPs), an entity of interest can be robustly summarized, quantitatively identifying associated biomedical terms and suggesting indirect associations. We demonstrate similarity scores comparing MeSHOPs of various medical-related entities can successfully infer novel associations. We also identify the confounding influence of research intensity. Results are freely accessible on the web at <http://meshop.oicr.on.ca/meshop/> with source code available at <http://github.com/wac/meshop/> (analysis of gene and disease profiles) and <http://github.com/wac/cmp-meshop/> (evaluation and validation of results).