2014

What Information about Cardiovascular Diseases do People Search Online?

Ashutosh Sopan Jadhav
Wright State University - Main Campus, jadhav.5@wright.edu

Stephen Wu

Amit P. Sheth
Wright State University - Main Campus, amit@sc.edu

Jyotishman Pathak

What Information about Cardiovascular Diseases do People Search Online?

Ashutosh Jadhav[a,1], Stephen Wu[b], Amit Sheth[a] and Jyotishman Pathak[b]
[a] *Knoesis Center, Wright State University, Dayton, OH, USA*
[b] *Mayo Clinic, Rochester, MN, USA*

Keywords. Health Information Seeking, Search Log analysis, UMLS MetaMap

Introduction

In this work, we performed categorization of cardiovascular disease (CVD) related search queries into "consumer-oriented" health categories to study what health topics users search for CVD. This study provides useful insights for online health information seeking and information needs in chronic diseases and particularly in CVD.

1. Methods

We collected ten million CVD related anonymized search queries that direct users from Web search engines to the Mayo Clinic's consumer health information website. Using UMLS MetaMap, we semantically mapped the CVD queries to UMLS sematic types and concepts. Based on the semantic type/concepts, we developed a rule-based approach and categorized 94% of the 10 million queries into 17 health categories.

2. Results

Top health categories that users search for CVD are 'Vital Signs', 'Symptom', 'Treatment', 'Drugs and Medications', 'Diet' and 'Cause'. Many CVD search queries have reference to body parts (heart), medical devices (pacemaker), quantitative measures, temporal reference and age groups. Although CVD can be prevented with some lifestyle and diet changes, interestingly very few users search for 'Prevention'.

3. Discussion

This study identifies frequently searched health categories for CVD and demonstrates utility of UMLS MetaMap as well as UMLS semantic types/concepts for customized categorizations. This study extends our knowledge about online health information searching and provides useful insights for Web search engines and health websites.

[1] Corresponding Author.