





















- [4] P. Black and D. Penson. Prostate cancer on the internet – information or misinformation? *Journal of Urology*, 175(5):1836–1842, 2006.
- [5] M.-A. Cartright, R. W. White, and E. Horvitz. Intentions and attention in exploratory health search. In *SIGIR*, 2011.
- [6] K. Castleton, T. Fong, A. Wang-Gillam, M. Waqar, and *et al.* A survey of internet utilization among patients with cancer. *Support Care Cancer*, 2011.
- [7] Y. Chu and T. Liu. On the shortest arborescence of a directed graph. *Science Sinica*, 14:1396–1400, 1965.
- [8] J. Chuang, C. D. Manning, and J. Heer. Termite: Visualization techniques for assessing textual topic models. In *Advanced Visual Interfaces*, 2012.
- [9] R. J. W. Cline and K. M. Haynes. Consumer health information seeking on the internet: the state of the art. *Health Education Research*, 16(6), 2001.
- [10] D. Downey, S. Dumais, and E. Horvitz. Models of searching and browsing: languages, studies, and applications. In *IJCAI*, 2007.
- [11] G. E. Dupret and B. Piwowarski. A user browsing model to predict search engine click data from past observations. In *SIGIR*, 2008.
- [12] J. Edmonds. Optimum branchings. *J. Res. Nat. Bur. Standards*, 71(B):233–240, 1967.
- [13] A. Fournay, R. W. White, and E. Horvitz. Exploring time-dependent concerns about pregnancy and childbirth from search logs. In *CHI*, 2015.
- [14] S. Fox and M. Duggan. Health online 2013. Technical report, Pew Internet and American Life Project, 2013.
- [15] C. M. Gaston and G. Mitchell. Information giving and decision-making in patients with advanced cancer: A systematic review. *Soc Sci Med*, 61(10), 2005.
- [16] J. Ginsberg, M. Mohebbi, R. Patel, L. Brammer, and *et al.* Detecting influenza epidemics using search engine query data. *Nature*, 2008.
- [17] Y. Goto and T. Nagase. Oncology information on the Internet. *Jpn J Clin Oncol*, 42(5):368–374, 2012.
- [18] D. Gusfield. *Algorithms on Strings, Trees, and Sequences*. Cambridge University Press, 1997.
- [19] P. R. Helft. Patients with cancer, internet information, and the clinical encounter: A taxonomy of patient users. In *American Society of Clinical Oncology*, 2012.
- [20] R. Islamaj Dogan, G. C. Murray, A. Névéol, and Z. Lu. Understanding PubMed user search behavior through log analysis. *Database*, 2009:bap018, 2009.
- [21] L. Klotz. Active surveillance for low-risk prostate cancer. *F1000 Med Reports*, 4(16), 2012.
- [22] M. Larkin, G. Blackshields, N. Brown, C. R., P. McGettigan, and *et al.* Clustal W and Clustal X version 2.0. *Bioinformatics*, 23:2947–2948, 2007.
- [23] T. Lau and E. Horvitz. Patterns of search: analyzing and modeling web query refinement. In *7th International Conference on User Modeling*, 1999.
- [24] G. Lin, D. Aaronson, S. Knight, P. Carroll, and R. Dudley. Patient decision aids for prostate cancer treatment. *CA Cancer J Clin*, 59:379–390, 2009.
- [25] A. M. O’Connor, V. Fiset, C. DeGrasse, I. D. Graham, and *et al.* Decision aids for patients considering options affecting cancer outcomes. *JNCI Monographs*, 1999(25):67–80, 1999.
- [26] A. M. O’Connor, A. Rostom, V. Fiset, J. Tetroe, and *et al.* Decision aids for patients facing health treatment or screening decisions. *BMJ*, 319(7212), 1999.
- [27] Y. Ofra, O. Paltiel, D. Pelleg, J. M. Rowe, and E. Yom-Tov. Patterns of information-seeking for cancer on the internet. *PLOS One*, 7(9), 2012.
- [28] R. Overberg. *Breast cancer stories on the internet: improving search facilities to help patients find stories of similar others*. PhD thesis, Leiden University, 2013.
- [29] H. Patel, S. Mirsadraee, and M. Emberton. The patient’s dilemma: Prostate cancer treatment choices. *Journal of Urology*, 169(3):828–833, 2003.
- [30] M. Paul and R. Girju. Cross-cultural analysis of blogs and forums with mixed-collection topic models. In *EMNLP*, 2009.
- [31] M. J. Paul, R. W. White, and E. Horvitz. Search and breast cancer: On disruptive shifts of attention over life histories of an illness. Technical report, 2014.
- [32] S. Pautler, J. Tan, G. Dugas, N. Pus, and *et al.* Use of the Internet for self-education by patients with prostate cancer. *Urology*, 57(2):230–233, 2000.
- [33] G. Peterson, P. Aslani, and K. A. Williams. How do consumers search for and appraise information on medicines on the internet? *JMIR*, 5(4), 2003.
- [34] M. Richardson. Learning about the world from long-term query logs. *ACM TWEB*, 2(4), 2009.
- [35] L. J. F. Rutten, N. K. Arora, A. D. Bakos, N. Aziz, and J. Rowland. Information needs and sources of information among cancer patients. *Patient Educ Couns*, 57(3), 2005.
- [36] M. J. Satterlund, K. D. McCaul, and A. K. Sandgren. Information gathering over time by breast cancer patients. *J Med Internet Res*, 5(3), 2003.
- [37] A. Sidana, D. J. Hernandez, Z. Feng, A. W. Partin, and *et al.* Treatment decision-making for localized prostate cancer. *The Prostate*, 72(1):58–64, 2012.
- [38] M. I. Trotter and D. W. Morgan. Patients’ use of the internet for health related matters. *Health Informatics*, 14(3), 2008.
- [39] R. J. Volk, S. T. Hawley, S. Kneuper, E. W. Holden, and *et al.* Trials of decision aids for prostate cancer screening. *Am J Prev Med*, 33(5):428–434, 2007.
- [40] T. Weninger, W. H. Hsu, and J. Han. Cetr: Content extraction via tag ratios. In *WWW*, 2010.
- [41] R. W. White and S. M. Drucker. Investigating behavioral variability in web search. In *WWW*, 2007.
- [42] R. W. White and E. Horvitz. Cyberchondria: Studies of the escalation of medical concerns in web search. *ACM TOIS*, 27(4), 2009.
- [43] R. W. White and E. Horvitz. From health search to healthcare: explorations of intention and utilization via query logs and user surveys. *JAMIA*, 2013.
- [44] R. W. White, N. P. Tatonetti, N. H. Shah, R. B. Altman, and E. Horvitz. Web-scale pharmacovigilance: Listening to signals from the crowd. *JAMIA*, 20(3), 2013.
- [45] C. Zhai and J. Lafferty. Two-stage language models for information retrieval. In *SIGIR*, pages 49–56, 2002.
- [46] S. Ziebland, A. Chapple, C. Dumelow, J. Evans, and *et al.* How the internet affects patients’ experience of cancer: a qualitative study. *BMJ*, 328(7439), 2004.