

Study update: Cancer information on Wikipedia is accurate, but not very readable

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It is a commonly held that information on Wikipedia should not be trusted, since it is written and edited by non-experts without professional oversight. But researchers from the Kimmel Cancer Center at Jefferson have found differently, according to a study published online Sept. 15 in the *Journal of Oncology Practice*.

Reassuringly, they found that cancer information found on a wiki was actually similar in accuracy and depth to the information on a peer-reviewed, patient-oriented cancer web site. There is one caveat, however: they found that the information on the peer-reviewed site was written in plainer English.

Data from this study was presented at the 2010 ASCO Annual Meeting in Chicago, but the full study, with some new details, was published online Sept. 15.

New data revealed that [Wikipedia](#) ranks higher in [search engine results](#) and updates faster. It also shed light on those hyperlinks embedded into content: Wikipedia takes you to more dense information, the researchers found, whereas a peer-reviewed site offer up a simplified, shorter explanations.

For the study, researchers led by Yaacov Lawrence M.D., adjunct assistant professor of [Radiation Oncology](#) at Jefferson Medical College of Thomas Jefferson University, and currently Director of the Center for Translational Research in Radiation Oncology at the Sheba Medical

Center in Israel, compared the cancer information found on Wikipedia with the information found on the patient-oriented section of the National Cancer Institute's Physician Data Query (PDQ), a comprehensive peer-reviewed cancer database.

"There are a vast number of web sites where patients can obtain cancer information," Dr. Lawrence said. "The purpose of this study was to answer one question: Is the [cancer information](#) on Wikipedia correct? Reassuringly, we found that errors were extremely rare on Wikipedia. But the way information was presented on PDQ is more patient-friendly."

Dr. Lawrence and his colleague Malolan Rajagopalan, M.D., from the University of Pittsburgh, started by choosing ten cancer types and selecting key factual statements for each cancer from standard [oncology](#) textbooks. The material covered epidemiology, etiology, symptoms, diagnosis, treatment and controversial topics in cancer care.

Medical student volunteers examined the PDQ and Wikipedia articles against the prepared statements. The web pages were printed out to ensure that each individual looked at the same version of the articles. Standard algorithms were used to calculate readability based upon word and sentence length.

For both web sites, inaccuracies were extremely rare: less than two percent of the information on either site was discordant with that presented in the textbooks. There was no difference between the sites in depth of coverage. Both sites poorly discussed controversial aspects of cancer care.

For example, they both scored poorly for coverage of options for prostate cancer, including watchful waiting versus radiation treatments. "The issues were not really dealt with in depth," said Dr. Lawrence.

But the PDQ site was notably more readable: whereas PDQ was written at a level suitable for a 9th grader, Wikipedia was written at a level suitable for a college student. This difference was highly statistically significant.

Researchers also found that Wikipedia ranked among the first 10 results for most search engines, including Google, for various medical terms and diseases tested, surpassing professionally maintained, government Web sites.

The research revealed that Wikipedia updates faster than PDQ; however, the hyperlinks embedded within Wikipedia take the user to more dense information. PDQ takes you to more simplified explanations on the content a user clicks on for more information.

"PDQ's readability is doubtless due to the site's professional editing, whereas Wikipedia's lack of readability may reflect its varied origins and haphazard editing," Dr. Lawrence said. "Overall our results are reassuring: on the one hand Wikipedia appears to be extremely accurate, on the other, the resources invested in the creation and upkeep of the PDQ are clearly justified.

"The sites appear to be complementary – but I recommend to my patients that they start with PDQ where they are less likely to get lost in jargon and hyperlinks."

The next step is to repeat the study with [cancer](#) patients to truly determine how this difference in readability impacts upon patients' understanding and retention of [information](#), Dr. Lawrence said.

Provided by Thomas Jefferson University

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