Online encyclopedia provides free health info for all

Within a decade, Wikipedia has become one of the most popular health-content web sites in the world. James Heilman talks to Fiona Fleck about how the once free-wheeling website is moving closer to a formal publication model.

Q: *How have the health and medical articles evolved since Wikipedia was established?*

A: Wikipedia was started in 2001 by a group of volunteers interested in sharing knowledge and had some health-care content from the start. The medical side of things was more formally organized in 2004, when internist Dr Jacob Wolff, who is based in the United Kingdom, started Wikiproject Medicine. I joined the project in 2007. Wikipedia is trying to summarize all human knowledge, which includes health knowledge. Most topics are covered and, if one is not, users can create it – as long as they provide suitable references. Wikipedia's medical and health content is driven by its editors and what they are interested in.

Q: How did you become so involved in editing health-care content?

A: We work hard to ensure that Wikipedia's content is accurate and up to date. With the open editing platform, we can donate as much or as little time as we like, and we encourage other volunteers to join us. I personally became involved when I found some poor quality content and realized that I, myself, could fix it. Later on, when I realized what a key source of public health information Wikipedia had become, I became even more involved.

Q: What have you and your colleagues built up in these eight years in terms of health-care content?

A: Wikipedia's health-care content is made up of about 25 000 articles in English and this content is viewed about 200 million times a month. The articles range from a few hundred to more than 10 000 words in length. Wikipedia is currently the most used online health-care resource globally, as measured by page view and by unique visitors, and is used extensively by professionals and the lay public alike. It is the web site most used by medical students except for Google and it is consulted by most practising physicians in the developed world.

Q: You have amassed a vast body of work that is clearly useful, but you yourselves admit that the quality is "hit and miss." What are you doing to address this?

James Heilman

James Heilman is one of the primary editors of Wikipedia's health and medical content, who – like all the online encyclopedia's collaborators – contributes on a voluntary basis. He was appointed head of the department of emergency medicine at East Kootenay Regional Hospital in Cranbrook, Canada, in October of last year, after having worked there as an emergency physician since 2010. He also teaches at the University of British Columbia. In 2000 he graduated in Anatomy from the University of Saskatchewan, where he earned his medical degree in 2003. Since then, he has spent most of his career working in emergency medicine, teaching and writing.

A: We have several efforts to improve the quality of the content. As part of one of those, we have selected 80 articles in English, each covering core health or medical topics, and we are working to raise these up to a professional standard. This work is followed by a semi-formal peer review by volunteers – so far we have completed 20 articles – and, finally, translation into as many other languages as possible in collaboration with Translators Without Borders. We have already begun translation into more than 30 languages and hope that we can eventually translate this content into all of the 285 languages in which Wikipedia exists. Some of our 80 core articles are also going through a more formal peer-review process via *Open Medicine*, our open-access journal partner. This means that some of the content will be indexed in PubMed and there will be opportunities for the authors to get formal recognition. If put together as a textbook, these 80 articles, would run to about 2000 pages. While Wikipedia contains much content supported by the Cochrane Collaboration, we are developing a mechanism to update this in a timely fashion. Several editors are also working to persuade more health-care professionals to join us in our efforts.

Q: How did you select these 80 core topics?

A: We rank our articles by quality and importance. We have four levels of importance – low, middle, high and top importance – and there are criteria for each category. For an article to be of top importance, the content must be of global interest, covering a health condition that causes high morbidity and/or mortality. We are currently working to improve the quality of these 80 articles of top importance, to eventually give them "good article" status. That means they must undergo a semi-formal peer review and pass certain quality criteria involving accuracy, scope and referencing.

Q: What's the difference between Wikipedia and other encyclopedias? What is its added value, apart from being free and online?

A: One of the benefits of Wikipedia is that it's easy to access and update. Print-based encyclopedias are often years out of date and can take a long time to correct. Some online resources have excessive advertising and there are reasonable concerns that this can introduce bias into their articles. Other online sources charge membership fees. And, of course, no resource is available in as many languages as Wikipedia.

Q: Have you ever considered taking advertising?

A: Many claim that they can maintain neutrality in editorial content while running advertisements, but we doubt whether this is possible and we don't want to take that risk. Many people rightly recognize the effect of advertising and this is one reason why we are so widely read.

Q: You mentioned the importance of good references, what is your policy on these?

A: Before 2007, references were recommended but not strictly required. Since then, there has been a push to increase referencing. Those of us who deal with medical subject matter prefer secondary over primary sources because reviews, insofar as they summarize the primary literature, provide a more comprehensive understanding of a given topic than primary sources. They are, therefore, more in tune with our efforts to portray the most current state of knowledge on a topic. As an encyclopedia written by contributors, most of whom are anonymous, Wikipedia is now extremely densely referenced. Added text must stand entirely on its sources rather than on the expertise of the contributor. Thus, it is very much an evidence-based effort.

Q: How do you do due diligence on anonymous contributors?

A: There are arguments in favour of and against the anonymity of Wikipedia editors. Some feel that no one should use his or her real identity because the idea is to create an encyclopedia based exclusively on sources. Even when people do use their real names, we, as an organization, have no method for verifying that contributors are who they say they are. A few years ago, an editor claimed he was a religious studies professor. It turned out to be a fabrication. We have nearly 18 million registered editors and many more anonymous ones. We do not have the resources to verify each one's identity and prefer to concentrate our efforts on writing an encyclopedia. Text, thus, must be supported by creditable references. We, as a community, keep track of changes and look out for conflicts of interest. We have a dedicated group of trusted volunteers with the ability to block or ban people who cause problems. We also have mechanisms to determine from what institution some people are editing and to analyse their edits. A few years ago we caught several pharmaceutical companies removing content discussing concerns about their products.

Q: Have you identified other attempts to manipulate the contents of Wikipedia?

A: Yes, an employee from Savient Pharmaceuticals tried to create an article on "refractory chronic gout." Savient Pharmaceuticals manufactures pegloticase, an intravenous medication for the treatment of this condition. The community of editors felt that the topic did not merit being treated separately from "gout" and so the article on "refractory chronic gout" was deleted and its readers were redirected to the article on gout. All Wikipedia contributors need to support what they add with creditable sources. This example shows that if references for a new disease or condition are not supported by reliable secondary sources, then the article in question will be deleted.

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Q: Does all content that is backed by strong evidence merit inclusion?

A: We have policy and guidelines on this as well. What we include is ultimately based on consensus, attained through discussion on the article's "talk page." We have found that the number of people who want to contribute positively is far greater than those who wish to contribute nefariously. We allow everyone to edit and we assume everybody has good intentions until they prove us wrong, in which case we take preventive measures by blocking the offending party's IP address or restricting the editing of an article to established editors. Someone once said "Wikipedia doesn't work in theory, it only works in practice" and it's true. Wikipedia is based on the philosophy that the majority of people have good intentions.

Q: Not every one reads in English, how are you addressing that?

A: As mentioned, we are working on a collaborative effort with Translators Without Borders to translate 80 priority English-language articles into as many other languages as possible. As this content is on Wikipedia, it is freely accessible to people who have access to the internet via a computer or a cell phone. Within this project we are concentrating on content that is of particular importance to those in the developing world and on translating it into the languages people speak in those countries. We have entered into agreements with several cell phone companies, who have agreed to allow browsing of Wikipedia content without data charges to all of their customers in Africa, the Middle East, South-East Asia and eastern Europe. Once fully rolled out, this will be of benefit to more than 200 million people. As of October 2012, rollout had started in 10 countries and is set to continue through 2012 and 2013. We are also beginning to create spoken versions of the articles, in English and other languages. English is currently the main language on Wikipedia, with more than four million articles, and is followed by German, French and Dutch each with more than one million articles.

Q: In which developing countries do you have contributors and who are they?

A: Wikipedia has contributors from all over the world. Anyone with internet access can potentially get involved. The Wikipedia Foundation is working with universities in Egypt to improve our Arabic language content. An office has recently been opened in India to get more people involved there. Many countries or regions have national chapters – we are up to 39 – that promote the Wikimedia movement locally.

Q: Tell us more about the Wikipedia Foundation.

A: The Wikimedia project is supported entirely by donations from the general public. Money is raised through an annual fundraising event every November. The organization runs on a very small budget. In 2011, the budget was about US$ 20 million and had come from more than one million individuals. This money primarily goes towards paying for band width, keeping the servers running, and improving the underlying software. The development and maintenance of the content itself is done entirely by volunteers. ∎