

Improving Wikipedia Skin Disease Content

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Abstract

Medical articles on Wikipedia receive 10 million daily views, and Wikipedia's top 500 skin-related articles received more than 16 million views worldwide during a month during 2018. An editing partnership between the evidence-based medicine organization Cochrane (www.cochrane.org) and Wikipedia was initiated in 2014. Cochrane Review Groups, Centers, and Fields engage with Wikipedia to recruit and train editors and share high-quality Cochrane Review evidence in Wikipedia articles. This research evaluates the most-viewed dermatologic articles on Wikipedia and describes the impact that trainees and dermatologists volunteering for the Cochrane Skin Wikipedia Initiative can have by enhancing the content of Wikipedia articles.

Introduction

Wikipedia is one of the most popular sources of health information in the world, and appears among the top search engine results for dermatologic diseases. Wikipedia's top 500 skin-related articles receive over 16 million views per month, of which many are healthcare providers and patients worldwide. Some viewers of healthcare information on Wikipedia may not otherwise have access to health resources due to socio-economic or other barriers, but they do have access to a cell phone and internet. Because of its influence on health information, it is important to ensure that Wikipedia's content is evidence-based, unbiased, and up-to-date, so that viewers have the best health literacy possible. This project seeks to evaluate the impact of editing skin-related Wikipedia articles to include evidence-based information from Cochrane Skin reviews, allowing the dissemination of high-quality dermatology and other medical information.



A leprosy patient with healthcare provider, Madagascar, 2008

Methodology

Five trainees were recruited in 2018-2019 to improve applicable Wikipedia articles as part of the Cochrane Skin Wikipedia Initiative. The trainees learned Wikipedia editing and received an introduction to sharing medical evidence on Wikipedia, mentorship from an experienced Wikipedia medical editor, and an up-to-date list of 85 skin-related Cochrane systematic reviews to improve existing Wikipedia articles. The project was supervised by a board-certified dermatologist. Wikipedia statistics were cross-sectionally evaluated and descriptive data on dermatologic articles were recorded.^{1,4} The project was waived from institutional review board review. Each change made to medical Wikipedia articles results in the notification of many editors, including physicians with WikiProject Medicine, a group of volunteers who collaborate on improving Wikipedia's medical content. Some changes may trigger additional oversight by reviewers and could lead to reversal of changes to an article. There is a permanent record of changes and the editors who made them. However, despite rigorous oversight, the open-source nature of Wikipedia is a potential limitation on accuracy. Over a 4-month period, the trainees improved 40 skin-specific English language articles on Wikipedia (Table I). 5 Articles were improved by adding paraphrased conclusions and background information (8530 words in total) from 60 Cochrane reviews.

Results

The 40 edited Wikipedia articles received more than **10 million views** within an 8-month time frame.⁵ The 5 top-viewed articles were those on psoriasis, leprosy, cellulitis, melanoma, and molluscum contagiosum (Table I).

Table I. Article titles, page views, and quality ratings of the skin-specific Wikipedia articles improved by the trainees as of February 2019

Topic	Wikipedia article views	Article quality rating
Acne	397,600	GA
Alopecia areata	516,200	B
Atopic dermatitis	274,400	B
Basal cell carcinoma	358,900	C
Bowen's disease	58,600	S
Bullous pemphigoid	97,400	C
Cellulitis	858,300	B
Cutaneous leishmaniasis	35,000	B
Dermatitis	406,500	B
Discoid lupus erythematosus	90,700	S
Erythema nodosum	184,000	C
Guttate psoriasis	48,200	S
Hair removal	126,900	B
Hirsutism	177,700	C
Hives	436,900	B
Infantile hemangioma	36,500	S
Insect sting allergy	5300	C
Irritant diaper dermatitis	49,100	C
Leprosy	1,023,100	B
Lichen planus	263,900	B
Lichen sclerosus	159,000	C
Melanoma	669,000	B
Melasma	166,300	S
Molluscum contagiosum	536,400	B
Mycosis fungoides	120,300	C
Necrotizing fasciitis	425,700	B
Occupational skin disease	2300	S
Pattern hair loss	175,000	B
Pemphigus	82,400	C
Pityriasis rosea	289,300	S
Psoriasis	1,164,100	GA
Psoriatic onychodystrophy	7900	S
Pustulosis palmaris et plantaris	6900	S
Seborrheic dermatitis	289,700	C
Skin cancer	276,300	B
Sporotrichosis	39,100	B
Squamous cell skin cancer	131,100	B
Tinea capitis	78,800	C
Topical steroid	48,900	S
Toxic epidermal necrolysis	144,000	C

Boldface indicates the 5 top viewed articles. The designation good article (GA) is used for an article that is mostly complete, B is used for an article that requires further work, C is used for an article that is substantial but missing important content, and S is used to

Conclusion

Wikipedia is a valuable resource providing health-related information to the lay public, students, policymakers, healthcare professionals, and journalists. Criticisms of Wikipedia include concerns over the quality of the shared content. It is important to ensure that Wikipedia's content is evidence based, unbiased, and up-to-date. We have shown that a small Wikipedia editing initiative (ie, 5 students over 4 months) has the potential to share evidence-based information with many people (ie, 10 million Wikipedia article views in 8 months). The Cochrane Skin Wikipedia initiative provides an opportunity for dermatologists to actively contribute to evidence-based, informative articles. Contributing to Wikipedia takes less time and resources than authoring a full review, while still creating high-quality, accessible material that reaches a wide audience.



A woman uses her smart phone in rural India

Future directions:

- Improving skin-related Wikipedia content in other languages
- Making further improvements to increase article quality ratings.
- WikiJournal of Medicine open-source medical publication.