

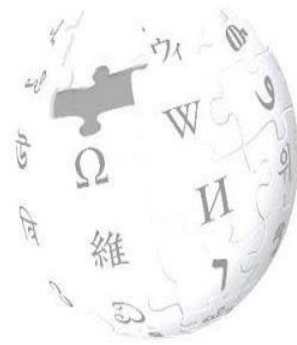
Wikipedia and Medicine

An introduction

Jake Orlowitz
editor, **Ocaasi**

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Our goal



“**Imagine** a world in which **every** single **person** on the **planet** is given **free** access to the sum of **all** human **knowledge**.”

That's what we're doing.” ⁽¹²⁾



Is Wikipedia Read by Nearly Everyone?

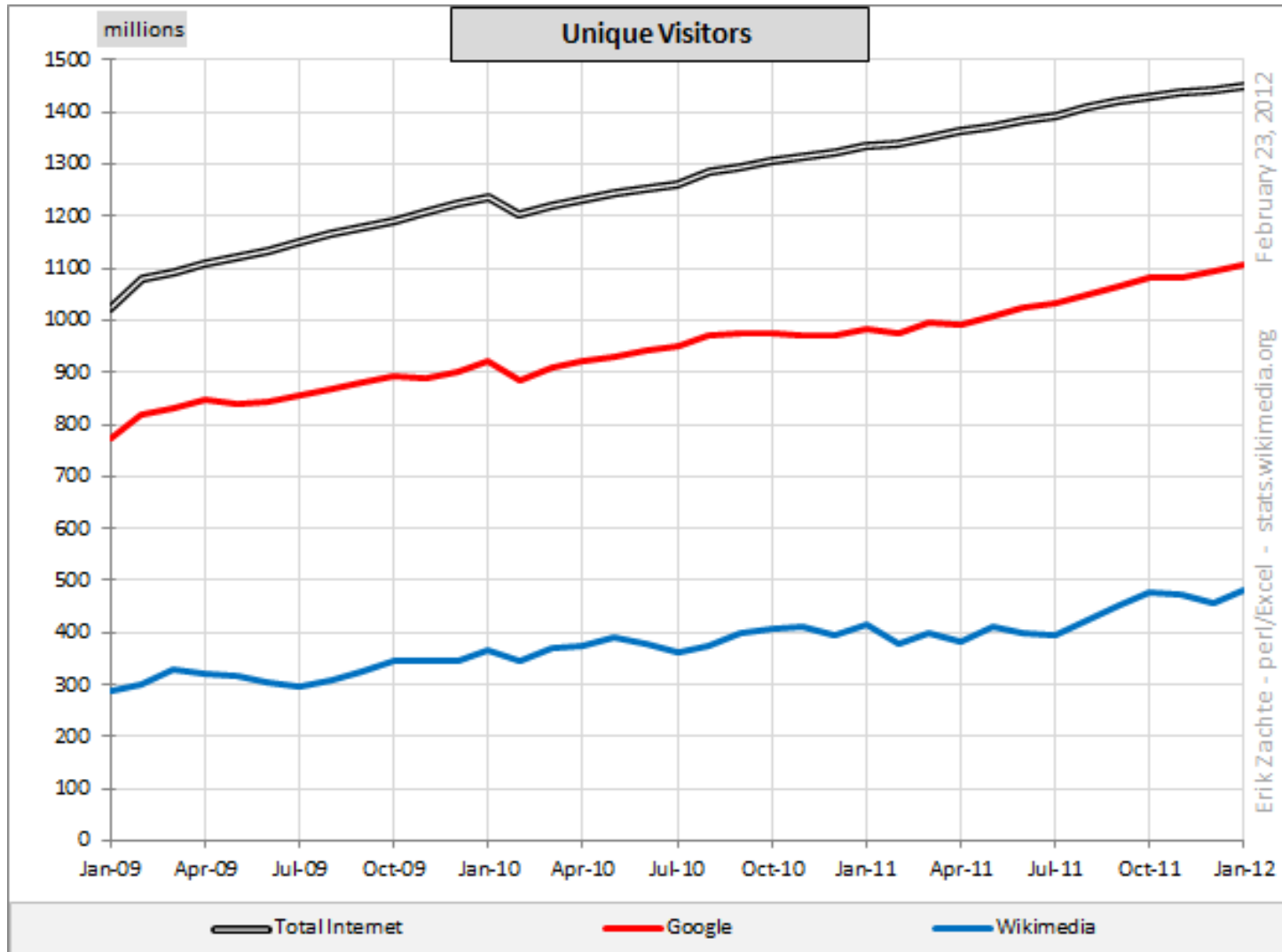
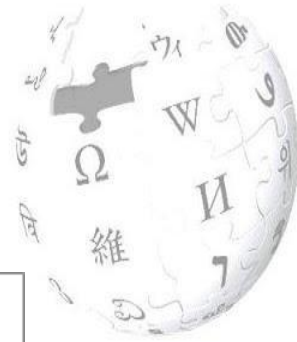




Some stats

- **Most popular** reference online
- **# 6 website** in the world
...after Google, Facebook, Youtube,
Baidu, and Yahoo
- **500 million** visitors per month
- **20 billion** page views⁽⁷⁾
- **2.5 billion** pageviews via mobile⁽⁷⁾

30% of global internet users visit Wikipedia monthly, 15% daily

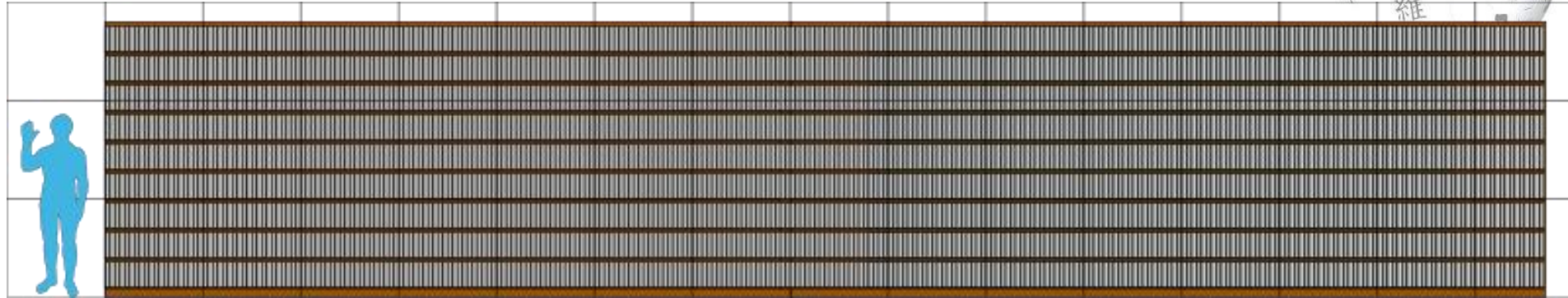




Does Wikipedia Cover Nearly Everything?



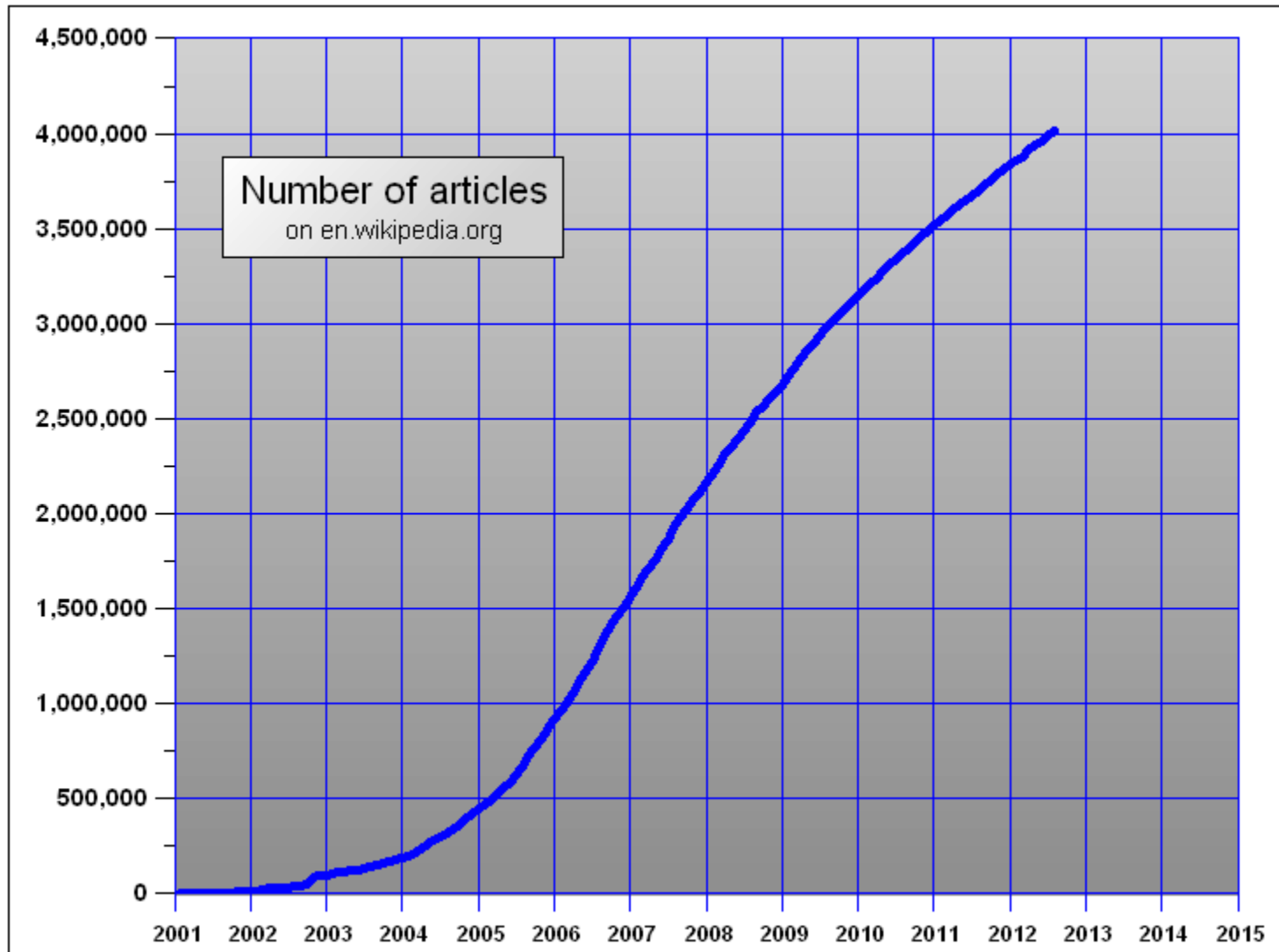
Size of Wikipedia⁽⁹⁾



- **1750 volumes** of Encyclopedia Britannica
- **4 million** articles in English
- **24 million** total articles in **285 languages**



Growth

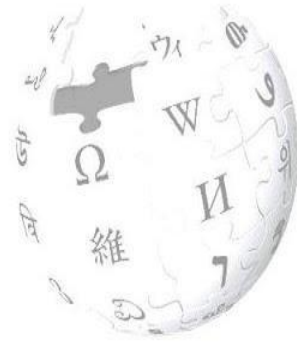




Does Wikipedia Have a Huge Number of Editors?



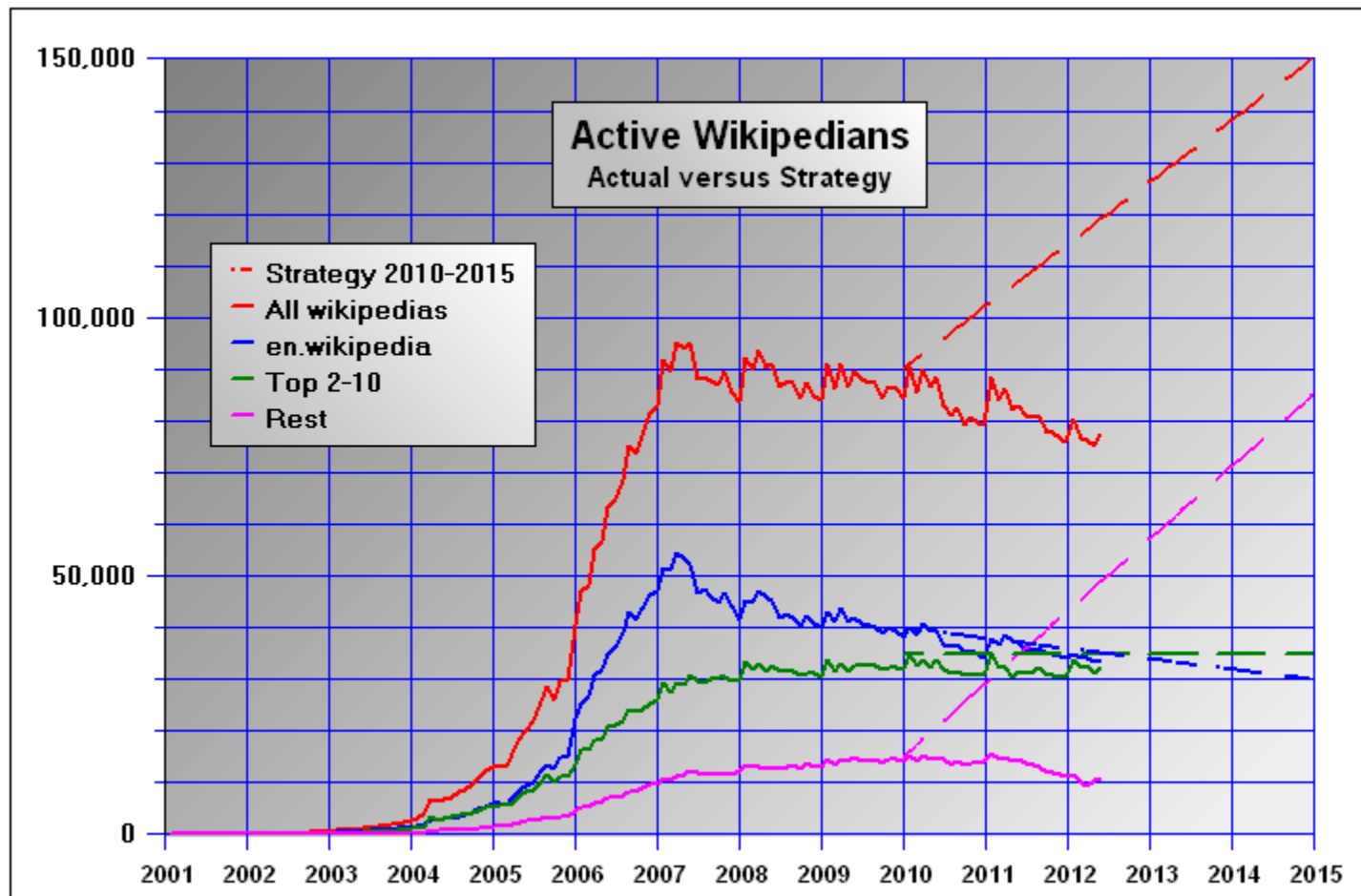
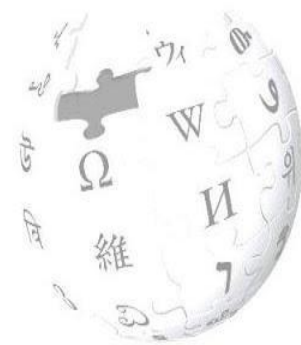
Wikipedians...



- **35 million** registered
- **Many more** anonymously
- **80,000** people contribute > 5 edits/month
- **10,000** people contribute > 100 edits/month
- **Even fewer** for medical editors

Editor numbers peaked in 2007...

- The easy work has been done
- More stringent criteria for contributing
- Can be a challenging place to work (lots of policies, debate)

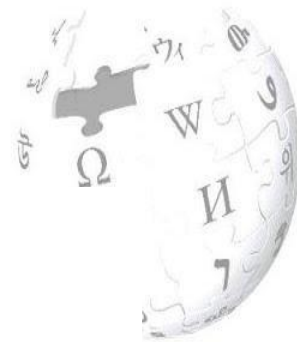




Does What One Writes Matter?



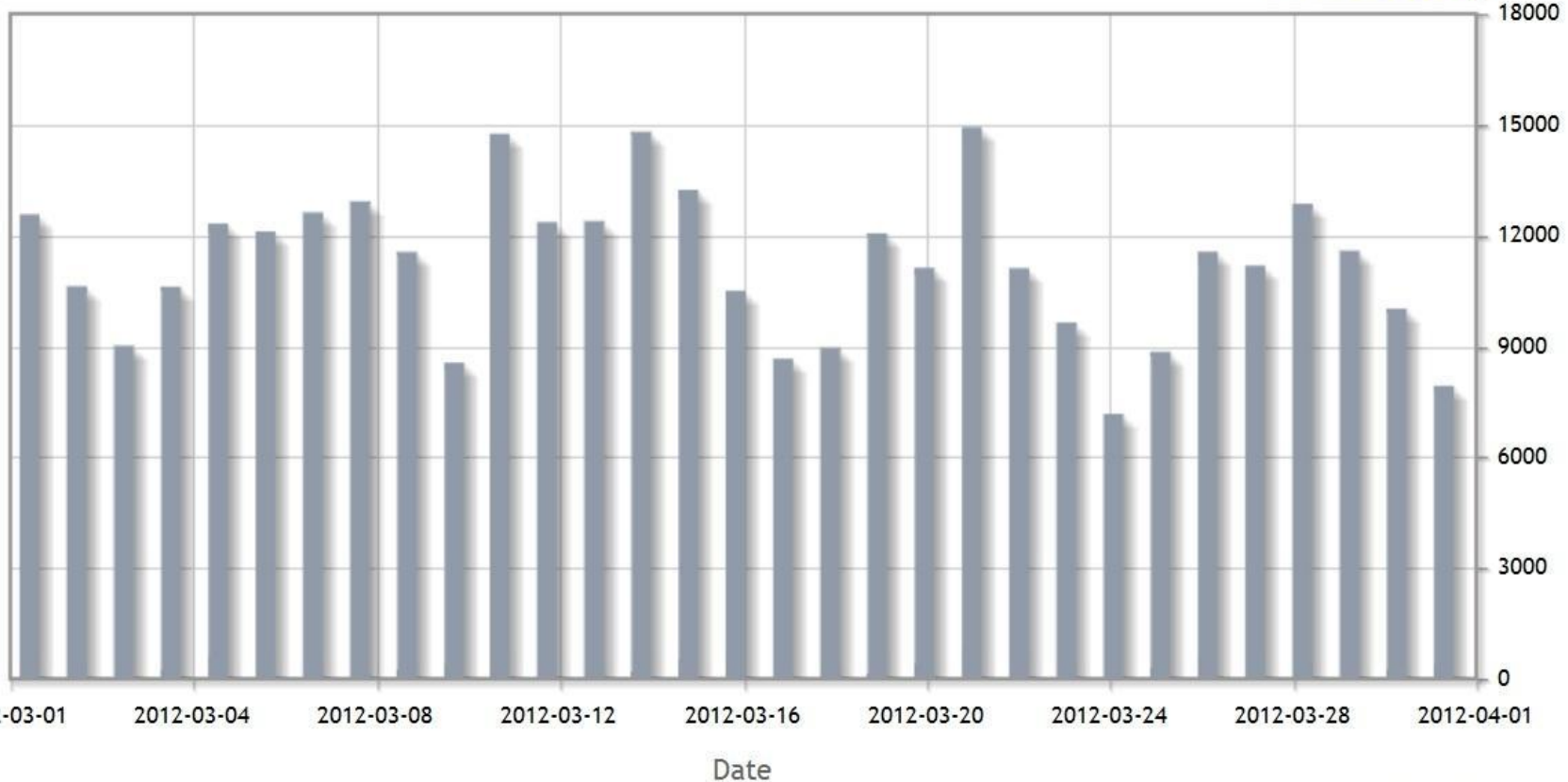
Data: monthly pageviews



Wikipedia article traffic statistics

[Schizophrenia](#) has been viewed 348026 times in 201203. This article ranked 387 in traffic on en.wikipedia.org.

latest [30](#) [60](#) [90](#) days



[toggle labels](#)

English

201203

Schizophrenia

Go

Top

This is a list of the top 500 (or all) pages ordered by number of views in the scope of the medicine Wikiproject.

The data comes from data published by [Domas Mituzas](#) from Wikipedia's [squid](#) server logs. Note that due to the use of a different program than <http://stats.grok.se/> the numbers here may differ from that site. For more information, or for a copy of the full data for all pages, leave a message on [this talk page](#).

Note: This data aggregates the views for all redirects to each page.

List

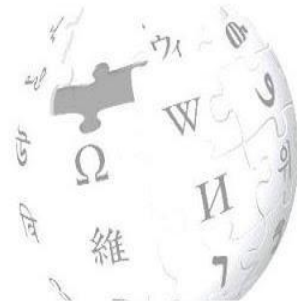
Period: 2012-02-01 — 2012-02-29 (UTC)

Rank ↕	Page ↕	Views ↕	Views (per day average) ↕	Assessment ↕	Importance ↕
1	Sexual intercourse	558995	19275	B	Top
2	Asperger syndrome	541137	18659	★ FA	Mid
3	Leonardo da Vinci	516511	17810	⊕ GA	Low
4	DNA	395053	13622	★ FA	High
5	Polycystic ovary syndrome	369677	12747	B	High
6	Bipolar disorder	367927	12687	B	High
7	Schizophrenia	336372	11599	★ FA	Top
8	Tuberculosis	330827	11407	B	Top
9	Norovirus	321674	11092	B	High
10	Pneumonia	312148	10763	B	Top
11	Cocaine	305523	10535	C	High
12	Blood type	301515	10397	B	High
13	Blood pressure	300009	10345	B	High
14	Human	295145	10177	B	High
15	Progeria	293624	10124	B	Mid
16	Vitamin D	283305	9769	B	Mid
17	AIDS	281908	9720	B	Top
18	Methamphetamine	277611	9572	B	High
19	Hemorrhoid	273243	9422	B	High
20	HIV	265372	9150	⊕ GA	High
21	Crohn's disease	262689	9058	⊕ GA	Mid
22	Penis enlargement	262230	9042	B	Low

Total page views for all medical pages.^[1]

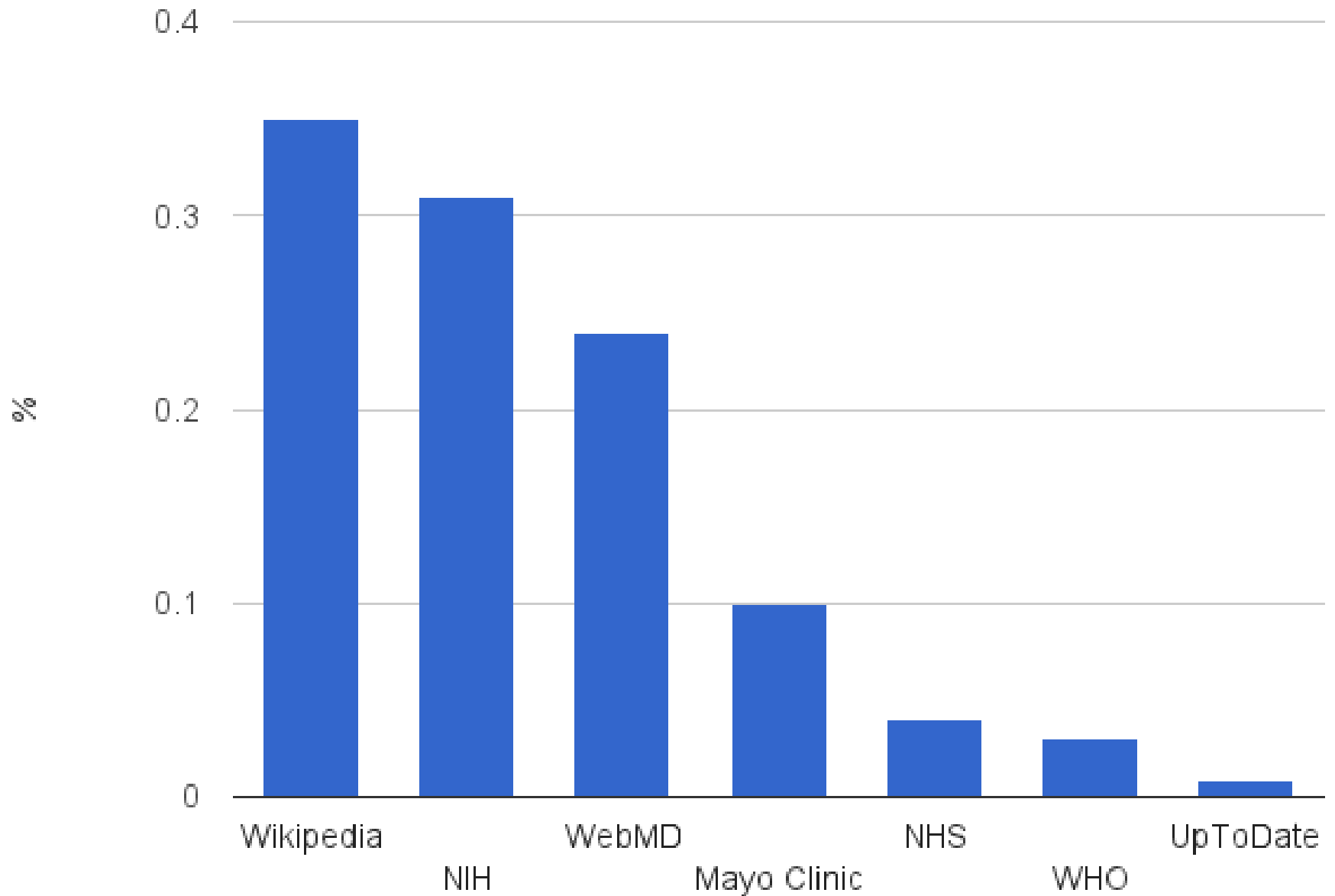
Month	Hits	Pages
July 2009	142,598,369	18,831
August 2009	147,795,383	18,992
September 2009	155,748,923	19,251
October 2009	148,544,890	19,251
December 2009	132,352,902	19,682
January 2010	133,689,124	19,989
February 2010	140,750,494	20,115
March 2010	162,087,808	20,628
April 2010	157,343,696	21,123
May 2010	151,434,999	21,327
June 2010	231,816,029	21,507
July 2010	115,806,435	21,613
August 2010	167,842,126	21,841
September 2010	182,396,707	21,881
October 2010	195,936,593	22,091
November 2010	186,633,672	22,407
December 2010	178,153,053	22,622
January 2011	196,308,647	22,629
February 2011	168,827,219	23,010
March 2011	196,043,042	23,176
April 2011	176,900,097	23,355
May 2011	186,277,099	23,388
June 2011	167,176,652	23,448
July 2011	162,220,994	23,611
August 2011	157,693,069	23,735
September 2011	157,601,955	24,006
October 2011	203,597,362	24,119
November 2011	173,089,448	24,251

Medical stats: monthly



- **200 million** page views for 25,000 medicine articles⁽¹⁾
- **40 million** page views for medication articles⁽²⁾
- **Not including** anatomy, genetics, neuroscience, cellular biology...

Most Popular Health Sites on the Internet by Viewership



Do you use it?

Do you use it?

- A UK survey found **50% to 90%** of physicians do
- 2011 *J. Medical Internet Research*: **most frequently used source** by junior physicians besides Google ⁽³⁾
- **35% to 70%** of pharmacists as well⁽³⁾



Can One Just Come and Write What They Want?

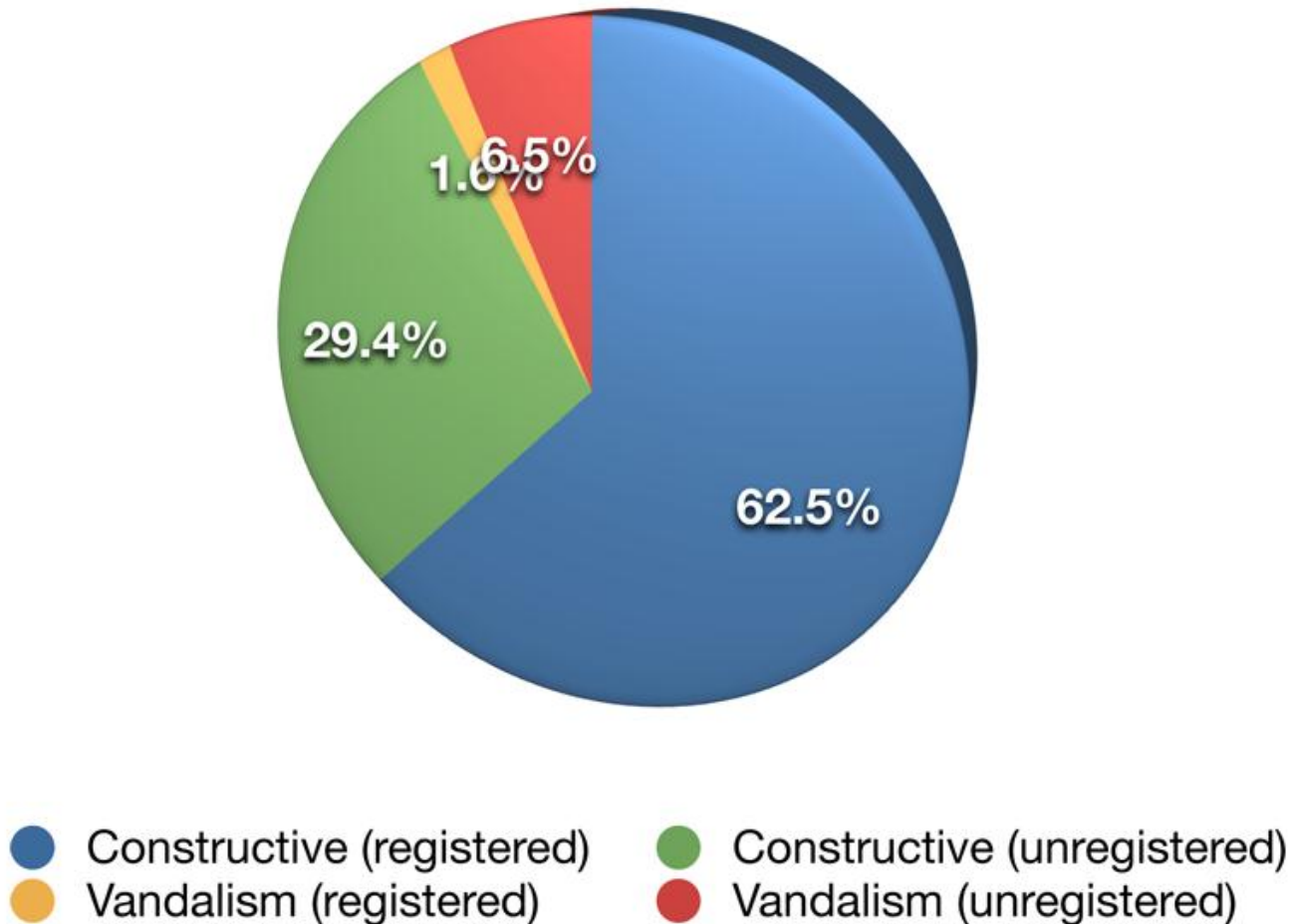


How it works

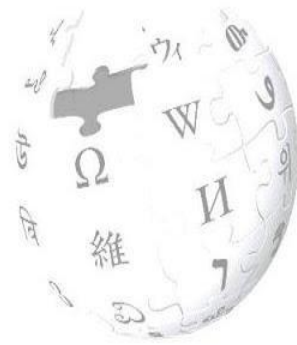
- **Anyone can edit but...**
- **Multiple safeguards**
 - **Automation** to revert vandalism and spam
 - **Monitoring** new edits by "recent changes patrollers"
 - **Watchlists** alert interested editors of new edits
 - **Admins** have additional tools (protection, blocks)
 - **Locks** on controversial content
 - **Blacklisted** links
 - **Detection** of conflict of interest
 - **Thousands** of experienced editors
 - **Hundreds of thousands** of readers
 - → Wikipedia's immune system

Most anonymous edits are good

Edits to articles on Wikipedia

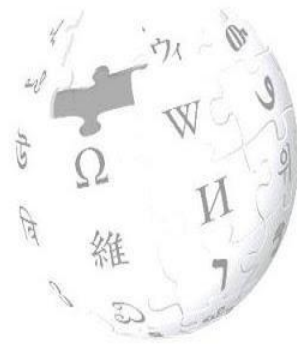


First and foremost an encyclopedia



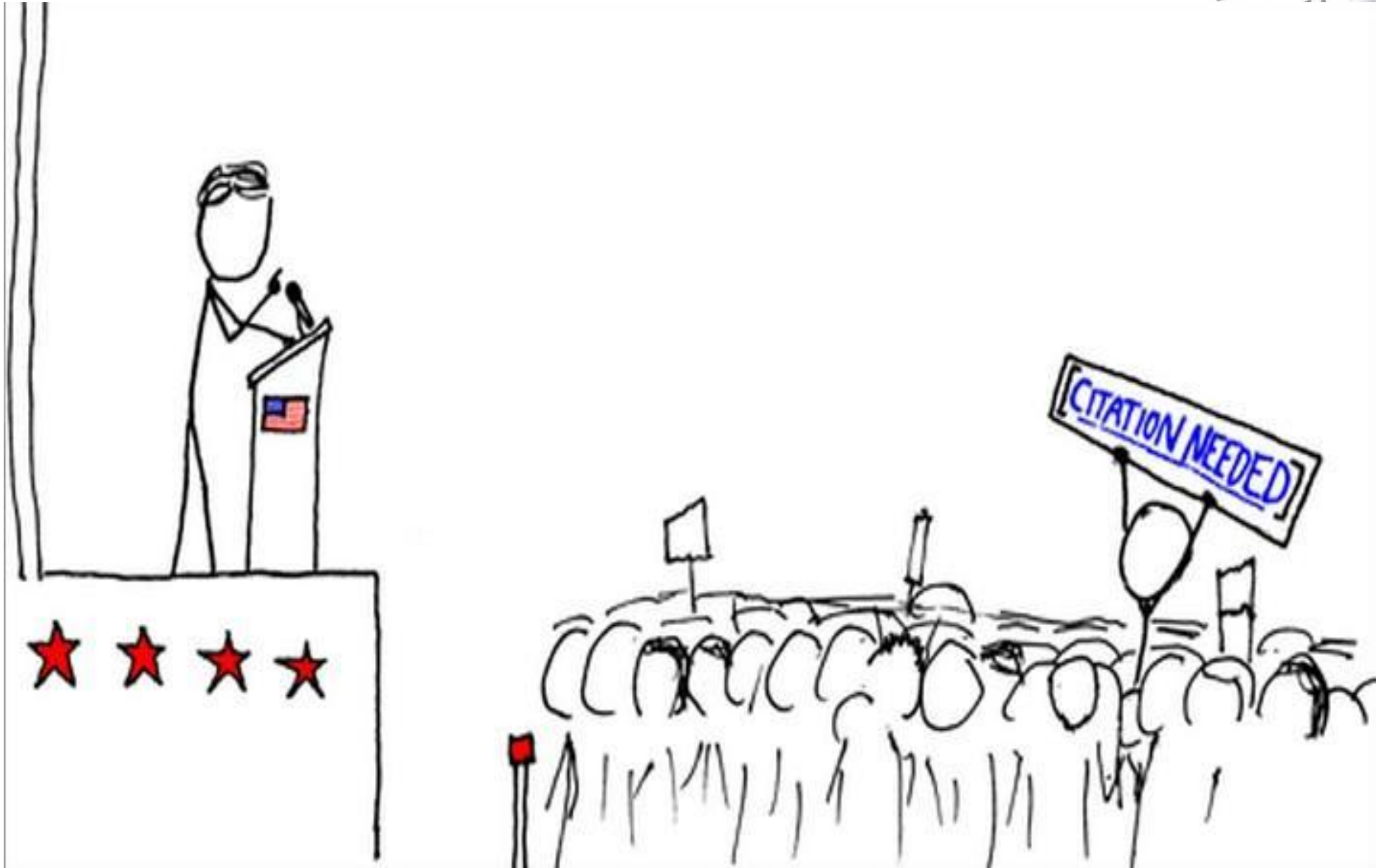
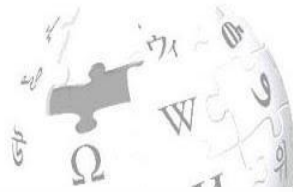
- **Neutrally**, proportionately, and verifiably, summarize reliable sources
- **Not**
 - Promoting specific ideas
 - Original research

Reference, reference, reference



- Not about editors' expertise but quality sources
- Review articles strongly preferred
- Major clinical practice guidelines
- Major textbooks
- Unreferenced or poorly referenced material often fixed, tagged, or rapidly removed

If you do not provide a reference... (10)



Main article: Causes of schizophrenia

A combination of genetic and [environmental factors](#) play a role in the development of schizophrenia.^{[2][3]} People with a family history of schizophrenia who suffer a transient psychosis have a 20–40% chance of being diagnosed one year later.^[23]

Genetic

[\[edit\]](#)

Estimates of heritability vary because of the difficulty in separating the effects of genetics and the environment.^[24] The greatest risk for developing schizophrenia is having a first-degree relative with the disease (risk is 6.5%); more than 40% of [monozygotic twins](#) of those with schizophrenia are also affected.^[3] It is likely that many genes are involved, each of small effect and unknown transmission and expression.^[3] Many possible candidates have been proposed, including specific [copy number variations](#), [NOTCH4](#), and [histone protein loci](#).^[25] A number of [genome-wide associations](#) such as [zinc finger protein 804A](#) have also been linked.^[26] There appears to be significant overlap in the genetics of schizophrenia and [bipolar disorder](#).^[27]

Assuming a hereditary basis, one question from [evolutionary psychology](#) is why genes that increase the likelihood of psychosis evolved, assuming the condition would have been [maladaptive](#) from an evolutionary point of view. One idea is that genes are involved in the evolution of language and human nature, but to date such ideas remain little more than hypothetical in nature.^{[28][29]}

Environment

[\[edit\]](#)

Environmental factors associated with the development of schizophrenia include the living environment, drug use and prenatal stressors.^[2] Parenting style seems to have no major effect, although people with supportive parents do better than those with critical or hostile parents.^[3] Living in an urban environment during childhood or as an adult has consistently been found to increase the risk of schizophrenia by a factor of two,^{[2][3]} even after taking into account drug use, [ethnic group](#), and size of [social group](#).^[30] Other factors that play an important role include [social isolation](#) and immigration related to social adversity, racial discrimination, family dysfunction, unemployment, and poor housing conditions.^{[3][31]}

Drug use

[\[edit\]](#)

Amphetamine, cocaine, and to a lesser extent alcohol, can result in psychosis that presents very similarly to schizophrenia.^{[3][32]} Although not generally believed to be a cause of the illness, people with schizophrenia use [nicotine](#) at much greater rates than the general population.^[33] About half of those with schizophrenia use drugs or alcohol excessively.^[34] Evidence supports a link between earlier onset of psychotic illness and cannabis use; alcohol use is not associated with an earlier onset of psychosis.^[35] Other drugs may be used only as coping mechanisms by individuals who have schizophrenia to deal with depression, anxiety, boredom, and loneliness.^{[34][36]} There is evidence that [alcohol abuse](#) via a [kindling mechanism](#) can occasionally cause the development of a chronic substance induced psychotic disorder, i.e. schizophrenia.^[37] A small number of people withdrawing from [benzodiazepines](#) experience a severe protracted withdrawal syndrome which can resemble schizophrenia and be misdiagnosed as such.^[38] The more often cannabis is abused, the more likely a person is to develop a psychotic illness,^[39] with frequent use being correlated with twice the risk of psychosis and schizophrenia.^[40] Whether cannabis use is a contributory cause of schizophrenia, rather than a behavior that does not actually cause the disease, remains controversial.^{[25][41]}

Developmental factors

[\[edit\]](#)

Factors such as [hypoxia](#) and infection, or stress and malnutrition in the mother during fetal development, may result in a slight increase in the risk of schizophrenia later in life.^[2] People diagnosed with schizophrenia are more likely to have been born in winter or spring (at least in the northern hemisphere), which may be a result of increased rates of viral exposures in utero.^[3] This difference is about 5 to 8%.^[42]

Is Wikipedia Peer Reviewed?






Article rating

Quality scale

[\[edit\]](#)

WikiProject article quality grading scheme

[v](#) · [d](#) · [e](#)

Class	Criteria	Reader's experience	Editing suggestions	Example
 FA	The article has attained featured article status. More detailed criteria [show]	Professional, outstanding, and thorough; a definitive source for encyclopedic information.	No further content additions should be necessary unless new information becomes available; further improvements to the prose quality are often possible.	Tourette syndrome
 A	The article is well-organized and essentially complete, having been reviewed by impartial reviewers from a WikiProject, like military history , or elsewhere. Good article status is not a requirement for A-Class. More detailed criteria [show]	Very useful to readers. A fairly complete treatment of the subject. A non-expert in the subject matter would typically find nothing wanting.	Expert knowledge may be needed to tweak the article, and style issues may need addressing. Peer review may help.	Not currently used by this project
 GA	The article has attained good article status. More detailed criteria [show]	Useful to nearly all readers, with no obvious problems; approaching (although not equalling) the quality of a professional encyclopedia.	Some editing by subject and style experts is helpful; comparison with an existing featured article on a similar topic may highlight areas where content is weak or missing.	Fetal alcohol syndrome
B	The article is mostly complete and without major issues, but requires some further work to reach good article standards. More detailed criteria [show]	Readers are not left wanting, although the content may not be complete enough to satisfy a serious student or researcher.	A few aspects of content and style need to be addressed. Expert knowledge may be needed. The inclusion of supporting materials should also be considered if practical, and the article checked for general compliance with the Manual of Style and related style guidelines .	Tuberous sclerosis
C	The article is substantial, but is still missing important content or contains a lot of irrelevant material. The article should have references to reliable sources, but may still have significant issues or require substantial cleanup . More detailed criteria [show]	Useful to a casual reader, but would not provide a complete picture for even a moderately detailed study.	Considerable editing is needed to close gaps in content and address cleanup issues.	Islets of Langerhans
Start	An article that is developing, but which is quite incomplete and may require further reliable sources. More detailed criteria [show]	Provides some meaningful content, but the majority of readers will need more.	Provision of references to reliable sources should be prioritised; the article will also need substantial improvements in content and organisation.	AIDS-related lymphoma
Stub	A very basic description of the topic. More detailed criteria [show]	Provides very little meaningful content; may be little more than a dictionary definition.	Any editing or additional material can be helpful. The provision of meaningful content should be a priority.	Acute care

Featured and Good articles

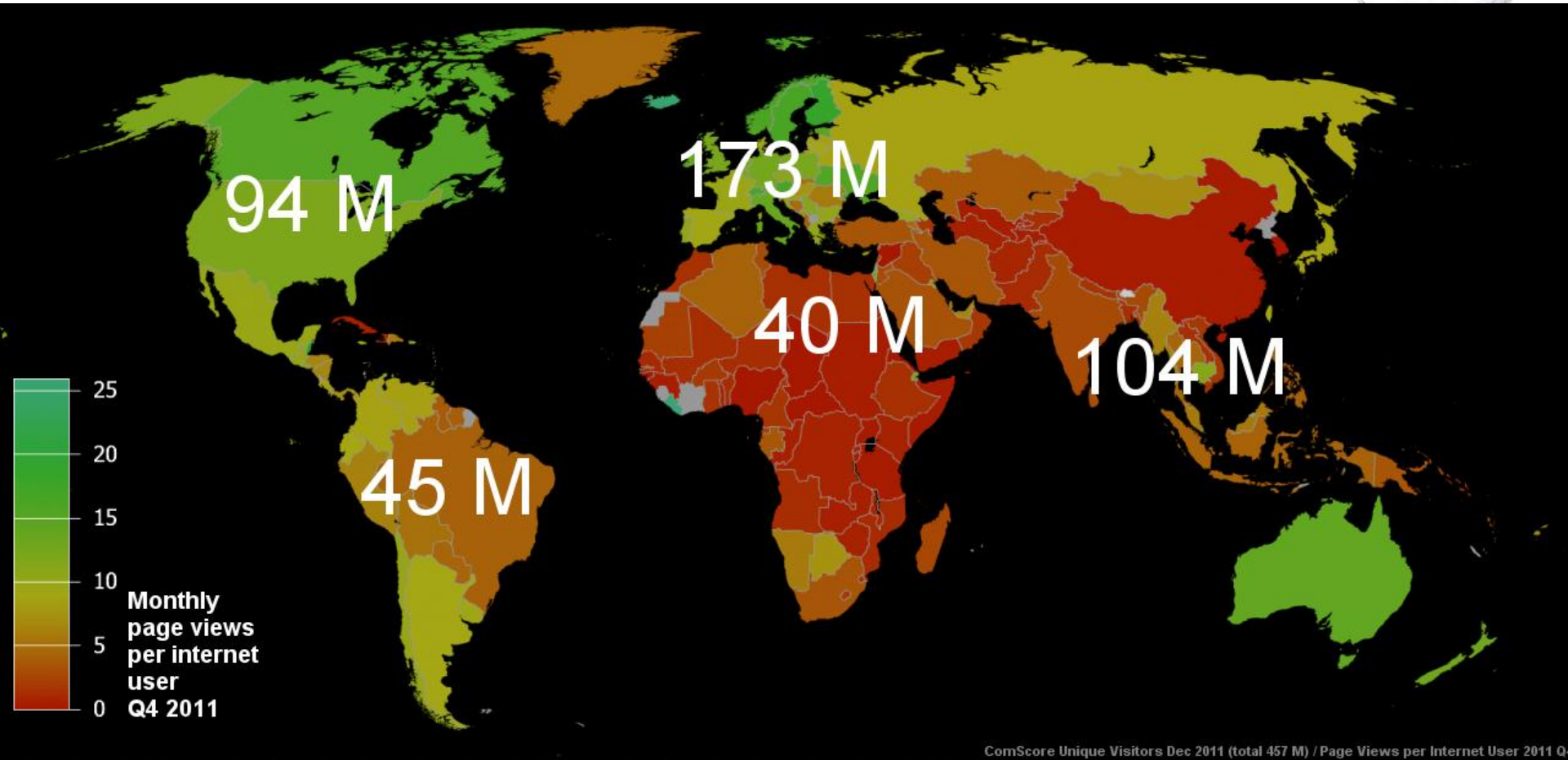


- Semi-formal peer review
- 4,000 FA and 17,000 GA
- Medicine: 57 FA and 132 GA (<1%)
- Featured content displayed on the main page
- Frequently written by experts
- Still open to editing
- Exploring other forms of peer review

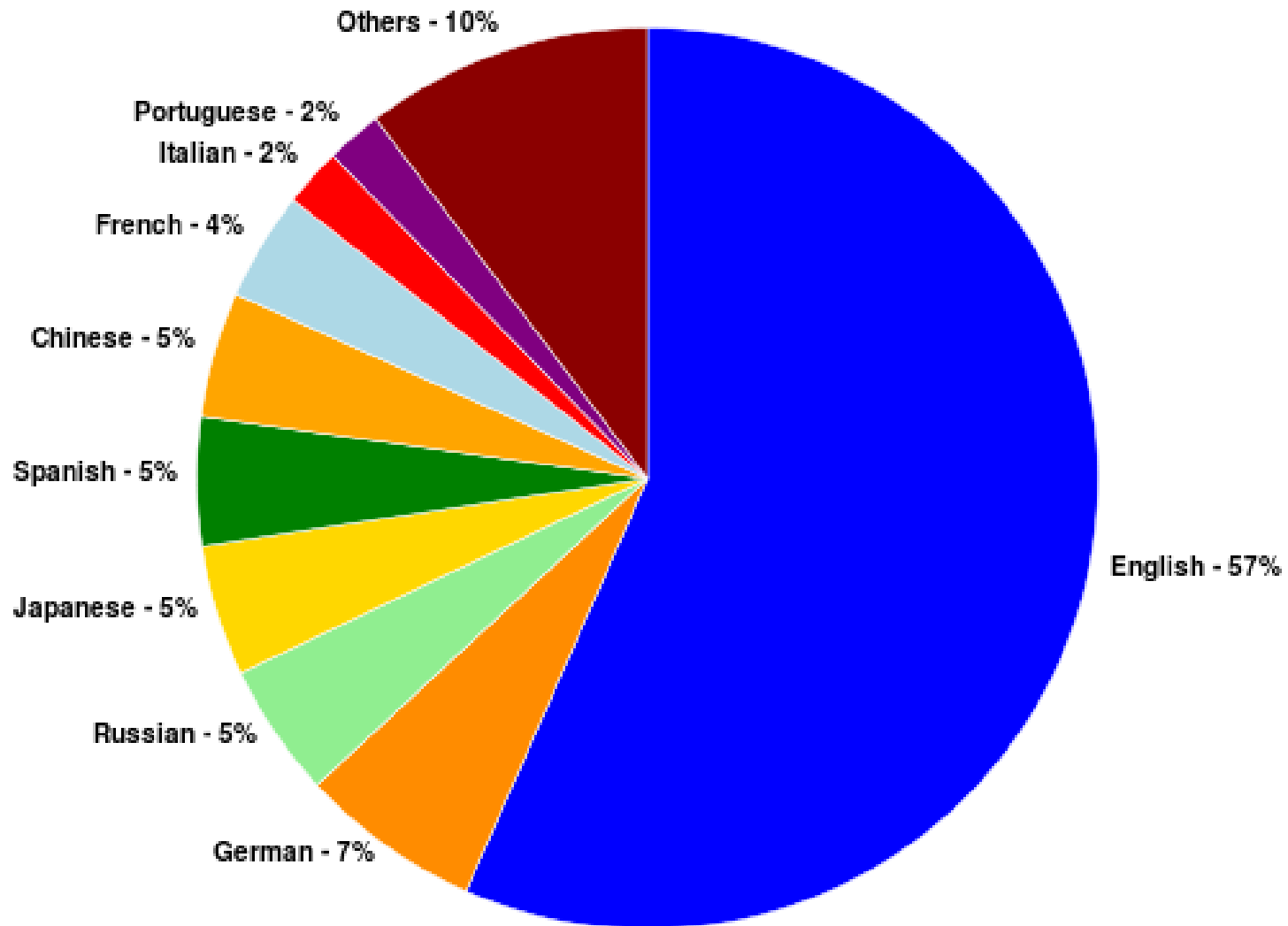
Who Are We Writing For?



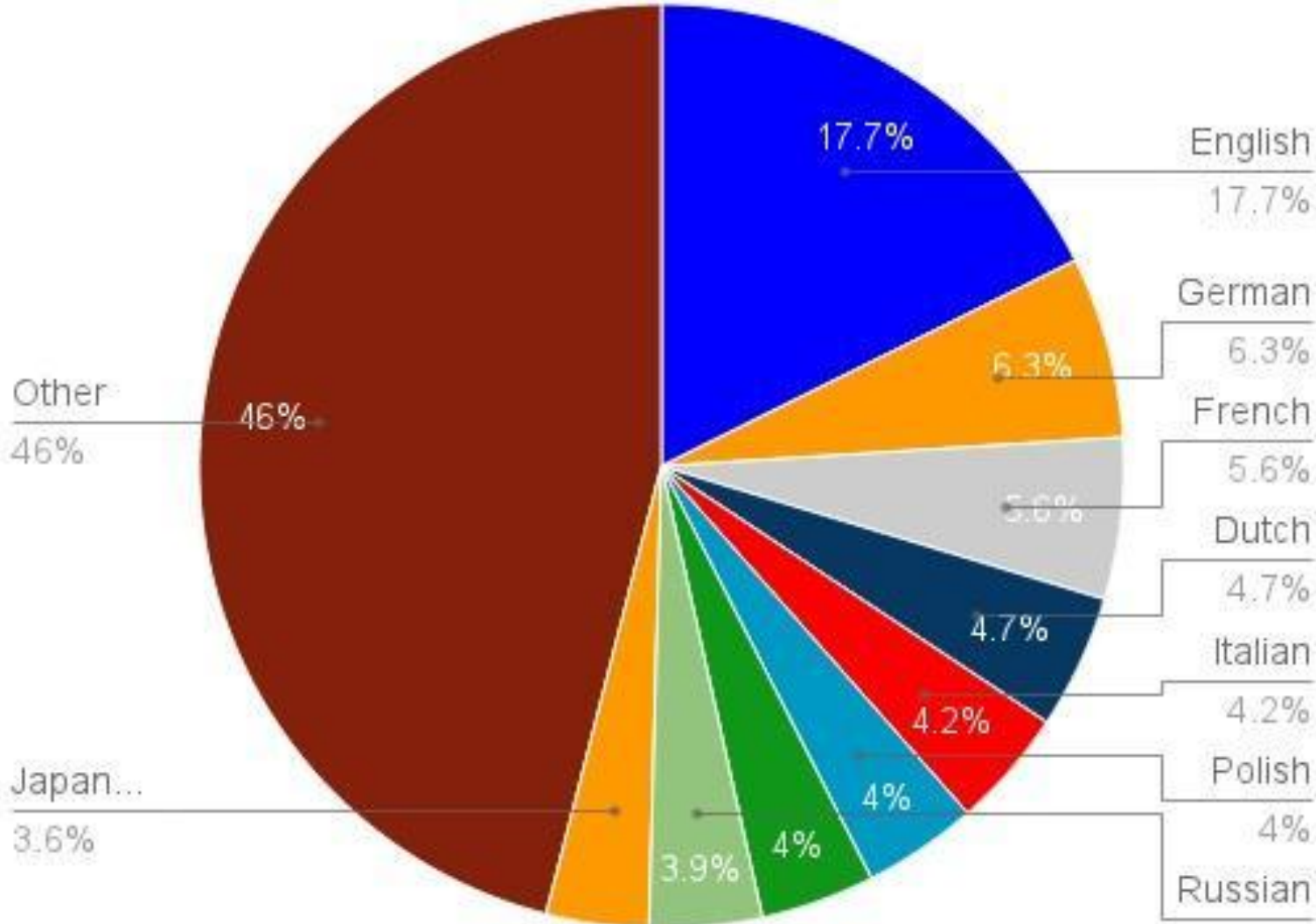
Readers in 2011



Internet content by language⁽⁴⁾



Wikipedia articles by language⁽¹⁷⁾





Health Information for All in the Language of their Choice





Why do we need this?

- **Health education** is a human right
- **Lack of information** leads to poor choices
- **Wikipedia** can address the knowledge gap
- **Perhaps** the most viable way



Global access to Wikipedia

- **Developing world** has poor access to the internet
- **Expensive data** charges for cell phones
- **Partner** with cell phone companies
- **Give free access**
- **300 million people** in Africa, Middle East, Asia and Eastern Europe



What we are working on?

- **80 key** articles
- **Improve** to a professional standard
- **Translate** into as many other languages
- **Integrate** the translations into Wikipedia
- **Free access** for everyone

Can You Edit?



Yes.

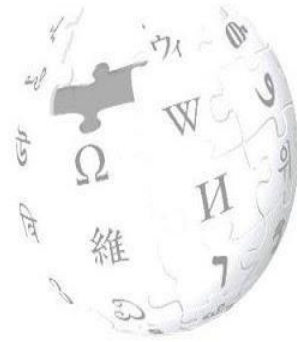
- Just click [Edit]
- Mediawiki markup
- Editing toolbar
- References
- Edit summaries
- Talk pages
 - Stay civil
 - Sign comments ~~~~

The good news

- **Learn** from other articles
- **Lots of help** guides
- **Other editors** can fix your formatting
- **Practice** in your sandbox
- **Active support** from community
- **Markup being replaced** by word processing

Write for a General Population

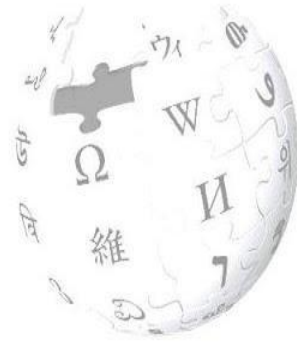
- Professionals, academics, and the lay public
- Main article → overview
- Sub-articles → greater detail (nesting)
- Factual rather than instructional



Do Authors Receive Credit?



Authorship



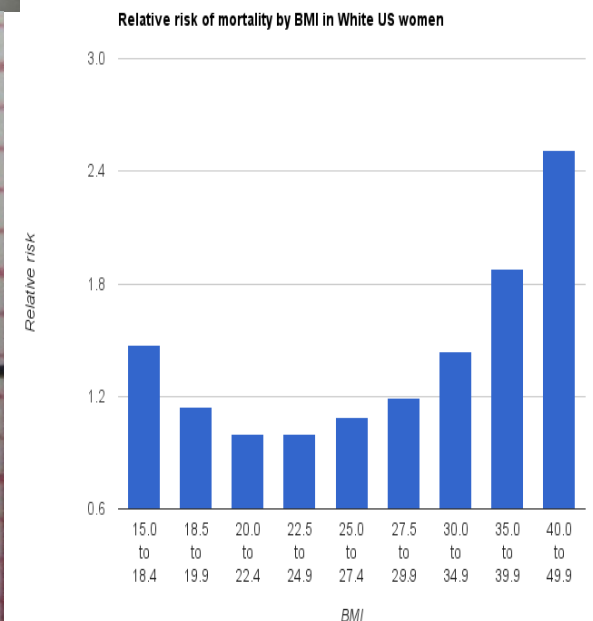
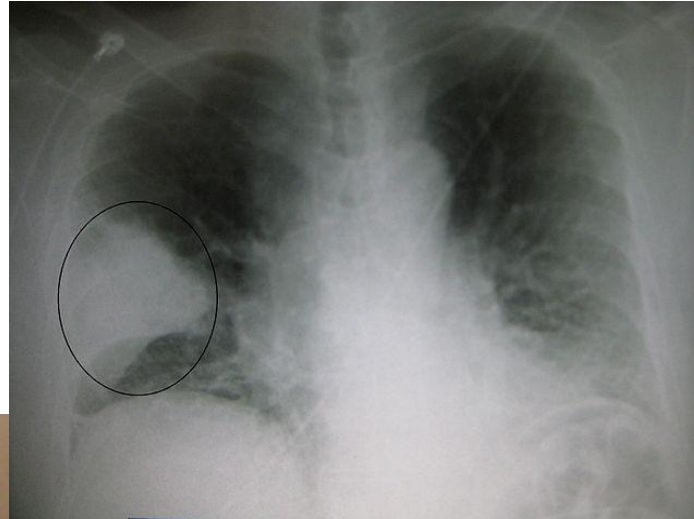
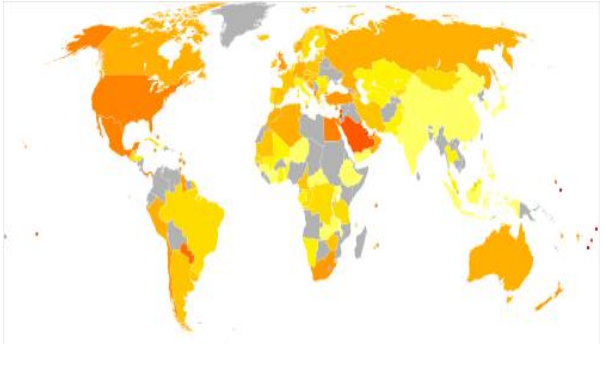
- **Every edit stored** on the history page
- **No author credits** on articles
- **Not required** to use real names, most don't



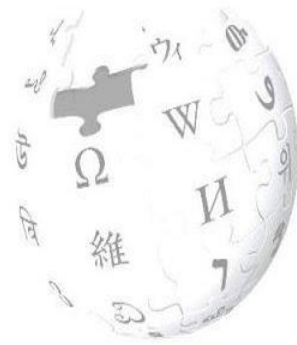
Collaboration with journals

- **Need** more academics involved
- **No credit** from Wikipedia, required for advancement in academia
- **Form collaborations** with journals
PLoS, Open Medicine, JMIR
- **Co-publish** Wikipedia articles under authors' real names
- **First article** on Dengue Fever is in the publication process

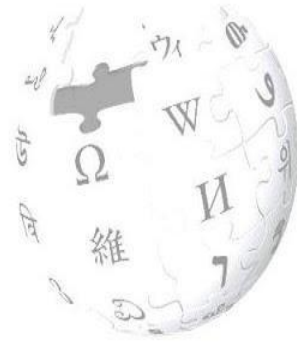
Pictures



Adding images



- Stored at the sister site, Wikimedia Commons
- 13 million free media files
- You can upload and share
- Need written consent for identifiable content



Is Wikipedia Just an Encyclopedia?

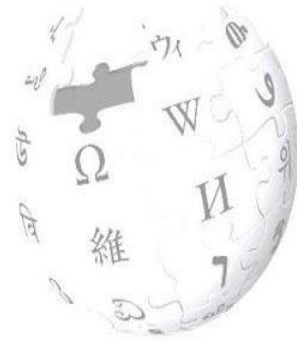




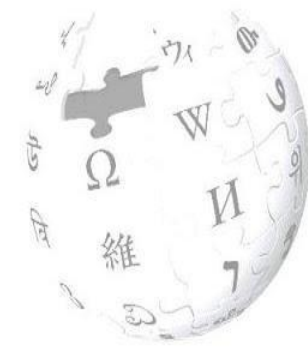
The Wikimedia Family⁽¹³⁾



The Wikimedia Movement



- Three main parts
 - **Volunteer community**
 - **Wikimedia Foundation**
 - **Chapters / Thematic organizations**
- Non-profit
- No advertising
- Open copyright



Open licensing

- **CC-BY-SA**
- **CC** = "Creative Commons"
- **BY** = "By Attribution"
- **SA** = "Share Alike"
- **Free** to use, modify, or even sell



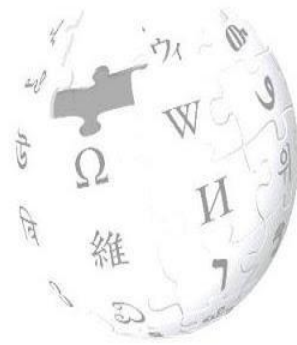
What is a wiki?

- **Developed 1994** by Ward Cunningham
- **“Quick”** in Hawaiian
- **Collaborative editing** of interlinked articles
- **Changeable content** via a web browser
- **Thousands of sites** based on this software

What is not Wikipedia

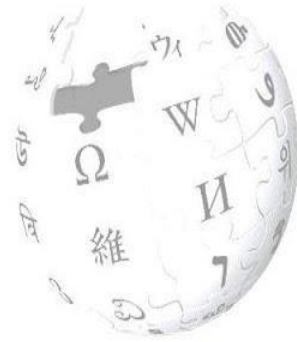
- **WikiLeaks:** publishes secret documents
- **WikiAnswers:** question and answer site
- **Wikia:** for-profit collection of wikis
- **Intellipedia:** closed wiki for US intelligence
- **Conservapedia:** US conservative angle
- **Many others**

Why get involved?



- Wikipedia is what the world is reading
- People need access to quality health info
- You develop understanding of your field
- You discuss topics with international peers
- Autonomy, The mission, Topical interest, Audience, Perfectionism, Challenge, Self-expression, Responsibility, Addiction, Recognition... **What's your reason?**

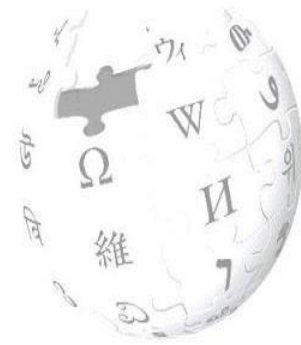
Come edit.



- Monday-Friday
- 11AM-3PM
- Nursing Building, Mezzanine

Bring: a laptop, questions, curiosity

Survey: <http://enwp.org/wp:ucsfmed>



Questions?

Attribution to James Heilman

jheilman@wikimedia.ca

User:Jmh649

www.wikimedia.ca

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References

1. http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Medicine/Popular_pages
2. http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Pharmacology/Popular_pages
3. Heilman JM, Kemmann E, Bonert M, *et al.* (2011). "[Wikipedia: a key tool for global public health promotion](#)". *J. Med. Internet Res.* **13** (1): e14.[doi:10.2196/jmir.1589](#). [PMID 21282098](#).
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5. <http://www.hifa2015.org/about/why-hifa2015-is-needed/>
6. <http://infodisiac.com/blog/2012/02/wikipedia-readers/>
7. <http://reportcard.wmflabs.org/>
8. http://en.wikipedia.org/wiki/List_of_languages_by_number_of_native_speakers#More_than_100_million_native_speakers
9. http://en.wikipedia.org/wiki/Wikipedia:Size_of_Wikipedia
10. [HTTP://XKCD.COM/285/](http://XKCD.COM/285/)
11. http://en.wikipedia.org/wiki/Wikipedia:IPs_are_human_too
12. http://commons.wikimedia.org/wiki/File:Jimmy_Wales_Fundraiser_Appeal_edit.jpg
13. http://commons.wikimedia.org/wiki/File:Wikimedia_logo_family_complete-2012.svg
14. http://commons.wikimedia.org/wiki/File:Zentralstadion-Main_stand_crowd.JPG?uselang=fr
15. <http://commons.wikimedia.org/wiki/File:ActiveWikipedians.PNG>
16. http://commons.wikimedia.org/wiki/File:Translation_Barnstar.svg
17. http://meta.wikimedia.org/wiki/List_of_Wikipedias