Knowledge translation: Cochrane, Wikipedia and students' initiatives

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Abstract

Cochrane is an international collaboration whose mission is to promote evidence-based decision-making on health. This is done by conducting high-quality, relevant and accessible systematic reviews, as well as through other forms of summarized scientific evidence. Knowledge translation promotes the real use of scientific knowledge and Cochrane has been developing various projects within this theme. One of those projects includes a collaboration with Wikipedia to improve the quality of information provided in the medical articles published in this digital encyclopaedia. This article summarizes the main characteristics of these initiatives.

Main message

- Cochrane produces high quality systematic reviews and has developed a knowledge translation strategy to reach key stakeholders in health decision making.
- Cochrane's alliance with Wikipedia, together with the work with students of health sciences, allows the dissemination of evidence in formats accessible to the professional and general professional public.

Introduction

Cochrane is an international and independent network of researchers, professionals, patients, caregivers and people interested in health whose mission is *to promote evidence-informed health decision-making by producing high-quality, relevant, accessible systematic reviews and other synthesized research evidence*[1]. It has approximately 11,000 members in more than 130 countries, without commercial sponsorship or other conflicts of interest. Its members are world leaders in their respective areas and the groups are located in some of the most recognized medical and academic organizations worldwide. Each group constitutes a mini organization in itself with its own financing, its own website and its own workload, which is mostly developed online. Employees adhere to one or more groups according to their interests, their experience or their geographic location[1].

Cochrane is not only intended for researchers and clinicians, but for all those interested in using quality information in health decision making. Over the past 20 years, Cochrane has contributed to transforming the way decisions are made in the field of health[2]. Cochrane synthesizes the evidence by producing systematic reviews: documents that answer a specific clinical question or synthesize a topic using a reproducible methodology, consigned to strict compliance with a previously established research protocol and, in many cases, published in databases specialized[3]. The Cochrane Database of Systematic Reviews is part of the Cochrane Library and has 8,084 Cochrane reviews (September 2019). Its impact factor reached 7,755 in 2018, ranking in number 11 of the 160 journals of General and Internal Medicine[4].

Cochrane designed the 2020 Strategy so that its evidence is used for health decision making worldwide[5]. One of the objectives of this strategy is that Cochrane evidence is universally accessible. To achieve this, strategies that stimulate the knowledge translation are essential.

What is Knowledge Translation?

Many terms have been used to describe what is the knowledge translation (KT) in health. One of the most commonly used definitions is from the Canadian Institutes of Health Research that define KT as "dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system"[5,6]. It could then be said that what KT seeks is not only the dissemination but also the real use of knowledge. The creation of this knowledge, which in health is born from clinical research, the synthesis of knowledge through the elaboration of systematic reviews and the dissemination of knowledge through publications in journals and scientific presentations, are not sufficient by themselves to guarantee the use of knowledge in health decision making. Therefore, strategies for KT may vary according to the target audience, which can include from researchers and clinicians to policymakers or patients.

The lack of use of evidence for informed decision-making in health care is evident in many groups of "decision makers" which include not only health professionals but also patients, caregivers, managers and managers of policies. Some of the main barriers to adequate KT include: lack of time and money invested in KT activities, attitudes of distrust or disinterest in key stakeholders and decision makers in health[7], lack of specific technical skills for KT and limited access to evidence[8].

Cochrane knowledge translation strategy

The Cochrane KT Framework[9] includes seven main themes on which specific actions can be planned. The following are summarized and examples are offered:

Topic one: Prioritization and co-production of Cochrane reviews.

Producing reviews that are consistent with the needs of the users, committing to include these stakeholders in the entire production process. This includes the phases of selection of topics and questions, the design, execution, interpretation and dissemination of Cochrane reviews. For example, Cochrane involves various government and patient organizations in prioritizing topics of systematic reviews[10].

Topic Two: Packaging, push and support to implementation

This topic describes a work program that unites production, dissemination and support for the implementation of the Cochrane reviews. For example, Cochrane develops translation initiatives[11] so that the reviews are in multilingual formats.

Topic three: Facilitate the pull

Try to make Cochrane evidence easy to use and encourage the capabilities of its users to put this evidence into practice. For example, Cochrane develops formats for the media and visual summaries (*blogshots*)[11,12] for the dissemination of the findings of the reviews.

Topic four: Exchange

Get involved with users to support their evidence-based decision making. For example, Cochrane has a strategic alliance with the World Health Organization (WHO) for support with evidence in its guidelines[13].

Topic five: Improving climate

Promote the use of evidence in general, and Cochrane products in particular, by promoting and defending the role of systematic reviews in evidence-based decision making. For example, Cochrane UK launched a program to sensitize primary and secondary school students about health evidence[14].

Topic Six: Sustainable KT processes

Ensure that knowledge translation in Cochrane is carried out properly, that is, with an appropriate infrastructure, processes and resources. For example, the generation of sustainable financing sources in the KT processes.

Knowledge Translation and students

Cochrane has developed initiatives for the KT that, to students of different levels, undergraduate, postgraduate, masters, doctorate. We will briefly describe some of these initiatives here.

Students for the best evidence (S4BE)

It is a growing network of students from all over the world, interested in learning about evidence-based practice (EBP)[15]. S4BE collaborators gather EBP resources in an interactive space in blog format. The objective is to answer the following questions: What is the EBP? How do I practice EBP? What resources are available so you can learn more about EBP? What EBP learning resources are the best? Where can I find other students interested in EBP? Where can I find interesting articles about EBP?

The blog also functions as a journal club, critically summarizing the findings of scientific evidence on health issues. S4BE is transversal to many issues of the Cochrane CT Framework, primarily offering resources to improve the use of evidence in health decision making. The Ibero-American Cochrane Network has made this platform multilingual and is about to launch the "Estudiantes por la Mejor Evidencia" (ExME, *Students for the Best Evidence*) initiative, where you can enjoy these and more content in Spanish.

The Cochrane-Wikipedia project

Cochrane's commitment is to produce and share high quality health evidence for the widest possible audience. Wikipedia is an online encyclopedia of collaborative editorial management with more than 30 thousand articles on topics related to health and is one of the sources of consultation most used by the general public and health professionals[16].

Cochrane and Wikipedia allied to improve the quality of information in the articles in this encyclopedia. Wikipedia articles preferably use secondary studies as sources of information, so Cochrane systematic reviews are a useful resource when optimizing the quality of these articles.

This initiative began in 2014 and supports the use of relevant evidence in all Wikipedia medical articles, as well as processes to help ensure that the medical information included in Wikipedia is of quality and as accurate as possible[17]. Table 1 summarizes some Wikipedia editing experiences that are available on the Cochrane Wikipedia project portal, along with other related research projects[18].

The experiences gathered arose from the collaboration with students in the field of health, many of whose components included sessions of collective edition ("Edit-a-thon") independent or within university courses with exclusive dedication to the edition of Wikipedia or as a curricular activity of a regular subject (for example, "Public Health"). In those, certain benefits for Wikipedia were evidenced, obtaining improvements in the quality of the articles that in their follow-up received thousands of visits. In the same way, students were able to strengthen their skills in evidence-based medicine, as well as in scientific writing and editing.

The results obtained are surrogates that assume the existence of potential beneficial effects in the education of health professionals and, potentially in the health of the population, as there is greater availability of critically valued scientific information and free access. The real impact of knowledge translation by these means on evidence-based care practice and patient-centered outcomes is still pending.

Table 1. Knowledge Translation Experiences with Wikipedia

Study	Participants	Results
Joshi 2019[19]	78 medical students University course for Wikipedia editing credits (extension of Azzam 2017[20])	They achieved the edition of 71 Wikipedia articles. The students indicated that they improved their confidence in Wikipedia, their skills in evidence-based medicine and in editing.
Weiner 2019[21]	98 students of kinesiology (USA) "Edit-a-thon" (1 day session)	They achieved the complete edition of 24 Wikipedia articles, stable over time. Each page had an average of more than 300 thousand views in the follow-up period.
Apollonio 2018[22]	119 pharmacy students (USA) Activity within the university subject	They achieved the edition of 30 Wikipedia articles. They showed greater confidence with scientific content and skills. They achieved greater number of views in the articles.
Azzam 2017[20]	43 medical students University course for editing credits in Wikipedia	They managed to edit 43 Wikipedia articles, stable over time. The students felt gratification in the contribution to Wikipedia in relation to their responsibility as doctors. During the work period, the articles were viewed more than a million times.

Note: "stable" refers to the editions being maintained and not reversed or vandalized by other independent publishers. Source: Cochrane Wikipedia Project Page - "Research" section[23]

Conclusion

Knowledge translation is a priority aspect for Cochrane, since the evidence would achieve its greatest impact when it reaches the key stakeholders for decision-making. There are different work topics for

KT and Cochrane provides guidelines to generate new initiatives and adhere to existing ones.

Student involvement (S4BE/ExME) and strategic alliances (as with Wikipedia) provide an opportunity to bring the best available evidence to the community, although there is uncertainty about the real impact of these initiatives on the health of populations and Education of health professionals.

Notes

From the editors
This text was published as was originally submitted by the authors and no changes were made by the Journal.

References

1. Cochrane. Cochrane: About us. Cochrane.org. [Internet] | Link |
2. Bonfill X; Centro Cochrane Iberoamericano. La Colaboración Cochrane cumple 20 años [The Cochrane Collaboration turns 20]. Med Clin (Barc). 2014 Sep 9;143(5):210-5. | CrossRef | PubMed |
3. Franco JVA, Arancibia M, Simancas-Racines D, Madrid E. Syntheses of biomedical information: narrative reviews, systematic reviews and emerging formats. Medwave. 2018 Nov 27;18(7):e7354. | CrossRef | PubMed |
4. Cochrane Library. About the Cochrane Database of Systematic Reviews. [Internet] | Link |
5. Cochrane community. Strategy to 2020. [Internet] | Link |
6. Graham ID. Knowledge synthesis and the Canadian Institutes of Health Research. Syst Rev. 2012 Feb 9;1:6. | CrossRef | PubMed |
7. Ellen ME, Léon G, Bouchard G, Ouimet M, Grimshaw JM, Lavis JN. Barriers, facilitators and views about next steps to implementing supports for evidence- informed decision-making in health systems: a qualitative study. Implement Sci. 2014 Dec 5;9:179. | CrossRef | PubMed |
8. Edwards A, Zweigenthal V, Olivier J. Evidence map of knowledge translation strategies, outcomes, facilitators and barriers in African health systems. Health Res Policy Syst. 2019 Feb 7;17(1):16. | CrossRef | PubMed |
9. Cochrane community. KT Framework and implementation. [Internet] | Link |
10. Cochrane priority reviews. [Internet] | Link |
11. Cochrane. Translate Cochrane evidence. [Internet] | Link |
12. Cochrane Iberoamérica. Blogshots. [Internet] | Link |
13. Cochrane. Nuestros patrocinadores y socios. [Internet] | Link |
14. Ware L, Ryan-Vig S.Teaching school children about evidence-based medicine: Cochrane UK's outreach programme. Cochrane. 2019. [Internet] | Link |
15. Students 4 Best Evidence. Who are S4BE?. [Internet] | Link |
16. Wikipedia. Contributors to Wikimedia projects. Health information on Wikipedia. Wikimedia Foundation, Inc. 2012. [Internet] | Link |
17. Cochrane. The Cochrane-Wikipedia partnership in 2016. [Internet] | Link|
18. Wikipedia. WikiProject Medicine/Research publications. [Internet] | Link |
19. Joshi M, Verduzco R, Yogi S, Garcia M, Saxena S, Tackett S, et al. Wikipedia Editing Courses at Three US Medical Schools in the 2017-2018 Academic Year. MedEdPublish 2019;8. | CrossRef |
20. Azzam A, Bresler D, Leon A, Maggio L, Whitaker E, Heilman J, et al. Why Medical Schools Should Embrace Wikipedia: Final-Year Medical Student Contributions to Wikipedia Articles for Academic Credit at One School. Acad Med. 2017 Feb;92(2):194-200. | CrossRef | PubMed |
21. Weiner SS, Horbacewicz J, Rasberry L, Bensinger-Brody Y. Improving the Quality of Consumer Health Information on Wikipedia: Case Series. J Med Internet Res. 2019 Mar 18;21(3):e12450. | CrossRef | PubMed |
22. Apollonio DE, Broyde K, Azzam A, De Guia M, Heilman J, Brock T. Pharmacy students can improve access to quality medicines information by editing Wikipedia articles. BMC Med Educ. 2018 Nov 20;18(1):265. | CrossRef | PubMed |
23. Wikipedia. Wikipedia:WikiProject Medicine/Research publications. [Internet] | Link |

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