Cochrane Update

Tracking and understanding the utility of Cochrane reviews for public health decision-making

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Introductions

Cochrane reviews aim to support policy and practice decisions. Developing systematic strategies to understand the pathway from their production to actually making a difference in practice is difficult but extremely valuable. Such an exercise can help to determine meaningfulness of the reviews, identify their use in highlighting the spectrum of the primary evidence, flag opportunities to update and stimulate research gap analyses. This paper briefly describes our emerging approach to tracking and understanding the use, and usefulness, of published Cochrane Public Health Group (CPHG) reviews to date.

The challenge of defining and identifying review ‘use’

In evaluating the impact of the work of the CPHG internationally, for our stakeholders and for current and potential funders, we acknowledge that there are significant challenges associated with identifying the extent to which the reviews are used. These challenges result from the way in which ‘use’ can be conceptualized. For example, a review could be useful in informing a policy decision but not formally referenced or cited. Alternatively, a review could be cited but may not have been particularly useful in informing the development of a programme or policy. The knowledge translation literature has moved towards describing these issues in a more structured fashion, conceptualizing ‘use’ as instrumental (e.g. review cited directly in government policy), conceptual (e.g. an individual is exposed to research over time which informs their development of a new programme) or symbolic (e.g. evidence is used to support an existing falls prevention programme). This delineation is helpful in distinguishing the ways and mechanisms the investment in research can make its way into contemporary decision-making.

Factors that impact on the utilization of systematic reviews include awareness of what they are and how they were developed; the timeliness of their production; the relevance of the review findings to practice, readers’ skills in critical evaluation of systematic review findings; relationships between funders, researchers, authors and decision-makers, and; barriers at organizational and system levels that limit the incorporation of systematic review findings into decision-making. The literature describes a range of strategies for optimizing the use of systematic reviews including creating a culture that supports the use of systematic reviews, producing policy-relevant reviews, creating user-friendly review formats and a range of associated products for end-users, utilizing creative dissemination strategies and creating opportunities that facilitate access to systematic reviews.

In response, systematic reviews often now include a wider range of research designs and grey literature, and integrate mixed methodologies and information on interventions relevant to implementation such as intervention processes, context and cost. Despite these efforts, little is known about the effectiveness of strategies that impact on utilization and there are ongoing challenges associated with identifying whether reviews are used and the extent to which they add value to public health decisions. Online access and download statistics are useful in providing some insight but what we access does not necessarily indicate use and likewise and lack of citation does not mean research evidence was not used. Whilst the literature provides some overview of possible strategies or approaches, we still lack a firm understanding about what activities or strategies, whether in review development or dissemination stages, are associated with increased use and usefulness for decision-makers.

CPHG approach to tracking systematic review impact

Yearly download statistics for all CPHG reviews are provided by the publisher of The Cochrane Library, Wiley.
Publishing. This includes data on the number of full-text downloads of a review as well as the number of times the abstract and plain language summary were accessed. Wiley Publishing also produces media releases for selected reviews, and all media stories generated in the month following any media release are collected. This provides information about the way the review findings have been portrayed in the media as well as the reach, since the data includes country and language of coverage. Podcasts are also created for selected reviews. Following review publication (allowing approximately 1 year following publication), CPHG also conducts a basic online tracer search to identify web pages citing the specific review (internet search of review title keywords +/- primary author name). This goes beyond media stories to include other types of online citations including reports, repositories and newsletters. This also provides a way of obtaining access data for reviews that are not selected for Wiley press releases.

While these statistics provide some indication of access and reach, we would like to understand how people are using CPHG reviews. Given that CPHG reviews span a broad range of topics (e.g. employment, housing, education, food supply, transport) it may not be meaningful or feasible to conduct a broad survey of decision-makers to assess their use of a range of CPHG reviews. Instead, our research objectives are currently to identify a purposive sample of potential stakeholders as relevant to each published CPHG review, and to examine the contribution, if any, the review had made to their work. To do this, 6–12 months following the publication of a review, a staff member of CPHG contacts a purposive sample of key stakeholders (identified by local and national networks relevant to review topic; and by asking stakeholders and funders to suggest potential end-users of the review) and conducts semi-structured interviews. The interview questions aim to ascertain whether stakeholders saw the review—if so, how they came across it; whether the review was useful and how it was used; whether it would be useful to know about similar Cochrane reviews as they are published; how they usually access research evidence and what ways research findings are generally used in their work. The CPHG currently has only three published reviews for which to gather usage data, each on a very different topic, however, over time it is expected that reviews produced on similar topics will provide an opportunity to examine the use of different reviews, utilizing differing and evolving dissemination and engagement approaches, among the same group of stakeholders.

What we have found out about how end-users are using CPHG reviews (or not)

Flexible working conditions and their effects on employee health and wellbeing

Interviews

Twelve Australian organizations were contacted in relation to the first published review from the CPHG. Of these, four stakeholders agreed to be interviewed. The interviewees were from various organizations with responsibilities in advocacy, member representation for a particular workforce or national policy. None reported having seen the review; however, all were interested in the review findings and wanted to receive future updates about reviews related to employment. After having the key review findings summarized, all reported that the review would be useful to them in their work. The main use predicted by the stakeholders was for ongoing advocacy and policy work (to advocate for the potential benefits to employees of flexible working conditions when that flexibility was initiated or controlled by employees). Specific examples of how stakeholders would use the review included: presentation of the review methods and findings at a continuing education session within an organization, presentation of the review at a Board meeting of a national organization whose aim is to promote ergonomics, intended use of the review findings to influence human resource policy within organizations. It is worth noting that none of these examples of use would have occurred without the interview taking place, given that prior to our contact, none of the individuals contacted had heard of the review. Part of the value of this activity was in the identification of national stakeholders of relevance to employment and health, the establishment of relationships with these stakeholders and the identification of channels through which future relevant reviews should be disseminated. The authors of this review also reported additional, including requests for information from the Equality and Human Rights Commission and a private organization revising its work arrangements.

Tracer search

An internet search conducted in April 2012 (1.5 years following review publication) using review title and first author keywords (‘Joyce flexible working conditions employee health wellbeing’) retrieved 27 peer-reviewed articles citing the review in Google Scholar, and more than 10 pages of records in Google. Beyond eight Google pages of records, the subsequent results were no longer relevant to the review (that is, the webpage results referred to other information relating to the keywords used, not the actual review). Three
duplicate hits and 17 inaccurate hits were excluded, leaving 57 hits relevant to the review which were analysed for type/content.

Results are summarized in Table 1. Whilst only a crude measurement of actual reach, a wide range of web pages demonstrated the very broad range of sources of uptake and dissemination of this particular review. Citations and summaries of the review appeared in several sectors, which tended to be related to worker health (e.g. occupational health and safety), business/management, employee fairness, public health or primary health care. A large range of online repositories were linking to the review (e.g. health-evidence.ca) and many media, news articles and targeted newsletters cited and summarized the review.

**Community-wide interventions for increasing physical activity**

**Interviews**

Eight Australian organizations were contacted in relation to CPHG’s second published review. Of these, five stakeholders agreed to be interviewed. The interviewees were from various organizations with responsibilities in state-wide health programme/policy direction, state-wide funding of community-based organizations, local government area physical activity implementation, member representation for a particular group of practitioners and national policy. Of those who reported seeing the review (three had not, or were not sure if they had seen it), two had received the review via a tailored message (from CPHG). One stakeholder found it by accessing *The Cochrane Library* after being prompted by a colleague. All stakeholders were interested in the review findings and wanted to receive future updates about reviews related to physical activity interventions. Those who had seen the review were asked if the review was useful. In general, the feedback was that the review was not specifically used to inform a process or a decision. One respondent indicated that the summary section was the most useful and had been directly used in an internal document for internal information sharing in their department on. One stakeholder commented that the review itself did not appear to be user-friendly due to inaccessible language and dense layout, particularly for practitioners who were not familiar with Cochrane reviews and other systematic reviews. For those who had not seen the review, after having the key review findings summarized, all reported that the review would likely be useful to their work. Stakeholders described potential uses of the review as being more indirect (creating a culture); for example for advocacy purposes internally; to promote a particular intervention approach and to identify gaps of where further evaluation was needed.

**Tracer search**

An internet search conducted in April 2012 (1 year following review publication) using review title and first author keywords (‘Baker community-wide interventions physical activity’) retrieved 11 peer-reviewed articles citing the review in Google Scholar, and more than 10 pages of records in Google. Beyond five Google pages of records, the subsequent results were no longer relevant to the review (that is, the webpage results referred to other information relating to the keywords used, not the actual review). Eight duplicate hits and 14 inaccurate hits were excluded, leaving 28 hits relevant to the review, which were analysed for type/content.

Results are summarized in Table 2. Again, whilst admittedly an incomplete picture, the range of page hits were broad, and demonstrated reach and uptake mainly within the public health and fitness sectors. Several online repositories were holding/linking to the review (e.g. a public

<table>
<thead>
<tr>
<th>Type of webpage categorized</th>
<th># Hits</th>
<th>% Hits</th>
<th># Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer-reviewed published articles citing the review</td>
<td>14</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Company websites/blog articles summarizing the review</td>
<td>7</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>(a primary health-care practice; GU Health insurance; Softpedia, corporate massage)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repositories (health-evidence.ca; a social reading site; Wikibooks; etc.)</td>
<td>8</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>agencies for: safety at work, ageing and work;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online media and news pages (Health Behaviour News Service; The Telegraph UK; Science Daily; etc.)</td>
<td>7</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>CPHG dissemination via website and emails; direct links</td>
<td>6</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>to the Cochrane Library and Wiley; other Cochrane groups citing review</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online networks information pages summarizing the review (OHS Reps@work; Wonca; work flexibility network; network for business sustainability; Australian women online; etc.)</td>
<td>6</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Author publication listing</td>
<td>5</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Textbooks citing review</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Database (PubMed)</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Government report citing review (department of premier and cabinet)</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total hits</td>
<td>28</td>
<td></td>
<td>57</td>
</tr>
</tbody>
</table>
health training centre in AZ, USA) and a range of online articles and news pages cited and summarized the review such as Wikipedia (under ‘physical exercise’).

Conclusions

Assessing the impact of systematic reviews is challenging, but particularly so in public health where decision-makers, policy officers and practitioners rely on a wide range of sources of evidence. The complexity of the decision-making processes, and the reality that not all sources are formally documented during these processes, can mean that there is little to no ‘traceability’ of the use of systematic reviews. Identification of end-users is difficult given that the public health workforce is a broad, ill-defined end-user group, and that users of CPHG are invariably outside of one defined sector. Whilst only able to draw from a small number of published reviews at this early stage, the CPHG has taken both a quantitative and a qualitative approach to impact the assessment to address these challenges, utilizing download statistics and tracer searches to indicate reach, and semi-structured interviews conducted with a purposive sample of relevant stakeholders as potential end-users, to provide a snapshot of potential use. Rather than enabling us to make definitive statements about impact at this stage, this approach informs our knowledge translation strategies as we increase our engagement with potential end-users of our reviews and help build a network of stakeholders for future relationship development, engagement with topic prioritization, specific review content guidance, review dissemination and follow-up strategies.

Table 2 Type of web hits retrieved related to physical activity review

<table>
<thead>
<tr>
<th>Type of webpage categorized</th>
<th># Hits</th>
<th>% Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPHG dissemination via website and emails; direct links to The Cochrane Library and Wiley</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>Peer-reviewed published articles citing the review</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Online article summarizing the review</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Repository/clearinghouse</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Author presentation or publication listing</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Online media page</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Database (PubMed)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Advertisement for research management software (Mendeley)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Related articles that had cited the review</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total hits</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

New Cochrane protocols and reviews of interest to health promotion and public health stakeholders from Issues 1-3, 2012 of The Cochrane Library (* denotes CPHG review/protocol)

**Reviews**
- Altered dietary salt for preventing pre-eclampsia and its complications.
- Behavioural interventions to promote condom use among women living with HIV.
- Behavioural interventions to reduce the transmission of HIV infection among sex workers and their clients in low- and middle-income countries.
- Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3–12 years.
- Condom effectiveness in reducing heterosexual HIV transmission.
- Diet or exercise, or both, for weight reduction in women after childbirth.
- Environmental sanitary interventions for preventing active trachoma.
- Exercise interventions for smoking cessation.
- Hand washing for preventing diarrhoea.
- HIV prevention advice for people with serious mental illness.
- Intermittent preventive treatment for malaria in children living in areas with seasonal transmission.
- Interventions for preventing injuries in the construction industry.
- Interventions for preventing weight gain after smoking cessation.
- Interventions for smoking cessation in indigenous populations.
- Non-legislative interventions for the promotion of cycle helmet wearing by children.
- Non-pharmacological interventions for preventing venous insufficiency in a standing worker population.
- One-to-one dietary interventions undertaken in a dental setting to change dietary behaviour.
- Paying for performance to improve the delivery of health interventions in low- and middle-income countries.
- Vaccines for measles, mumps and rubella in children.
- Vaccines for preventing plague.
- Vaccines for preventing rotavirus diarrhoea: vaccines in use.
- Vaccines for women to prevent neonatal tetanus.

**Protocols**
- Behavioural interventions as adjuncts to pharmacotherapy for smoking cessation.
- Behavioural interventions for preventing HIV infection in homeless or unstably housed adults.
• Decision support interventions for people making decisions about participation in clinical trials.
• Fortification of condiments and seasonings with iron for preventing anaemia and improving health*.
• Incentive-based interventions for increasing physical activity and fitness*.
• Internet-based behavioural interventions for preventing HIV infection in men who have sex with men.
• Interventions for primary prevention of occupational asthma.
• Interventions to encourage uptake of cancer screening for people with severe mental illness.
• Lifestyle intervention for improving school achievement in overweight or obese children and adolescents.
• Mammography in combination with breast ultrasonography versus mammography for breast cancer screening in women at average risk.
• Social connectedness interventions for preventing suicide in young and middle-aged adults.

**Upcoming CPHG reviews**

New CPHG protocols for publication Issue 4, 2012:
• Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people.

New CPHG protocols for publication Issue 5, 2012:
• Welfare to work interventions and their effects on health and well-being of lone parents and their children.
• Community-based, population-level interventions for promoting child oral health.

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**References**