Citizen Science and LSRs

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What is it and how could it help?

What is crowdsourcing and citizen science?

How can it help Living Systematic Reviews?
What is crowdsourcing?

As with any SR, the search for evidence forms a critical component. What happens here has a knock-on effect for the whole review.
Citizen science success

People-Powered Research

The Zooniverse provides opportunities for people around the world to contribute to real discoveries in fields ranging from astronomy to zoology. Welcome to the largest online platform for collaborative volunteer research.

Would this approach work for Cochrane?
The task: making it doable

Reviews are complex but they are made up of a number of rule-driven, systematic tasks. These kinds of tasks can be re-formed as ‘microtasks’
Cochrane Crowd

You can make a difference

Become a Cochrane citizen scientist. Anyone can join our collaborative volunteer effort to help categorise and summarise healthcare evidence so that we can make better healthcare decisions.

Give it a try
It’s about offering needed and doable microtasks aimed at identifying and describing the evidence we need to produce our reviews.
The efficacy of internet-based cognitive behavioral therapy for insomnia. [Chinese] [609918800]

Objective To evaluate the effectiveness of internet-based cognitive behavioral therapy (ICBT) for the treatment of insomnia by comparison of sleep parameters, degrees of anxiety and depression of the ICBT, with traditional face-to-face cognitive behavioral therapy (CBT) and pharmacotherapy for insomnia. Methods Seventy-nine cases meeting proposed DSM-5 criteria for insomnia disorder were randomly assigned to ICBT (n=27), CBT (n=26), and pharmacotherapy (n=26) group, and treated accordingly for 8 consecutive weeks. The sleep parameters, the levels of anxiety and depression in the 3 groups were compared and analyzed before, 4 weeks after and the termination of treatment. Results Comparing to that of pre-treatment, the sleep parameters were significantly improved, anxiety and depression levels obviously decreased after treatment for 4 and 8 consecutive weeks, the differences were statistically significant (P<0.05). After treatment for 4 consecutive weeks, the sleep latency, total asleep time and wake time after sleep were significantly different (P<0.05) when compared with pharmacotherapy group with ICBT and CBT groups. After the treatment, the sleep latency, anxiety and depression levels were lower in ICBT and CBT groups than those in pharmacotherapy group, and the difference was statistically significant (P<0.05). In addition, no significant difference (P>0.05) was found in sleep parameters and anxiety level between ICBT group and CBT group. Conclusion ICBT may display a slower effect on improving speed in falling asleep than the pharmacotherapy does, but the efficacy of ICBT is better than that of pharmacotherapy after
So far

Over **1 million** individual classifications!

Over **5500 people** have signed up to contribute

Around **40,000 randomised trials** have been found by Cochrane Crowd
Who is the ‘online community’?
Who is the ‘online community’?

*Anyone* with an interest in health
## Who is the ‘online community’?

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most aged between 26-35 years</td>
<td></td>
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<tr>
<td>59% work in a health related area</td>
<td></td>
</tr>
<tr>
<td>21% are students (health and non-health)</td>
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<td>16% are ‘consumers’ (patients, carers, public)</td>
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Data as of 26 Oct 2016
Survey of sign-up since launch of new platform
Who is the ‘online community’?

Contributors are from around 120 countries
Quality

RCT  RCT  RCT  RCT
Reject  Reject  Reject  Reject
Reject  RCT
Unsure
More tasks

Identifying

- Is it an RCT? YES
- Is it a DTA? YES

Describing

Available
- P
- I
- C
- O

Planned or in beta
- P
- E
- C
- O
Crowd and LSRs

Crowd as ‘service’

Known intelligence
Crowd as service

Much of what is identified from sensitive searches is ‘noise’. The Crowd can **reduce the noise** significantly.

Send my search results to the Crowd!
Crowd as service: pilot data

<table>
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<tr>
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<th>Int rev P1</th>
<th>Int Rev P2</th>
<th>Int Rev P3</th>
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<tbody>
<tr>
<td>No. of citations</td>
<td>3635</td>
<td>4913</td>
<td>1200</td>
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<td>No. of RCTs found</td>
<td>872</td>
<td>831</td>
<td>370</td>
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<tr>
<td>No. took part</td>
<td>54</td>
<td>64</td>
<td>29</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>76%</td>
<td>83%</td>
<td>70%</td>
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<tr>
<td>Time given</td>
<td>3 weeks</td>
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<td>Time taken</td>
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# Crowd as service: pilot data

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Traditionally we have worked in ‘silos’. Crowd and CRS-web offers us the chance to make better use of what we (the community) already know.
11 review updates published in Sept 2016 that were looking for RCTs and had searched Embase using a methodological filter
The Crowd have already screened between 62% - 98% (mean 83%) of records identified from Embase searches done for review updates.
Development of evidence communities

You can work on topics of interest to you