

A readability assessment of plain language summaries (PLS) and abstracts of Cochrane Reviews before and after PLS guidance

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Background: Plain Language Summaries (PLS) of Cochrane Reviews (CRs) must be written in clear and straightforward language to serve the relevant aim of knowledge translation. The objective of PLS is to share the results of CRs among a broad audience. Therefore, a readable style is needed. In 2022, Cochrane released new standards developed in a participative manner to guarantee the appropriateness and readability of the readability of PLS.

We aimed to analyse the readability of the PLS and abstracts of CRs of interventions before and after implementing the latest Cochrane guidance.

Methods

- 1 We identified all the CRs of interventions published in 2019 and 2023. We excluded protocols of CRs, withdrawn reviews, non-intervention reviews, overviews and updates of reviews with two versions in the same year.
- 2 We extracted the authors' country of affiliation and the text of PLS and abstract.
- 3 We applied the Simple Measure of Gobbledygook Index (SMOG), which is a readability formula that estimates the reading level required to understand written text.
- 4 We compared the readability index of CRs published in 2019 with those published in 2023 after the Cochrane guidance for the PLS was released.
- 5 We analysed how current PLSs adjust to the 2022 Cochrane Guidance for writing Plain Language Summaries and whether readability is different if the main author comes from a native English-speaking country.

Results

Table 1: SMOG readability index for abstracts and PLS

	Before guidance (n=541)		After guidance (n=386)	
	SMOG index	Grade level (age range)	SMOG index	Grade level (age range)
Abstract ¹	13.13 ±1.16	College level (18-20)	12.84 ±1.25	College level (18-20)
PLS ²	11.35 ±1.47	11th grade (16-17)	10.80 ±1.27	11th grade (16-17)

t-test for independent samples (significance level 0.05)
1. P-value =0.004
2. P-value < 0.0001

Table 2: SMOG index values for PLS per authors' country of affiliation

English native speaking countries	Non-English native speaking countries	p-value
11.14 ± 1.37	11.40 ± 1.44	0.6890

No abstract or PLS published after the release of Cochrane Guidance met Cochrane's recommendation of being readable for an 11-year-old.

Conclusions

Readability indices have improved for both abstracts and PLS...

...but this improvement does not downgrade the schooling level and still fails to comply with the Cochrane's Guidance recommendations

There are no significant differences between PLS readability when written by native English-speakers and non-native English-speakers