A comparison of different approaches for editing health-related information: an author's satisfaction perspective

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Background

➢ **Cochrane Mission**

Ensure that up-to-date, accurate, accessible information about the effects of healthcare interventions is readily available worldwide

<u>via</u>

<u>Cochrane Systematic Reviews (CSR)</u>

➢ **Growing base of CSR Users**

- Clinicians (wide range of disciplines)
- Drug regulatory authorities
- Educational institutions
- Healthcare insurers and funding agencies
- Consumers (lay public)

who may need

<u>Plain Language Summaries (PLS)</u>

➢ **Production of PLS at Cochrane**

- Authors of CSR themselves; sometimes, they ask the editorial team
- Reviewed by one member of the Consumer Network; feedback usually approved by CSR authors

Overview of the project

Goal: Assess and compare the usability of two editing approaches (non-automated and automated) for writing Plain Language Summaries (PLS) of Cochrane Systematic Reviews
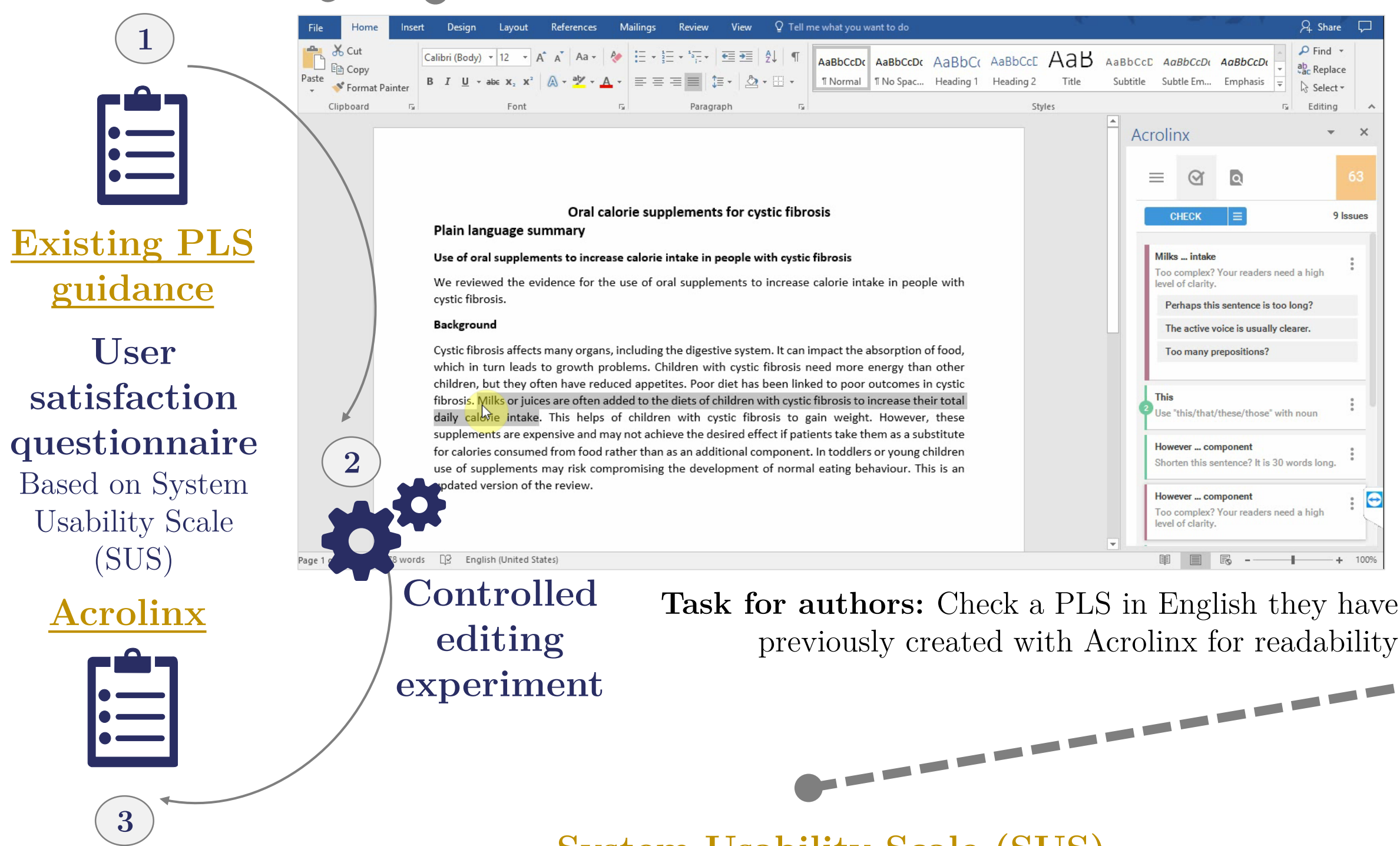
in terms of

Effectiveness
Content Accuracy
+
Content Readability
+
Content Comprehensibility

Author's satisfaction

Motivation

➢ Current PLS editing environment and support

- **Authors follow a non-automated (NA) editing approach**
  - PLS editing environment: MS Word and/or RevMan
  - Guidance on how to write PLS not integrated in editing environment
  - Variety of guidance materials
    - More focus on what to write, not necessarily how
    - Still, some general style recommendations (avoid jargon, modal verbs)
    - Some inconsistencies detected (e.g. PLS length)

➢ **Proposal of a new automated (A) editing approach using**

acrolinx

- Authoring support tool
- Features a set of customisable rules to detect spelling, grammar, terminology and style issues
- Used to increase text readability and translatability
- Possibility of integration in a variety of editing environments

Author's Satisfaction Study

Is the introduction of an **automated authoring support tool** into Cochrane's current **PLS production** workflow beneficial in terms of author's satisfaction?

Method

Task for authors: Check a PLS in English they have previously created with Acrolinx for readability

① <u>Existing PLS guidance</u>
User satisfaction questionnaire
Based on System Usability Scale (SUS)

② <u>Acrolinx</u>

③ Controlled editing experiment

Participants

- All Cochrane authors with experience in writing PLS
- Members of different Cochrane Review Groups
- 13 academics, 4 health professionals, 1 publications consultant
- Different mother tongues: English (13), Dutch (2), German (1), Portuguese (1), Russian (1)

18 authors completed
the satisfaction questionnaire about Cochrane PLS guidance

out of whom

12 authors also completed
the controlled editing experiment
and the
satisfaction questionnaire about Acrolinx

Main Findings

System Usability Scale (SUS)

10 statements

Likert scale (5 points, 1: Strongly disagree – 5: Strongly agree)

The higher the SUS score, the higher the satisfaction of the users of a product

Editing approach	SUS score (mean)	SUS score (median)	SUS score (SD)
Cochrane guidance (NA)	62.29	70	26.53
Acrolinx (A)	**75.41**	78.75	14.49

On average, Acrolinx SUS scores are higher than Cochrane guidance SUS

BUT

No statistically significant differences between both editing approaches in terms of user satisfaction

(t(11)=1.2549, p=0.2355)

"[Cochrane] guidance for PLS writing is too vague and, generally, not helpful"
P15

"I found that Acrolinx was useful to edit the existing PLS. If the software was enabled when creating the PLS then it would be very helpful to make it more readable. Acrolinx is good because it makes you think about simplifying the text and using shorter sentences"
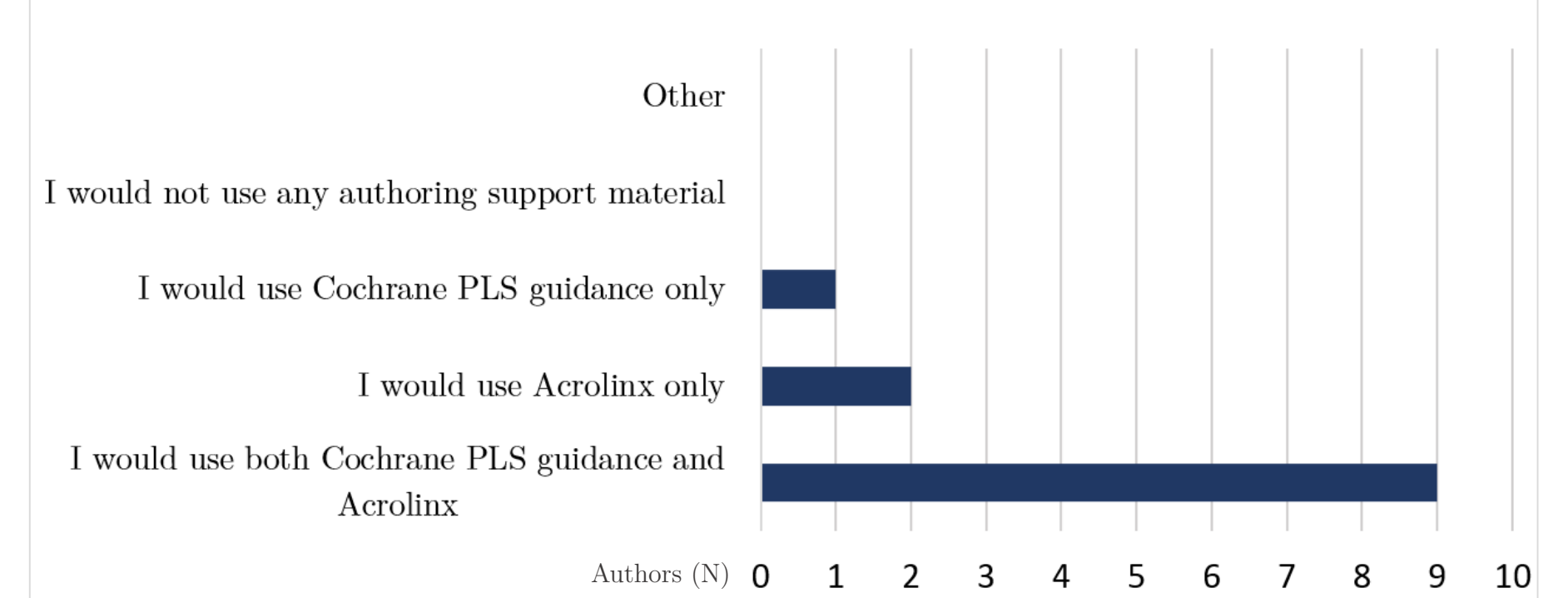P20

"I have found the Cochrane Norway template more helpful than PLEACS"
P05

Future use of authoring support

"I think until I am very confident using Acrolinx, I would need both. I would hope to move to Acrolinx very quickly. I found the task quite stressful - almost like an exam - but doing it in my own time would help. I thought it was intuitive and I enjoyed using it."
P11

Conclusions

About Cochrane PLS Guidance

- Authors' opinions vary depending on their level of expertise in producing PLS and the set of guidance they are provided with
- There seems to be a need for Cochrane PLS guidance to be more specific and be validated by the lay public

About Acrolinx

- Authors seem to agree in that Acrolinx can improve the readability of PLS
- Authors seem to appreciate the specificity of Acrolinx suggestions, compared to Cochrane guidance
- If integrated in Cochrane PLS editing workflow, it would be advisable for Acrolinx to be customised according to Cochrane's style guide.

Future Work

A. Correlations

- Explore whether authors' user satisfaction results are in line with the findings on content accuracy and readability.

B. Comprehensibility Experiment

- Recruit consumers (lay public) to assess the comprehensibility of PLS produced following both editing approaches to complete the usability study and make suggestions on how to improve the current Cochrane PLS editing process.