

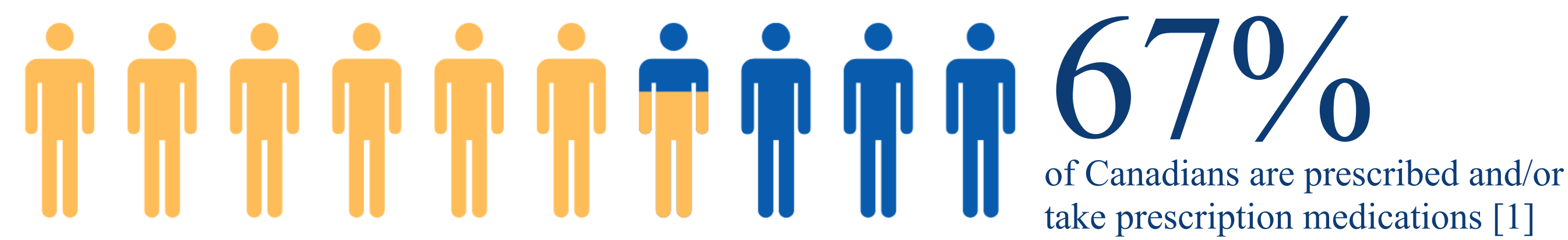
Exploring Language Availability, Understandability, and Readability of Patient Medication Information

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Introduction



Taking prescription medications have risks as well as benefits. Providing consumers with comprehensive information allows them to make informed decisions and appropriately use the medication [2]. Patient Medication information (PMI) is one approach to informing people about their prescription medications with the intention of mitigating the potential negative effects of using the medications. PMI is the printed information given to a consumer when a prescription is filled for the first time [2]. PMI is typically accompanied by a verbal consultation from a pharmacist [2]. PMI describes important information regarding the prescription (e.g., side effects, dosage, adverse reactions, proper storage).

French, English, and Mandarin are three of the most predominant spoken languages in Canada [3]. Mostly in Canada, including British Columbia (BC), PMI is typically provided in English. Thus, consumers whose first language is not English (e.g., French, Mandarin) are unlikely to be receiving PMI in a language that they are proficient in [4], [5].

Research Questions:

Given the importance of PMI and the diversity of languages spoken in Canada, this study examined:

- 1. Availability of PMI:** Do BC pharmacies provide PMI in other languages (e.g., French, Mandarin)?
- 2. Patient-centredness of PMI:** Are there differences in patient-centredness (e.g., understandability, readability) between PMI in different languages and/or from different BC pharmacies?

Methods

We chose to investigate PMI from five popular pharmacies: Rexall, London Drugs, Shoppers Drug Mart, IDA, and Pharmasave. We selected metformin as a representative prescription medication because it is commonly prescribed due to its safety, low cost, and potential benefits for those with diabetes [6]. To begin, the researcher requested PMI for metformin in English, French, and Mandarin from each pharmacy. When available, the researcher received the PMI either in person, online, or by email. Then, the obtained PMIs were transcribed and compared in terms of patient-centredness.

Patient-centredness of the obtained PMI was measured using understandability and readability. The researcher rated each PMI using the understandability component of the Patient Education Materials Assessment Tool for Printed information (PEMAT-P) [7]. Readability of PMI was measured using the Simple Measure of Goobledygook (SMOG) Index, which provides an estimated grade level required to understand the written content [8]. Both the PEMAT and SMOG have been used previously for assessing French materials [9], [10].

However, we adjusted the French PMI SMOG scores to account for the differences between English and French

Results

Availability of PMI: A total of eight PMI were evaluated. English PMI was available from all five pharmacies, while French was offered by only two, and Mandarin was not available at any (see Table 1). The English PMI from Shoppers Drug Mart and London Drugs were identical; Rexall was also the same but had one additional paragraph. Similarly, the English PMI from IDA and Pharmasave were identical. English PMI was also found online for one pharmacy, namely Rexall.

Patient-centredness of PMI: With respect to understandability on the PEMAT-P, both French PMI scored higher on the PEMAT-P than any of the English PMI (see Figure 1). Specifically, the Shoppers Drug Mart (French) scored 80% and the Rexall (French) scored 73% (see Figure 1). Given that they had the same content, the English PMI from Shoppers Drug Mart, London Drugs and Rexall all scored equally well with 70%. Similarly, the English PMI from IDA and Pharmasave scored 60% (see Figure 1). Interestingly, the online PMI from Rexall (70%) was different and indeed more understandable than paper version from this pharmacy (60%) (Figure 1). Aspects of the PEMAT-P where most PMI scored poorly were making the content's purpose known (n = 7) and including visuals in the PMI (n = 8).

Readability scores were consistent with the understandability findings (see Figure 2). Specifically, the French PMI was easier to read than the English PMI with the Rexall (French) rated easiest to read with a SMOG score of 7.56, followed by Shoppers Drug Mart (French) with 8.30. For the English PMI, IDA and Pharmasave were easier to read (SMOG = 8.67) than Shoppers Drug Mart, London Drugs, and Rexall.

Key Takeaways

- PMI should be standardized so that people receive the same information regardless of what pharmacy they use.
- Improving the content of PMI makes it easier for people to read and understand.
- PMI in a person's preferred language should be easy to obtain from pharmacies.

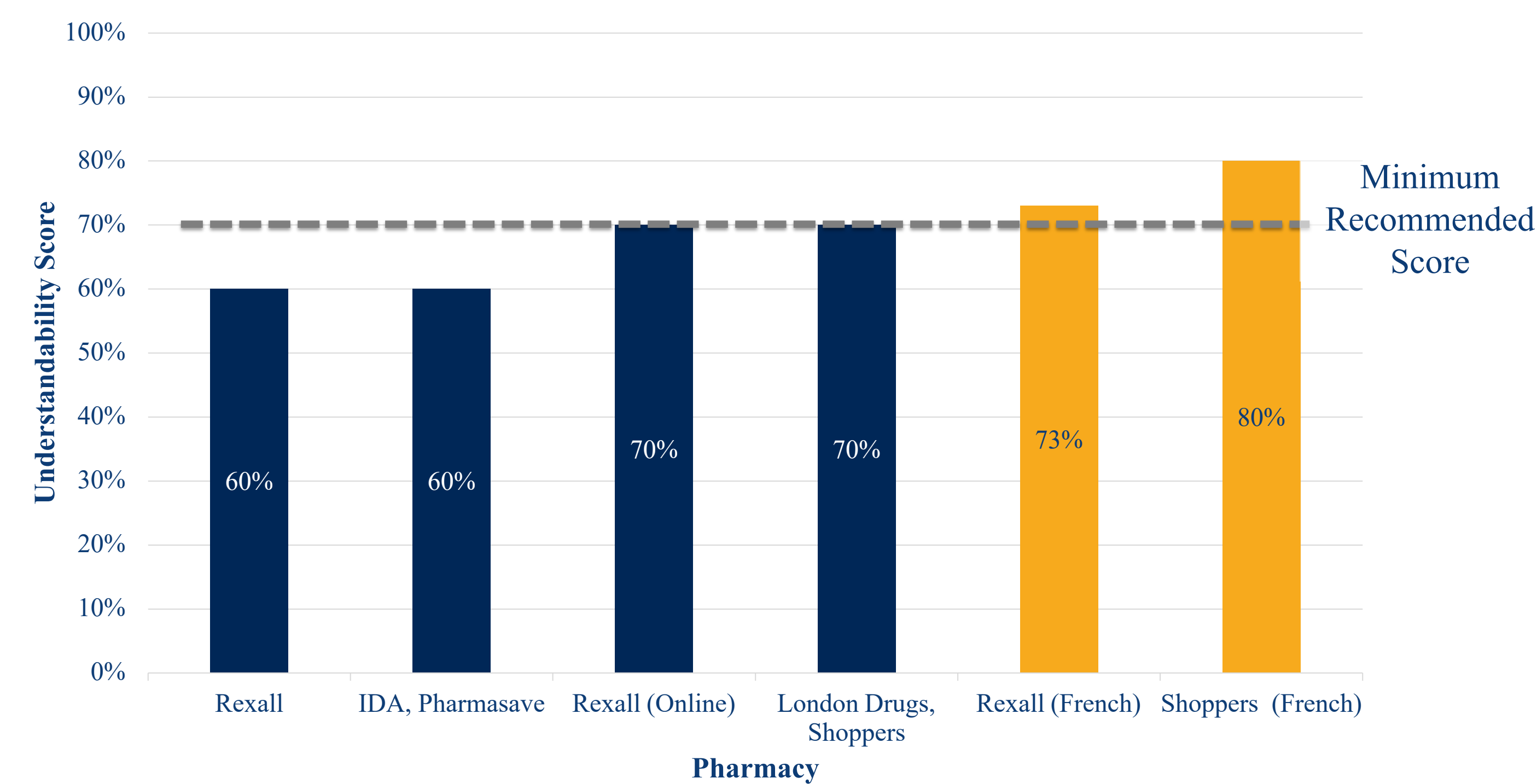


Table 1: Comparing Language and Locational Availability of Patient Medical Information from Different Pharmacies in British Columbia.

	Available in English	Available in French	Available in Mandarin
Rexall	✓	✓	X
Shoppers Drug Mart	✓	✓ ¹	X
London Drugs	✓	X	✓ ²
Pharmasave	✓	X	X
IDA	✓	X	X

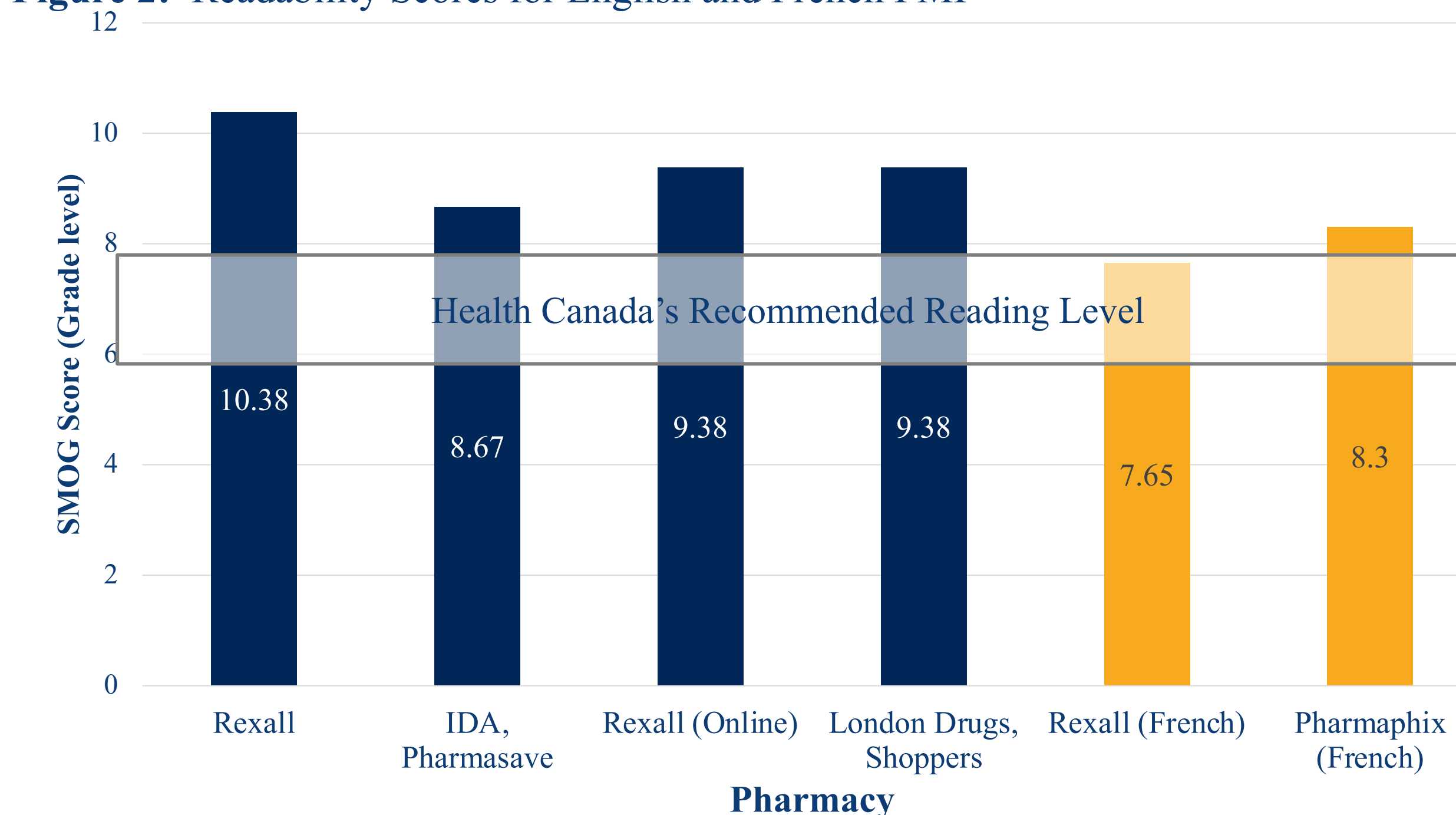
¹ French PMI was only available from Shoppers in Vancouver; ² Pamphlets in Chinese can be ordered in Vancouver

Figure 1: Understandability Scores for English and French PMI Grouped Based on which Pharmacies Provide the Same Information



Notes: PMI from London Drugs, Shoppers, and Rexall were the same, but Rexall had an additional paragraph. PMI from IDA and Pharmasave were also the same.

Figure 2: Readability Scores for English and French PMI



Discussion

Availability of PMI: Obtaining PMI in French was challenging and impossible for Mandarin and likely other languages. Where French PMI was successfully obtained, it required additional effort to secure (i.e., emailing pharmacy manager, visiting a pharmacy location in Vancouver). Only two of the five pharmacies offered French PMI in British Columbia. Given the prevalence of languages other than English spoken in Canada and the importance of information contained in PMI, it should be easier to obtain PMI in languages other than English. Even HealthLinkBC, does not offer any translation for its information on medications, although it does provide some of its information in other languages.

Currently, translation applications or software can be a valuable tool for consumers. However, automatic translations could lead to misinterpretations, so it would be better to provide approved, official translations of PMI as well as other health materials in other languages.

Patient-centredness of PMI: Not only did the availability of PMI vary for different languages, but the content of the PMI varied between languages, pharmacies, and even the online version and paper copy from the same pharmacy. This means that people get information that is easier or harder to understand and read depending on what pharmacy they use. Others have argued that the lack of PMI standardization has the potential to introduce patient safety risks [11], [12].

Generally, the understandability of both English and French PMI could be improved by ensuring the purpose is stated and the content aligns with the purpose throughout. Additionally, the inclusion of visual aids should be considered to improve the understandability of CMI. Finally, more people would benefit from PMI being easier to read. Health Canada [13] recommends a 6th to 8th grade reading level for PMI and seven of the PMI in this study exceeded that threshold.

Limitations: The results of the study may not be generalizable across Canada because of the variability between pharmacies and geographic locations. Additionally, only one researcher evaluated the PMI using the PEMAT and this tool has been criticized for being subjective and the instructions being open to different interpretations [14].

Conclusion

There is a lack of readily available PMI in languages other than English in BC. Therefore, British Columbians who are more comfortable in a language other than English may struggle to obtain credible information about their prescription medications (e.g., find a person or tool to translate the English PMI; find an alternative information source that may not be as credible). There should be more supports and easier access to PMI in other languages for British Columbians who do not speak or are not as proficient in English.

In addition to increasing its availability in other languages, existing PMI could be improved by being standardized and be more patient-centred. PMI should be the same no matter where it is obtained which would ensure consistency, reliability, and consumer safety. With respect to patient-centredness, both the French and English PMI could be written in ways that are more readable and understandable. PMI is an important resource that can promote health literacy, facilitate informed decision-making, empower consumers, and improve health outcomes and as such it should be designed to suit the needs of Canadians.



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