

Evaluating the Literacy Levels of Opioid Agreements

Canyon Lohnas¹, Aimee Morewood¹, Ph.D., Stephanie Pockl², M.D. and Corinne Layne-Stuart, D.O.², Renée Nicholson, MFA³, Monika Holbein, M.D.⁴
¹ College of Applied Human Sciences, WVU, ² WVU School of Medicine, ³ WVU Humanities Center, ⁴ Penn State College of Medicine

Purpose

Readability formulas are often used to determine reading levels; however, these formulas may not be capturing the realities of the content within the documents. Given that healthcare professionals are taught throughout their training to use nonmedical language to increase patient understanding, it is important to look closely at the language and themes portrayed in medical documents. This research focused specifically on opioid agreements.

Every step in patient care should help the patient achieve their goals in a safe and effective manner; the opioid agreement should not be an exception. Opioid agreements are part of risk mitigation and in some instances a requirement for prescription. The concern about these agreements is that in their current form, they may not be easily understood and thus not patient centered. The hypothesis was that the opioid agreements were not written at a literacy level that could easily be understood. This led to the formation of a working group that spanned different colleges within the university.

The university's Humanities Center brings together this interdisciplinary team of researchers from the field of education and medicine to evaluate the literacy levels of opioid agreements. Also known as opioid contracts, these documents inform patients of the risks and expectations for the use of opioids for pain management. The reading difficulty of these documents have a significant impact on a patient's ability to comprehend the associated risks, benefits, and expectations of this treatment plan. This research focused on one university hospital system serving an Appalachian population and consisted of two phases: (1) a review of the readability levels and (2) a content analysis of the university's *Non-Chronic Pain Contract for Use of Opioid Medications* (Pain Contract) and the university's *Consent to Treat with Opioid Medications* (Consent Form). Two readability formulas were used; the Fleisch-Kincaid Grade Level (FK) formula and the Simple Measure of Gobbledygook (SMOG).

The research questions that guided this study were:

1. How are readability formulas used to evaluate the reading difficulty of opioid agreements?
2. What themes emerged during a content analysis of an opioid agreement?

Methodology

Using a case study approach, (Yin, 2009) the readability levels of the university's opioid documents were first analyzed using three easily accessible and (presumably) free tools (e.g., Microsoft Word, Readabilityformulas.com, and Textcompare.org) to evaluate the reading grade levels of the document. The reading scores are reported using the grade level and month within the grade (e.g., a score of 12.9 is the equivalent of reading abilities typical of someone in the ninth month of twelfth grade).

The documents were of different lengths: the Pain Contract had 915 words and the Consent Form had 446 words. To control for consistency in assessing the reading levels of the documents, the exact number of words were used from the beginning of each document to calculate the individual reading levels and then the documents were combined (1361 total words) to determine an overall reading grade level.

Each document and then both together were entered into each of the three readability tools and scored using the FK formula and the SMOG. The FK was selected because this is often used in educational settings, and the SMOG was selected because this is typically used by the medical field.

Content analysis was used in the second phase to look more closely at the meaningful language units within each of the documents. This social science approach includes a critical examination of text, an interpretation of the texts through either an emerging or a priori lens, and an understanding that socially constructed perspectives are brought to the text during analysis (Krippendorff, 2004).

Initially, codes emerged from both of the university documents. Then, to more clearly see the emerging code patterns, the educational team members separated the documents and the codes. After this separation, the codes from both documents were merged and color coded to establish one code list. The code list was shared with the medical team researchers so that they could use their specific disciplinary knowledge to categorize the codes. The categorization groups were then titled by the collective team members to capture the codes within each of these groups.

Results

The evaluation of the opioid agreements using multiple readability formulas and tools led to several insights regarding the reading difficulty of the documents. The Pain Contract form and Consent Form were evaluated separately and together using free and/or readily available readability calculators. The results of the evaluation are found in the tables below.

West Virginia University's Non-Chronic Pain Contract for Use of Opioid Medications (915 words)		
Readability Tool	FK Grade Level	SMOG Grade Level
Microsoft Word	12.8	N/A
https://readabilityformulas.com/free-readability-formula-tests.php	10.9	10.7
https://www.textcompare.org/readability/	12.44	15.42



Category	Number of Codes
Expectations	34
Risks	7
Benefits	1

*The circle size indicates the number of codes within each theme rather than the frequency of the codes calculated within the documents.

West Virginia University's Consent to Treat with Opioid Medications (446 words)		
Readability Tool	FK Grade Level	SMOG Grade Level
Microsoft Word	13.3	N/A
https://readabilityformulas.com/free-readability-formula-tests.php	15.6	15
https://www.textcompare.org/readability/	13.29	15.95

Combined Documentation (1,361 words)		
Readability Tool	FK Grade Level	SMOG Grade Level
Microsoft Word	12.9	N/A
https://readabilityformulas.com/free-readability-formula-tests.php	12.2	12
https://www.textcompare.org/readability/	12.69	15.61

The content analysis identified several meaningful pieces of text within the document. Forty-two unique codes were identified and classified into eight categories within three themes, which are presented in random order. By coding the documents and placing the codes into categories, researchers were able to identify and describe the most meaningful elements of the documents and capture the purpose and significance of the document.

Conclusions

- A cross-disciplinary approach allowed for a critical examination of the reading levels of these documents.
- While there was variance across the individual tools, they all produced upper grade level scores that were higher than expected by the researchers. This suggests that closer attention to the reading difficulty of opioid agreements is necessary to increase patients' understanding of the documents associated with opioid medication.
- More accurate measures of readability could assist those crafting these documents and ensure an appropriate reading difficulty, which could lead to better understanding of the agreements by the patient.
- Greater consistency among readability formulas and tools is needed.
- The content analysis demonstrated that increased attention to the potential benefits of opioid medication is needed given that this data suggested a stronger emphasis on the associated risks. Patients having a better understanding of the benefits could improve patient care.

Implications

Medicine:

- Critically review medical documents with the patient and explore their understanding of the document
- Documents approved by the hospital counsel may not be written at a level to be inclusive of all patients
- The opportunity to collaborate with other schools within the university setting is invaluable and must be considered more often to be at the forefront of knowledge and understanding

Literacy:

- Collaborate with the field of medicine, including pain and palliative care, to be more aware of the language and reading difficulty of patient care documentation
- A better understanding of the available readability tools and their applications to other fields
- Provide recommendations of accurate and reliable readability tools to other fields

Next Steps

Medicine:

- Gain more knowledge into the different stakeholders that are involved in the patient facing documentation
- Discern what the most important elements are in an opioid agreement to help patients understand the utility of opioid medications
- Seek expert opinion on the knowledge or insight gained from completing opioid agreements
- Review patient facing documentation in other patient settings for patient readability

Literacy:

- Seek insight about the use of readability formulas in other disciplines from other scholars in the field of literacy education
- Investigate the differences between free readability tools and those requiring payment
- Apply the methodology to opioid agreements from other hospital systems to gain a national perspective

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