

Article

Readability of standard appointment letters

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ABSTRACT

Introduction and aims The first contact a clinical service has with a patient is often an appointment letter and thus it is important that this letter is written in a way which is accessible. One concern is to write in language which is easily able to be read by the majority of recipients. A simple initial way to assess this is by using measures of readability of text.

Methods We applied measures to examine the readability of appointment and administrative letters sent to young people by clinicians in the Young People's Department at the Royal Cornhill Hospital in Aberdeen.

Results Many letters were unlikely to be understood by our youngest patients. We revised the

letters to meet an agreed standard of readability, and agreed their routine use within the team. All letters were significantly improved on standard measures of readability and were preferred by patients.

Conclusions The methods used are feasible, easily available and may be helpful to clinicians working in other specialties to improve the level of readability of written communication. This will help patients and families in their first contact with any clinical service.

Keywords: adolescent psychiatry, communication, letters, patient involvement, readability

Introduction

All health professionals need to communicate well with patients. The Scottish government emphasises this priority for trained doctors,¹ and in all Scottish medical schools² medical communication is an important part of undergraduate medical education. Doctors, however, may think of communication mainly as those skills used in the doctor-patient interaction. Medical communication is much broader than this interaction and encompasses all forms of communication with patients during all parts of their contact with services, including letters about appointments, telephone calls, patient information leaflets and letters about clinical issues written to individual patients.

Recent Scottish government publications emphasise the importance of appropriate communication with patients as part of ensuring safe patient care.^{1,3,4} Furthermore, providing patients with information that allows them to participate is a specific principle underpinning Scottish legislation relating to mental health and patients with incapacity.^{5,6}

It is recognised that reading skills in the population are variable, and that communication with patients needs to take account of this. Some information from the Plain English Campaign is freely available⁷ and there is a service to assist in preparation of patient information, which was accessed, for example, when developing recent patient and

carer versions of a Scottish Intercollegiate Guidelines Network (SIGN) guideline.⁸ However, this is not a feasible option for routine use in a clinical situation to assess the readability of letters to patients. There are now easily available automated measures which may be more applicable and useful.

The Young People's Department at the Royal Cornhill Hospital, Aberdeen, is a mental health service for under-18s which has been actively attempting to improve aspects of communication with patients.^{9,10} For such specialist services the first communication to a patient, and the first opportunity the patient is given for participation, may be on receipt of an initial appointment, usually sent by letter. It is, therefore, important that the letter can be understood. Like many services, we use standard letters for appointments to reduce the workload of administrative staff and to support a common style of communication. It is possible that this stage could represent a barrier between primary and secondary care if this standard communication were difficult for our patients and their families to understand. This study aimed to improve communication with patients by making letters about appointments as readable and accessible as possible.

Aim

To identify how readable the standard letters used in the department are, agree what level of readability is appropriate and modify letters to achieve this.

Method

A literature search was performed to identify standardised and freely available tools which could be used to assess readability of text. Average sentence length, average syllables per sentence and number of sentences per paragraph are routinely available in commercial word processing packages. The Flesch Reading Ease and the Flesch-Kincaid Grade Level are calculated from them. Although only a guide, these scores offer a measure to define appropriate levels of readability. The Flesch Reading Ease score is higher if a document is easier to read. Legal documents or scientific journals have a Flesch reading ease in the range of 0–10, whereas comics have a reading ease of approximately 100.¹¹ It is recommended that the average document should have a readability of around 60, which corresponds to an intelligence quotient (IQ) of roughly 100.

The Flesch-Kincaid Grade Level gives the average grade at which a US school child should be able to

comprehend the document, and UK equivalents to the grade levels can be calculated.

The Standardised Measure of Gobbledygook (SMOG),¹² originally developed for pre-computer calculations, measures long sentences and also gives an index calculated from the number of words with polysyllables. It is suggested most people understand text with a SMOG score of less than 10.¹³

The Drivel Defence¹⁴ programme was used to identify words which are considered complex, and suggests alternatives which would make text easier to read. It also identifies the number of sentences of over 20 words (long sentences) and the longest sentence in the text.

We analysed electronic versions of any standard letters sent during the six months prior to 24 October 2008 using the measures above.

The results were discussed by the multidisciplinary team who reached consensus on how to alter the letters to improve readability and reach a level agreed as reasonable. A pre- and post-modification analysis was then conducted using the SPSS programme.¹⁵

A questionnaire about the letters was developed and given to patients and parents in the waiting room of the Young Peoples' Department over a two-week period. The questionnaire asked respondents to decide whether they preferred the original or the modified letter and gave space for free text comments. The questionnaire also used a four-point Likert scale (1 = not at all, 4 = very much) to gather answers to three questions on the original and modified letters:

- 1 How easy are the letters to understand?
- 2 How easy are the letters to read? and
- 3 Do you like the layout of the letters?

Responses were dichotomized into Likert scores 1 or 2 and 3 or 4, and a descriptive analysis was carried out. The only change in layout of the letters was that which resulted from changes to improve readability and from using shorter paragraphs where possible.

Results

Standard letters for appointments were used a total of 510 times during the study period. They included similar content within different versions to allow for a variety of administrative situations. For example, the invitation to come to an appointment might be to the referred patient only (perhaps an older adolescent who had specifically requested to attend alone), to the patient and parents, or to a whole household. The number of times each individual

letter was used ranged from 0 to 170. Results on readability measures are shown in Table 1.

The results of this analysis of the standard letters and proposals to improve their readability were discussed with the multidisciplinary team. The Young People's Department sees patients aged between 13 and 18, which corresponds approximately to an academic level of S2 upwards for schools in Scotland. This approximates to a Flesch–Kincaid Grade Level of between seven and 11. The team agreed to aim for a Flesch–Kincaid Grade Level of less than seven and a minimum score of 70 on the Flesch Reading Ease scale. This relatively high score (above the usual recommended level of 60) was chosen to increase the chances of an initial letter being easy to read for patients and families

The team agreed potential modifications which might improve readability, including shorter sen-

tences (fewer than the 20 words per sentence recommended by the Plain English Campaign), use of alternative words and a reduction in the number of passive sentences. Repeat readability statistics were then calculated for the modified versions of the letters (Table 2).

We compared pre- and post-modification versions (excluding the alternative versions as we had no pre-modification versions of those) using a paired samples *t*-test SPSS.¹⁵ There was significant ($p < 0.001$) improvement in: number of words per sentence, long sentences, length of longest sentence, number of words needing alternatives, Flesch Reading Ease and Flesch–Kincaid Grade Level.

Twenty-four patients or parents/carers returned anonymous completed questionnaires about the letters. All of the questionnaires returned stated an overall preference for the original or modified letters.

Table 1 Readability statistics for standard letters

Measure	A	B	C	D	E	F	G	H	I	J ^a	K	L ^a	M ^a
Words	143	120	148	173	161	93	93	94	82	77	85	73	69
Sentences/ paragraph	2	2.5	1.7	1.1	1.3	1.5	1	3	2	2	1	1.3	1
Words per sentence	17.1	16	15.7	18.8	15.1	17.6	17.6	18	23	18.5	23.5	18.2	31
Passive sentences (%)	33	20	28	08	05	0	0	0	0	0	50	0	0
Flesch Reading Ease	71.1	71	73.9	71.6	77.5	56.4	64.3	60	49.2	56.9	69.1	60.8	63.4
Flesch– Kincaid	7.6	7.3	6.8	7.9	6.2	9.7	8.6	9.3	12	8.2	11.1	9.3	12
SMOG	10.07	9.93	9.87	9.55	9.12	12.49	11.37	11.37	13.95	10.75	13.95	11.66	12.49
Long sentences (over 20 words) ^b	2	1	2	4	3	1	1	1	2	1	2	1	1
Longest sentence	26	26	23	25	24	22	22	24	23	27	26	27	31
Alternative words ^c	4	4	3	5	4	2	2	2	1	1	2	4	0

^a These letters were used fewer than five times in six months and were excluded from further analysis

^b The Plain English Campaign recommends that no sentence should be longer than 20 words and therefore the number of sentences longer than this was recorded

^c A total of nine words were identified as possibly needing to be substituted: attend (11), alternative (6), enclosed (5), requesting (3), very (3), current (3), beneficial (1), review (1) and sufficient (1). These words were used a total of 34 times in the 13 letters

Table 2 Readability statistics of modified versions of standard letters

Letter/ Measure	A	B	C	C*	D	D*	E	E*	F	G	H	I	K
Words	142	126	147	131	157	141	144	128	76	78	83	66	72
Sentences/ paragraph	1.4	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1	1	1	1.5
Words per sentence	14.2	14	13.6	13.2	14.2	14	13	12.5	12	12.6	14.3	14.5	11.3
Passive sentences (%)	0	0	0	0	0	0	0	0	0	0	0	0	0
Flesch Reading Ease	83.2	81.8	84.3	84.1	84	83.8	88.7	89.2	77.1	87.1	74.2	72.5	88.3
Flesch– Kincaid	5.2	5.3	4.8	4.8	5.0	5	4.1	3.9	5.4	4.2	6.4	6.7	3.7
Long sentences	0	0	0	0	0	0	0	0	0	0	0	0	0
Longest sentence	18	18	17	17	18	18	17	17	15	15	17	16	15
Alternative words	0	0	0	0	0	0	0	0	0	0	0	0	1

* Alternative versions of some letters were created to allow for information about possible student observers to be included or omitted as clinicians felt appropriate

One patient response did not rate the three questions on the Likert scale. This is reflected in the numbers shown in Table 3. Given the small sample, statistical analyses were not attempted, but the overall pattern clearly indicates that respondents, particularly patients, preferred the modified versions of the letters.

Discussion

Results indicated that even apparently simple and short standard letters were not always likely to be readable. Table 1 shows that eight out of 13 appointment letters had a reading ease of less than 70 and thus were unlikely to be understood by the patient group concerned. Using the Flesch–Kincaid Grade Level, only two of the original 13 letters would be expected to be readable by the youngest of our patients. After modification, letters were significantly improved on indices of readability and likely to be

readable by patients of the age range seen and with the level of schooling they would be expected to have had (to at least Scottish S2 standard). As Table 2 indicates, all of the modified letters had a Reading Ease score of more than 70 and a Grade Level score of less than 7.

We are not aware of other published work on this specific issue. However, readability is increasingly a focus of work on patient information materials and public communication, and we would expect our concerns to be widely shared among clinicians from all specialties. The use of simple readability measures proved feasible and helpful for reviewing the readability of letters. The clinical team was sometimes surprised to find that letters which were perceived as being straightforward, such as our standard appointment letters, had readability scores indicating that many patients might struggle with them. This has stimulated interest in incorporating readability scores into routine practice within the department. This study suggests it would be feasible to do this, but the effectiveness of such action would require further evaluation.

Table 3 Results of questionnaire

Question	Letter type		Whole sample (n=24)*	Patients (n=10)*	Family members (n=14)
Overall which letters would you prefer to get?	Original		20.8% (5)	10% (1)	28.6% (4)
	Modified		79.2% (19)	90% (9)	71.4% (10)
How easy were the letters to understand?	Original	1 or 2	26.1% (6)	33.3% (3)	21.4% (3)
		3 or 4	73.9% (17)	66.7% (6)	78.6% (11)
	Modified	1 or 2	4.3% (1)	0% (0)	7.1% (1)
		3 or 4	95.7% (22)	100% (9)	92.9% (13)
How easy were the letters to read?	Original	1 or 2	13% (3)	0% (0)	21.4% (3)
		3 or 4	87% (20)	100% (9)	78.6% (11)
	Modified	1 or 2	13% (3)	11.1% (1)	14.3% (2)
		3 or 4	87% (20)	88.9% (8)	85.7% (12)
Do you like the layout of the letters?	Original	1 or 2	34.8% (8)	44.4% (4)	28.6% (4)
		3 or 4	65.2% (15)	55.6% (5)	71.4% (10)
	Modified	1 or 2	21.7% (5)	22.2% (2)	21.4% (3)
		3 or 4	78.3% (18)	77.8% (7)	78.6% (11)

*One patient did not complete the Likert ratings parts of the questionnaire. For those parts $n=23$ for the whole sample and $n=9$ for patients

It was interesting that some alternative words from the Plain English Campaign software Drivel Defence¹⁴ seemed surprising. One word which was highlighted was 'very'; this was not because it was too complex but because it was superfluous and thus was increasing the complexity of the sentences.

One issue not addressed in this study is how relevant the text appears to a potential reader, and whether it seems interesting and engaging. If the letter looks uninviting, readability may not be relevant as the letter may not be read. Our standard appointment letters are visually not very interesting, but included with them is an information leaflet in colour, which includes photographs, was designed in collaboration with young people and is written in easily understandable language. We would hope this might increase the chances of engaging a young person's attention and ensuring that the appointment letter is read. This area requires further study.

Questions of readability are further complicated by the nature of mental illness. A study in the USA showed that 35% of patients entering clinical studies were unable to read an average consent form and that adults with mental health problems read three to five Grade Levels below that expected for their level of education.¹⁶ We do not know how this would apply to young people and intend to investigate further. However, at least starting with letters at

a more appropriate level may help them to be read by parents or others as well as young people.

Feedback from patients and families about the letters was obtained through a questionnaire survey. Although there was a relatively small number of respondents, consistent with previous feedback surveys conducted in this department and elsewhere, the results were consistent, and several useful suggestions were made in free text responses. Table 3 demonstrates that the modified letters were preferred by the majority of patients and families. Respondents found the modified letters easier to understand but reported no significant difference in the ease of reading or preference about layout (Table 3). We continue to encourage feedback via a comments box.

We hope that if appointment letters are easier to understand there will be improved attendance at appointments and greater engagement with the service. This will be a focus of future evaluation. We also hope that continuing patient and parent/carer input can be encouraged – their feedback will be used to help us to continue to improve letters we send.

Our findings are likely to be relevant to other services irrespective of specialty or patient group.

Conclusions

We were encouraged by the feasibility of using relatively simple measures to investigate and improve written communication and their usefulness in addressing communication issues. A patient's journey often starts with the appointment letter. This study shows that in our department the initial appointment letters were often at a level of readability which may not have been easily understood by patients, and may have acted as a barrier between their primary and secondary care. It was possible to modify letters to significantly increase the level of readability, and patients and families preferred the modified letters. It is hoped that this and future studies will be of help to clinicians in other areas to improve their written communication with patients.

REFERENCES

- 1 Scottish Executive. *Talking Matters: developing the communication skills of doctors*. Edinburgh: Scottish Executive, 2003.
- 2 Wilson S and Eagles JM. Changes in undergraduate clinical psychiatry in Scotland since Tomorrow's Doctors. *Scottish Medical Journal* 2008;53:22–5.
- 3 Scottish Executive. *Communication Support Needs: a review of the literature*. Edinburgh: Scottish Executive Social Research, 2007.
- 4 NHS Quality Improvement Scotland. *Safe and Effective Patient Care*. Edinburgh: NHS QIS, 2003.
- 5 *Mental Health (Care and Treatment) (Scotland) Act 2003*. Edinburgh: HMSO, 2003.
- 6 *Adults with Incapacity (Scotland) Act, 2000*. Edinburgh: HMSO, 2000.
- 7 Plain English Campaign. *How to Write Medical Information in Plain English*. Plain English Campaign, 2001. www.plainenglish.co.uk
- 8 Scottish Intercollegiate Guidelines Network. *Autism Spectrum Disorders: a booklet for parents and carers*. Edinburgh: SIGN, 2008.
- 9 Gilchrist A, McMillan A and Paterson J. Is it in writing now? Changing practice in an adolescent mental health team. *Clinical Psychology Forum* 2009; 194:12–16.
- 10 Gilchrist A and Taylor L. Is it in writing? Written communication between professionals and patients in a young people's mental health department. *Clinical Psychology Forum* 2005;48:29–32.
- 11 Payne S, Large S, Jarrett N and Turner P. Written information given to patients and families by palliative care units: a national survey. *Lancet* 2000; 355:1792.
- 12 McLaughlin GH. SMOG grading – a new readability formula. *Journal of Reading* 1969;12:639–46.
- 13 *National Literacy Campaign 2009*. www.literacytrust.org.uk/campaign/SMOG.html (accessed 13 July 2009).
- 14 Plain English Campaign. *Drivel Defence for Text*. www.plainenglish.co.uk/drivel_defence.html (accessed 31 May 2009).
- 15 *SPSS for Windows*. Chicago: SPSS Inc., 2001.
- 16 Christopher PP, Foti ME, Roy-Bujnowski K and Appelbaum PS. Consent form readability and educational levels of potential participants in mental health research. *Psychiatric Services* 2007;58:227–32.

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DECLARATION

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CONFLICTS OF INTEREST

None.

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