WRITING FOR THE WIDER PUBLIC - READABILITY OF PUBLICLY AVAILABLE BOARD REPORTS

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ABSTRACT

OBJECTIVE

This work aims to evaluate the readability of publicly available board reports from the Local Health Networks (LHNs) in South Australia and the National Health Service (NHS) Trusts in England.

METHOD

Publicly available board reports from the LHNs in South Australia and NHS Trusts in England were identified, screened, and evaluated from January 2020 to August 2020.

RESULTS

The average Flesch Reading Ease score for all LHNs reviewed ranged from 34 ± 10.2 to 57 ± 0.0 (Difficult to Fairly Difficult). In comparison, the average Flesch Reading Ease score for all the NHS Foundation Trusts ranged from 46 ± 1.7 to 60 ± 3.0 (Difficult to Standard). The average Reading Ease score for metropolitan and non-metropolitan LHNs was 43 ± 8.1 and 41 ± 6.0 (Difficult to read). In contrast, the average Reading Ease score for metropolitan and non-metropolitan NHS Trust was Fairly Difficult with 53 ± 4.2 and 50 ± 3.5 respectively.

CONCLUSION

The evaluation results suggest that there is scope for improving the quality of publicly available board reports from the boards reviewed in terms of their readability by the public.

KEYWORDS

Public Reporting, Governance Board, Health Service Management, Readability, Public Engagement, Accountability, Transparency

BACKGROUD

Recently, healthcare organisations have increasingly been placed under the control and direction of healthcare governing boards. [1-3] In 2019, the South Australian Government introduced governing board oversight for all the Local Health Networks (LHNs) as a strategic reform of t he healthcare system. [4] In establishing the boards, a charter was also created. The charter details the roles and responsibilities of the Boards. [5] This included the timely publication of the agenda and minutes of meetings as a mechanism to ensure transparency and accountability, and as a means to gain public engagement.

The English National Health Service (NHS) has a more extended history of striving to achieve good board governance. Other countries, including Australia, have compared their health systems to the NHS. Both nation's healthcare governance boards are primarily responsible for providing strategic oversight and guidance to health facilities and systems within their jurisdictions as required, mainly through law.[5, 6]

Public reporting is a critical mechanism for stakeholder engagement and ensuring accountability and transparency of governing boards. [7-10] Accountability "encompasses the procedures and processes by which one party justifies and takes responsibility for its activities such as for achieving various organisational goals.[7]" Board reports often contain valuable information relating to resource allocation and future plans for healthcare delivery. [9,11] It is crucial that the public, who are primary stakeholders of the boards, understand the reasons, context, and environment for governance boards' plans and decisions. [1,12] Primary stakeholders are individuals that directly benefit or are impacted by decisions or actions caused by others. [13] Existing research suggests that more desirable health outcomes are achieved when the public or consumers are appropriately engaged and participate in decision-making. [14,15] The NHS Trusts and LHNs boards are required by legislation to engage their communities in decision-making processes by publishing their board meeting reports on accessible websites free of charge. [5,6] Indeed, the charter of the LHNs in South Australia require Boards to engage with the community and therefore reports should be accessible. [5]

The notion of readability matters when considering reports published for the general public. Readability can be defined as how easy a text is to understand due to the style of writing. [16] The use of readability formulae have been the most common and quickest way to measure text readability. [16] Developed in the early 20th century, most readability formulae are simple algorithms that aid in the objective evaluation of the readability of a text.

Much of the current literature examining governing board public reports have so far focused on issues such as the clinical focus and content of board meetings reports. [1,3,17]; the engagement of health service boards with quality-of-care issues [2,18]; public reporting of health outcomes, quality and costs [19-21]; and the ease of obtaining information from boards. [22] There has been little research focusing on the quality of these board reports in terms of readability by the general public. [20]. Therefore, this work aims to examine the readability of publicly available board reports from the Local Health Networks in South Australia and the NHS Trusts in England.

RESEARCH METHOD

Data Sample Collection and Screening

Publicly available board reports were collected from the web pages of all ten Local Health Networks (LHNs) in South Australia (SA) from January 2020 to August 2020.

For NHS Trusts in England, a total of 493 NHS Trusts were initially identified through a comprehensive web search. The identified NHS Trusts were then screened using the following criteria or steps.

First, all abolished NHS Trusts were removed from the sample. Second, NHS Foundation Trusts were selected because they are the newest type of NHS Trusts. Third, NHS Foundation Trusts with a hospital component, similar to the LHNs in SA, were selected.[23] Fourth, NHS Foundation Trusts that were rated "outstanding" in the Care Quality Commission (CQC)'s "well-led" and "overall" rating scales for 2020 were selected.[24,25]) Finally, duplicate NHS Foundation Trusts were removed, bringing the final sample number to 9. The published board reports from the 9 NHS Foundation Trusts were then collected from January 2020 to August 2020. The flowchart in Figure 1 below illustrates the selection, as mentioned above, for the NHS Trusts.

FIGURE 1: A FLOW CHART SHOWING THE SEARCH, SCREENING, AND VERIFICATION PROCESS
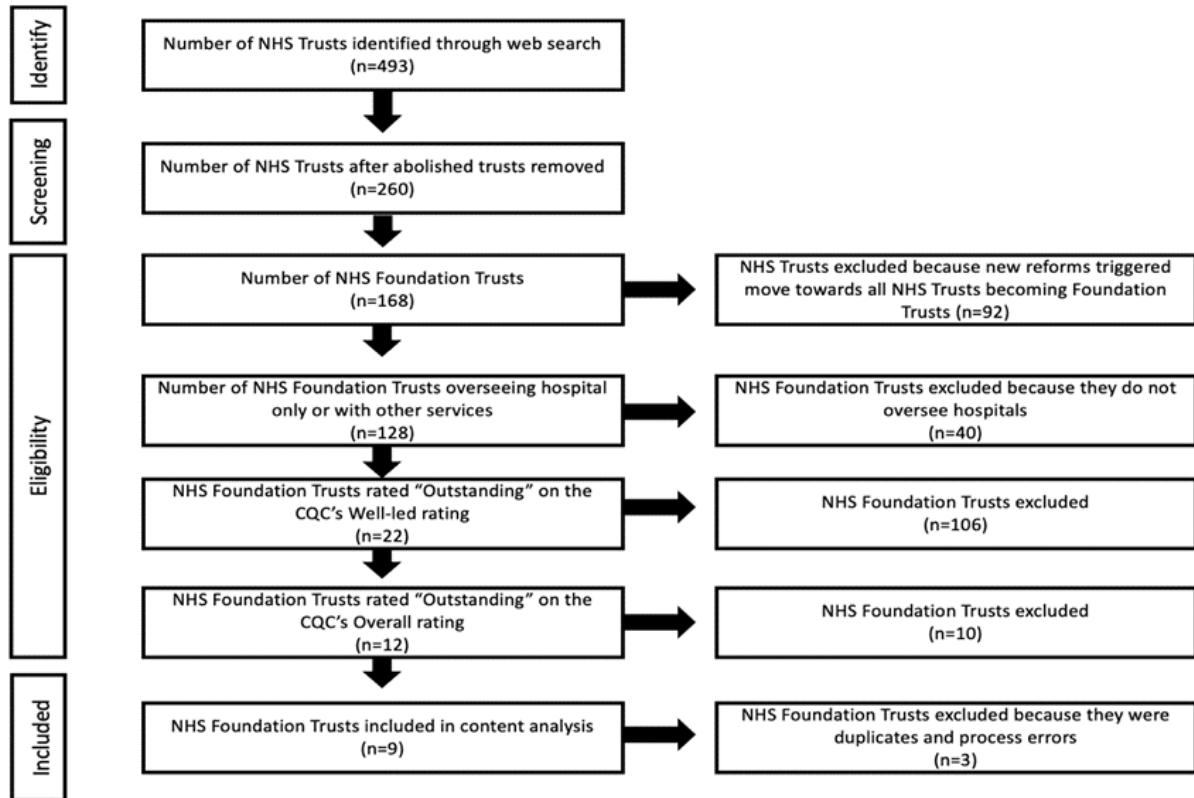
Data Analysis

We used the Flesch Reading Ease Score to evaluate the readability of publicly available board reports from the Local Health Networks in South Australia and the NHS Trusts in England. The Flesch Reading Ease Score is a readability test developed by Rudolph Flesch in 1948. [26] The Flesch Reading Ease Score is a well-established instrument often freely available in word-processing software such as Microsoft® Word. It often proxies as a gold-standard comprehension test and has a correlation coefficient of >0.9 with other comprehension tests.[27]

The test calculates the level of education a person needs to easily read a piece of text by assessing the average sentence length and syllables per word.[27] A web-based application called "Readable", which uses the Flesch mathematical formula to measure the readability of each board report collected, was applied: [16,28,29]

$$206.835 - 1.015\left(\frac{total\ words}{total\ sentences}\right) - 84.6\left(\frac{total\ syllables}{total\ words}\right)$$

The Flesch Reading Ease formula scores texts between 0 to 100. A higher score means a text is more readable, and a lower score means the text is less readable.

Grade Scale

We used the reading grade scale corresponding to the United States (US) grade level of education, as this is the most utilised grade scale in publications. [16] (16). As shown in Table 1, the US school grade levels are equivalent to the Australian education framework, and one year ahead of the United Kingdom (UK) schooling system. [30]

TABLE 1: US AND AUSTRALIAN SCHOOL GRADE LEVELS

Flesch Reading Ease Score	US & Australian education level	Readability Rating
0–29	College graduate	Very difficult
30–49	High school or 1-2 years of college	Difficult
50–59	10th–12th Grade	Fairly difficult
60–69	8th-9th Grade	Standard
70-79	7th Grade	Fairly easy
80–89	6th Grade	Easy
90–100	5th Grade	Very Easy

TABLE 2: SHOWS THE TOTAL NUMBER OF BOARDS REPORTS REVIEWED FROM JANUARY 2020 TO AUGUST 2020

Regions	Name of Health Service	Board Reports Reviewed (Jan 2020 - Aug 2020)
South Australia	Barossa Hills Fleurieu Local Health Network	7
	Central Adelaide Local Health Network	3
	Eyre and Far North Local Health Network	6
	Flinders and Upper North Local Health Network	7
	Limestone Coast Local Health Network	7
	Northern Adelaide Local Health Network	7
	Riverland Mallee Coorong Local Health Network	8
	Southern Adelaide Local Health Network	7
	Women's and Children's Health Network	5
	Yorke and Northern Local Health Network	6
England	Kingston Hospital NHS Foundation Trust	3
	Royal Papworth Hospital NHS Foundation Trust	6
	Salford Royal NHS Foundation Trust	5
	South Warwickshire NHS Foundation Trust	6
	The Christie NHS Foundation Trust	1
	The Newcastle Upon Tyne Hospitals NHS Foundation Trust	5
	The Royal Marsden NHS Foundation Trust	2
	University Hospitals Bristol and Weston NHS Foundation Trust	2
	Western Sussex Hospitals NHS Foundation Trust	3
Total Board Reviewed		96
Average Board Reports Reviewed		5
Maximum Number of Reports Reviewed per Health Service Board		8
Minimum Number of Reports Reviewed per Health Service Board		1

RESULT

For the LHNs in SA (Figure 2), the average (± standard deviation) Flesch Reading Ease score for the metropolitan, non-metropolitan, and state-wide local health network was 43 ± 8.1 (Difficult: College Level), 41± 6.0 (Difficult: College Level) and 57 ± 0.0 (Fairly Difficult: High School Senior Level), respectively. All the metropolitan and non-metropolitan local health networks had reading ease scores less than 50 (Difficult to read). Flinders and Upper North Local Health Network, a non-metropolitan organisation, had the most difficult board reports to read with an average score of 34 ± 10.2 (College Level). In contrast, the State-wide LHN had a comparably more desirable reading ease score of 57 ± 0.0 (Fairly Difficult). No LHN had a reading ease score of more than 60 (Standard Readability Level). The average Flesch Reading Ease score for all LHNs reviewed ranged from 34 to 57 (Difficult to Fairly Difficult).

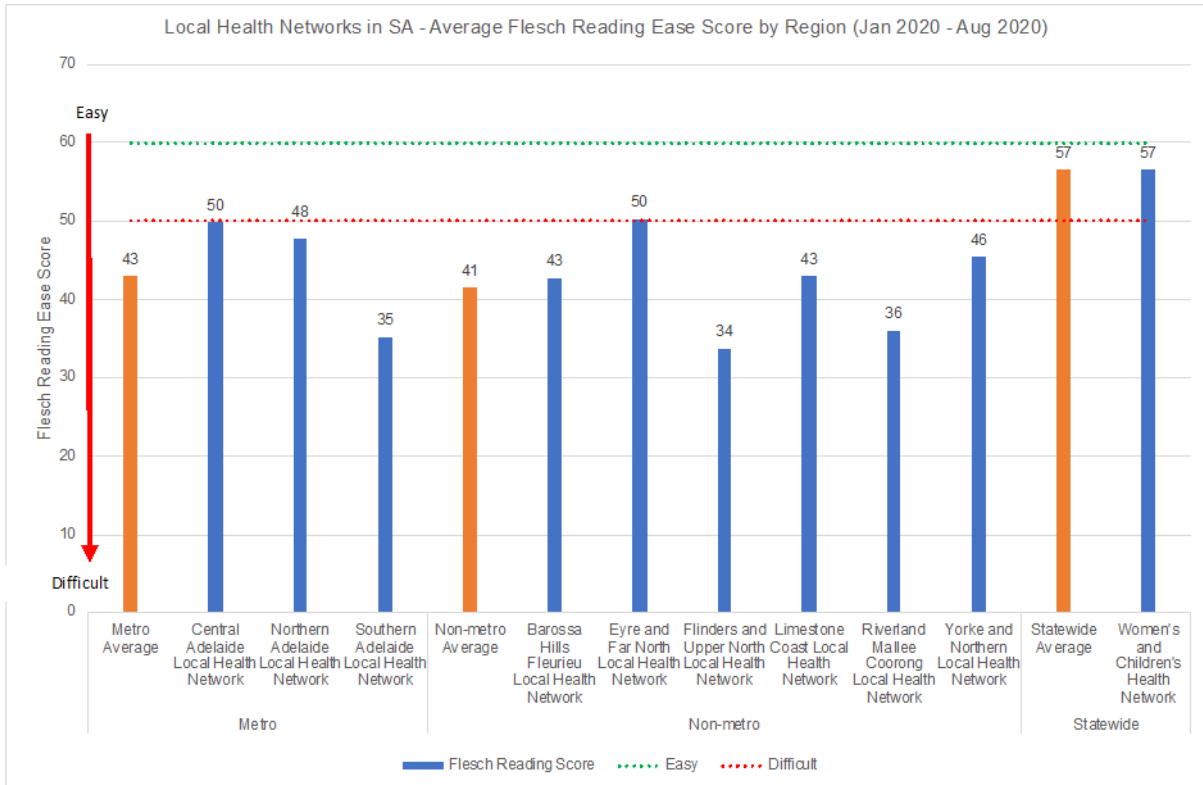**FIGURE 2: LHNS IN SA – AVERAGE FLESCH READING EASE SCORE BY REGION (JAN 2020 – AUG 2020)**
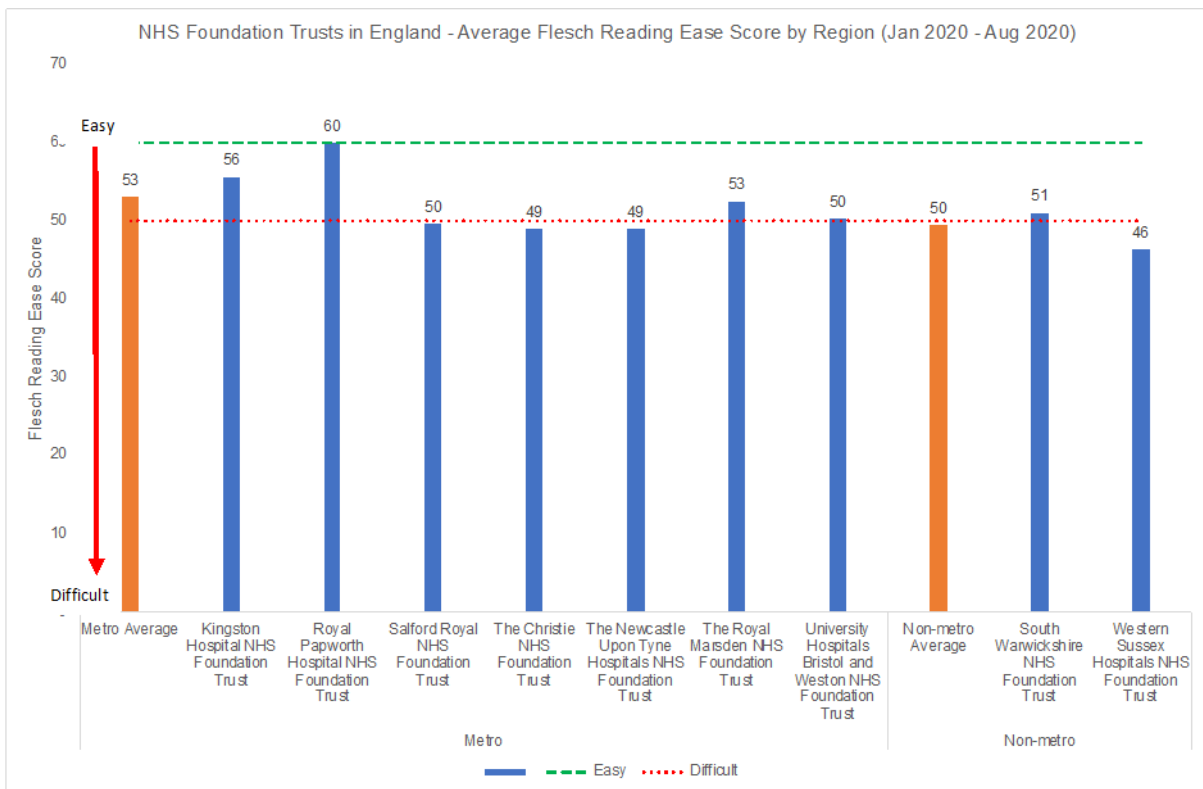

FIGURE 3: NHS FOUNDATION TRUSTS IN ENGLAND – AVERAGE FLESCH READING EASE SCORE BY REGION (JAN 2020 – AUG 2020)

For the NHS Foundation Trusts in England (Figure 3), the average (± standard deviation) Flesch Reading Ease score for the metropolitan and non-metropolitan was 56 ± 4.2 (Fairly Difficult: High School Senior Level) and 50 ± 3.5 (Difficult: College Level), respectively. 3 metropolitan NHS Foundation Trust had reading ease scores between 50 and 60 (Fairly Difficult to Standard). The NHS Foundation Trust,

Royal Papworth Hospital NHS Foundation Trust had a reading ease score of 60 ± 3.0 (Standard: Grade 8-9). In contrast, a non-metropolitan NHS Foundation Trust, Western Sussex Hospitals NHS Foundation Trust, had the most difficult to read score of 48 ± 1.7. The average Flesch Reading Ease score ranged from 46 to 60 (Difficult to Standard).

TABLE 3: DISPLAYS THE MEAN, STANDARD DEVIATION, MAXIMUM AND MINIMUM FLESCH READING EASE SCORES FOR NHS TRUSTS AND LHNS.

Regions	Name of Health Service	Mean Flesch Reading Ease Score	StdDev. Flesch Reading Ease Score	Max. Flesch Reading Ease Score	Min. Flesch Reading Ease Score
South Australia	Barossa Hills Fleurieu Local Health Network	43	2.4	46	38
	Central Adelaide Local Health Network	50	2.3	53	48
	Eyre and Far North Local Health Network	50	1.7	52	47
	Flinders and Upper North Local Health Network	34	10.2	50	22
	Limestone Coast Local Health Network	43	1.5	45	41
	Northern Adelaide Local Health Network	48	6.8	54	34
	Riverland Mallee Coorong Local Health Network	36	1.8	38	33
	Southern Adelaide Local Health Network	35	18.5	44	-7
	Women's and Children's Health Network	57	3.3	60	52
	Yorke and Northern Local Health Network	46	4.3	52	41
	Metropolitan LHNs	44	8.1	50	25
	Non-metropolitan LHNs	42	6.0	47	37
	State-wide LHN	57	0.0	60	52
England	Kingston Hospital NHS Foundation Trust	56	0.8	56	55
	Royal Papworth Hospital NHS Foundation Trust	60	3.0	64	57
	Salford Royal NHS Foundation Trust	50	5.0	55	42
	South Warwickshire NHS Foundation Trust	51	3.4	56	47
	The Christie NHS Foundation Trust	49	0.0	49	49
	The Newcastle Upon Tyne Hospitals NHS Foundation Trust	49	3.0	52	46
	The Royal Marsden NHS Foundation Trust	53	1.5	54	52
	University Hospitals Bristol and Weston NHS Foundation Trust	50	0.7	51	50
	Western Sussex Hospitals NHS Foundation Trust	46	1.7	48	45
	Metropolitan NHS Trusts	52	4.2	54	50
	Non-metropolitan NHS Trusts	49	3.5	52	46

DISCUSSION

The public health sector represents a significant investment of resources. For instance, the total spending on health in 2019-20 is estimated to be $81.8 billion, 16.3% of the Australian Government's total expenditure.[31] Therefore, it is imperative that there is transparency and accountability by those charged with running public health care organisations and that the wider public can engage with public records. This work set out to assess the readability of publicly available board reports from the Local Health Networks in South Australia and the NHS Trusts in England. The result suggests there is scope for improving the quality of publicly available board reports in terms of their readability by the general public.

Perhaps the most striking finding is that only one governing board, the Royal Papworth Hospital NHS Foundation Trust, had board reports with an average Flesh Reading Ease score of 60 ± 3.0 (Standard: Grade 8-9). A text with a score of 60 or more is considered accessible to the general public.[30] Other governing boards had reports ranging from Difficult [34] to Fairly Difficult. [59] This means that only members of the public with College or High School Senior Educational Levels can easily understand the contents of the publicly available reports. According to the Australian Charter of Healthcare Rights, the general public, without exemption, have the right to be informed and participate in health service planning and decision making in a clear and open way (32). In order to achieve meaningful public engagement, transparency and accountability, board

reports should be created with the aim of informing the least educated or literate members of the public. Although the solution could simply mean publishing report versions specifically prepared to cater to those with a lower literacy level, it has been suggested that such reports could lead to disengagement. [33,34] This may be so for subject matter experts but not necessarily the general public, who often are individuals with low literacy levels. [30,35]

Another important finding was that the most difficult board report to read belonged to a non-metropolitan organisation, Flinders and Upper North Local Health Network, with a Reading Ease Score of 34 ± 10.2. Generally, members of the public living in non-metropolitan areas tend to have only high school educational level.[36] On average, according to the Australian Institute of Health and Welfare, Australians living in rural and remote areas have poorer health outcomes partly due to a level of disadvantage related to education. [37] Furthermore, the other metropolitan and non-metropolitan LHNs had scores less than 50 (Difficult to read). In contrast, the average Reading Ease score for metropolitan and non-metropolitan NHS Trust was rated Fairly Difficult with 53 ± 4.2 and 50 ± 3.5, respectively. The difficult reading levels suggest that even if the public is interested in the publicly available reports, it is likely that there would be low levels of public engagement with the reports as a consequence of how the material is written.

Readability formulae have been subject to criticism as being too simplistic. For example, the formulae do not consider the readers' comprehension and detect the use of concise but technical words.[33,34,38] However, even critics contend that results derived from readability formulae could serve as a foundation for further analysis on other aspects of readability, such as the readers understanding of the context.[30,34,39] There are calls for developing more complex instruments that objectively examine visual or infographics used by international organisations such as the World Health Organisation to communicate complex information to the general public.[30] The analysis of video communications used by Governance Boards in England NHS was outside the scope of this research but could serve as an additional means of public reporting and engagement by LHNs in South Australia.

The result above reflects the need to review the relevant laws on public reporting to include a focus on the quality of published reports in terms of readability. This will ensure improved public engagement and not merely compliance to publish reports.

Our findings in this evaluation open the door to future research to review the readability of publicly available reports from other governing boards in Australia and England as a proxy to accessing the degree of genuine public engagement by governing boards.

ETHICS APPROVAL
Not applicable.

COMPETING INTERESTS
The authors declare no competing interests.

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