



See differently

NHS National Services Scotland

PDF Desktop WCAG 2.1 Audit Report

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by:

Suzette D'Cruz: Digital Accessibility Consultant

Peer reviewed by:

Lori Di Bon Conyers: User Experience Evaluator

Robert Cummings: Accessibility Auditor

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RNIB (Royal National Institute of Blind People)
User Experience Team, Northminster House, Northminster,
Peterborough, Cambridgeshire, PE1 1YN
Email: nppd@rnib.org.uk

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1 Executive Summary

This report provides details of any accessibility or design issues, which will need to be addressed for the portable document formatted (PDF) documents to conform to W3C's Web Content Accessibility Guidelines (WCAG 2.1) level AA.

Based on this evaluation, the NHS National Services Scotland Portable Document Formatted documents (PDFs) do not meet WCAG 2.1 AA Conformance Level. A review of results is available in the Detailed Analysis section along with our recommended solutions. The 'Table of Contents' also provides a quick view of issues raised as a headline review for each PDF document.

It is important to highlight that most PDFs assessed were untagged and/or tagged incorrectly. PDF documents that are untagged cannot be read at all by screen readers. This means there may be other issues that have not been uncovered by this report since these documents could not be checked with a screen reader.

The original source file will need to be adjusted before the PDF can be made accessible or the PDF documents themselves need to be remediated. For further details on what to consider in making PDF documents accessible see the '[A quick PDF checklist for WCAG accessibility and useful links](#)' in Appendix 1.

Note: Currently, browsers on mobile devices do not have full support for PDFs. Therefore, the PDF documents were tested on desktop only using Adobe Reader and the screen readers NVDA and JAWS. Additionally, Adobe's Accessibility Full Check tool was used.

A total of seven documents were reviewed totalling 270 pages. These PDF were produced by the client using a variety of software, either from Adobe InDesign, Adobe PDFMaker for Word, Microsoft Word, or PowerPoint.

2 PDF Accessibility audit

This section provides information on how to use the audit report, the methodology used and a summary of the results.

2.1 Using the audit report

The evaluation results in this report are based on evaluation conducted on the following date(s): 15 to 28 July 2021. A useful checklist for creating accessible and usable PDF is supplied in Appendix 1 called '[A quick PDF checklist for WCAG accessibility and useful links](#)'.

The examples we provide in the "Detailed Analysis" section are just that, examples, and should not be regarded as a definitive list of all instances of any particular accessibility problem. Please use these examples to help you identify and correct all instances of each issue, not simply deal with the instances referred to in the report.

While we make every effort to identify all existing accessibility issues, the size of the PDFs means that it is impossible for us to guarantee that we have found every problem that exists as the majority of PDFs assessed were untagged.

Once we have completed the audit, it is the owner/manager's responsibility to ensure that the standard of accessibility is not degraded during content or design changes.

3 Methodology

3.1 Web Content Accessibility Guidelines

The World Wide Web Consortium's (W3C) commitment to lead the Web to its full potential includes promoting a high degree of accessibility for people with disabilities. The Web Accessibility Initiative (WAI), part of the W3C, in co-ordination with organisations around the world, is pursuing web accessibility through five primary areas of work: Technology, Guidelines, Tools, Education & outreach and Research & development. RNIB is an active member of the W3C, and all of the tests that we carry out during an audit are based on WAI recommendations. Version 2.1 of the **WAI Web Content Accessibility Guidelines (WCAG)** was published in June 2018 by the WAI and can be found at <https://www.w3.org/TR/WCAG21/>.

3.2 The audit process

Note: This section refers to auditing of websites, however similar processes and tools are used to audit documents for accessibility.

The audit tests a representative sample of pages against all of the Level A and Level AA checkpoints in the WCAG 2.1 guidelines. When all requirements are met, the site can claim conformance to level AA of the WCAG 2.1 standard.

RNIB's Web Accessibility Consultants conduct all of our website accessibility audits. The site is first checked using an automated checking tool to pinpoint any accessibility problems that can be detected programmatically and highlight aspects of the site that need to be examined more closely.

A representative sample of pages from the website is then examined using a combination of semi-automatic evaluation tools and manual evaluation in detail. A selection of browser and access software is used, such as:

Tools: WAVE, colour contrast, accessibility, and developer toolbar

Browsers used to support the audit: Chrome and Safari

Assistive Technology: NVDA, JAWS, VoiceOver

Browsers used to support assistive technology software: Chrome for JAWS, Safari for VoiceOver, NVDA for Firefox

We perform code, technical and manual reviews producing in-depth audit reports containing examples, solutions and strategies for improvement.

Where no issues are found, the web site will be able to claim WCAG 2.1 Level AA conformance. More commonly we find that assessed sites don't fully reach the required standard, and remedial work is needed.

3.2.1 WCAG 2.1 Conformance

Each issue found in the Audit is assigned a **priority level** based on its severity. The priority levels are **must**, **should**, **advisory** and **recommended**.

To conform to WCAG 2.1 AA the website must address **all** the issues raised (except from recommended), regardless of their assigned priority level. The priority levels are only to prioritise the issues raised.

Must issue: a critical issue is detected that means the user cannot complete, or it is very difficult to complete, the task/goal.

Should issue: a major issue is detected that is heavily affecting the user's experience/performance in completing the task/goal.

Advisory issue: a minor issue is detected, but there are ways to overcome it or avoid it. The issue marginally affects the user's experience/performance in completing the task/goal. These issues are mainly usability problems that can also be addressed to create a more accessible user experience on the web.

Recommended issue: this is not a WCAG 2.1 checkpoint violation but if you are able to address this issue, it will help to improve the overall accessibility and usability of the website.

3.3 PDFs audited

The following PDFs were audited:

1. Board Meeting - March 2021:

<https://www.nss.nhs.scot/publications/board-meeting-march-2021/>

a. b2106-people-report – total pages: 17

<https://www.nss.nhs.scot/media/1493/b2106-people-report.pdf>

b. b2105-proposal-for-a-board-assurance-framework – total pages: 145

<https://www.nss.nhs.scot/media/1492/b2105-proposal-for-a-board-assurance-framework.pdf>

c. b2103-action-list – total pages: 2

<https://www.nss.nhs.scot/media/1491/b2103-action-list.pdf>

d. b2111-ccoe-overview-march-2021 – total pages: 12

<https://www.nss.nhs.scot/media/1498/b2111-ccoe-overview-march-2021.pdf>

2. Annual Reports and Accounts 2019-2020:

<https://www.nss.nhs.scot/publications/annual-reports-and-accounts-2019-2020/>

2019-20_nss_annual_report_and_accounts_signed_audited
– total pages: 63

https://www.nss.nhs.scot/media/1535/2019-20_nss_annual_report_and_accounts_signed_audited.pdf

3. Safety Action Notice - SAN(SC)20/03:

<https://www.nss.nhs.scot/publications/safety-action-notice-2-april-2020/>

apr-2020-5-1585822314-san-sc-2003 – total pages: 12

<https://www.nss.nhs.scot/media/1237/apr-2020-5-1585822314-san-sc-2003.pdf>

4. Pay Gap Report April 2021: nss-equal-pay-gap-report-word-accessible – total pages: 21

<https://www.nss.nhs.scot/media/1463/nss-equal-pay-gap-report-word-accessible.pdf>

3.4 Summary of the results

Main issues:

- Document missing PDF tags
- Document title missing
- Complex images missing text alternative
- Table containing tabular data with incorrect markup
- Colour alone used to convey information
- Low colour contrast

These and other issues are discussed in full within the Detailed Analysis section, along with our recommended solutions. If any solution would create difficulties or may not work within the authoring environment you use, please come back to us to discuss alternatives. We often find that on rechecking the documents alternative solutions have been implemented and either don't solve the issue or create other issues.

We hope that you find the following analysis useful and informative. If you have any questions, please do get in touch; we are here to help.

The following are the results of the WCAG Success Criteria:

Level A

Pass: 3

Fail: 11

N/A: 16

Total: 30

Level AA

Pass: 3

Fail: 3

N/A: 14

Total: 20

3.4.1 WCAG 2.1 Check Point Conformance Summary

Checkpoint	Description	Pass/Fail
1.1.1: Non-text Content (Level A)	Provide text alternatives for non-text content	FAIL
1.2.1: Audio-only and Video-only (Pre-recorded) (Level A)	Provide an alternative to video only and audio only content	N/A
1.2.2: Captions (Pre-recorded) (Level A)	Provide captions for videos with audio	N/A
1.2.3: Audio Description or Media Alternative (Pre-recorded) (Level A)	Videos with audio has a second alternative	N/A
1.2.4: Captions (Live) (Level AA)	Live videos have captions	N/A
1.2.5: Audio Description (Pre-recorded) (Level AA)	Users have access to audio description for video content	N/A
1.3.1: Info and Relationships (Level A)	Logical structure	FAIL
1.3.2: Meaningful Sequence (Level A)	Present content in a meaningful order	FAIL
1.3.3: Sensory Characteristics (Level A)	Use more than one sense for instructions	PASS
1.3.4 Orientation (Level AA) [WCAG 2.1]	Do not restrict to portrait or landscape orientation	N/A
1.3.5 Identify Input Purpose (Level AA) [WCAG 2.1]	The purpose of the input can be determined programmatically	N/A
1.4.1: Use of Colour (Level A)	Don't use presentation that relies solely on colour	FAIL
1.4.2: Audio Control (Level A)	Don't play audio automatically	N/A
1.4.3 Contrast (Minimum) (Level AA)	Contrast ratio between text and background at least 4.5:1	FAIL

Checkpoint	Description	Pass/Fail
1.4.4 Resize Text (Level AA)	Text to be resized to 200% without loss of content or function	PASS
1.4.5: Images of Text (Level AA)	Don't use images of text	FAIL
1.4.10 Reflow (Level AA) [WCAG 2.1]	Must be usable when resized to 320 pixels/400% zoom	PASS
1.4.11 Non-Text Contrast (Level AA) [WCAG 2.1]	Contrast ratio of interface graphics is at least 3:1	FAIL
1.4.12 Text Spacing (Level AA) [WCAG 2.1]	Text has enough line height and spacing	N/A
1.4.13 Content on Hover or Focus (Level AA) [WCAG 2.1]	Content triggered on focus or hover is not obscured and can be dismissed	N/A
2.1.1: Keyboard (Level A)	Accessible by keyboard only	FAIL
2.1.2: No Keyboard Trap (Level A)	Don't trap keyboard users	PASS
2.1.4 Character Key Shortcuts (Level A) [WCAG 2.1]	If using single character key shortcuts, allow users to disable/remap them	N/A
2.2.1: Timing Adjustable (Level A)	Time limits have user controls	N/A
2.2.2: Pause, Stop, Hide (Level A)	Provide user controls for moving content	N/A
2.3.1: Three Flashes or Below Threshold (Level A)	No content flashes more than three times per second	N/A
2.4.1: Bypass Blocks (Level A)	Provide a "Skip to Content" link	FAIL
2.4.2: Page Titled (Level A)	Helpful and clear page title	FAIL
2.4.3: Focus Order (Level A)	Logical order	FAIL

Checkpoint	Description	Pass/Fail
2.4.4: Link Purpose (In Context) (Level A)	Every link's purpose is clear from its context	FAIL
2.4.5: Multiple Ways (Level AA)	Offer several ways to find pages	N/A
2.4.6: Headings and Labels (Level AA)	Use clear headings and labels	PASS
2.4.7: Focus Visible (Level AA)	Keyboard focus is visible and clear	N/A
2.5.1 Pointer Gestures (Level A) [WCAG 2.1]	If using complex gestures, allow users a simple alternative	N/A
2.5.2 Pointer Cancellation (Level A) [WCAG 2.1]	Do not trigger actions on the down event	N/A
2.5.3 Label in Name (Level A) [WCAG 2.1]	Interface components must have same name as visual label	N/A
2.5.4 Motion Actuation (Level A) [WCAG 2.1]	If triggering actions my device motion e.g. shake, provide simple alternative	N/A
3.1.1: Language of Page (Level A)	Page has a language assigned	PASS
3.1.2: Language of Parts (Level AA)	Tell users when the language on the page changes	N/A
3.2.1: On Focus (Level A)	Elements do not change when they receive focus	N/A
3.2.2: On Input (Level A)	Elements do not change when they receive input	N/A
3.2.3: Consistent Navigation (Level AA)	Use menus consistently	N/A
3.2.4: Consistent Identification (Level AA)	Use icons and buttons consistently	N/A
3.3.1: Error Identification (Level A)	Clearly identify input errors	N/A

Checkpoint	Description	Pass/Fail
3.3.2: Labels or Instructions (Level A)	Label elements and give instructions	N/A
3.3.3: Error Suggestion (Level AA)	Suggest fixes when users make errors	N/A
3.3.4: Error Prevention (Legal, Financial, Data) (Level AA)	Reduce the risk of input errors for sensitive data	N/A
4.1.1: Parsing (Level A)	No major code errors	FAIL – all PDFs failed Adobe Accessibility Checker
4.1.2: Name, Role, Value (Level A)	Build all elements for accessibility	FAIL – unable to check as majority files untagged – relates to non-standard tags being appropriately mapped to standard Adobe tags
4.1.3 Status Messages (Level AA) [WCAG 2.1]	Assistive Technology users must be notified of dynamic content	N/A

4 Detailed analysis

All issues found in the sample pages checked are described in this section, along with information about which WCAG 2.1 checkpoint(s) each issue fails against.

The issues are categorised based on their assigned priority level, from the more severe to the least severe.

4.1 Board Meeting - March 2021 - a) b2106-people-report

– total pages: 17 – <https://www.nss.nhs.scot/media/1493/b2106-people-report.pdf>

4.1.1 Issue: Document missing PDF tags

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

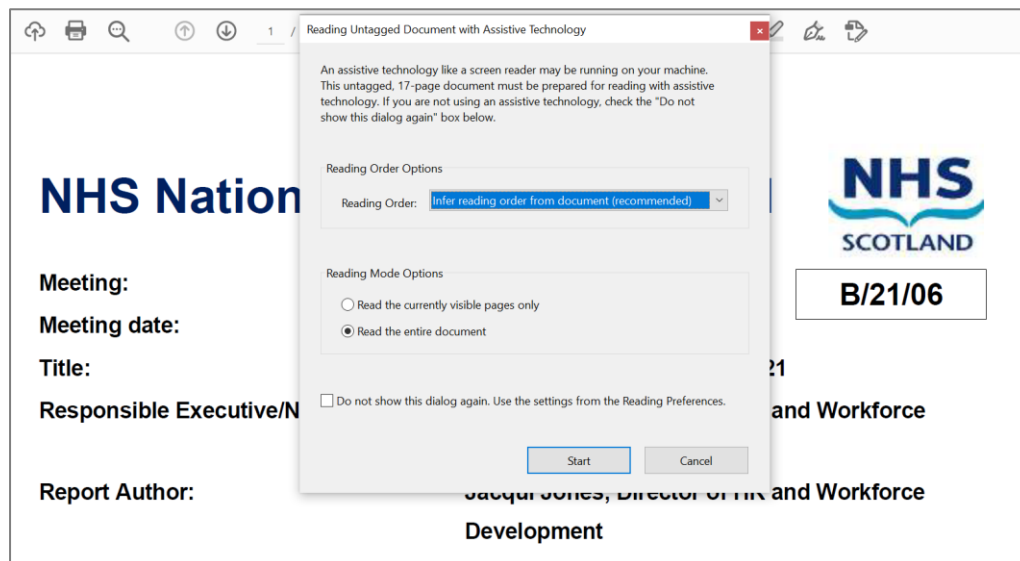
The document is untagged. Document tags indicate the document structure and non-text elements.

Note: Documents that are untagged cannot be accessed using a screen reader. Therefore, only a visual review of the document could be carried out.

Impact on users:

PDF documents that are untagged or tagged incorrectly are difficult to navigate as the structure cannot be interpreted.

Screenshots:



Untagged document

Recommendations:

Ensure the PDF document is tagged correctly to indicate the structural elements of the document's content and how these elements relate to each other (e.g. using tags such as document title, headings, text paragraphs, figures, tables, footnotes, page numbers, etc.). It will also help with navigation of the document.

4.1.2 Issue: Document title missing

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 2.4.2 (A)

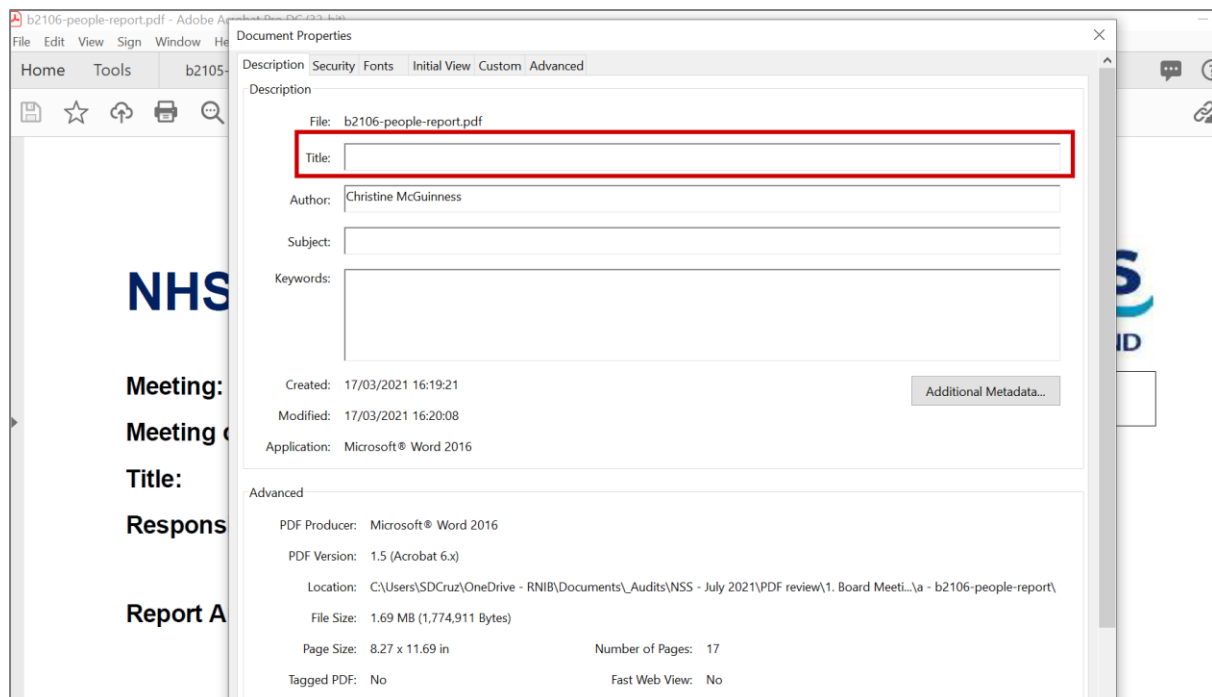
Description:

The Document is missing a Title (in the Document Properties).

Impact on users:

The Document Title is important for the screen reader user to validate which document is currently being viewed. This is even more important when more than one document is open at the same time. Confusion can often arise when that information is not properly disclosed or when the title of the document does not clearly reflect its content.

Screenshots:



Document missing a Title

Recommendations:

Ensure the document has a descriptive Document Title that reflects its content.

4.1.3 Issue: Complex images missing text alternative

Priority level: Must

Occurrences: page(s) 7, 8, 9, 11, 12, 15

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

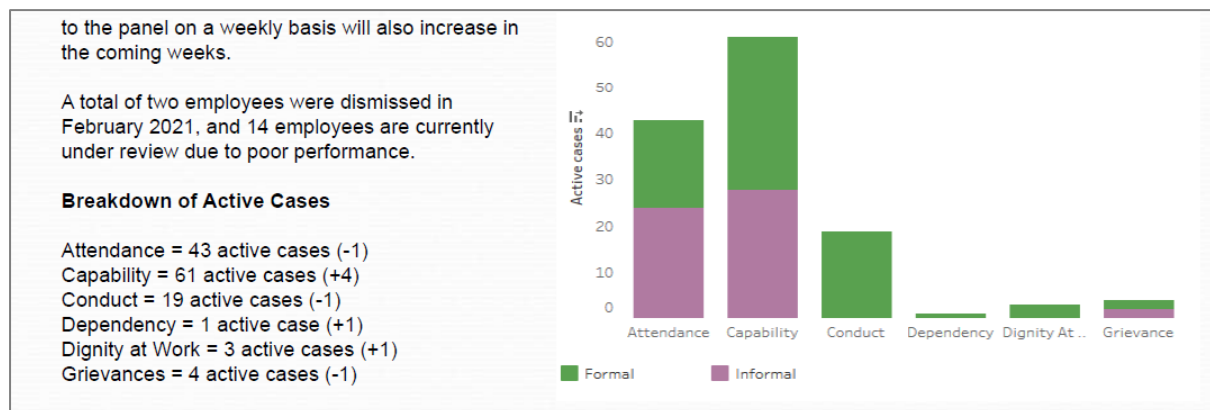
Description:

There are instances where complex images (containing graphics and text) do not have a text alternative. There are no accessible alternatives available for these infographics.

Impact on users:

When informative images are not described in text, screen reader users will be unable to access and/or understand the content.

Screenshots:



Page 11

Turnover

NSS turnover rate is at 7.27% YTD, and forecasted to end the FY at 6.37%.

New Starts – 23 employees started in February, a total of 560 YTD.

PCF – 8
SNBTS – 7
SPST – 3
HR – 3
DaS – 2

Leavers – 7 employees left in February, a total of 198 YTD.

SPST – 3 (all within NCTC)
PCF – 2
P&CF – 1
DaS – 1

Leaving reason

Vol. Resignation – Other – 3
Other – 2
New Employment with NHS Scotland – 1
New Employment with NHS outwith Scotland – 1

Turnover trend



Turnover SPC



Page 12

Recommendations:

Ensure complex images have an accessible alternative e.g., described using text only.

Dealing with complex images in PDF documents is similar to webpages. Provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative text (alt text), this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.

4.1.4 Issue: Table containing tabular data with incorrect markup

Priority level: Must

Occurrences: page(s) 10, 17

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Tables are used to present tabular data without column/row header markup (<th> element).

Impact on users:

Poorly marked up tables can be hard to navigate for screen reader users. Screen reader users may not correctly associate header cells to the data cells.

Screenshots:

SBU	No RtW Interview	RtW Interview Completed	SBU Total
CLO	1	3	4
DaS	2	2	4
Finance	1	3	4
HR	2	2	4
P&CF	16	24	40
PCF	28	59	87
SNBTS	34	38	72
SPST	4	3	7
Total	88	134	222

Page 10

Recommendations:

Ensure tables used for tabular data contain the appropriate semantic table tags to help screen reader users understand the data presented.

4.1.5 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: page(s) 7, 8, 9, 11, 12, 15

WCAG 2.1 violation(s): 1.4.1 (A)

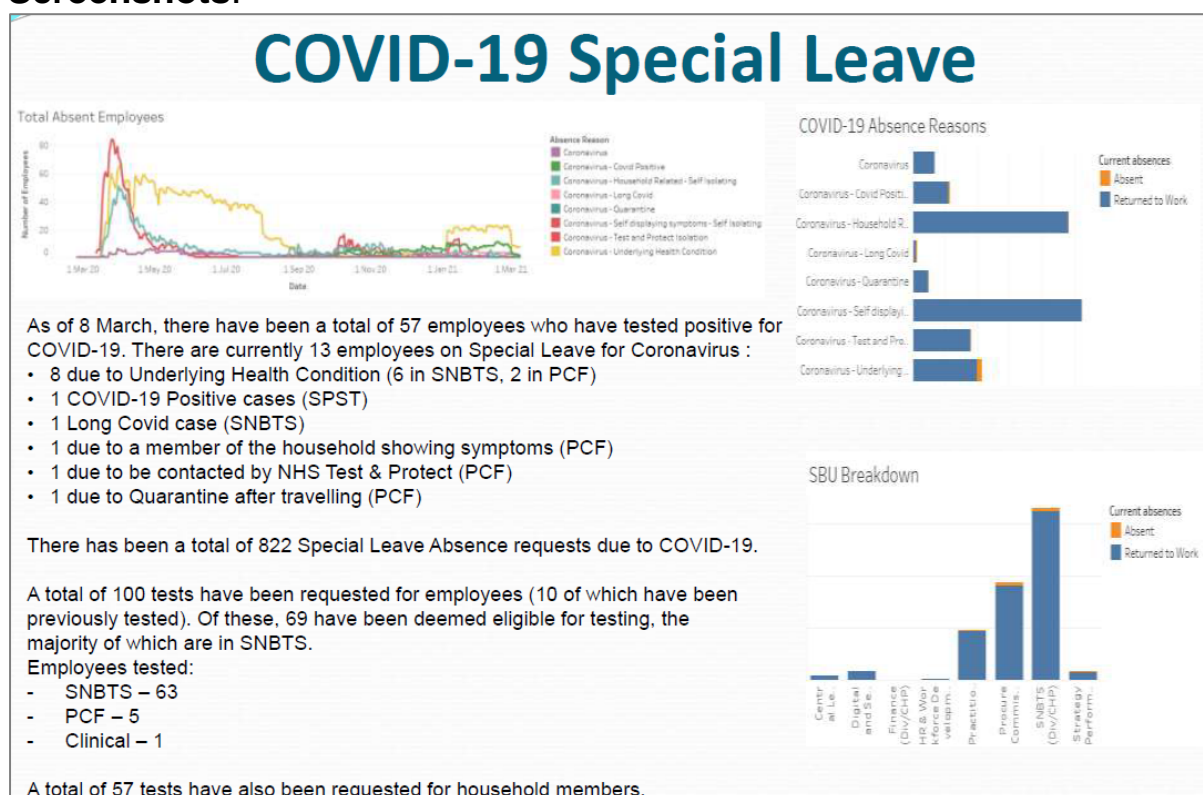
Description:

There are instances on infographics where comparisons use 'colour alone' to indicate values. It's not possible to match each evaluation to the legend without colour.

Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:



Page 7

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.1.6 Issue: Low colour contrast

Priority level: Should

Occurrences: page 5; where applicable charts - textual information, e.g. page 7

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

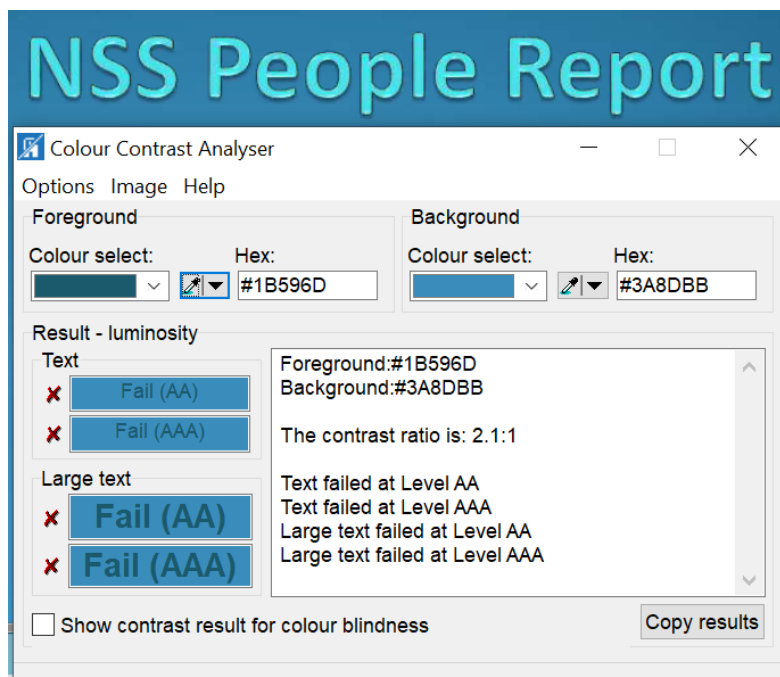
Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

Impact on users:

Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

Note: This is not an exhaustive list



Page 5

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

4.1.7 Issue: Low graphic colour contrast

Priority level: Should

Occurrences: page(s) 8, 9, 11, 12, 15

WCAG 2.1 violation(s): 1.4.11 (AA)

Description:

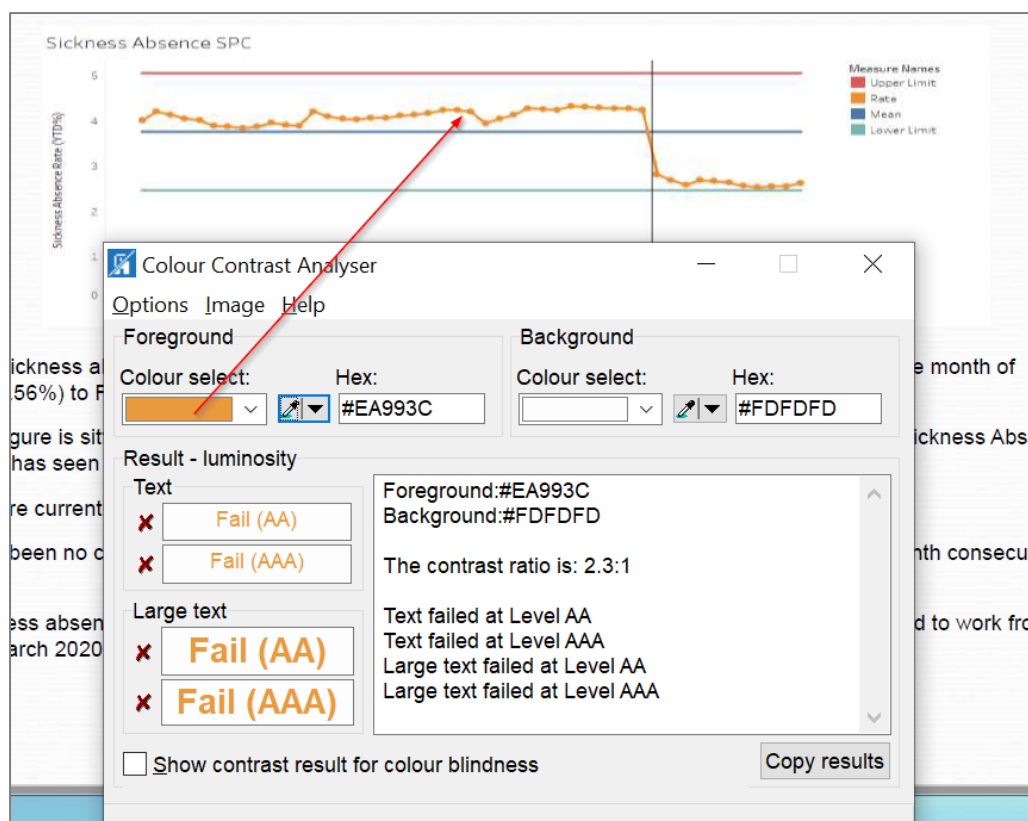
There are instances where user interface graphic components fall below the minimum ratio (3:1).

Impact on users:

User interface graphic components with low contrast are more difficult to identify and understand for users with visual impairments.

Screenshots:

Note: This is not an exhaustive list



Page 8

Recommendations:

Ensure the colour of user interface graphic elements meets the minimum contrast ratio.

4.2 Board Meeting - March 2021 - b) b2105-proposal-for-a-board-assurance-framework

– total pages: 145 – <https://www.nss.nhs.scot/media/1492/b2105-proposal-for-a-board-assurance-framework.pdf>

4.2.1 Issue: Document missing PDF tags

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

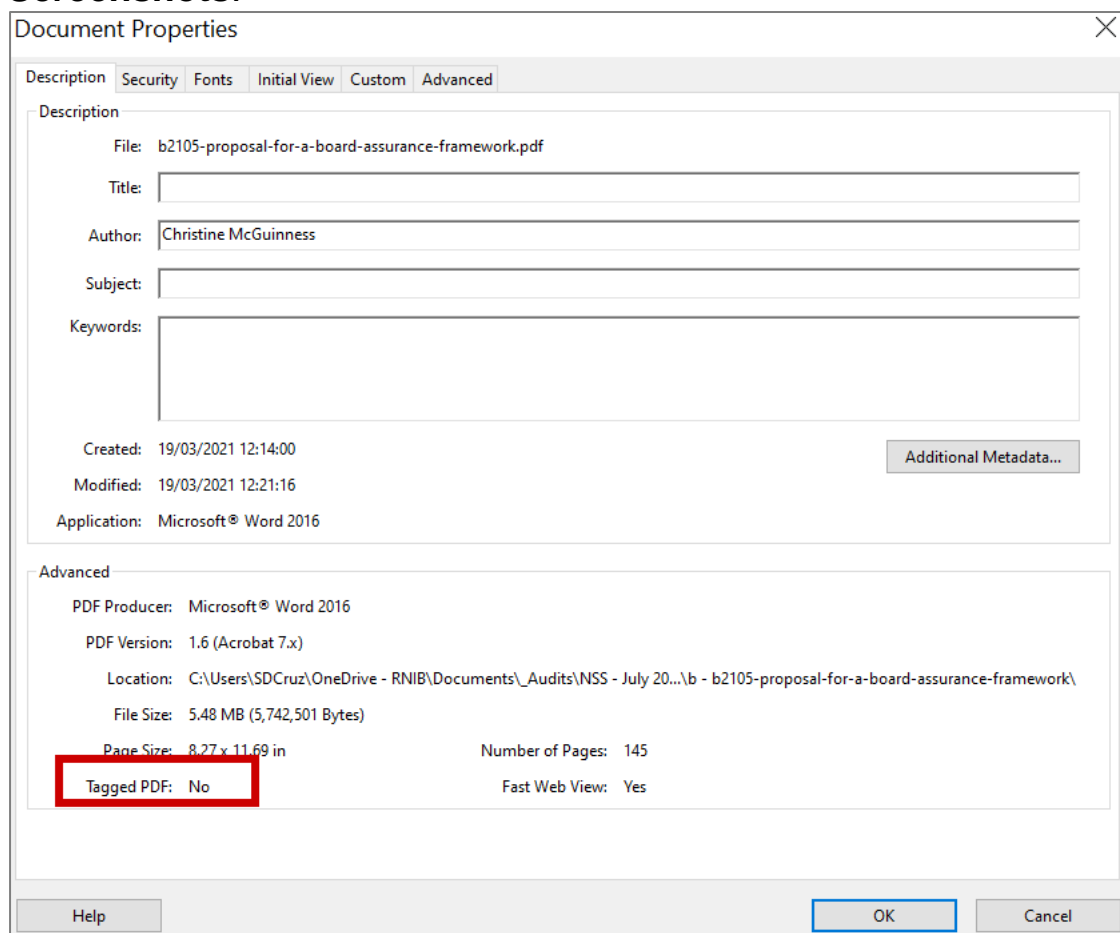
The document is untagged. Document tags indicate the document structure and non-text elements.

Note: Documents that are untagged cannot be accessed using a screen reader. Therefore, only a visual review of the document could be carried out.

Impact on users:

PDF documents that are untagged or tagged incorrectly are difficult to navigate as the structure cannot be interpreted.

Screenshots:



Untagged document

Recommendations:

Ensure the PDF document is tagged correctly to indicate the structural elements of the document's content and how these elements relate to each other (e.g. using tags such as document title, headings, text paragraphs, figures, tables, footnotes, page numbers, etc.). It will also help with navigation of the document.

4.2.2 Issue: Document title missing

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 2.4.2 (A)

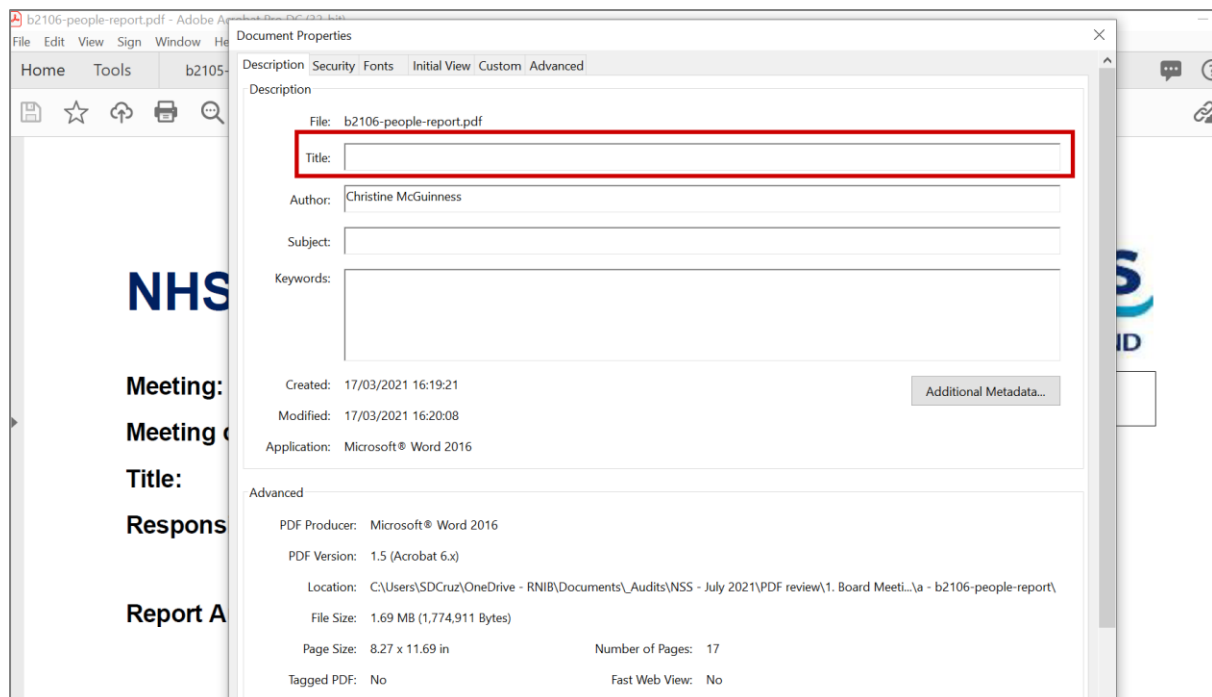
Description:

The Document is missing a Title (in the Document Properties).

Impact on users:

The Document Title is important for the screen reader user to validate which document is currently being viewed. This is even more important when more than one document is open at the same time. Confusion can often arise when that information is not properly disclosed or when the title of the document does not clearly reflect its content.

Screenshots:



Document missing a Title

Recommendations:

Ensure the document has a descriptive Document Title that reflects its content.

4.2.3 Issue: Tag structure illogical

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 2.1.1 (A), 1.3.2 (A), 2.4.3 (A)

Description:

Where tags are available, the tags do not match the reading order. For example, after page 44 the reading order jumps to page 15 and after page 17, the reading order jumps to page 44. Also, after page 14 the order jumps to page 18.

The first 17 pages have no tag elements and cannot be accessed via the keyboard – the keyboard focus jumps to page 18. This is not in a meaningful sequence.

Impact on users:

Users who are restricted to using only a keyboard may be confused by the unexpected behaviour (including screen reader users).

Screenshots:

N/A

Recommendations:

Ensure the order of the tag structure is accurate, logical, and intuitive. The reading order needs to move sequentially on a page (left to right, top to bottom).

4.2.4 Issue: Missing or incorrect Heading tags

Priority level: Must

Occurrences: All pages

WCAG 2.1 violation(s): 1.3.1 (A), 2.4.1 (A)

Description:

There are numerous text elements that are using the incorrect semantic heading tags.

Impact on users:

Screen reader users will not be able to rely on the tagged information to understand the content structure and organisation. Therefore, it can become very difficult for users to consume content.

Screenshots:

N/A

Recommendations:

Ensure the correct heading tags are used within the document (<h1>-<h6>).

4.2.5 Issue: Images missing alt attribute

Priority level: Must

Occurrences: page(s) 1, 15, 54, 57

WCAG 2.1 violation(s): 1.1.1 (A)

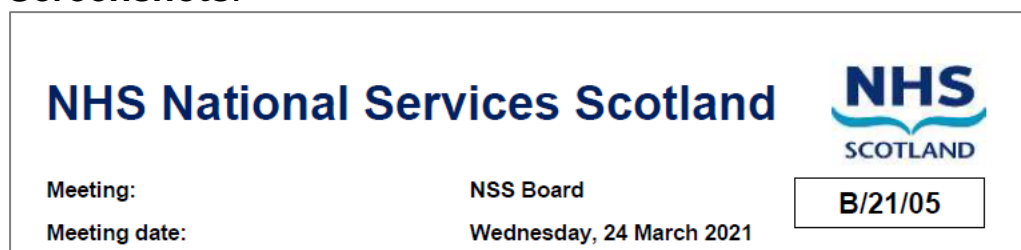
Description:

There are instances where images do not have an alternative text tag (alt text) e.g., for logo images such as the Scottish Government logo.

Impact on users:

Screen reader users may not be able to understand the purpose of the image. Nor may they be able to know to whom the related content, on the page, belongs to.

Screenshots:



Page 1



Page 15

Recommendations:

Ensure images have alternative text tags (alt attribute) that describes the link destination (where applicable) and image.

4.2.6 Issue: Watermark images missing tag

Priority level: Must

Occurrences: page(s) 120-125

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where watermark images are untagged

Impact on users:

Screen reader users will miss out on the informative information conveyed in the watermark image i.e., that it's a draft version.

Screenshots:

BLUEPRINT FOR GOOD GOVERNANCE – NSS REVIEW 2019					
APPENDIX D					
The Functions	Ref	Where does the key responsibility sit for this?	What are we doing well?	What are we doing less well?	How could we improve?
F1 - Setting the direction					
Provide leadership, support and guidance to the organisation, including determining the organisation's purpose and ambition	F1.1				
Approve the strategies and plans to deliver the policies and the priorities of the Cabinet Secretary for Health and Sport and the Scottish Government	F1.2				
Agree aims, objectives, standards and targets for service delivery in line with the Scottish Government's priorities	F1.3				
F2 - Holding to Account					
Monitor, scrutinise, challenge and then, if satisfied, support the Executive Leadership Team's management of the organisation's activities, in order to ensure that the organisation's aims, objectives, performance standards and targets are met.	F2.1				
Safeguard and account for public money to ensure resources are	F2.2				

Page 120

Recommendations:

Ensure elements containing vital/informative information, such as watermarks, are tagged so these are conveyed to screen reader users.

4.2.7 Issue: Complex images missing text alternative

Priority level: Must

Occurrences: page(s) 3, 8, 9, 10-12, 14, 25, 72, 80

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

Description:

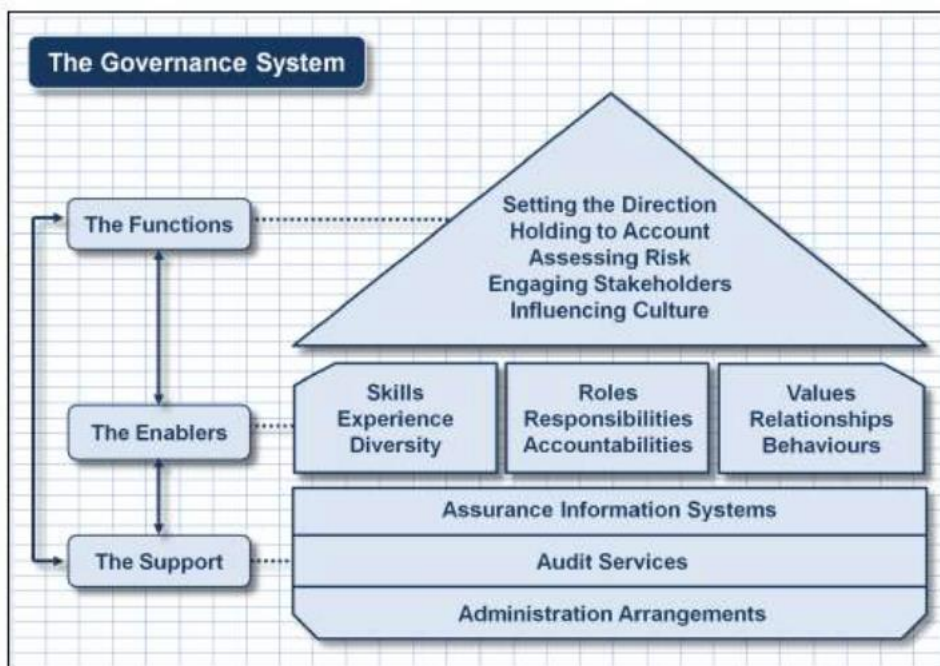
There are instances where complex images (containing graphics and text) do not have a text alternative. There are no accessible alternatives available for these infographics.

Impact on users:

When informative images are not described in text, screen reader users will be unable to access and/or understand the content.

Screenshots:

Figure 1: The NHS Scotland Blueprint Governance System



Page 3

Proposed framework



The framework aligns with the traditional risk based approach used across the NHS.

It also follows public sector best practice as identified by Amberwing for ALARM, the public risk management association.

Page 9

Recommendations:

Ensure complex images have an accessible alternative e.g., described using text only.

Dealing with complex images in PDF documents is similar to webpages. Provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative text (alt text), this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.

4.2.8 Issue: Table containing tabular data with incorrect markup

Priority level: Must

Occurrences: page(s) 8, 14, 51-53, 55, 61-65, 72-73, 80-81, 86-87, 90-91, 118, 120-125, 127, 135, 139-145

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Table are used to present tabular data without column/row header markup (<th> element).

Impact on users:

Poorly marked up tables can be hard to navigate for screen reader users. Screen reader users may not correctly associate header cells to the data cells.

Screenshots:

management say it is	management have responded to questions that give me confidence	I have reviewed various reliable sources of information
<ul style="list-style-type: none">Track record of successProfessional background or expertiseNo contradictory evidence	<ul style="list-style-type: none">Clear and logical explanationsWhat has happened, why it happened, how we're respondingConsistent explanations	<ul style="list-style-type: none">Independent information sourceEvidence of historic progress and outcomesTriangulation with other information

Page 8

NSS BOARD DEVELOPMENT PLAN							Services Scotland
NHS National Services Scotland Board Development Plan 2019-2020							
Development Identified (what you are focusing on, ensuring it is specific, realistic and achievable)	Action required to support improvement	Measure (how will you know if you have achieved success)	Timescale (when will you have completed this action)	Resource (are there any additional resources required to complete this action)	Responsible (who is responsible for completing this action)	Review (indicate when you intend to review progress against this action)	
Action 1: Improved stakeholder engagement – Internal/External stakeholders							
1.1 Increase exposure of Non-Execs to NSS Staff via a variety of communications channels.	NSS Non-Execs to have recorded video biographies and these made available via intranet.	Video biography for every Board Member.	30.9.19	Involvement with the internal communications team to raise profile of NEDs via video biographies.	Board Secretary/Associate Director SPST	Board meeting on 8.9.19	
	Publicise formal board meetings on geNSS and via Pulse to encourage staff to attend.	Number of staff attending meetings.	Immediately	Involvement with the internal communications team and Board Secretary.	Board Secretary/Associate Director SPST	Board meeting on 8.9.19	
	Review Non-Exec induction programme to build profile of any new Non-Execs as soon as they join NSS.	Feedback questionnaire on induction programme.	By end Q2 2019-20	Liaison with OD and HR Learning and Development team to review and update induction programme as necessary		Board meeting on 1.11.19	

Page 14

Recommendations:

Ensure tables used for tabular data contain the appropriate semantic table tags to help screen reader users understand the data presented.

4.2.9 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: page(s) 72, 80, 86, 90, 94 130-135

WCAG 2.1 violation(s): 1.4.1 (A),

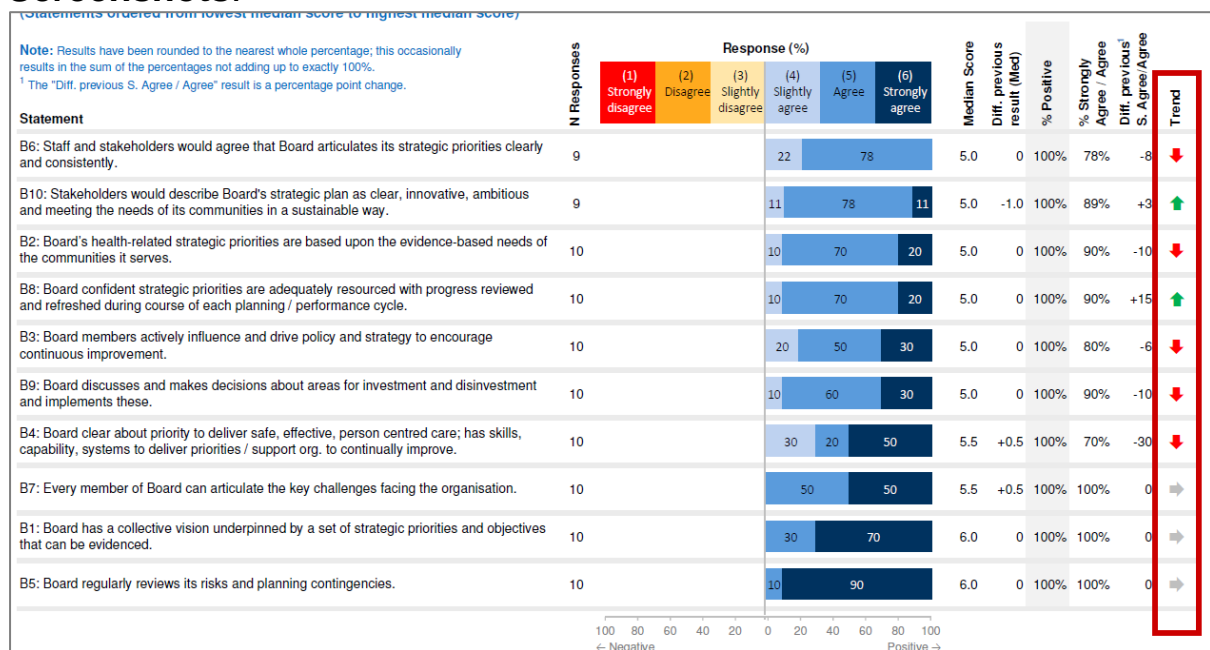
Description:

There are instances on infographics where comparisons use 'colour alone' to indicate values. It's not possible to match each evaluation to the legend without colour.

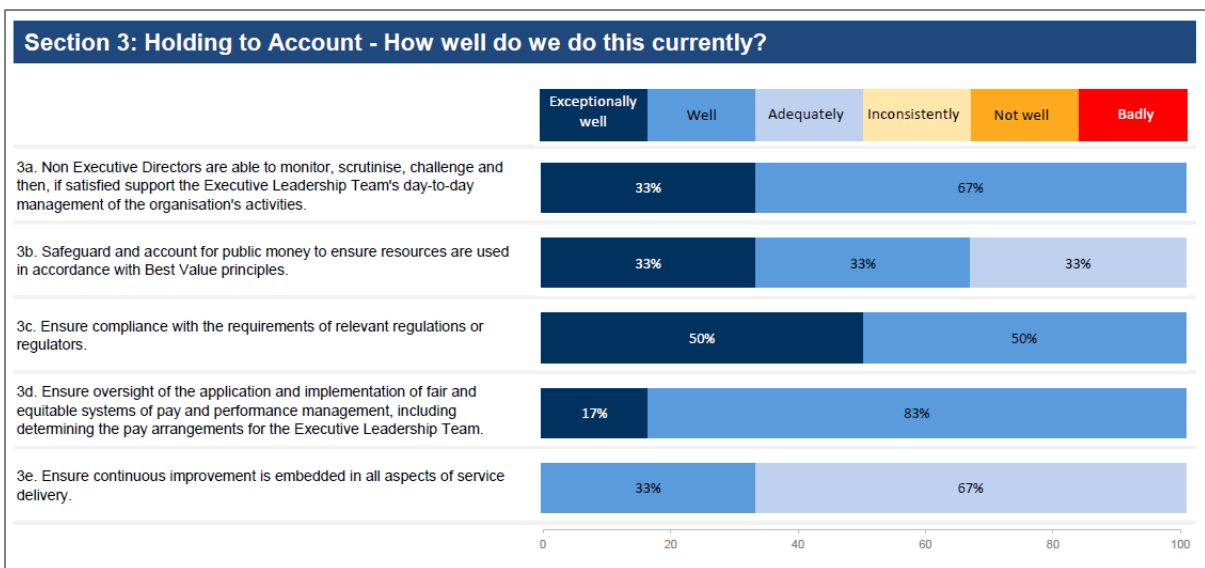
Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:



Page 72



Page 130

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.2.10 Issue: Decorative images missing alt attribute

Priority level: Should

Occurrences: Where applicable e.g. for signature images

WCAG 2.1 violation(s): 1.1.1 (A)

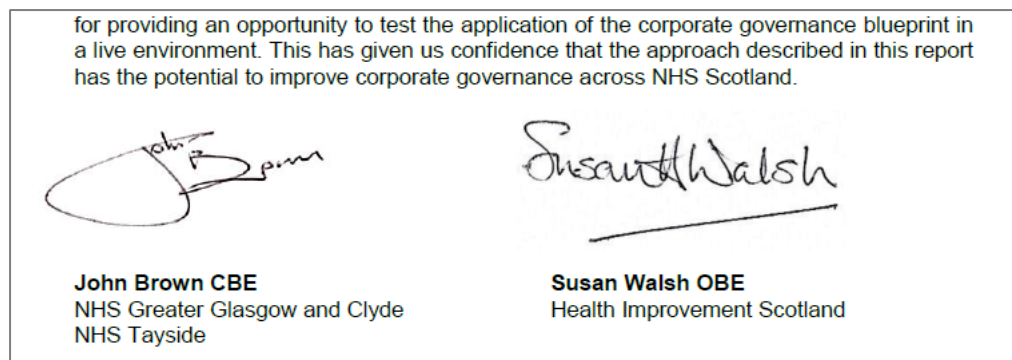
Description:

There are instances where an image that does not convey information (decorative) does not have an appropriate alt attribute tag. Decorative images must have the correct tag to enable assistive technology to ignore them.

Impact on users:

Screen reader users will encounter images without alternative text in the tag and will not be able to understand their purpose.

Screenshots:



Page 19

Recommendations:

Ensure all decorative images are tagged with as Artifacts/background so screen readers can ignore them. Images will not show up in the Tags Structure but will be visible in the Content Pane.

4.2.11 Issue: Lists not marked up correctly

Priority level: Should

Occurrences: page(s) where applicable e.g. 17, 21 to 42, 48, 127-128

WCAG 2.1 violation(s): 1.3.1 (A)

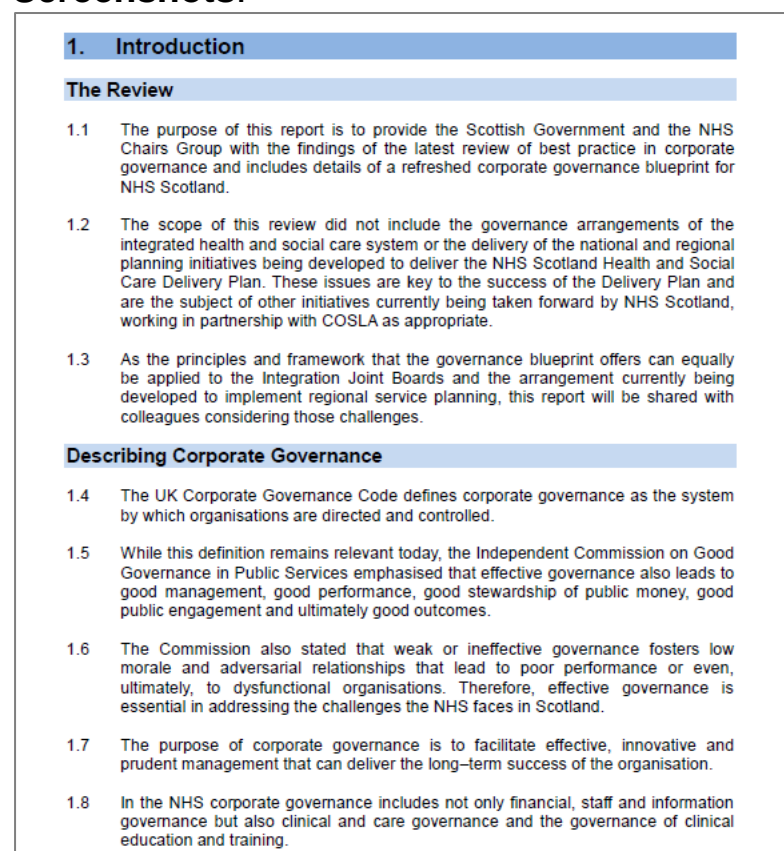
Description:

There are instances where lists have not been marked up correctly. These lists are individually marked up with a parent tag and a singular nested list item tag. Therefore, each numbered list is announced separately rather than as a list made up of 'x' number of items.

Impact on users:

Screen reader users might miss important information on the page if lists do not offer accurate information since they are not properly structured. They might find the page structure confusing and harder to navigate.

Screenshots:



1. Introduction

The Review

1.1 The purpose of this report is to provide the Scottish Government and the NHS Chairs Group with the findings of the latest review of best practice in corporate governance and includes details of a refreshed corporate governance blueprint for NHS Scotland.

1.2 The scope of this review did not include the governance arrangements of the integrated health and social care system or the delivery of the national and regional planning initiatives being developed to deliver the NHS Scotland Health and Social Care Delivery Plan. These issues are key to the success of the Delivery Plan and are the subject of other initiatives currently being taken forward by NHS Scotland, working in partnership with COSLA as appropriate.

1.3 As the principles and framework that the governance blueprint offers can equally be applied to the Integration Joint Boards and the arrangement currently being developed to implement regional service planning, this report will be shared with colleagues considering those challenges.

Describing Corporate Governance

1.4 The UK Corporate Governance Code defines corporate governance as the system by which organisations are directed and controlled.

1.5 While this definition remains relevant today, the Independent Commission on Good Governance in Public Services emphasised that effective governance also leads to good management, good performance, good stewardship of public money, good public engagement and ultimately good outcomes.

1.6 The Commission also stated that weak or ineffective governance fosters low morale and adversarial relationships that lead to poor performance or even, ultimately, to dysfunctional organisations. Therefore, effective governance is essential in addressing the challenges the NHS faces in Scotland.

1.7 The purpose of corporate governance is to facilitate effective, innovative and prudent management that can deliver the long-term success of the organisation.

1.8 In the NHS corporate governance includes not only financial, staff and information governance but also clinical and care governance and the governance of clinical education and training.

Page 21

Recommendations:

Ensure that the appropriate semantic tags are used to group lists together. This will improve navigation for screen reader users since they will be able to correctly interpret the start and end of the lists.

4.2.12 Issue: Table used for presentation

Priority level: Should

Occurrences: page(s) where applicable, e.g. 15, 42 to 44, 45, 126

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Table tags have been used for presentation purposes. Table tags should only be used for tabular data.

Impact on users:

Screen reader users will not expect this type of content to be structured using a table and these users may therefore find it difficult to understand and navigate through. The screen reader interprets the tables as tabular data.

Screenshots:



Page 42

Recommendations:

Avoid using the table tag for presentation. Consider using heading, paragraph, and list tags to structure content on a page.

4.2.13 Issue: Low colour contrast

Priority level: Should

Occurrences: page(s) 6, 11, 12, 47, 54, 57-58, 60, 64, 65, 72-73, 80-81, 86-87, 90-9, 94, 130-134

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

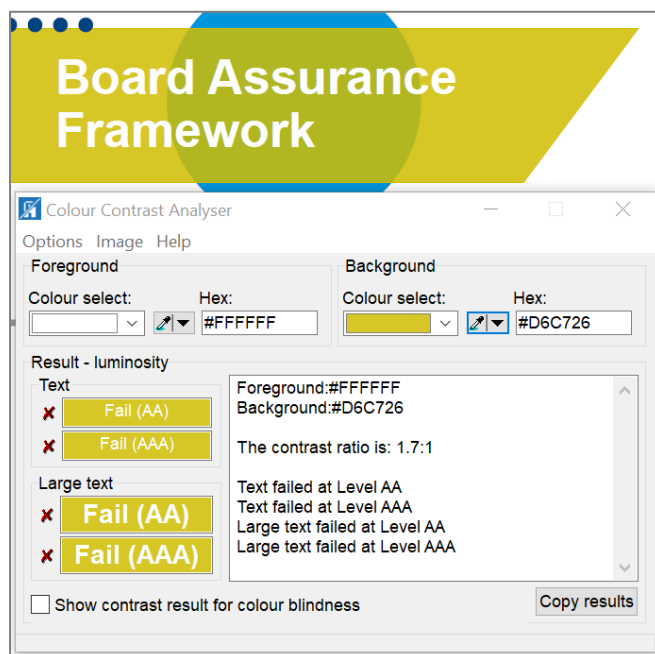
Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

Impact on users:

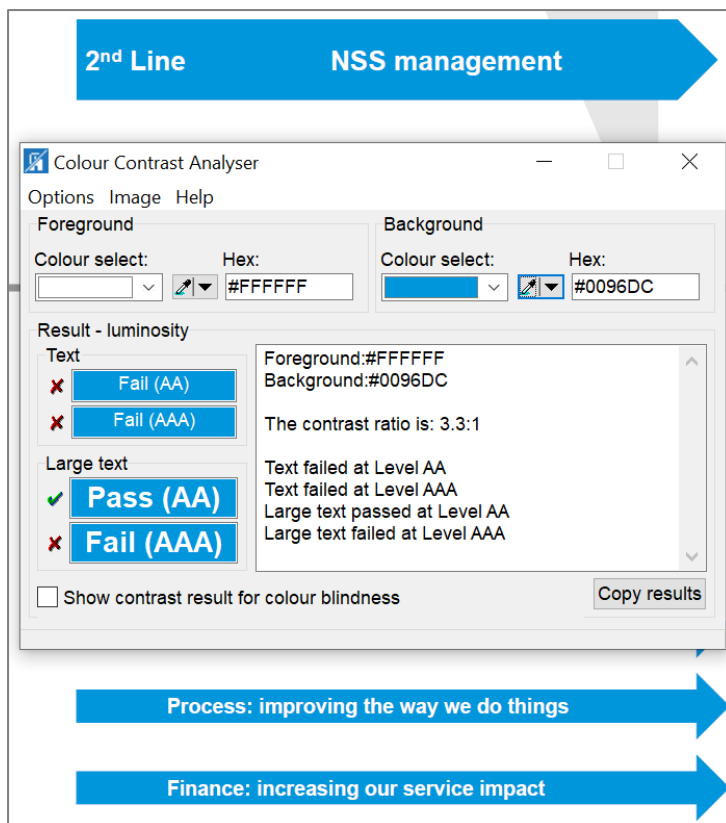
Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

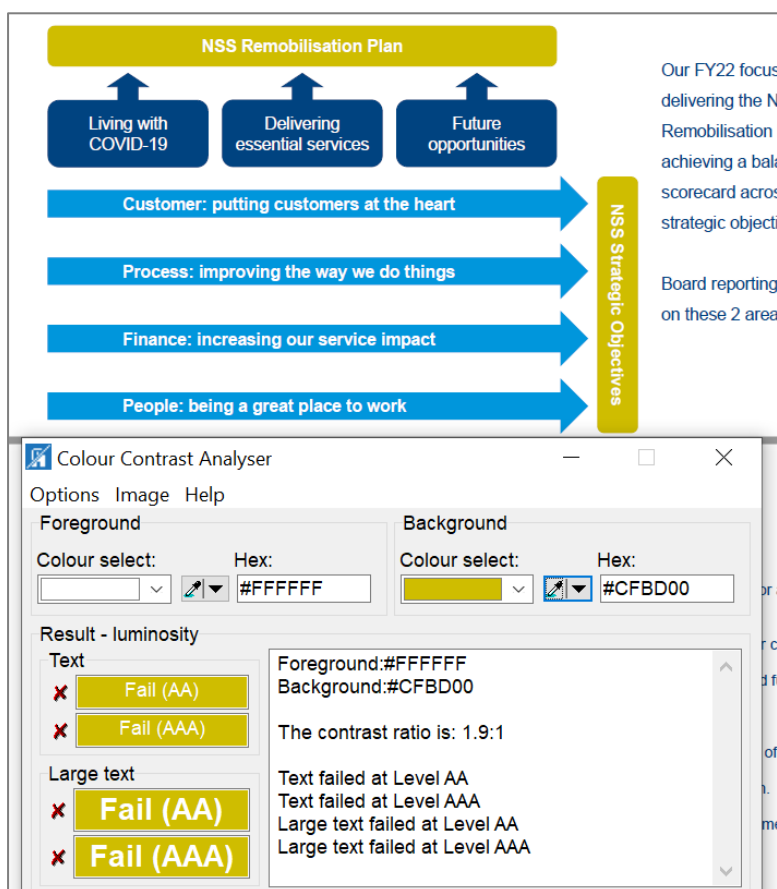
Note: This is not an exhaustive list



Page 6



Pages 11 and 12



Page 12

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

4.2.14 Issue: Low graphic colour contrast

Priority level: Should

Occurrences: page(s) 8, 12, 72

WCAG 2.1 violation(s): 1.4.11 (AA)

Description:

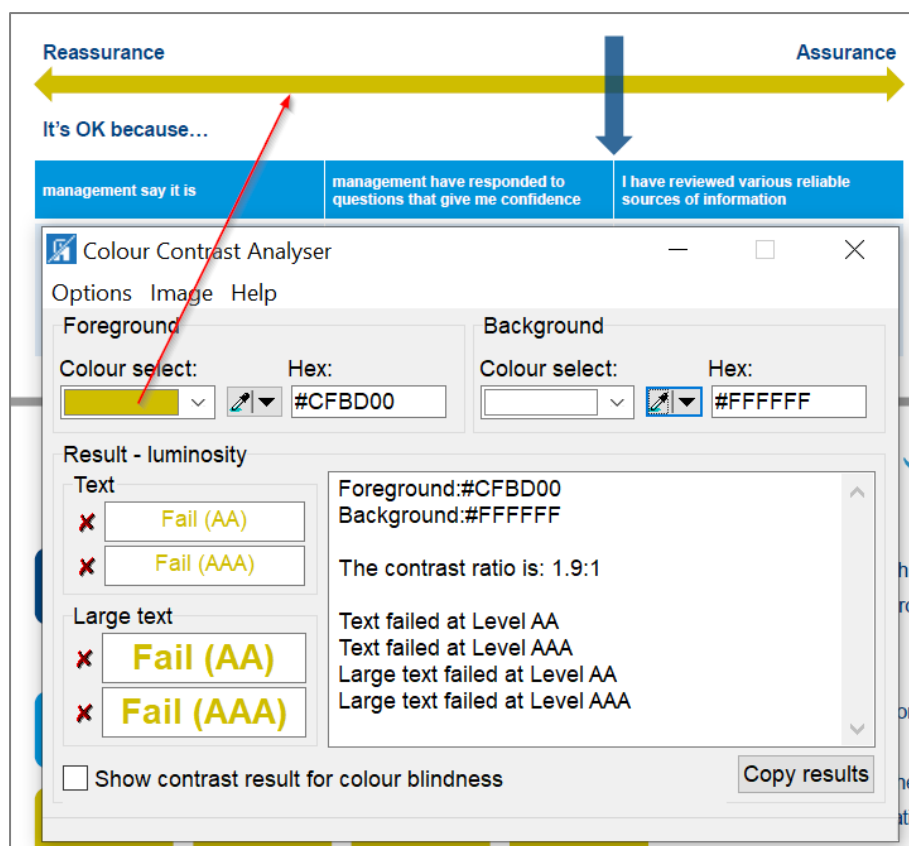
There are instances where user interface graphic components fall below the minimum ratio (3:1).

Impact on users:

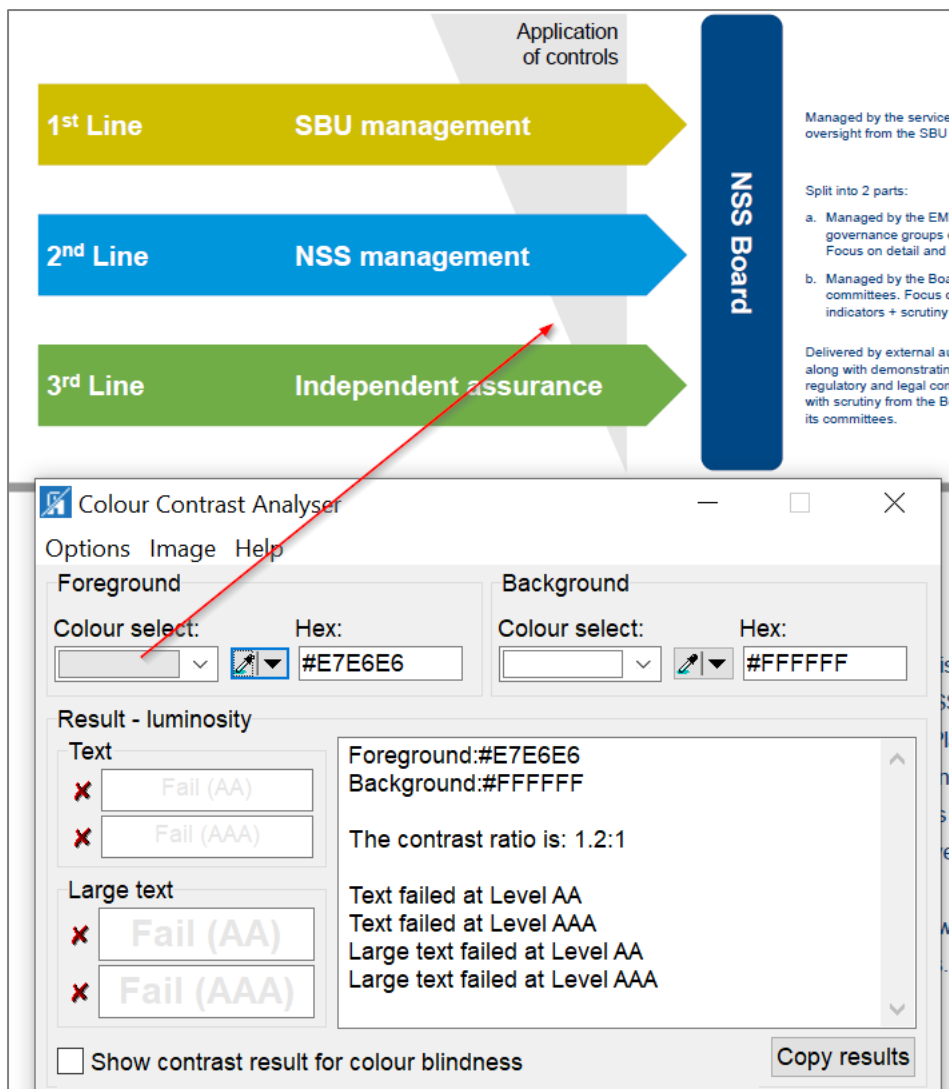
User interface graphic components with low contrast are more difficult to identify and understand for users with visual impairments.

Screenshots:

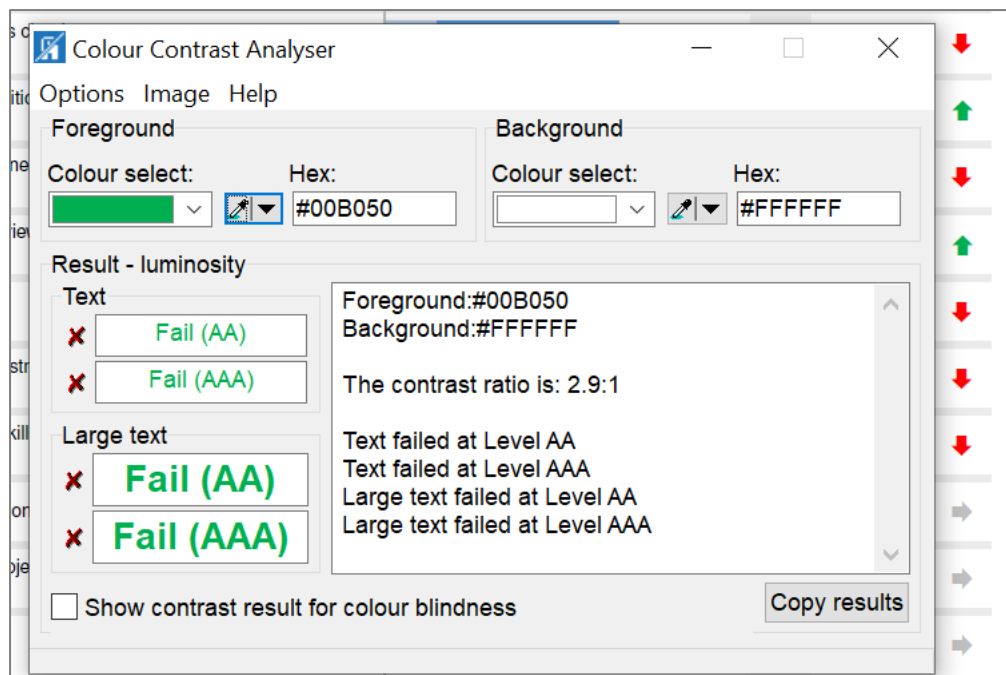
Note: This is not an exhaustive list



Page 8



Page 12



Page 72

Recommendations:

Ensure the colour of user interface graphic elements meets the minimum contrast ratio.

4.3 Board Meeting - March 2021 - c) b2103-action-list

– total pages: 2 – <https://www.nss.nhs.scot/media/1491/b2103-action-list.pdf>

4.3.1 Issue: Document missing PDF tags

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

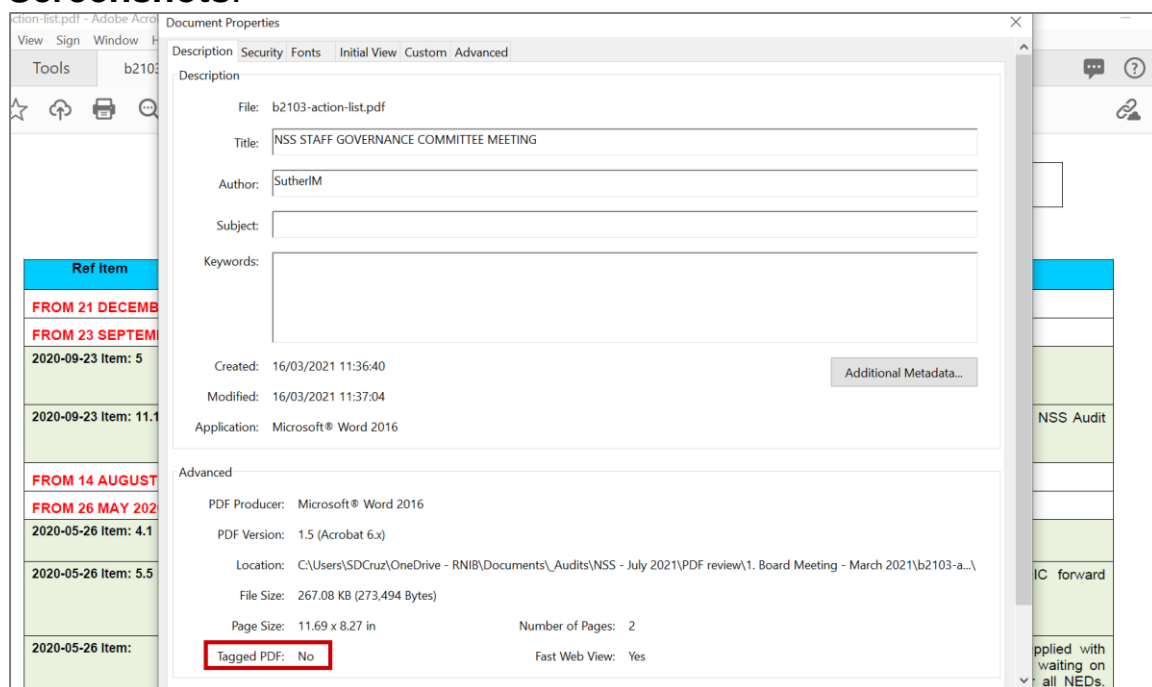
The document is untagged. Document tags indicate the document structure and non-text elements.

Note: Documents that are untagged cannot be accessed using a screen reader. Therefore, only a visual review of the document could be carried out.

Impact on users:

PDF documents that are untagged or tagged incorrectly are difficult to navigate as the structure cannot be interpreted.

Screenshots:



Untagged document

Recommendations:

Ensure the PDF document is tagged correctly to indicate the structural elements of the document's content and how these elements relate to each other (e.g. using tags such as document title, headings, text paragraphs, figures, tables, footnotes, page numbers, etc.). It will also help with navigation of the document.

4.3.2 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: All pages

WCAG 2.1 violation(s): 1.4.1 (A),

Description:

There are instances on the table that comparisons use 'colour alone' to indicate values i.e. which items on the action list are closed. It's not possible to match each evaluation to the legend without colour.

Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:

NSS FORMAL BOARD ACTION LIST 2020-21				
Ref Item	Action	Responsible	Deadline	Status
FROM 21 DECEMBER 2020 – NO ACTIONS RECORDED FOR THIS MEETING				
FROM 23 SEPTEMBER 2020				
2020-09-23 Item: 5	NSS Feedback and Complaints Annual Report 2019-20 M Neilson and J Deffenbaugh to discuss use of statistical Process Control to present data in future versions of the feedback report.	M Neilson/ J Deffenbaugh	Outwith meeting	Complete.
2020-09-23 Item: 11.1	Updates from Governance Committees C Low to provide monthly updates to Board Members on progress towards finding a solution in respect of Service Audit challenges.	C Low	Outwith meeting	Complete. Actioned via the NSS Audit & Risk Committee.
FROM 14 AUGUST 2020 – NO ACTIONS RECORDED FOR THIS MEETING				
FROM 26 MAY 2020				
2020-05-26 Item: 4.1	Chair's Update K Redpath to draft letter to Mr Malcolm Wright to record NSS thanks on his support over the years.	K Redpath	Outwith meeting	Complete.
2020-05-26 Item: 5.5	CEO's Update K Nicholls to add PPE/ventilators and associated consumables stock to the forward programme for the NSS Clinical Governance and Quality Improvement Committee and discuss with Committee Chair.	K Nicholls	Outwith meeting	Complete added to CGQIC forward programme.

Page 1

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.3.3 Issue: Low colour contrast

Priority level: Should

Occurrences: All pages

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

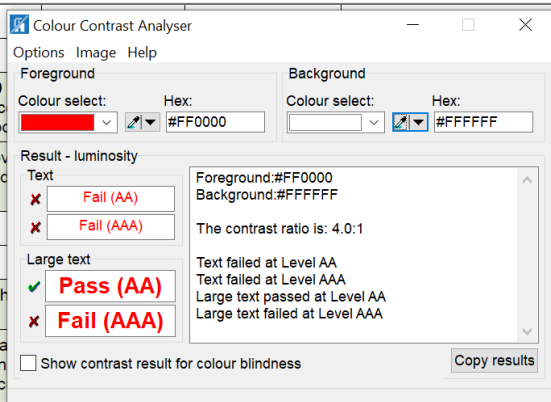
Impact on users:

Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

Note: This is not an exhaustive list

FROM 21 DECEMBER 2020 – NO ACTIONS RECORDED FOR THIS MEETING	
FROM 23 SEPTEMBER 2020	
2020-09-23 Item: 5	NSS Feedback and Complaints Annual Report 2019-2020 Neilson and J Deffenbaugh to discuss use of statistical Process Control to present data in future versions of the feedback report
2020-09-23 Item: 11.1	Updates from Governance Committees C Low to provide monthly updates to Board Members on progress towards finding a solution in respect of Service Audit challenges.
FROM 14 AUGUST 2020 – NO ACTIONS RECORDED FOR THIS MEETING	
FROM 26 MAY 2020	
2020-05-26 Item: 4.1	Chair's Update K Redpath to draft letter to Mr Malcolm Wright record NSS thanks on his support over the years.
2020-05-26 Item: 5.5	CEO's Update K Nicholls to add PPE/ventilators and associated consumables stock to the forward programme for the NSS Clinical Governance and Quality Improvement Committee and discuss with Committee Chair.



Page 6

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

4.4 Board Meeting - March 2021 - d) b2111-ccoe-overview-march-2021

– total pages: 12 – <https://www.nss.nhs.scot/media/1498/b2111-ccoe-overview-march-2021.pdf>

4.4.1 Issue: Document missing PDF tags

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

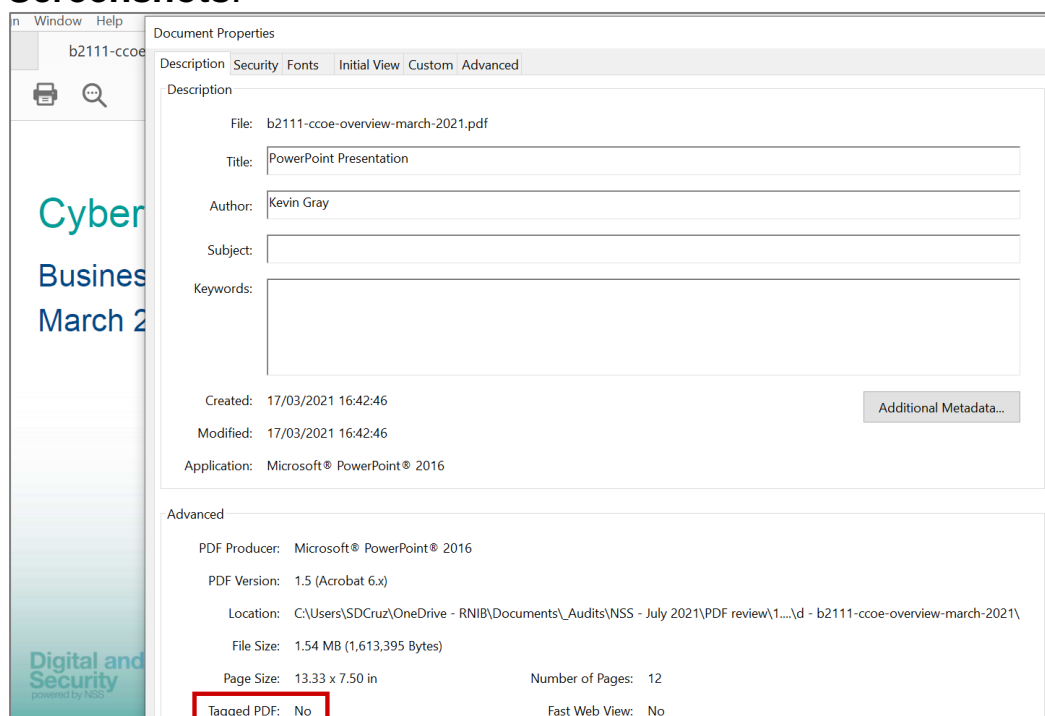
The document is untagged. Document tags indicate the document structure and non-text elements.

Note: Documents that are untagged cannot be accessed using a screen reader. Therefore, only a visual review of the document could be carried out.

Impact on users:

PDF documents that are untagged or tagged incorrectly are difficult to navigate as the structure cannot be interpreted.

Screenshots:



Untagged document

Recommendations:

Ensure the PDF document is tagged correctly to indicate the structural elements of the document's content and how these elements relate to each other (e.g. using tags such as document title, headings, text paragraphs, figures, tables, footnotes, page numbers, etc.). It will also help with navigation of the document.

4.4.2 Issue: Document title missing

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 2.4.2 (A)

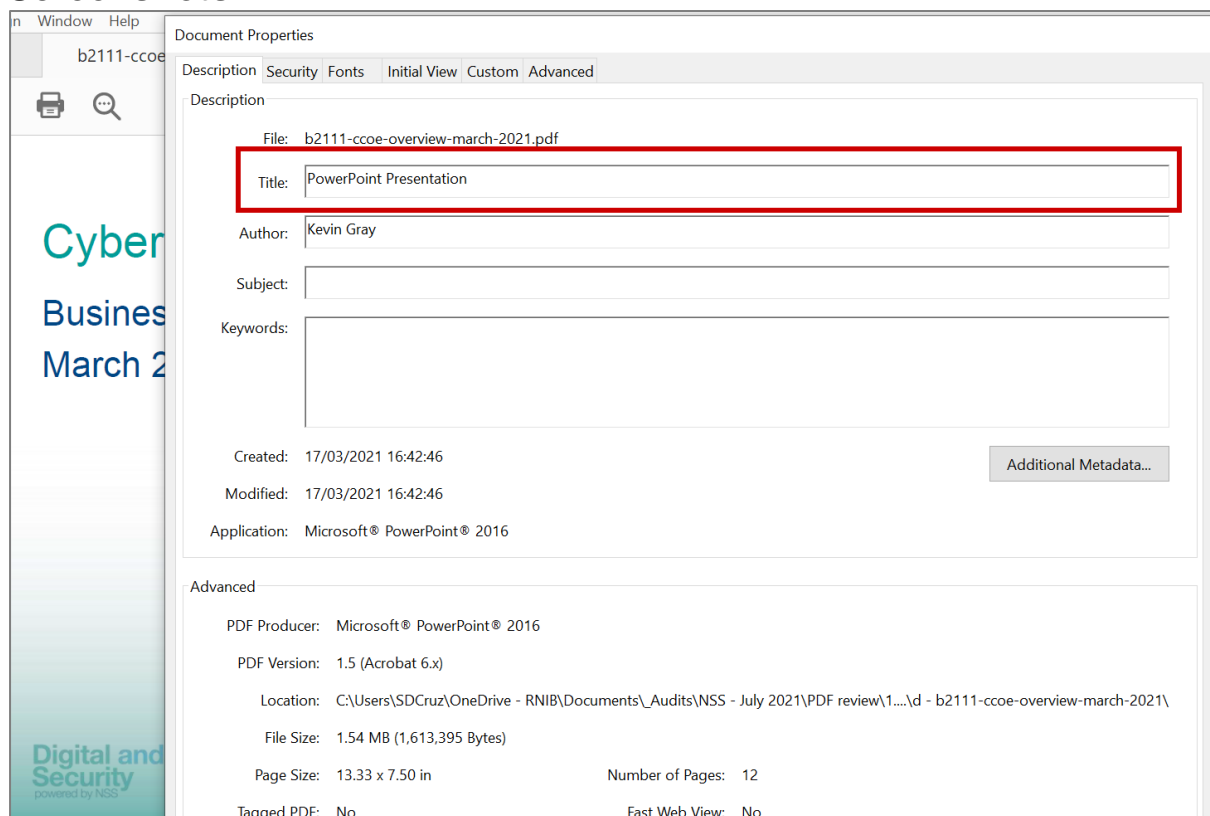
Description:

The Document is missing an appropriate Title (in the Document Properties).

Impact on users:

The Document Title is important for the screen reader user to validate which document is currently being viewed. This is even more important when more than one document is open at the same time. Confusion can often arise when that information is not properly disclosed or when the title of the document does not clearly reflect its content.

Screenshots:



Document missing a Title

Recommendations:

Ensure the document has a descriptive Document Title that reflects its content.

4.4.3 Issue: Images missing alt attribute

Priority level: Must

Occurrences: All pages, e.g. 2 has several logos of partners

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where images do not have an alternative text tag (alt text) e.g. all partners' logo images on page 2.

Impact on users:

Screen reader users may not be able to understand the purpose of the image. Nor may they be able to know who the partners involved are.

Screenshots:



Page 2

Recommendations:

Ensure images have alternative text tags (alt attribute) that describes the link destination (where applicable) and image.

4.4.4 Issue: Table containing tabular data with incorrect markup

Priority level: Must

Occurrences: page(s) 7, 8, 12

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Table are used to present tabular data without column/row header markup (<th> element).

Impact on users:

Poorly marked up tables can be hard to navigate for screen reader users. Screen reader users may not correctly associate header cells to the data cells.

Screenshots:

Service	NHS NSS	NHSS Orgs
Proactive		
Threat Hunting		
Vulnerability Management		
Security Posture Monitoring		
Threat Intelligence & Coordination		
Attack Simulation		
Security Platform Management*		
Reactive		
Incident Response and Support		
Reporting		
Malware Analysis (Initial assessment)		
Malware Analysis (Advanced)		
Intrusion Detection		
Security Orchestration & Automation		
Use Case Management		
Strategic		
Policy and Procedure Support		
Security Awareness & Training		
Security Testing		
Asset Management		
Threat Modelling		
Security Architecture Support		
Risk Assessment & Support		
Community Engagement		
Attack Simulation		

Key:

- Provided by the CCoE
- Provided by other part of NHS National Services Scotland
- Provided by third part under control of the CCoE
- Joint provision by CCoE & Local Organisation
- Explicitly out of scope

Page 8

Costings

Staffing	2021	2022	2023	2024	2025	2026
Coverage of all 22 Boards	15%	25%	50%	100%	100%	100%
Total FTE staffing levels	14	27	29	29	29	29
NSS funded FTE	8.5	8.5	8.5	8.5	8.5	8.5
Net Staff FTE	5.5	18.5	20.5	20.5	20.5	20.5
Net Staff Cost per Board	£16677.05	£48,797.36	£56,957.36	£60,374.82	£63,997.27	£67,837.14



Given the financial challenges faced by NHS Scotland in the coming years, exacerbated by the ongoing pandemic caused by Covid 19, the CCoE proposal offers the best value in delivering a consolidated cyber security service to all Boards.

The Centre will enhance existing capability within Health Boards providing significant equivalent financial value to each of them. A small cost element has been incorporated to assist in the integration of Boards with the Centre due to incompatibilities or requirements for tooling. These will be one-off costs and therefore are charged to the first three years of the programme. Microsoft Defender ATP and other elements of the Security & Compliance bundle are not included in the costs for the CCoE as these are pre-existing national initiatives.

SIEM	£247,500	£412,000	£825,000	£1,237,000	£1,650,000	£1,650,000
Orchestration & Automation	£143,000	£310,500	£324,000	£324,000	£324,000	£324,000
Cost Per Board	£18955	£32841	£52227	£56242	£89727	£89727



Tay Cyber Quarter Membership	£15000	£82,000	£82,000	£82,000	£82,000	£82,000
Access links and ancillary infrastructure	£50,000	£55,000	£55,000	£45,000	£45,000	£45,000
Board Integration	£700,000	£700,000	£800,000	-	-	-
Cost Per Board	£34772.73	£38045.45	£42,950.91	£5772.73	£5772.73	£5772.73



Item	Six Year EVPB*	Total six year cost
Staff costs	314641	£6,922,102
SIEM Tool	273705	£6,021,500
Orchestration tools	79523	£1,749,500
Tay Cyber Quarter membership & accommodation	20455	£450,000
Access links and ancillary infrastructure	13409	£295,000
Board Integration	£100,000	£2,200,000
Total Costs	£801,733	£17,638,102

*Equivalent Value per Board:

Recommendations:

Ensure tables used for tabular data contain the appropriate semantic table tags to help screen reader users understand the data presented.

4.4.5 Issue: Complex images missing text alternative

Priority level: Must

Occurrences: page(s) 7, 8, 9, 11, 12, 15

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

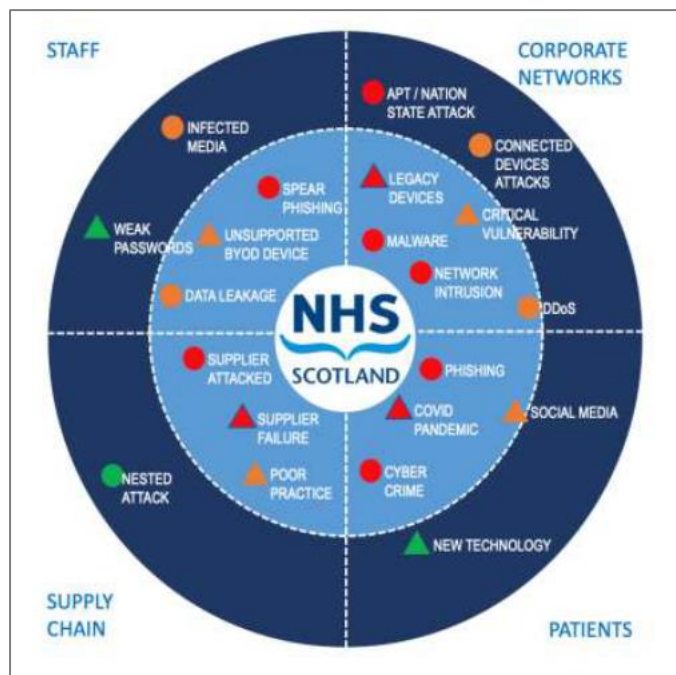
Description:

There are instances where complex images (containing graphics and text) do not have a text alternative. There are no accessible alternatives available for these infographics.

Impact on users:

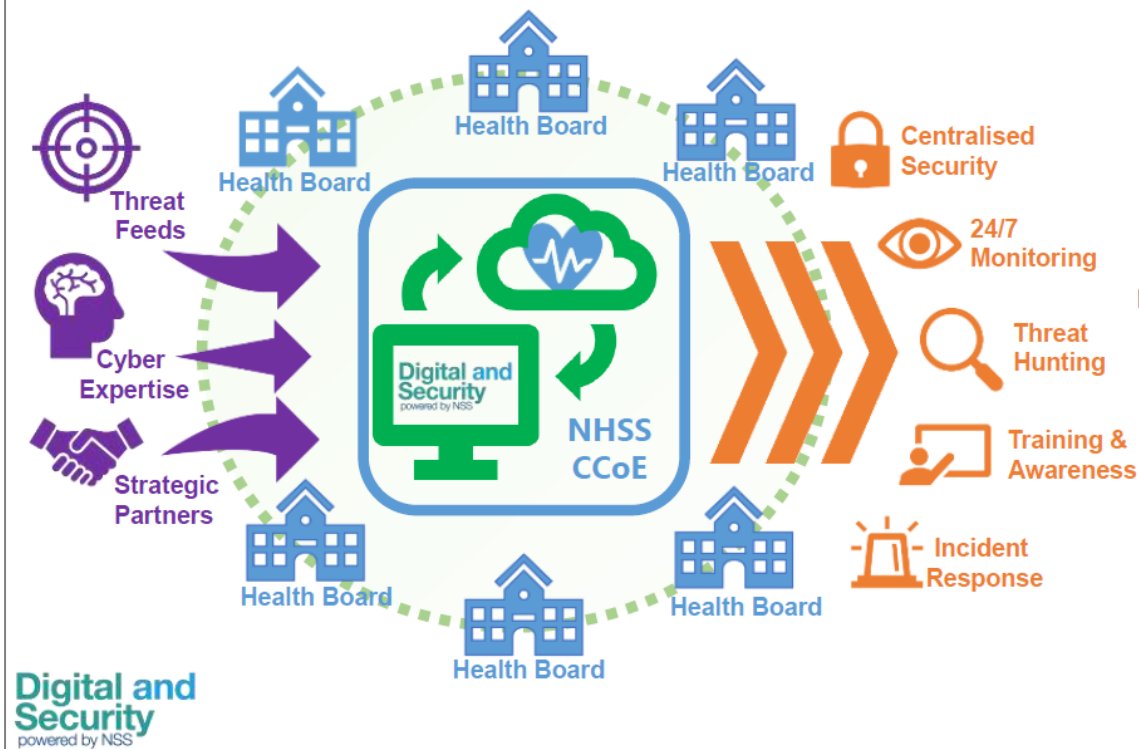
When informative images are not described in text, screen reader users will be unable to access and/or understand the content.

Screenshots:



Page 4

NHS Scotland Cyber Centre of Excellence

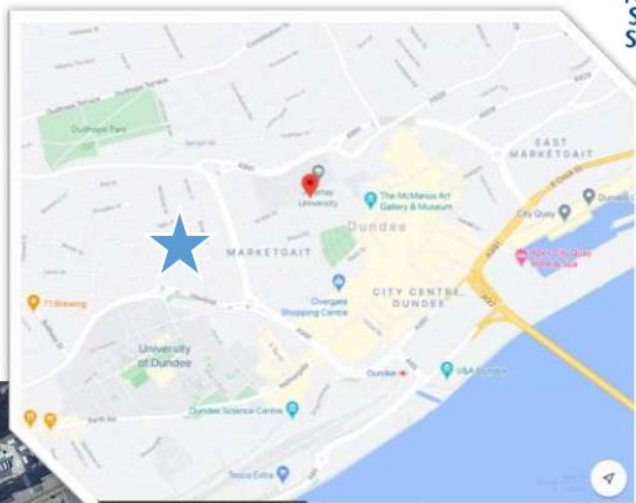


Page 5

...gic partner, Abertay University, within their
...lly configured, at a cost of approximately
...agement, heating and lighting and physical
...d is deliberately over-specified, ensuring
...rganisations and potentially other areas of

...cess to transport links, academic partners
...ce is fully configurable for NSS. Resourcing
...plement of 29 staff. In addition, there is
...nd learning space for Abertay University
...temporary staff, should we need to flex the

2024	2025	2026
29	29	29
£60,375	£63,997	£67,837



Page 7 – map and photo location missing text alternative of address

Recommendations:

Ensure complex images have an accessible alternative e.g., described using text only.

Dealing with complex images in PDF documents is similar to webpages. Provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative text (alt text), this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.

4.4.6 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: page 8

WCAG 2.1 violation(s): 1.4.1 (A),

Description:

There are instances on infographics where comparisons use 'colour alone' to indicate values. It's not possible to match each evaluation to the legend without colour.

Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:

Service	NHS NSS	NHSS Orgs
Proactive		
Threat Hunting	●	●
Vulnerability Management	●	●
Security Posture Monitoring	●	●
Threat Intelligence & Coordination	●	●
Attack Simulation	●	●
Security Platform Management*	●	●
Reactive		
Incident Response and Support	●	●
Reporting	●	●
Malware Analysis (Initial assessment)	●	●
Malware Analysis (Advanced)	●	●
Intrusion Detection	●	●
Security Orchestration & Automation	●	●
Use Case Management	●	●
Strategic		
Policy and Procedure Support	●	●
Security Awareness & Training	●	●
Security Testing	●	●
Asset Management	●	●
Threat Modelling	●	●
Security Architecture Support	●	●
Risk Assessment & Support	●	●
Community Engagement	●	●
Attack Simulation	●	●

Key:

- Provided by the CCoE
- Provided by other part of NHS National Services Scotland
- Provided by third part under control of the CCoE
- Joint provision by CCoE & Local Organisation
- Explicitly out of scope

Page 8

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.4.7 Issue: Decorative images missing alt attribute

Priority level: Should

Occurrences: page(s) where applicable e.g. page 12

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where an image that does not convey information (decorative) does not have an appropriate alt attribute tag. Decorative images must have the correct tag to enable assistive technology to ignore them.

Impact on users:

Screen reader users will encounter images without alternative text in the tag and will not be able to understand their purpose.

Screenshots:

<h2>Costings</h2>						
Staffing	2021	2022	2023	2024	2025	2026
Coverage of all 22 Boards	15%	25%	50%	100%	100%	100%
Total FTE staffing levels	14	27	29	29	29	29
NSS funded FTE	8.5	8.5	8.5	8.5	8.5	8.5
Net Staff FTE	5.5	18.5	20.5	20.5	20.5	20.5
Net Staff Cost per Board	£16677.05	£48,797.36	£56,957.36	£60,374.82	£63,997.27	£67,837.14
SIEM	£247,500	£412,00	£825,000	£1,237,000	£1,650,00	£1,650,00
Orchestration & Automation	£143,000	£310,500	£324,000	£324,000	£324,000	£324,000
Cost Per Board	£18955	£32841	£52227	£56242	£89727	£89727
Tay Cyber Quarter Membership	£15000	£82,000	£82,000	£82,000	£82,000	£82,000
Access links and ancillary infrastructure	£50,000	£55,000	£55,000	£45,000	£45,000	£45,000
Board Integration	£700,000	£700,000	£800,000	-	-	-
Cost Per Board	£34772.73	£38045.45	£42,950.91	£5772.73	£5772.73	£5772.73



Staff



Tools



Build

Page 12

Recommendations:

Ensure all decorative images are tagged with as Artifacts/background so screen readers can ignore them. Images will not show up in the Tags Structure but will be visible in the Content Pane.

4.4.8 Issue: Lists not marked up correctly

Priority level: Should

Occurrences: page(s) 3-4, 11

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

There are instances where lists have not been marked up correctly. Lists do not have a parent tag and do not have one or more nested list item tags.

Impact on users:

Screen reader users might miss important information on the page if lists do not offer accurate information since they are not properly structured. They might find the page structure confusing and harder to navigate.

Screenshots:

Level 1 (CSOC)	Oversee and configure our security monitoring tools. They continuously monitor for alerts generated by these tools, which are correlated by a Security Information and Event Management System (SIEM). They then review and triage these to ensure that a genuine security incident is occurring And enrich the data they consider with threat intelligence. Genuine incidents are escalated to Level 2.
Level 2 (CSOC)	Address real security incidents. They evaluate Level 1 incidents and begin to pinpoint affected systems and the extent of the attack. They carry out investigations to find the perpetrator, type of attack, and the data or systems impacted and create and implement a strategy for containment and recovery. Includes long term post incident review and solutions recommendation and scoping.
Level 3 (Regional and SMEs)	Lead on critical incidents. Arrange and oversee vulnerability assessments and penetration tests to assess the resilience of the Boards to key threats. Create and disseminate contextual strategic threat intelligence reports and integrate SOC services with the wider cyber security services delivered through the CCoE. Develop new and leverage existing cyber awareness campaigns commensurate with the threat landscape. Liaise with vendors and external partners to continually improve cyber security services on a national scale.

Page 11

Recommendations:

Ensure that the appropriate semantic tags are used to group lists together. This will improve navigation for screen reader users since they will be able to correctly interpret the start and end of the lists.

4.4.9 Issue: Low colour contrast

Priority level: Should

Occurrences: Page(s) 1, 3, 4, 5, 6, 7, 10, 11

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

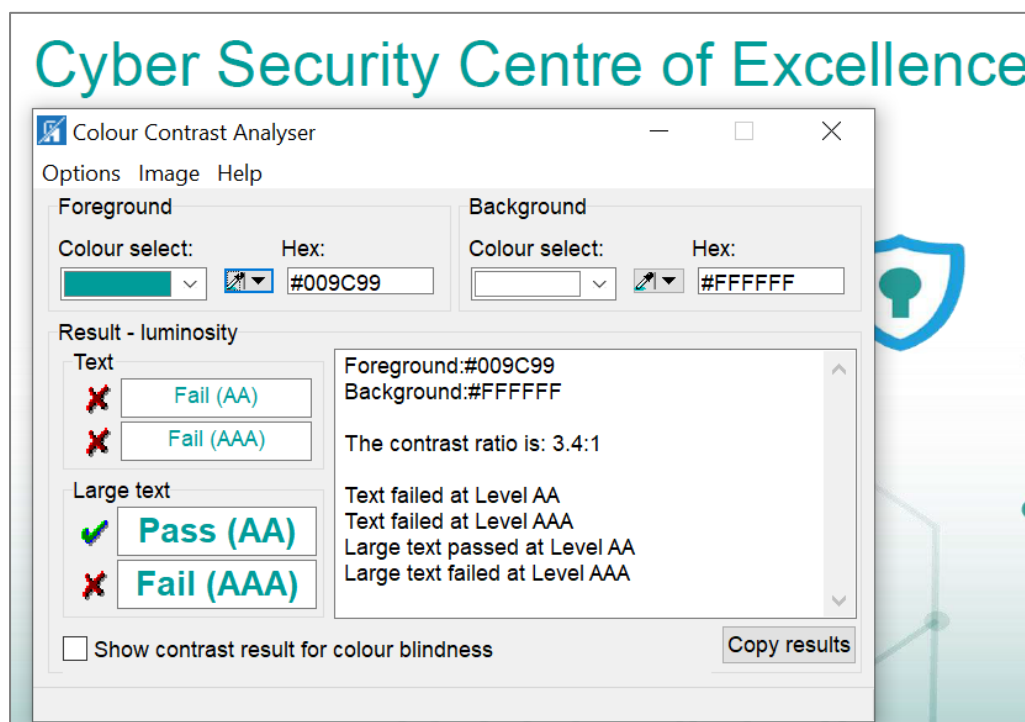
Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

Impact on users:

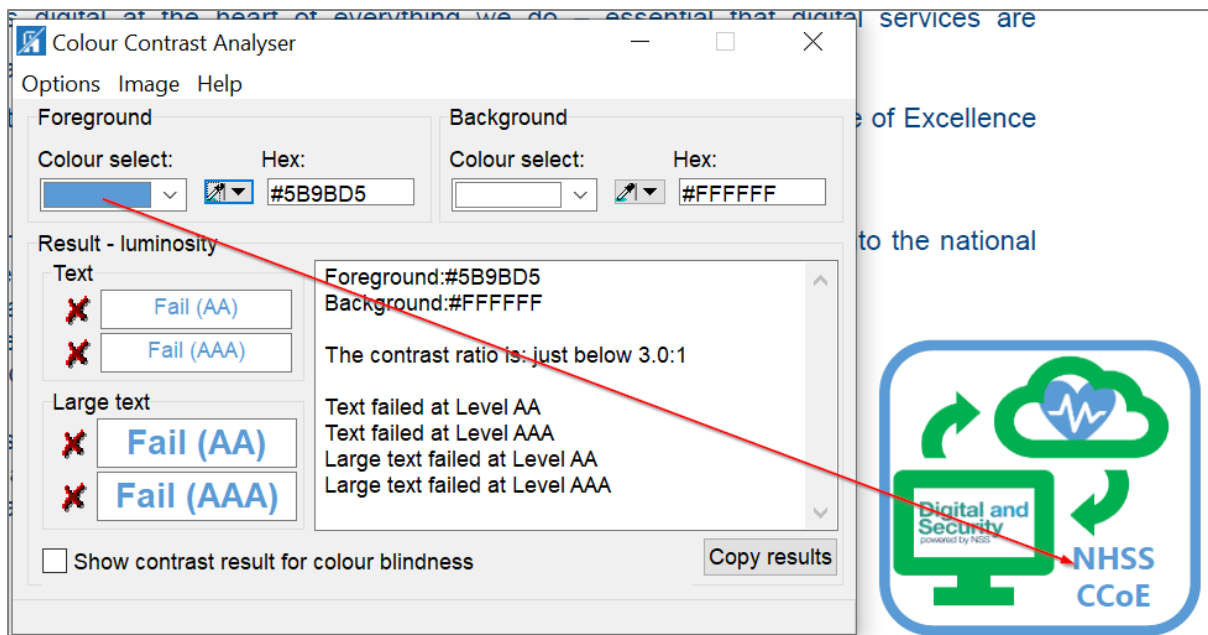
Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

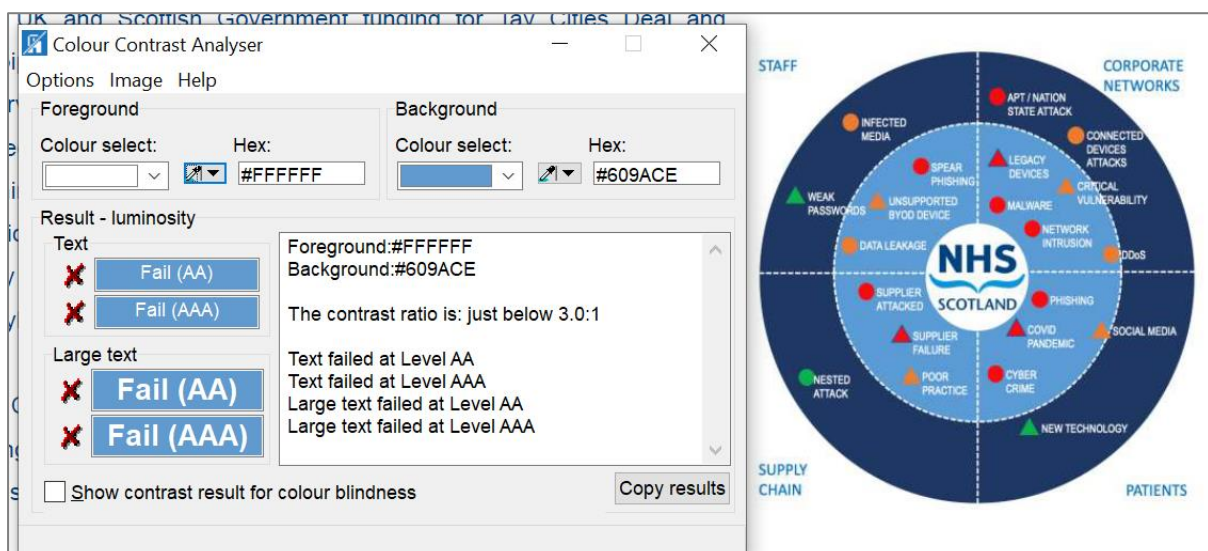
Note: This is not an exhaustive list



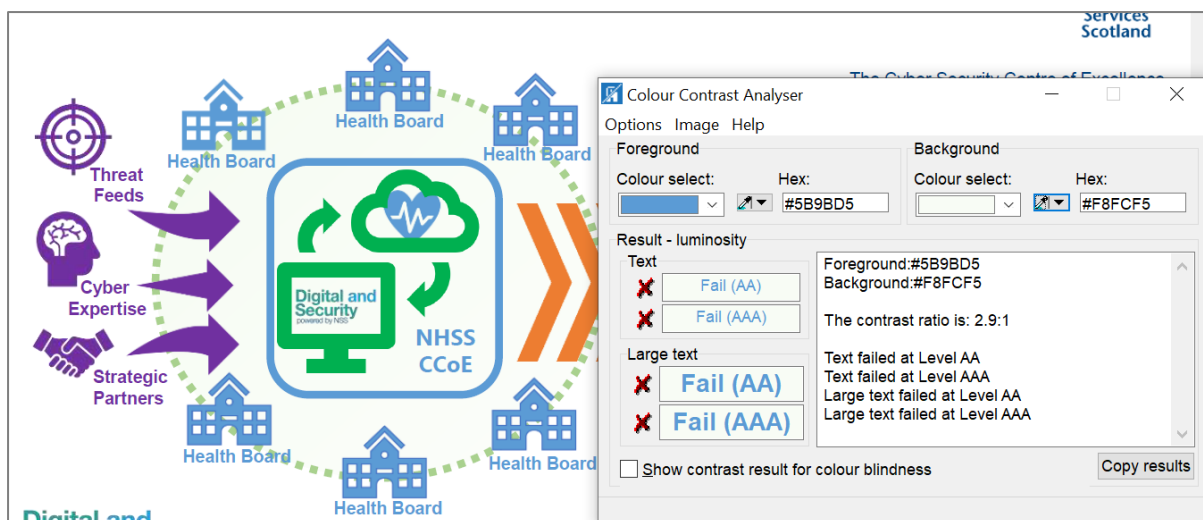
Page 1



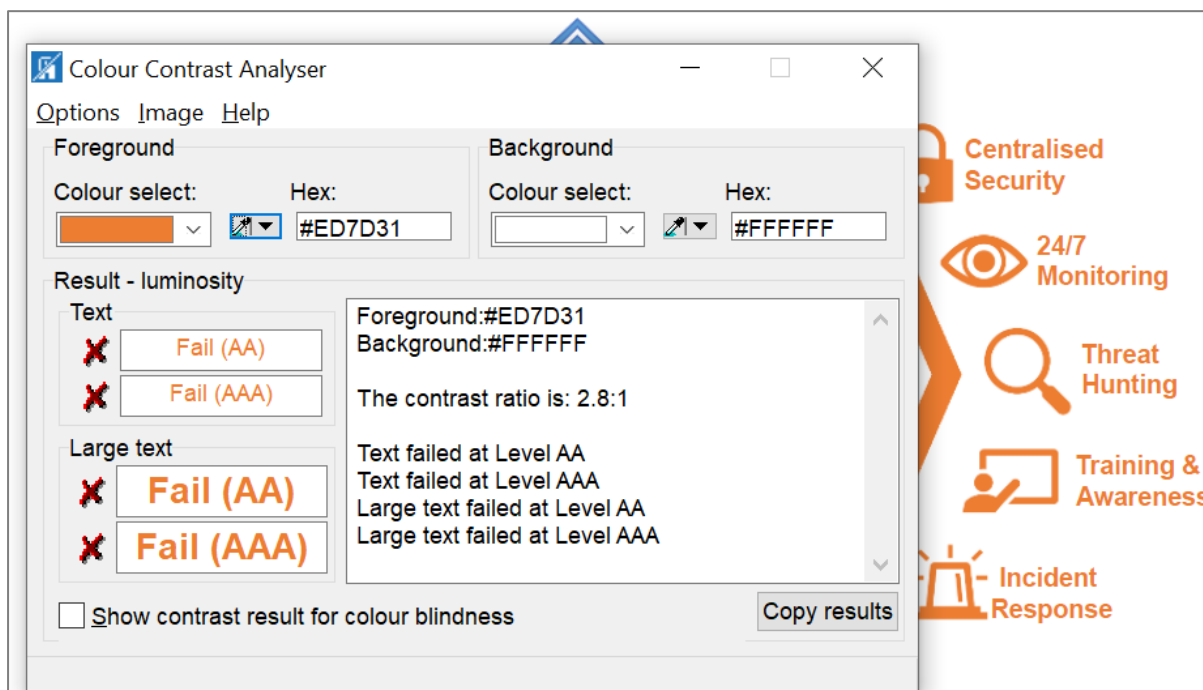
Page 3



Page 4



Page 5



Page 5

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

4.4.10 Issue: Low graphic colour contrast

Priority level: Should

Occurrences: page(s) 4, 8

WCAG 2.1 violation(s): 1.4.11 (AA)

Description:

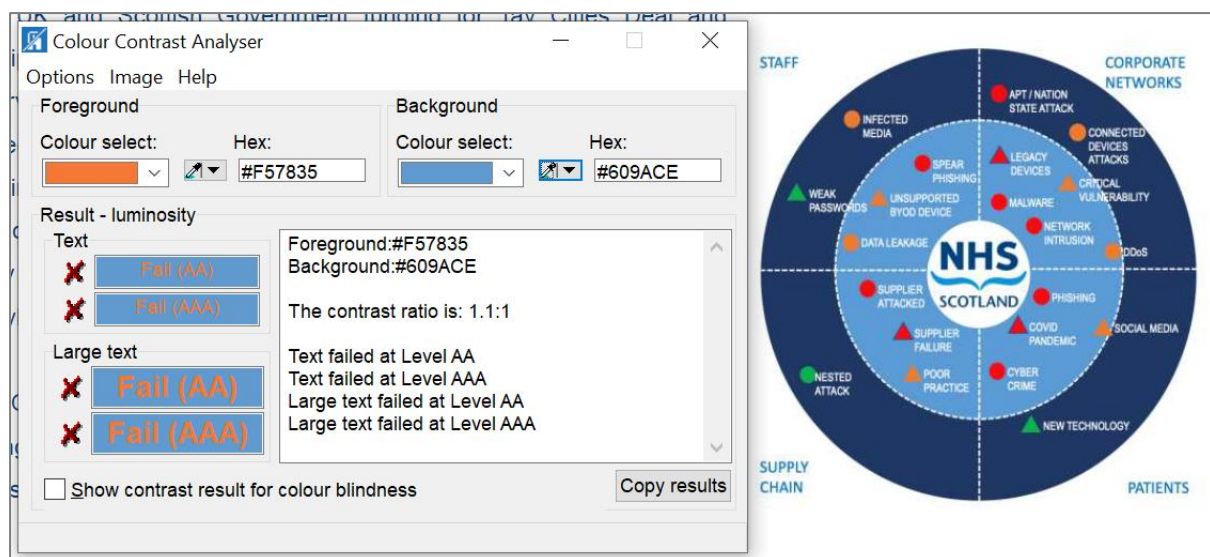
There are instances where user interface graphic components fall below the minimum ratio (3:1).

Impact on users:

User interface graphic components with low contrast are more difficult to identify and understand for users with visual impairments.

Screenshots:

Note: This is not an exhaustive list



Page 4

4.5 Annual Reports and Accounts 2019-2020

– total pages: 63 – https://www.nss.nhs.scot/media/1535/2019-20_nss_annual_report_and_accounts_signed_audited.pdf

4.5.1 Issue: Document missing PDF tags

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

The document is untagged to indicate the document structure and non-text elements and therefore is inaccessible.

Note: Unable to review document further due to missing PDF tags (although automated tags were generated, but unusable). However, a visual review only could be carried out.

Impact on users:

Untagged elements of content in the PDF document makes it difficult to navigate by assistive technologies. Therefore, making it difficult for users to understand how the document is organised and what it is about.

Screenshots:



Automated tags generated – no heading levels provided – unusable tags throughout the document

Recommendations:

Ensure the PDF document is tagged correctly to indicate the structural elements of the document's content and how these elements relate to each other (e.g. using tags such as document title, headings, text paragraphs, figures, tables, footnotes, page numbers, etc.). It will also help with navigation of the document.

4.5.2 Issue: Document title missing

Priority level: Must

Occurrences: All pages – whole document

WCAG 2.1 violation(s): 2.4.2 (A)

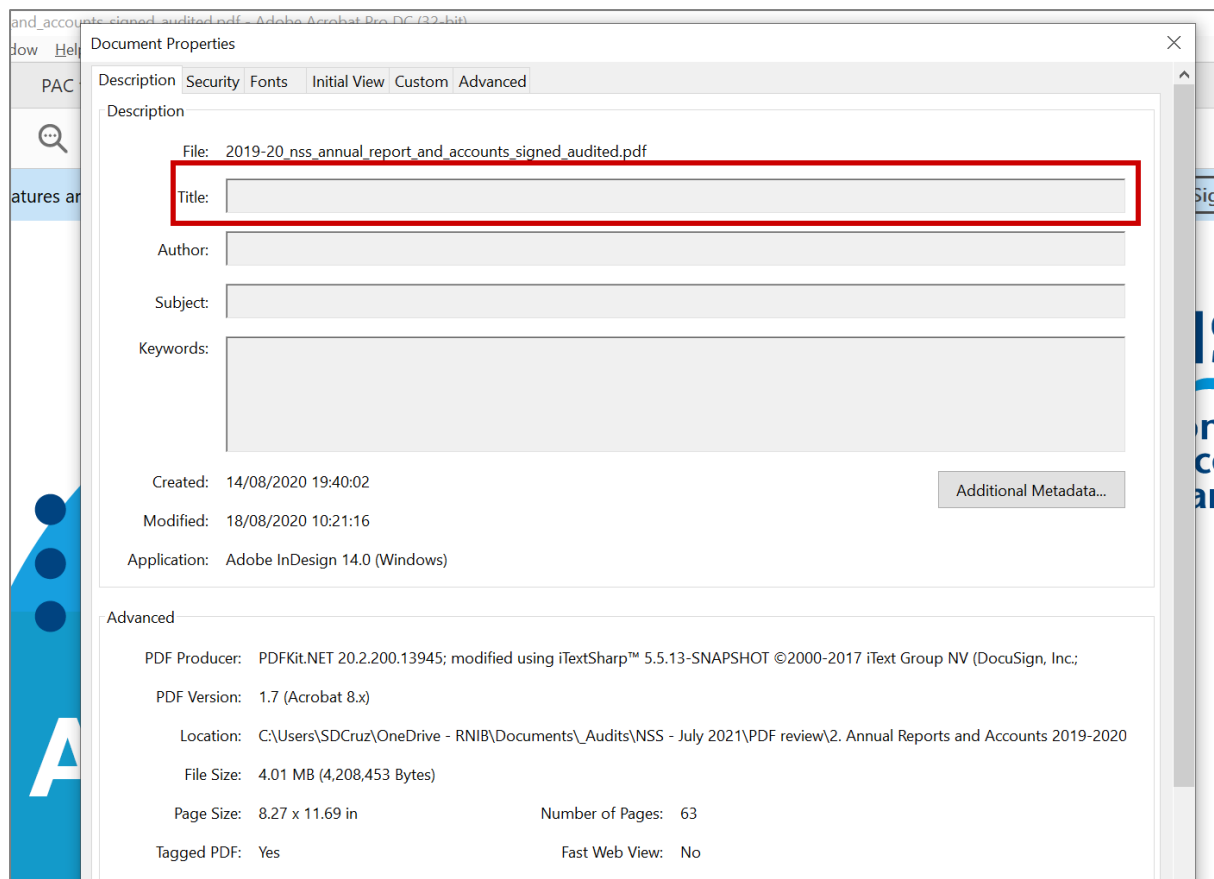
Description:

The Document is missing a Title (in the Document Properties).

Impact on users:

The Document Title is important for the screen reader user to validate which document is currently being viewed. This is even more important when more than one document is open at the same time. Confusion can often arise when that information is not properly disclosed or when the title of the document does not clearly reflect its content.

Screenshots:



Document missing a Title

Recommendations:

Ensure the document has a descriptive Document Title that reflects its content.

4.5.3 Issue: Table of contents (TOC) incorrectly tagged

Priority level: Must

Occurrences: page 2

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

The 'table of contents' is not tagged using appropriate tags.

Impact on users:

Screen reader users will be unable to understand the elements that are contained within the structured list of items available in the TOC. They will not be able to identify the labels associated with the page numbers and understand the hierarchy offered by the TOC component.

Screenshots:

Page 2

Recommendations:

Ensure the 'table of contents' is correctly tagged using appropriate tags (TOC, TOC Item (TOCI)).

4.5.4 Issue: Missing or incorrect Heading tags

Priority level: Must

Occurrences: All pages

WCAG 2.1 violation(s): 1.3.1 (A), 2.4.1 (A)

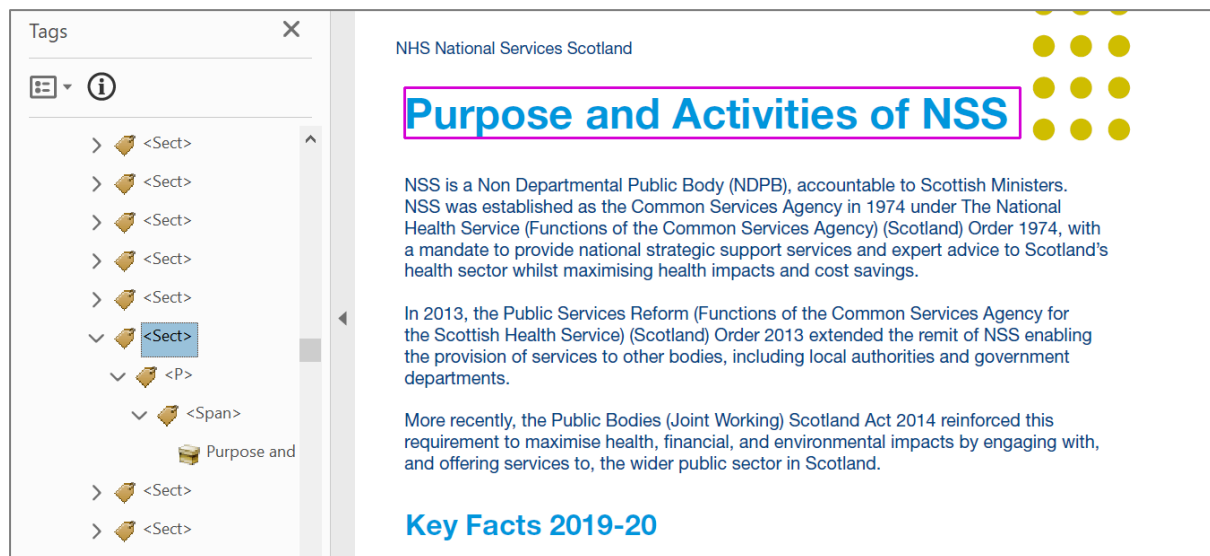
Description:

There are numerous text elements that appear to be a heading but are not using the semantic heading tags.

Impact on users:

Screen reader users will not be able to rely on the tagged information to understand the content structure and the document organisation. Therefore, it can become very difficult for users to consume content.

Screenshots:



Page 6

Services Delivered in 2019/20



Digital and security

Our expertise in digital innovation and person-centred scalable technology is called upon across the health and care environment as well as the wider public sector.

We deliver local and national digital solutions, providing clinical informatics and cyber and information governance.



Primary care support

We provide services on behalf of Health Boards to support General Practitioners, Dentists, Opticians, Community Pharmacies and Dispensing Contractors delivering primary care across Scotland.

This includes payment, maintaining an up-to-date patient registration database, medical record transfers and clinical governance for dental services.



Health protection*

We bring together specialists to translate information into evidence for action to protect and improve the health and wellbeing of the people of Scotland.

We develop service user level activity data into information and intelligence to support the delivery and planning of health and social care services.

Intelligence is gathered from a broad range of sources to provide national level advice and leadership to protect the people of Scotland from infectious disease and environmental threats.

*Part of Public Health Scotland from 1 April 2020



Specialist healthcare commissioning

National Services Division commissions a range of specialist and rare condition treatments supporting NHSScotland to ensure equitable and affordable access to these when needed.

We also co-ordinate a range of cancer, pregnancy & newborn screening programmes, support the growing development of national clinical networks and host the national planning function, looking at how NHSScotland will deliver its services in the future.



Health facilities

Health Facilities Scotland provides a range of specialist and technical services supporting NHSScotland's built environment.

From capital projects & engineering advice to equipment provision & facilities management, we work to ensure NHSScotland estates and facilities are as effective, efficient, sustainable and safe as possible.



Information and intelligence

We ensure data is of a high quality and consistency. We develop data sets and provide analysis to support transformation of information into intelligence.



Legal

NSS Central Legal Office provides specialist legal advice and assistance in every area of law relevant to the public sector.

With many years of experience, we advise clients across many aspects of the law. With close links to the Scottish Government, we also advise on wider policy issues.



Programme management

Programme Management Services (PgMS) are a national delivery provider of Programme Assurance, Portfolio Management, Programme and Project Delivery and Transformation Support Services. We support the delivery of complex and challenging change programmes designed to deliver strategic goals.



Blood, tissues and cells

The Scottish National Blood Transfusion Service provides blood, tissues and cells to NHSScotland, ensuring they're available countrywide, 24 hours a day, every day of the year.

We also provide specialist treatment and therapeutic solutions to Scotland's patients, as well as specialist testing and diagnostic services to ensure that all Scottish patients receive the most appropriate products for their needs.

We also provide transfusion related training and support.



Procurement

We provide a single efficient procurement service to achieve the best deals on goods and services, from pharmaceuticals and clinical consumables to support services. We extract value, drive sustainability and support economic growth via our supply solutions and partners.



Fraud prevention

We work in partnership with NHSScotland and across the Scottish public sector to provide a comprehensive service to reduce the risk of fraud and corruption.

We're also responsible for checking patient exemptions in respect of NHSScotland patient charges and collecting payments for incorrectly claimed exemptions.



Logistics

We offer expert logistics services including distribution, supply chain and warehouse operations, fleet management and ward product management.

Recommendations:

Ensure the correct heading tags are used within the document (<h1>-<h6>).

4.5.5 Issue: Images missing alt attribute

Priority level: Must

Occurrences: page(s) 1, 62, 63

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where images do not have an alternative text tag (alt text) e.g. for logo images such as for Twitter.

Impact on users:

Screen reader users may not be able to understand the purpose of the image. Nor may they be able to know to whom the related content, on the page, belongs to.

Screenshots:



Page 1



Page 63

Recommendations:

Ensure images have alternative text tags (alt attribute) that describes the link destination (where applicable) and image.

4.5.6 Issue: Table containing tabular data with incorrect markup

Priority level: Must

Occurrences: page(s) 15, 17, 19, 27-34, 37-38, 42-43, 49- 61

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Table are used to present tabular data without column/row header markup (<th> element).

Impact on users:

Poorly marked up tables can be hard to navigate for screen reader users. Screen reader users may not correctly associate header cells to the data cells.

Screenshots:

	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
AS AT 31 MARCH 2020	£000	£000	£000	£000
PFI Liabilities	716	762	2,591	27,553
Trade and other payables excluding statutory liabilities	87,358	702	1,885	629
Total	88,074	1,464	4,476	28,182

	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
At 31 March 2019	£000	£000	£000	£000
PFI Liabilities	673	716	2,435	28,471
Trade and other payables excluding statutory liabilities	47,910	702	1,885	1,076
Total	48,583	1,418	4,320	29,547

Page 61

Recommendations:

Ensure tables used for tabular data contain the appropriate semantic table tags to help screen reader users understand the data presented.

4.5.7 Issue: Complex images missing text alternative

Priority level: Must

Occurrences: page 8

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

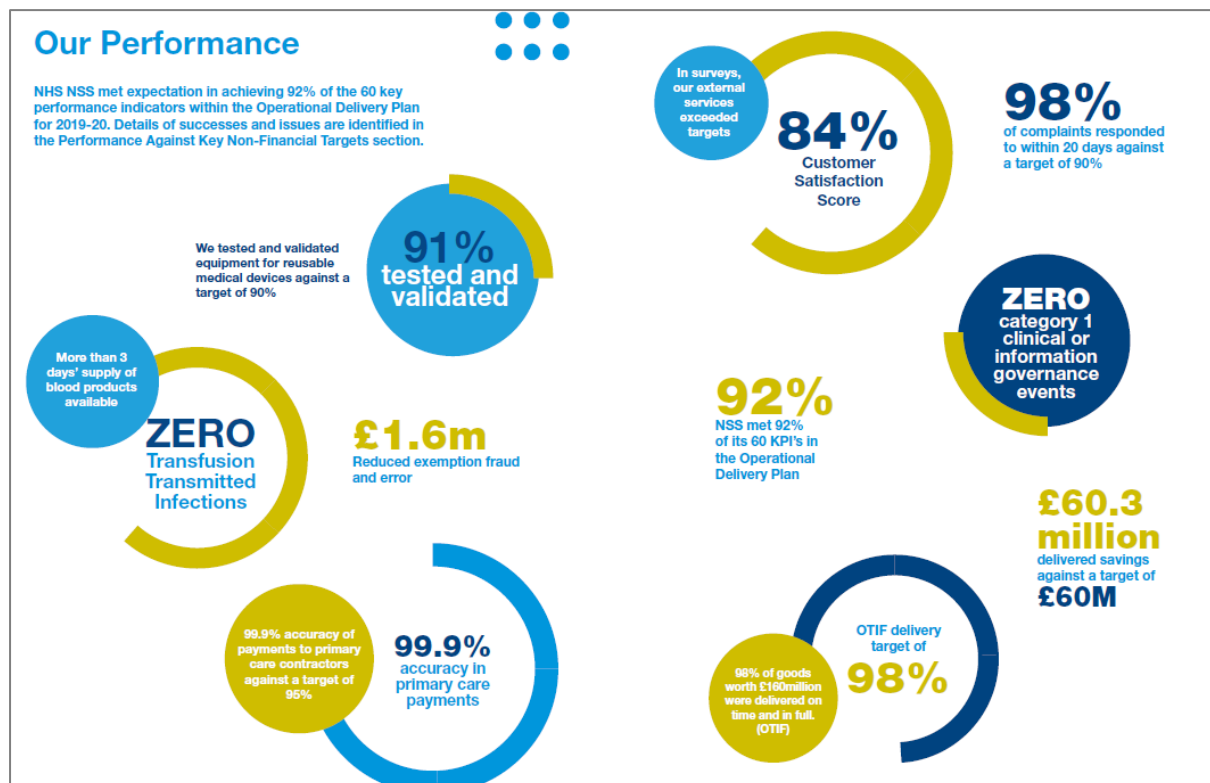
Description:

There are instances where complex images (containing graphics and text) do not have a text alternative. There are no accessible alternatives available for these infographics.

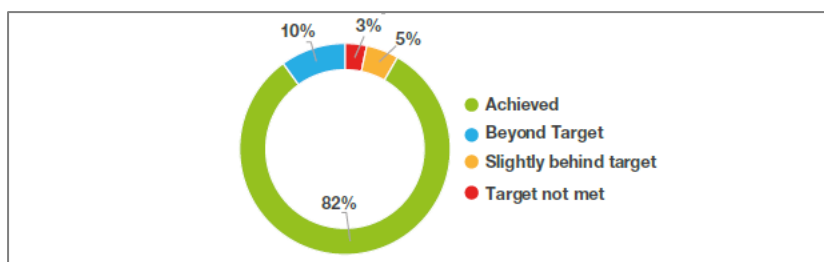
Impact on users:

When informative images are not described in text, screen reader users will be unable to access and/or understand the content.

Screenshots:



Page 8



Page 14

Recommendations:

Ensure complex images have an accessible alternative e.g., described using text only.

Dealing with complex images in PDF documents is similar to webpages. Provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative text (alt text), this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.

4.5.8 Issue: Optical Character Recognition (OCR) document inaccessible

Priority level: Must

Occurrences: page 62

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

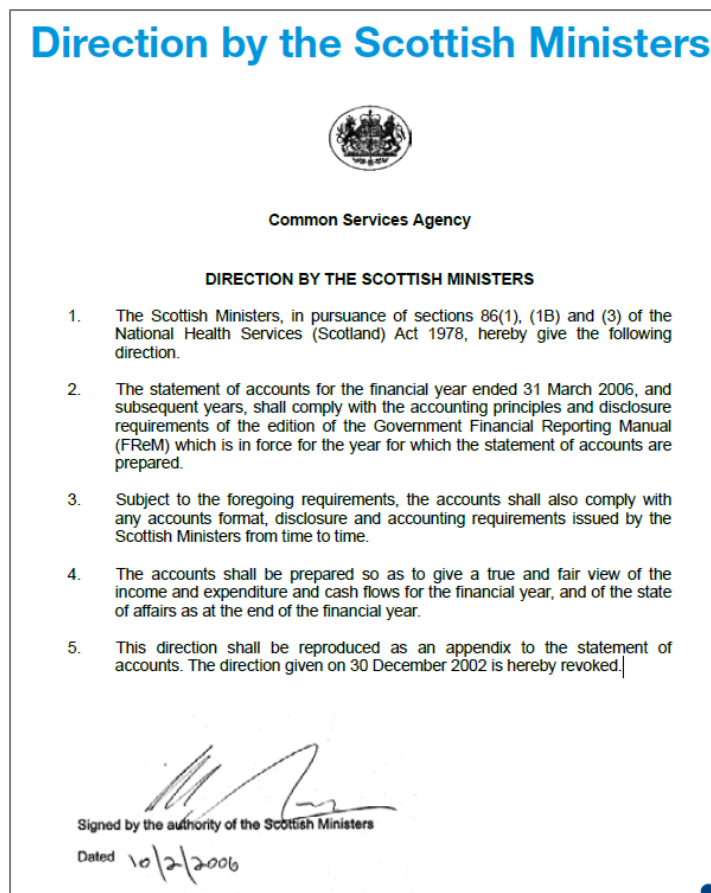
Description:

There is an instance where an OCR document from the Scottish Minister is available. The conversion of this document has been unsuccessful. It cannot be read using a screen reader

Impact on users:

Screen reader users will be unable to access the content of the document.

Screenshots:



Page 62

Recommendations:

Ensure OCR conversions are performed correctly on scanned image documentation, so they are accessible using screen readers. Also, the document's content needs to appear in the Content Pane of the PDF reader.

4.5.9 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: page 14

WCAG 2.1 violation(s): 1.4.1 (A),

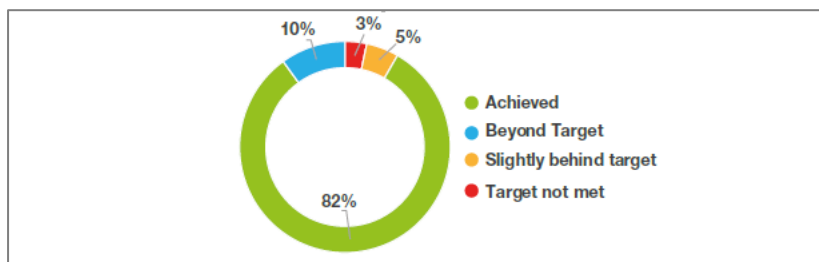
Description:

There are instances on infographics where comparisons use ‘colour alone’ to indicate values. It’s not possible to match each evaluation to the legend without colour.

Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:



Page 14

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.5.10 Issue: Decorative images missing alt attribute

Priority level: Should

Occurrences: Where applicable e.g. page 7, 10-11, 13, 31

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where an image that does not convey information (decorative) does not have an appropriate alt attribute tag. Decorative images must have the correct tag to enable assistive technology to ignore them.

Impact on users:

Screen reader users will encounter images without alternative text in the tag and will not be able to understand their purpose.

Screenshots:



Page 10



Page 7

Recommendations:

Ensure all decorative images are tagged with as Artifacts/background so screen readers can ignore them. Images will not show up in the Tags Structure but will be visible in the Content Pane.

4.5.11 Issue: Lists not marked up correctly

Priority level: Should

Occurrences: page(s) 5; 6, 13, 14

WCAG 2.1 violation(s): 1.3.1 (A)

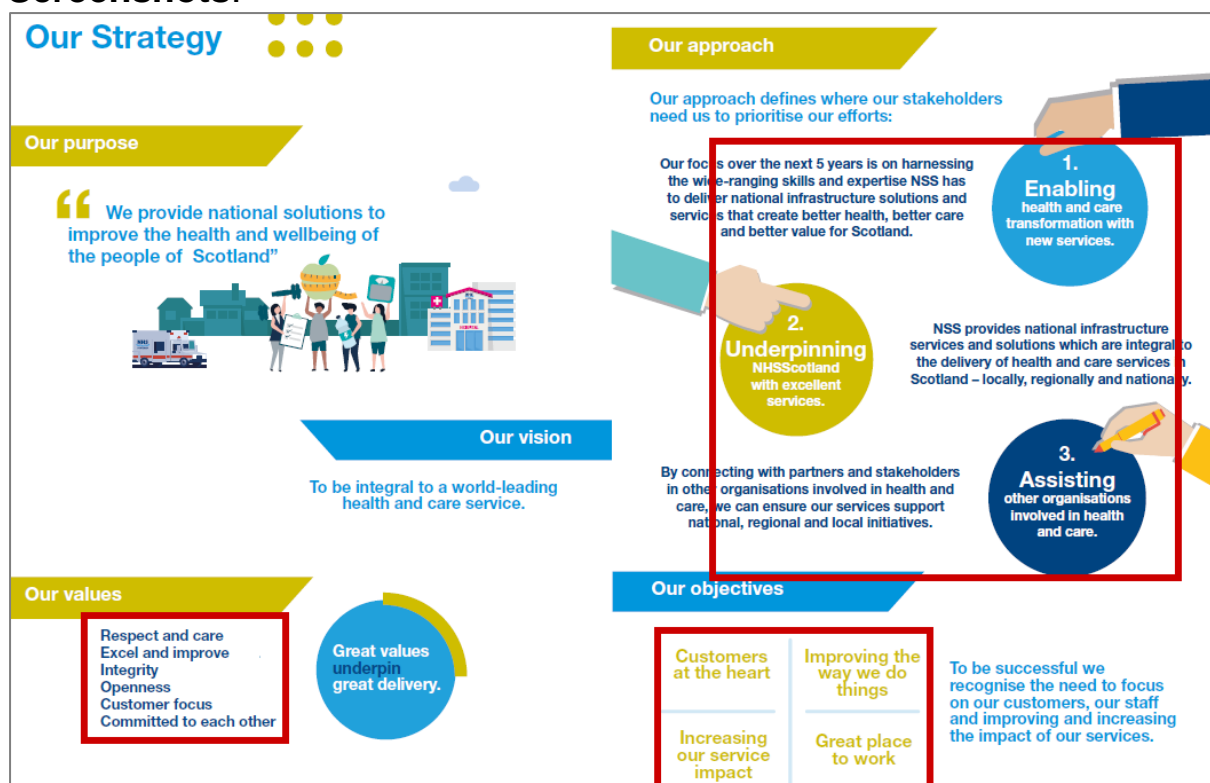
Description:

There are instances where lists have not been marked up correctly. Lists do not have a parent tag and do not have one or more nested list item tags.

Impact on users:

Screen reader users might miss important information on the page if lists do not offer accurate information since they are not properly structured. They might find the page structure confusing and harder to navigate.

Screenshots:



Page 5



Page 6

Recommendations:

Ensure that the appropriate semantic tags are used to group lists together. This will improve navigation for screen reader users since they will be able to correctly interpret the start and end of the lists.

4.5.12 Issue: Low colour contrast

Priority level: Should

Occurrences: All pages e.g. page 2-4, 14

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

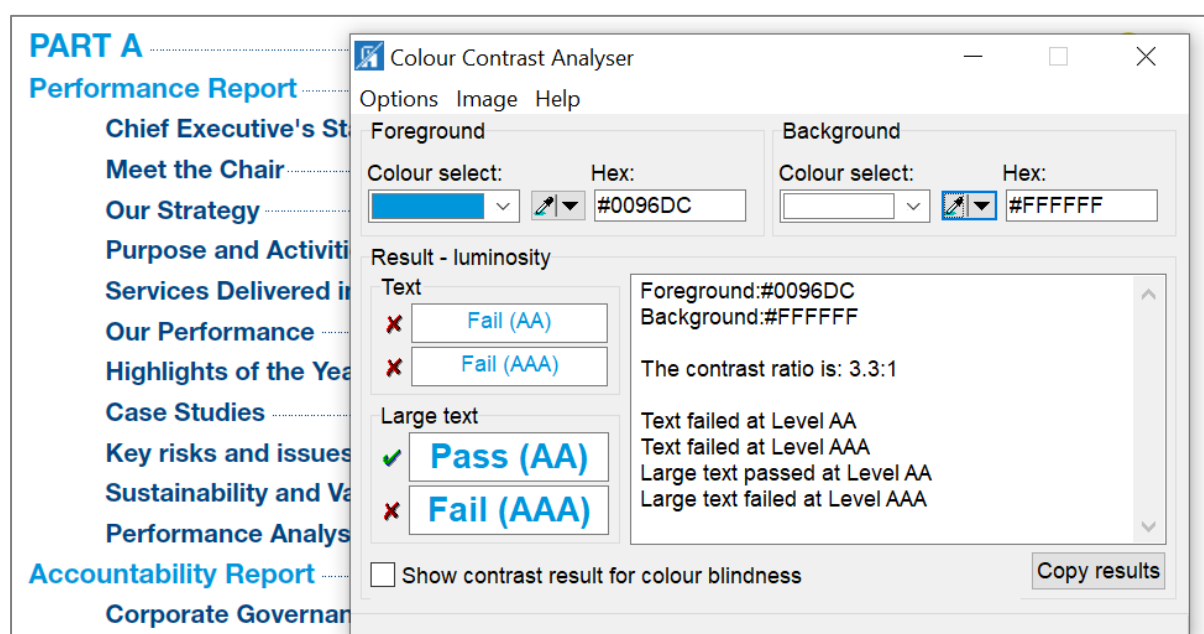
Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

Impact on users:

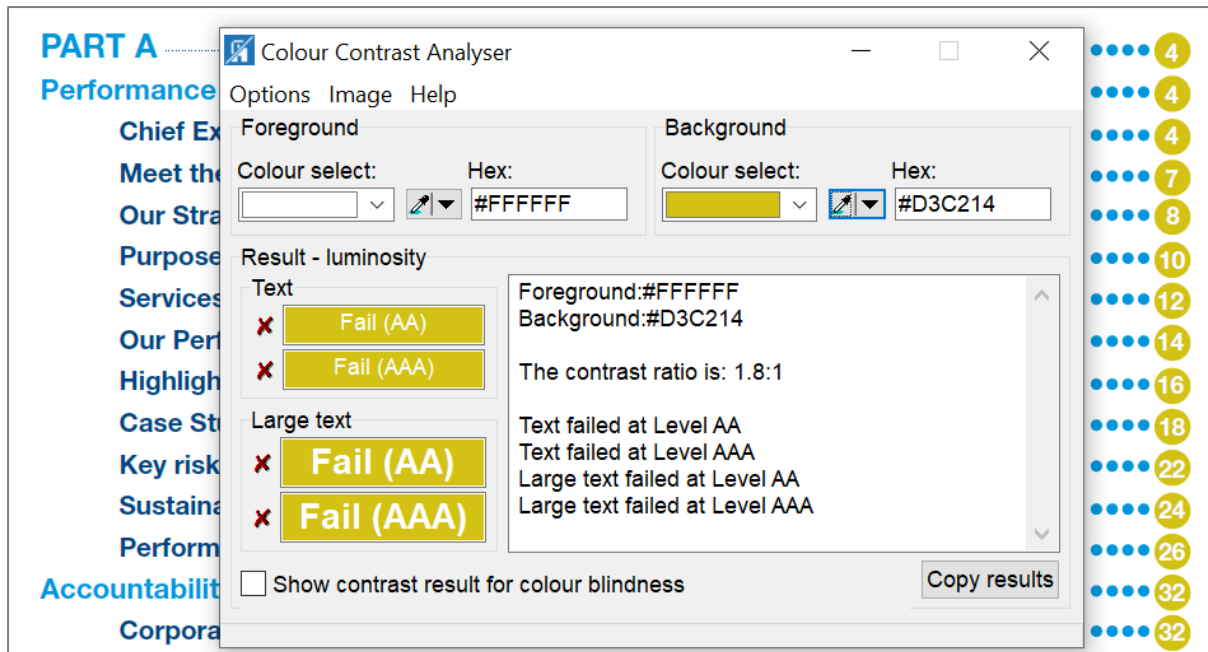
Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

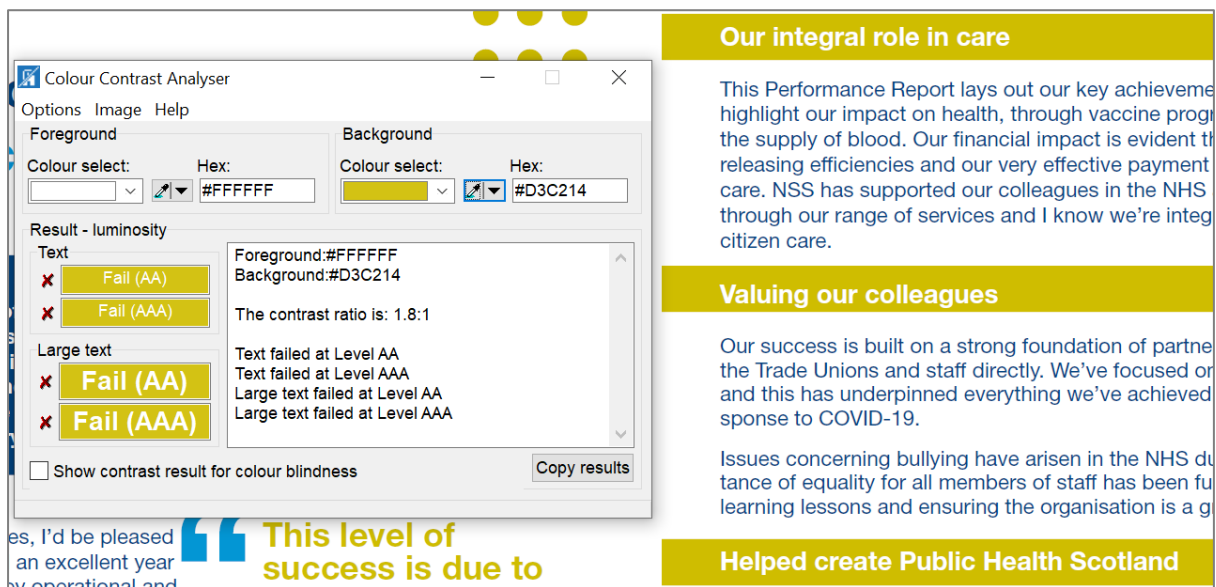
Note: This is not an exhaustive list



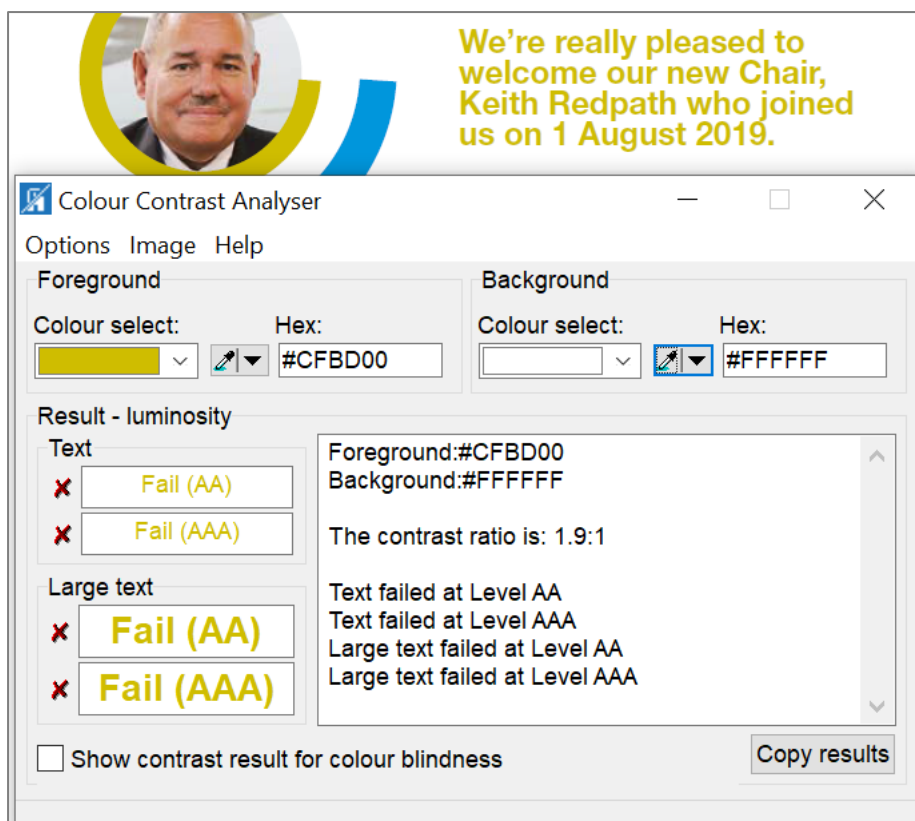
Page 2



Page 2



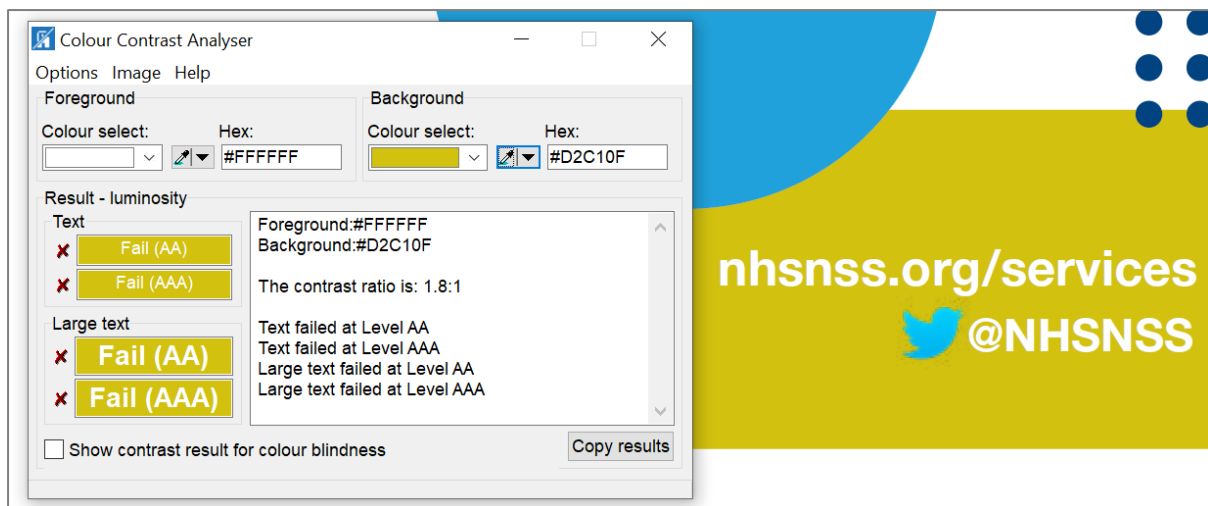
Page 3



Page 4

2019 £000	2020 £000		2019 £000	2020 £000
Land			Less Interest Element	
153 Not later than one year	153		(2,074) Rentals due within 1 year	(2,031)
148 Later than one year			(2,031) Due within 1 to 2 years	(1,985)
281 Later than two years			(5,806) Due within 2 to 5 years	(5,650)
325 Later than five years			(19,906) Due after 5 years	(18,077)
Buildings			(29,817) Total	(27,743)
7,293 Not later than one year			Present value of minimum lease payments	
6,899 Later than one year			£000	£000
19,040 Later than two years			673 Rentals due within 1 year	716
23,983 Later than five years			716 Due within 1 to 2 years	762
Other			2,435 Due within 2 to 5 years	2,591
528 Not later than one year			28,471 Due after 5 years	27,553
287 Later than one year			32,295 Total	31,622
175 Later than two years			Service elements due in future periods	
Amounts charged			£000	£000
994 Hire of equipment			994 Rentals due within 1 year	1,019
7,668 Other operating lease			994 Due within 1 to 2 years	1,019
8,662 Total				
Aggregate Rentals Receivable in the year				
2019	2020			
£000	£000			

Page 58



Page 63

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

4.5.13 Issue: Low graphic colour contrast

Priority level: Should

Occurrences: page 14

WCAG 2.1 violation(s): 1.4.11 (AA)

Description:

There are instances where user interface graphic components fall below the minimum ratio (3:1).

Impact on users:

User interface graphic components with low contrast are more difficult to identify and understand for users with visual impairments.

Screenshots:

The screenshot shows the Colour Contrast Analyser window with the foreground color set to #F9B234 and the background to #FFFFFF. The contrast ratio is 1.8:1, which fails at both AA and AAA levels. To the right, a donut chart titled 'Antimicrobial Resistance and Healthcare Associated Infection' shows the following data: 82% Achieved (green), 10% Beyond Target (blue), 5% Slightly behind target (orange), and 3% Target not met (red). Below the chart, the text 'y of corporate indicators:' is visible. Further down, a table shows 'Freedom of Information' at 98% against a target of 100%, and '1 major business co' with a note 'incident as a result'.

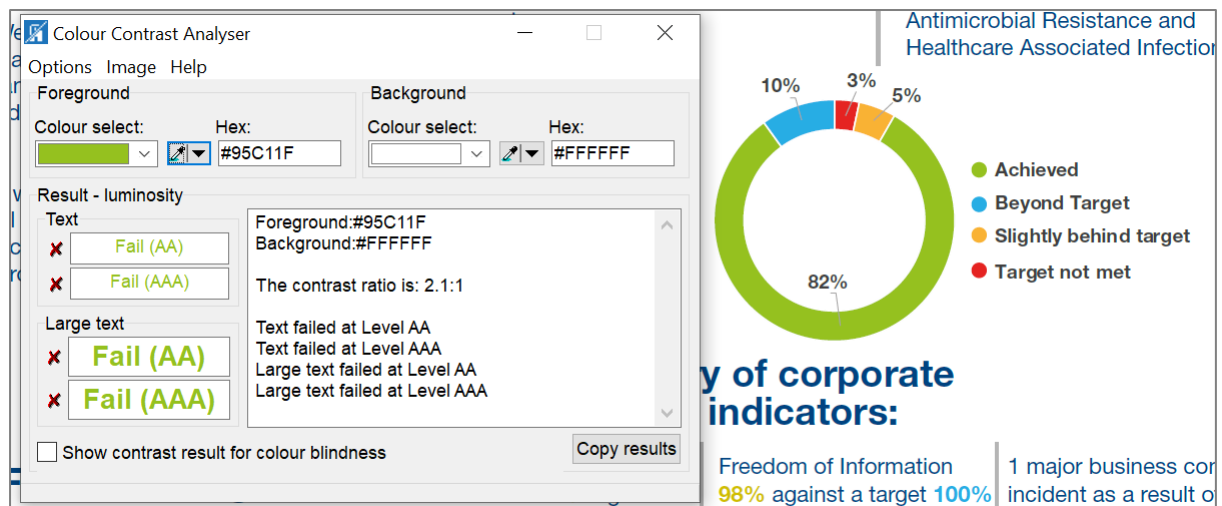
Indicator	Value	Target
Freedom of Information	98%	100%
1 major business co	1 major business co	incident as a result

Page 14

The screenshot shows the Colour Contrast Analyser window with the foreground color set to #27ADE4 and the background to #FFFFFF. The contrast ratio is 2.6:1, which fails at both AA and AAA levels. To the right, a donut chart titled 'Antimicrobial Resistance and Healthcare Associated Infection' shows the following data: 82% Achieved (green), 10% Beyond Target (blue), 5% Slightly behind target (orange), and 3% Target not met (red). Below the chart, the text 'y of corporate indicators:' is visible. Further down, a table shows 'Freedom of Information' at 98% against a target of 100%, and '1 major business con' with a note 'incident as a result of'.

Indicator	Value	Target
Freedom of Information	98%	100%
1 major business con	1 major business con	incident as a result of

Page 14



Page 14

Recommendations:

Ensure the colour of user interface graphic elements meets the minimum contrast ratio.

4.6 Safety Action Notice - SAN(SC)20/03 apr-2020-5-1585822314-san-sc-2003

– total pages: 4 – <https://www.nss.nhs.scot/media/1237/apr-2020-5-1585822314-san-sc-2003.pdf>

4.6.1 Issue: Table used for presentation

Priority level: Should

Occurrences: All pages

WCAG 2.1 violation(s): 1.3.1 (A)

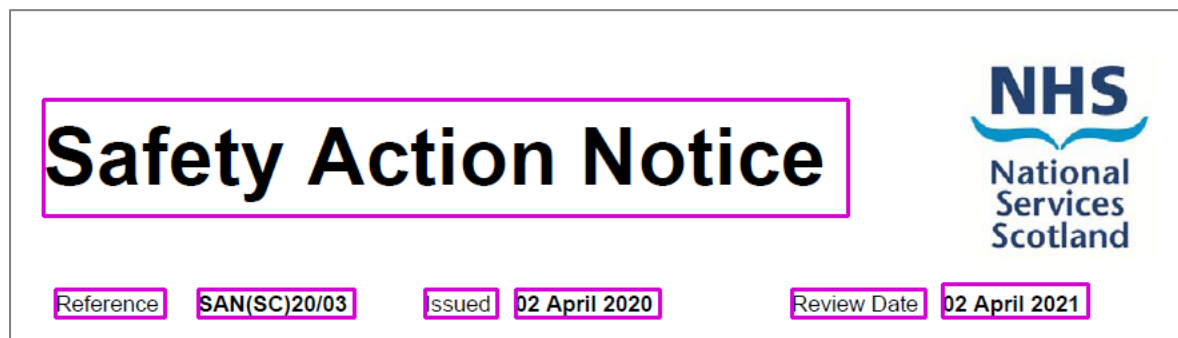
Description:

Table tags have been used for presentation purposes. Table tags should only be used for tabular data.

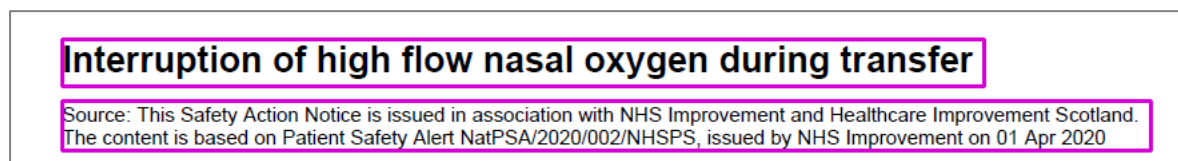
Impact on users:

Screen reader users will not expect this type of content to be structured using a table and these users may therefore find it difficult to understand and navigate through. The screen reader interprets the tables as tabular data.

Screenshots:



Page 1



Page 1

References
1. BTS guideline for oxygen use in adults in healthcare and emergency settings. O'Driscoll B, Howard L, Eavis J, et al. Thorax 2017; 72: i1–i90. https://www.brit-thoracic.org.uk/document-library/guidelines/emergency-oxygen/bts-guideline-for-oxygen-use-in-healthcare-and-emergency-settings/
2. NHS England and NHS Improvement: Guidance for the role and use of non-invasive respiratory support in adult patients with coronavirus (confirmed or suspected) 26 March 2020 Version 2 https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/CLEARED_Specialty-guide_NIV-respiratory-support-and-coronavirus-v2-26-March-003.pdf
3. NHS England and NHS Improvement Estates & Facilities Patient Safety Alert 2020/001: Use of hospital CPAP during coronavirus epidemic 31 March 2020 (this EFA was distributed in Scotland as IM/2020/005 on 2 April 2020) https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=108018
Resources

Page 3

Recommendations:

Avoid using the table tag for presentation. Consider using heading, paragraph, and list tags to structure content on a page.

4.6.2 Issue: Lists not marked up correctly

Priority level: Should

Occurrences: page 2; All pages where lists are within a presentation table

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

There are instances where lists have not been marked up correctly. Lists do not have a parent tag and do not have one or more nested list item tags.

On page 3, the list for Resources, the lists are individually marked up with a parent tag and a singular nested list item tag. Therefore, each numbered list is announced separately rather than as a list made up of four items.

Impact on users:

Screen reader users might miss important information on the page if lists do not offer accurate information since they are not properly structured. They might find the page structure confusing and harder to navigate.

Screenshots:

Distribution		
Anaesthetics	Medical	Operating Departments
Device Managers	Medical Physics	Paediatrics
Emergency Department	Neonatal	Resuscitation Teams
Estates and Facilities	Nursing	Risk Management
Health & Safety	O.D.A.s	Supplies/Procurement
Intensive Therapy Units	O.D.P.s	

Page 2

Resources

1. Airway Management. ICM Anaesthesia Covid-19 19 March 2020
<https://icmanaesthesiacovid-19.org/covid-19-airway-management-principles>
2. Critical Care preparation and management in the COVID-19 pandemic ICM Anaesthesia Covid-19 17 March 2020 <https://icmanaesthesiacovid-19.org/critical-care-preparation-and-management-in-the-covid-19-pandemic>
3. COVID-19: Guidance for infection prevention and control in healthcare settings. Version 1.1, 27 March 2020 Issued jointly by the Department of Health and Social Care, Public Health Wales, Public Health Agency Northern Ireland, Health Protection Scotland and Public Health England as official guidance.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874316/Infection_prevention_and_control_guidance_for_pandemic_coronavirus.pdf
4. Clinical guide for the management of critical care patients during the coronavirus pandemic. Publications approval reference: 001559
<https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-icu-and-coronavirus-v1-16-march-2020.pdf>

Page 3 – list incorrectly marked up as separate lists

Recommendations:

Ensure that the appropriate semantic tags are used to group lists together. This will improve navigation for screen reader users since they will be able to correctly interpret the start and end of the lists.

4.6.3 Issue: Links incorrectly tagged

Priority level: Must

Occurrences: page 4

WCAG 2.1 violation(s): 1.3.1 (A), 2.4.4 (A)

Description:

There are instances where links have not been tagged correctly for screen reader users. They are just announced as “links” without any other textual information.

Impact on users:

Screen reader users will not be able to interact with these links as they offer no context.

Screenshots:

Incident Reporting & Investigation Centre (IRIC)

NHS National Services Scotland

Gyle Square, 1 South Gyle Crescent, Edinburgh EH12 9EB

Tel: 0131 275 7575 Email: nss.irc@nhs.scot

Report options are available on the HFS website: [How to report an Adverse Incident](#)

Further information about reporting incidents can be found in [CEL 43 \(2009\)](#) or by contacting IRIC at the above address.

NHS National Services Scotland is the common name for the Common Services Agency for the Scottish Health Service.
www.nss.nhs.scot

Page 4

Recommendations:

Ensure the links have a unique alternative text that describe the destination/purpose or context.

4.6.4 Issue: Missing or incorrect Heading tags

Priority level: Must

Occurrences: All pages

WCAG 2.1 violation(s): 1.3.1 (A), 2.4.1 (A)

Description:

There are numerous text elements that appear to be a heading but are not using the semantic heading tags.

Impact on users:

Screen reader users will not be able to rely on the tagged information to understand the content structure and the document organisation. Therefore, it can become very difficult for users to consume content.

Screenshots:

Summary

Interruption of high flow nasal oxygen during transfer may result in serious harm. The actions in this alert will help to reduce the immediate risk although longer term actions may also be required.

Action

1. Identify all devices used to provide HFNO that do not have an in-built transport mode.
2. Add clear and visible labels to these HFNO delivery devices stating:
 - a. even brief interruptions to mains power supply will lead to interruption of oxygen therapy and subsequent respiratory or cardiac arrest.
 - b. do not start HFNO in any emergency department or short stay unit without a plan for how to transfer the patient onwards.
3. If your organisation has already purchased UPS device/s to use with HFNO:
 - a. identify a storage place for your UPS that can be accessed 24/7
 - b. label all HFNO devices with the location of a compatible UPS
 - c. allocate responsibility for ensuring the UPS is returned, charged and prepared for next use.

Action by

- Acute and specialist hospital providers (adult and children's hospitals)

Deadlines for action
Actions complete: 09 Apr 2020

Problem / background

Specialised equipment is used to deliver high flow nasal oxygen (HFNO) to babies, children and adults in acute respiratory failure without hypercapnia.¹ **Current national**

Page 1

Recommendations:

Ensure the correct heading tags are used within the document (<h1>-<h6>).

4.7 Pay Gap Report April 2021 - nss-equal-pay-gap-report-word-accessible

– total pages: 21 – <https://www.nss.nhs.scot/media/1463/nss-equal-pay-gap-report-word-accessible.pdf>

4.7.1 Issue: Images missing alt attribute

Priority level: Must

Occurrences: page 1

WCAG 2.1 violation(s): 1.1.1 (A)

Description:

There are instances where images do not have an alternative text tag (alt text) e.g. for logo images such as the National Services Scotland.

Impact on users:

Screen reader users may not be able to understand the purpose of the image. Nor may they be able to know to whom the related content, on the page, belongs to.

Screenshots:



Page 1

Recommendations:

Ensure images have alternative text tags (alt attribute) that describes the link destination (where applicable) and image.

4.7.2 Issue: Table containing tabular data with incorrect markup

Priority level: Must

Occurrences: page(s) 5, 7, 11, 12, 14

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

Table are used to present tabular data without column/row header markup (<th> element).

Impact on users:

Poorly marked up tables can be hard to navigate for screen reader users. Screen reader users may not correctly associate header cells to the data cells.

Screenshots:

The table below provides mean and median gender pay gap data for the organisation as a whole.

Overall NSS Pay Gap		
	2021 Mean Hourly Rate	2021 Median Hourly rate
Male (1,226 employees)	£19.48	£16.26
Female (1,995 employees)	£17.80	£16.19
Difference	£1.68	£0.07
% Pay Gap*	8.62%	0.43%

*Please Note - The Gender pay gap is the monetary difference in the mean or median hourly rate of pay, expressed as a percentage of the male hourly rate.

Page 5

Agenda for Change Pay Gap		
	2021 Mean Hourly Rate	2021 Median Hourly rate
Male (1,198 Employees)	£18.82	£16.19
Female (1,961 Employees)	£17.33	£16.19
Difference	£1.49	£0
% Pay Gap	7.90%	0%

Executive Level and Senior Manager Pay Gap		
	2021 Mean Hourly Rate	2021 Median Hourly rate
Male (13 employees)	£50.81	£51.71
Female (7 employees)	£50.24	£51.36
Difference	£0.58	£0.35
% Pay Gap	1.13%	0.68%

Page 7

Recommendations:

Ensure tables used for tabular data contain the appropriate semantic table tags to help screen reader users understand the data presented.

4.7.3 Issue: Complex images missing text alternative

Priority level: Must

Occurrences: page(s) 5, 10, 16

WCAG 2.1 violation(s): 1.1.1 (A), 1.4.5 (AA)

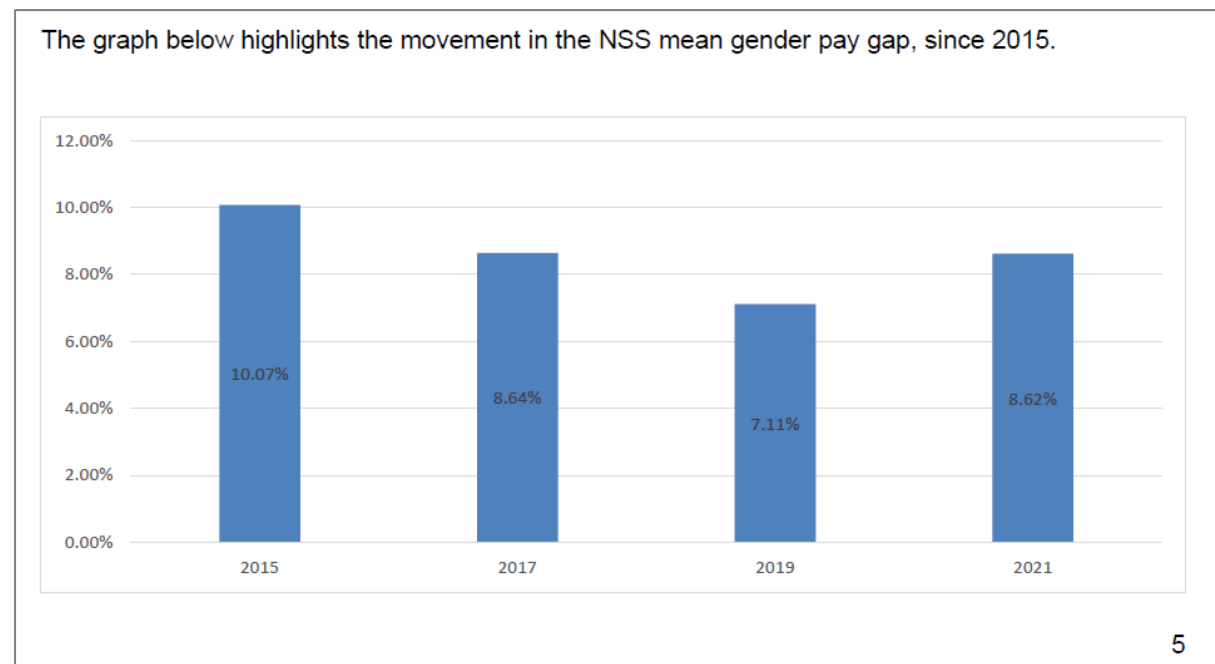
Description:

There are instances where complex images (containing graphics and text) do not have a text alternative. There are no accessible alternatives available for these infographics.

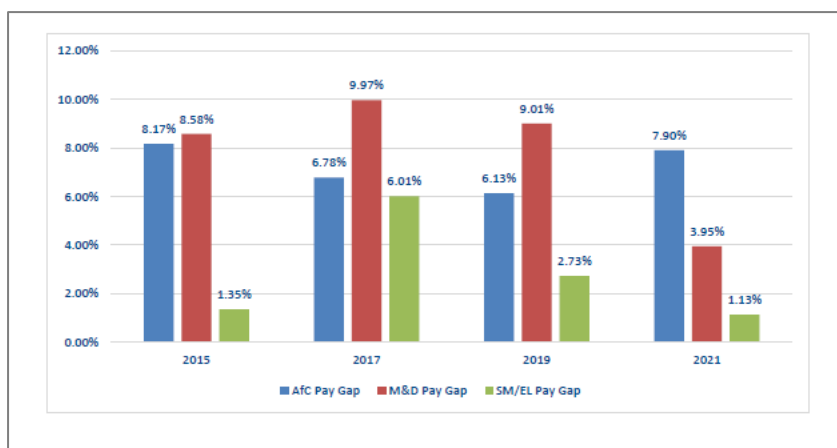
Impact on users:

When informative images are not described in text, screen reader users will be unable to access and/or understand the content.

Screenshots:



Page 5



Page 10

Recommendations:

Ensure complex images have an accessible alternative e.g., described using text only.

Dealing with complex images in PDF documents is similar to webpages. Provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative text (alt text), this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.

4.7.4 Issue: Colour alone used to convey information

Priority level: Must

Occurrences: page(s) 10, 16

WCAG 2.1 violation(s): 1.4.1 (A),

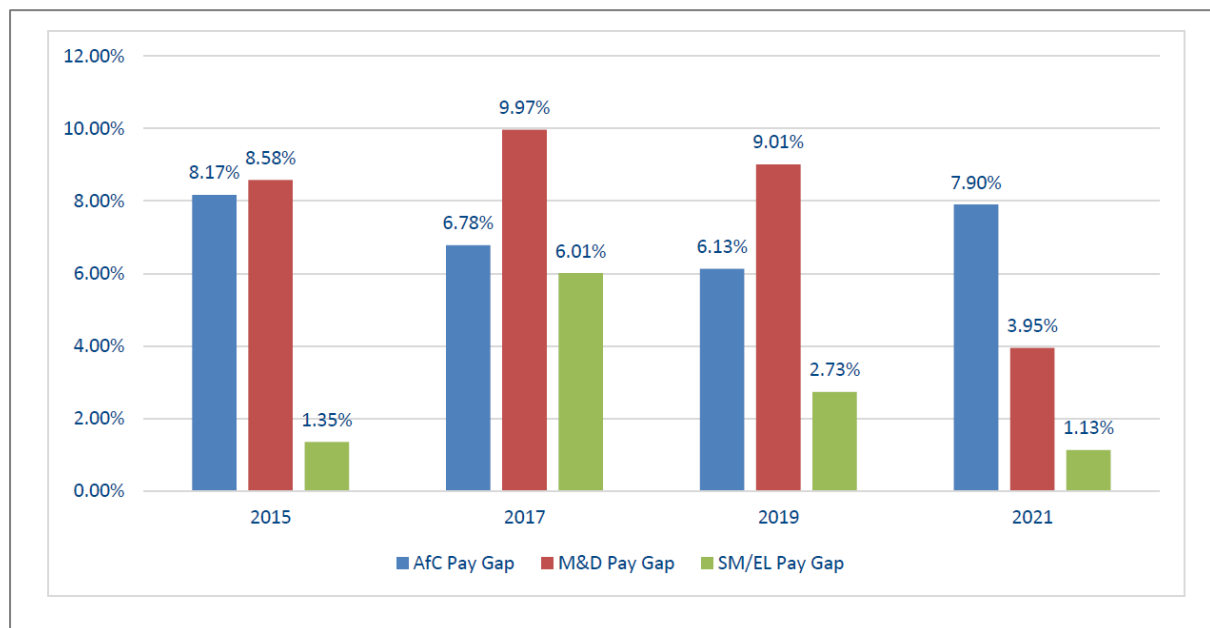
Description:

There are instances on infographics where comparisons use ‘colour alone’ to indicate values. It’s not possible to match each evaluation to the legend without colour.

Impact on users:

Non-sighted users and users with certain visual impairments will not be able to perceive the information on the charts.

Screenshots:



Page 10

Recommendations:

Avoid using colour alone to convey information. Provide additional visual and textual cues to inform users of information. If using graphics, consider using cross hatching, or patterns, alongside colour.

4.7.5 Issue: Missing or incorrect Heading tags

Priority level: Must

Occurrences: All pages

WCAG 2.1 violation(s): 1.3.1 (A), 2.4.1 (A)

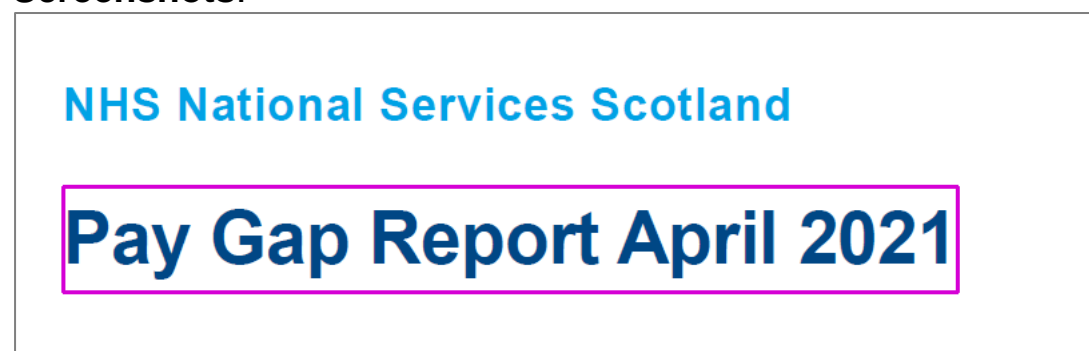
Description:

There are numerous text elements that appear to be a heading but are not using the semantic heading tags. All section headings are using heading tag <H1>. The heading tag for the actual H1 heading, 'Pay Gap Report April 2021', is missing its heading tag.

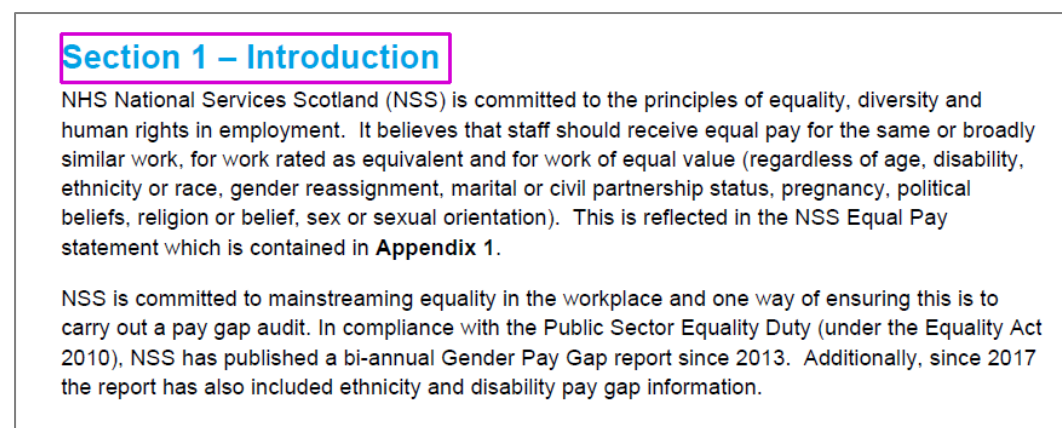
Impact on users:

Screen reader users will not be able to rely on the tagged information to understand the content structure and the document organisation. Therefore, it can become very difficult for users to consume content.

Screenshots:



Missing heading tag <H1>



All section heading using heading tag <H1>

Recommendations:

Ensure the correct heading tags are used within the document (<h1>-<h6>).

4.7.6 Issue: Lists not marked up correctly

Priority level: Should

Occurrences: page(s) 8, 9

WCAG 2.1 violation(s): 1.3.1 (A)

Description:

There are instances where lists have not been marked up correctly. Lists do not have a parent tag and do not have one or more nested list item tags.

Impact on users:

Screen reader users might miss important information on the page if lists do not offer accurate information since they are not properly structured. They might find the page structure confusing and harder to navigate.

Screenshots:

1) Staff employed under **AFC** terms and conditions are recruited into a post with a confirmed AFC pay band, assigned through the application of the NHS Job Evaluation Scheme. The evaluation is undertaken by a trained panel of evaluators and is based on the skills and responsibility demands of the post. As such, all employees aligned to the same post/job description will be paid, regardless of gender, according to the evaluated band outcome for the post.

It is also important to note that each AFC pay band consists of a number of incremental points. In line with AFC terms and conditions, each employee will generally either:

- Commence in post at the minimum of the pay scale, or
- In the case of promotion, commence on the first available point on the scale that will afford the employee a salary increase.

Thereafter, incremental progression applies on an annual basis.

This means that commencing salary, length of service in grade and timing of each employee's yearly incremental date will have a direct influence on the pay gap within this contract group.

The specific data for this cohort confirms that females are the dominant gender in the majority of the AFC pay bands, most noticeably at the lower bands 2, 4, 5 and 6. One reason for this is that administrative and nursing/caring roles traditionally comprise female employees. A greater number of males than females hold posts at higher AFC bands including bands 8B, 8D and 9. Further analysis of this data confirms that length of service currently places the male postholders incrementally higher on the pay scale in these specific bands which has influenced the pay gap

8



result in the AFC cohort. However, whilst at present there are more long-serving male employees in the senior grades, this means that female employees who are more recently employed in these grades will catch up in the future through annual incremental progression.

2) The smallest contract grouping within NSS is that of **Executive Level and Senior Manager (EL/SM)** staff. This cohort shows a mean gender pay gap of 1.13% in favour of males which is an improvement on the figure reported in 2019 of 2.73%.

Page 8 and 9

Recommendations:

Ensure that the appropriate semantic tags are used to group lists together. This will improve navigation for screen reader users since they will be able to correctly interpret the start and end of the lists.

4.7.7 Issue: Low colour contrast

Priority level: Should

Occurrences: All pages e.g. page 2-4, 14

WCAG 2.1 violation(s): 1.4.3 (AA)

Description:

There are areas that do not have enough contrast between foreground text and background colours. These colour combinations fall below the minimum ratio.

Note: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.

Impact on users:

Text with low colour contrast is more difficult to read for users with visual impairments.

Screenshots:

Note: This is not an exhaustive list

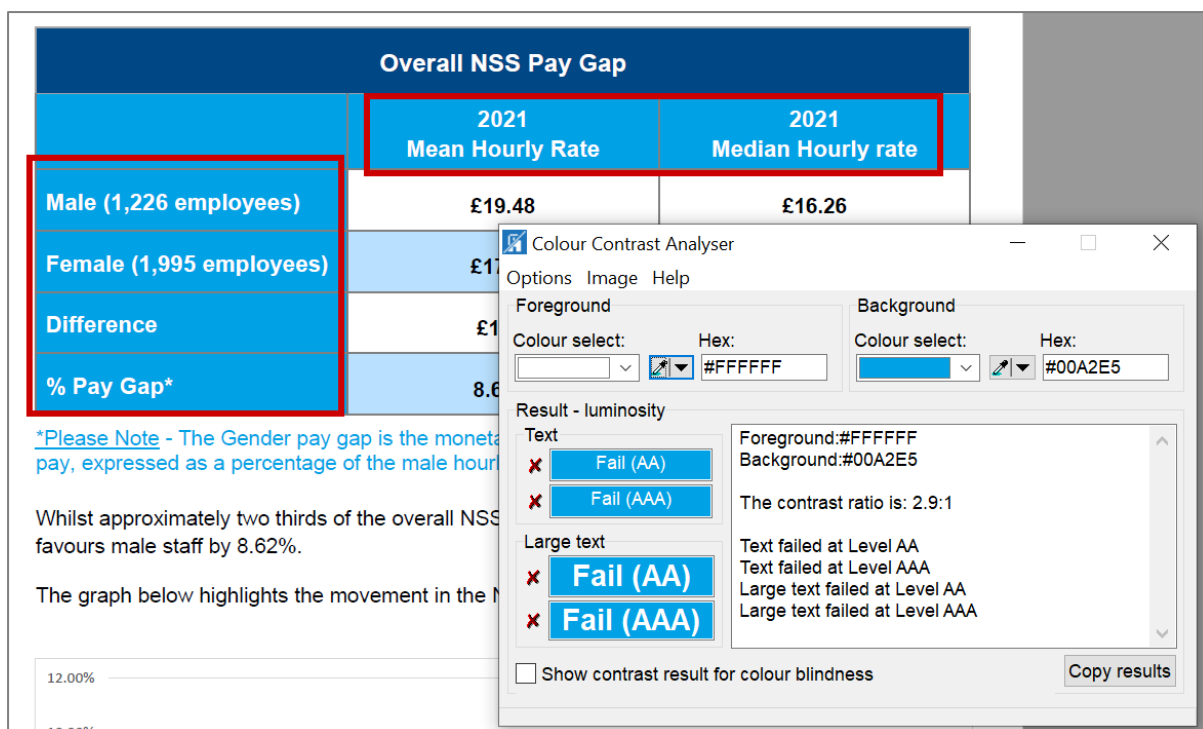
The screenshot shows a webpage section titled "Section 3 – Mean and Median pay gap data by gender". The text states: "As at 31 December 2020, NSS employed 3,221 employees (61.94%) and 1,226 male employees (38.06%). The table below provides mean and median gender pay gap data." Below this is a table with two columns: "Overall NSS Pay" and "2021 Mean Hourly Rate". The table data is as follows:

	2021 Mean Hourly Rate
Male (1,226 employees)	£19.48
Female (1,995 employees)	£17.80
Difference	£1.68
% Pay Gap*	8.62%

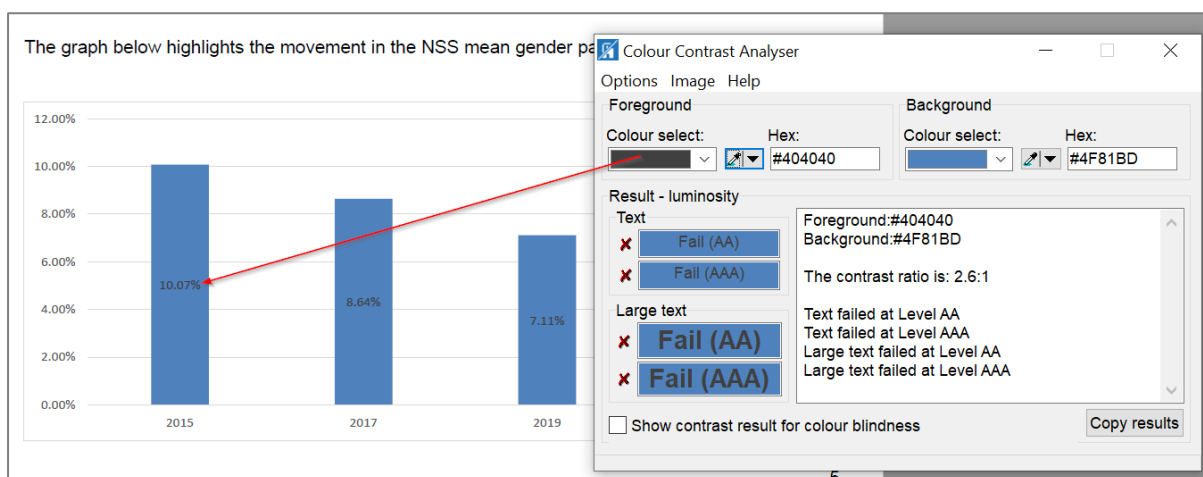
*Please Note - The Gender pay gap is the monetary difference in the mean or median hourly rate of pay, expressed as a percentage of the male hourly rate.

Overlaid on the right side of the screenshot is a "Colour Contrast Analyser" window. It shows the foreground color selected as #00A2E5 and the background color as #FFFFFF. The contrast ratio is calculated as 2.9:1. The results section indicates that the text failed at Level AA for both standard and large text, and failed at Level AAA for both. A checkbox for "Show contrast result for colour blindness" is present and unchecked. A "Copy results" button is at the bottom right of the tool window.

Page 5



Page 5



Page 5

Recommendations:

Ensure foreground text and background colours meet the minimum contrast ratio.

5 Further Information

5.1 What happens next?

5.1.1 Claiming WCAG 2.1 Conformance

This audit has highlighted issues that need to be corrected in order for the site to achieve WCAG 2.1 AA conformance – see Executive Summary for further details. You should arrange for the site to be re-checked once the necessary changes have been made.

5.1.2 Arranging for the PDF recheck

Once you have read the report and estimated how long it will take you to make the required changes to your PDF documents, please contact us to schedule the site recheck.

5.1.3 Making changes to a site which carries a WCAG 2.1 conformance claim

You are responsible for ensuring that any changes you make to your site do not reduce the standard of accessibility attained. If you are unsure, you can contact us for advice. Depending on the nature and extent of the changes you are proposing, there may be a charge for assessing these changes, to establish if there is any impact on the accessibility of the site and its continuing right to display a conformance claim. If you completely change the design of the site, you are strongly advised to arrange for a new audit to be carried out before the new site can display a WCAG 2.1 conformance claim.

6 Appendix 1: A quick PDF checklist for WCAG accessibility and useful links

This is not an exhaustive list.

6.1.1 Check PDF Document Properties:

- The Document title contains a descriptive filename which categorises the document and/or its purpose. Helps all users understand the nature of the document.
- The PDF contains tags. Tags are needed for screen reader accessibility. The tags provide a hidden structure of the document content and are not visible on the PDF document.
- Allows copying content as this part makes content accessible to screen readers.
- The PDF has a specified language e.g. English. So that screen readers can determine the correct language used to use the appropriate voice and rule set for the current language

6.1.2 Check Tags:

- Content needs to be associated to the correct tag, e.g., headings, paragraphs, alternative text for images/figures, links, tables, etc.
- Ensure the Reading Order of the tags are in a logical and visual sequence i.e. left to right, top to bottom order.
- Important information in headers, footers (e.g. page numbers) and background information in the body such as watermarks need to be tagged appropriately.
- Headings need to be tagged with a <H1>-<H6> Heading tag and follow a hierarchical structure and do not skip levels. Ensure headings that appear visually e.g. in bold text are given a Heading tag.

- Paragraph tags need to accurately represent visual paragraphs <p>.
- Lists need to be tagged and nested correctly e.g. <L> and
- Graphical elements like images, photographs, icons, illustrations, images of text, charts, that convey information that only exists in a graphical format require the correct tag. Complex images in PDF documents are handled in a similar way to webpages. They should provide an alternative such as a table or a full text description. If the description would be too long to insert in alternative (alt) text, this could be done in an Appendix linked to from the image if it's not possible to include it in immediately surrounding text.
- Decorative images need to be tagged with as Artifacts/background so screen readers can ignore them. Images will not show up in the Tags Structure but will be visible in the Content Pane.
- Link name of tags need to describe the purpose or destination of the link and should have a unique name.
- Tabular data needs a <Table> tag to be identifiable. A <TH> tag needs to be applied to table headers and a <TD> tag for data cells. Complex tables must contain proper scope and span. Scope identifies which data cells are Row Headers or Column Headers. While Span identifies the number of columns or rows a data cell extends across.
- The table of contents needs to have the appropriate tags, e.g., TOC, TOC Item (TOCI).
- Text needs to be resized and readable when magnified to 200% without loss of content.
- Navigation patterns need to be combined within the document in the form of bookmark tags. This allows for quick navigation of the document for screen reader users. Bookmarks are required for documents greater than 9 pages.
- Where form elements are available, ensure they can be fillable and are tagged correctly. All form fields need an understandable tooltip that matches the label and/or instruction (these too must be

comprehensible). Also, ensure form field elements such as text boxes or button controls appear in a logical tab order for keyboard users.

6.1.3 Manual check:

- Check that the colour, using a colour contrast analyser, has good contrast between foreground text and background colours (except for logos). The colour combinations ratio required is: Minimum ratio for text 18pt/14pt bold is 3:1. Below 14pt bold the minimum ratio is 4.5:1.
- Use a screen reader such as NVDA or JAWS to read the document. Ensure it follows in a logical reading order, logical tab order and the content structure makes sense. Check tag elements are announced correctly.
- Ensure colour alone and/or Sensory characteristics are not the only means to portray information. For example:
 - Bar charts should not use colour alone to demonstrate comparisons. Consider using cross hatching, or patterns, alongside colour.
 - Instructions must not rely solely on sensory characteristics, e.g. use the information on the right of this message.
- Ensure the content available within the document is renderable. This mainly affects Optical Character Recognition (OCR) document conversions. They need to be converted correctly on scanned image documentation, so they are accessible using screen readers. The document's content also needs to appear in the Content Pane of the PDF reader.
- To check the PDF document is accessible, check it with Adobe Reader or Adobe Acrobat Pro using the Accessibility Checker that is provided in Acrobat Pro.

6.1.4 Useful links for PDF accessibility:

- Publishing accessible documents - GOV.UK
<https://www.gov.uk/guidance/publishing-accessible-documents>
- Understanding accessibility requirements for public sector bodies - GOV.UK
<https://www.gov.uk/guidance/accessibility-requirements-for-public-sector-websites-and-apps>
- Create and verify PDF accessibility, Acrobat Pro
<https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html>
- PDF Accessibility Repair: Examine the Document
<https://www.adobe.com/accessibility/products/acrobat/pdf-repair-add-tags.html>
- WebAIM: PDF Accessibility - Converting Documents to PDFs
<https://webaim.org/techniques/acrobat/converting>

7 Appendix 2: WCAG 2.1 guidelines and checkpoints for levels A and AA

7.1.1 Guideline 1.1: Text Alternatives

Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols, or simpler language.

1.1.1: Non-text Content (Level A)

- All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below.
- Controls, Input: If non-text content is a control or accepts user input, then it has a name that describes its purpose. (Refer to Guideline 4.1 for additional requirements for controls and content that accepts user input.)
- Time-Based Media: If non-text content is time-based media, then text alternatives at least provide descriptive identification of the non-text content. (Refer to Guideline 1.2 for additional requirements for media.)
- Test: If non-text content is a test or exercise that would be invalid if presented in text, then text alternatives at least provide descriptive identification of the non-text content.
- Sensory: If non-text content is primarily intended to create a specific sensory experience, then text alternatives at least provide descriptive identification of the non-text content.
- CAPTCHA: If the purpose of non-text content is to confirm that content is being accessed by a person rather than a computer, then text alternatives that identify and describe the purpose of the non-text content are provided, and alternative forms of CAPTCHA using output modes for different types of sensory perception are provided to accommodate different disabilities.
- Decoration, Formatting, Invisible: If non-text content is pure decoration, is used only for visual formatting, or is not presented to

users, then it is implemented in a way that it can be ignored by assistive technology.

7.1.2 Guideline 1.2: Time-based Media

Provide alternatives for time-based media.

1.2.1: Audio-only and Video-only (Pre-recorded) (Level A)

For pre-recorded audio-only and pre-recorded video-only media, the following are true, except when the audio or video is a media alternative for text and is clearly labelled as such:

- Pre-recorded Audio-only: An alternative for time-based media is provided that presents equivalent information for pre-recorded audio-only content.
- Pre-recorded Video-only: Either an alternative for time-based media or an audio track is provided that presents equivalent information for pre-recorded video-only content.

1.2.2: Captions (Pre-recorded) (Level A)

Captions are provided for all pre-recorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labelled as such.

1.2.3: Audio Description or Media Alternative (Pre-recorded) (Level A)

An alternative for time-based media or audio description of the pre-recorded video content is provided for synchronized media, except when the media is a media alternative for text and is clearly labelled as such.

1.2.4: Captions (Live) (Level AA)

Captions are provided for all live audio content in synchronized media.

1.2.5: Audio Description (Pre-recorded) (Level AA)

Audio description is provided for all pre-recorded video content in synchronized media.

7.1.3 Guideline 1.3: Adaptable

Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

1.3.1: Info and Relationships (Level A)

Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.

1.3.2: Meaningful Sequence (Level A)

When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined.

1.3.3: Sensory Characteristics (Level A)

Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound.

Note: For requirements related to colour, refer to Guideline 1.4.

1.3.4 Orientation (Level AA) [WCAG 2.1]

Content does not restrict its view and operation to a single display orientation, such as portrait or landscape, unless a specific display orientation is essential.

Note: Examples where a particular display orientation may be essential are a bank check, a piano application, slides for a projector or television, or virtual reality content where binary display orientation is not applicable.

1.3.5 Identify Input Purpose (Level AA) [WCAG 2.1]

The purpose of each input field collecting information about the user can be programmatically determined when:

- The input field serves a purpose identified in the Input Purposes for User Interface Components section; and
- The content is implemented using technologies with support for identifying the expected meaning for form input data.

7.1.4 Guideline 1.4: Distinguishable

Make it easier for users to see and hear content including separating foreground from background.

1.4.1: Use of Colour (Level A)

Colour is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.

Note: This success criterion addresses colour perception specifically. Other forms of perception are covered in Guideline 1.3 including programmatic access to colour and other visual presentation coding.

1.4.2: Audio Control (Level A)

If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level.

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether or not it is used to meet other success criteria) must meet this success criterion. See Conformance Requirement 5: Non-Interference.

1.4.3: Contrast (Minimum) (Level AA)

The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following:

- Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 3:1;
- Incidental: Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
- Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement.

1.4.4: Resize text (Level AA)

Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.

1.4.5: Images of Text (Level AA)

If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following:

- Customizable: The image of text can be visually customized to the user's requirements;
- Essential: A particular presentation of text is essential to the information being conveyed.

Note: Logotypes (text that is part of a logo or brand name) are considered essential.

1.4.10 Reflow (Level AA) [WCAG 2.1]

Content can be presented without loss of information or functionality, and without requiring scrolling in two dimensions for:

- Vertical scrolling content at a width equivalent to 320 CSS pixels;
- Horizontal scrolling content at a height equivalent to 256 CSS pixels.

Except for parts of the content which require two-dimensional layout for usage or meaning.

Note: 320 CSS pixels is equivalent to a starting viewport width of 1280 CSS pixels wide at 400% zoom. For web content which are designed to scroll horizontally (e.g. with vertical text), the 256 CSS pixels is equivalent to a starting viewport height of 1024px at 400% zoom.

Note: Examples of content which require two-dimensional layout are images, maps, diagrams, video, games, presentations, data tables, and interfaces where it is necessary to keep toolbars in view while manipulating content.

1.4.11 Non-text Contrast (Level AA) [WCAG 2.1]

The visual presentation of the following has a contrast ratio of at least 3:1 against adjacent colour(s):

- **User Interface Components:** Visual information required to identify user interface components and states, except for inactive components or where the appearance of the component is determined by the user agent and not modified by the author;

- **Graphical Objects:** Parts of graphics required to understand the content, except when a particular presentation of graphics is essential to the information being conveyed.

1.4.12 Text Spacing (Level AA) [WCAG 2.1]

In content implemented using markup languages that support the following text style properties, no loss of content or functionality occurs by setting all of the following and by changing no other style property:

- Line height (line spacing) to at least 1.5 times the font size;
- Spacing following paragraphs to at least 2 times the font size;
- Letter spacing (tracking) to at least 0.12 times the font size;
- Word spacing to at least 0.16 times the font size.

Exception: Human languages and scripts that do not make use of one or more of these text style properties in written text can conform using only the properties that exist for that combination of language and script.

1.4.13 Content on Hover or Focus (Level AA) [WCAG 2.1]

Where receiving and then removing pointer hover or keyboard focus triggers additional content to become visible and then hidden, the following are true:

- **Dismissible:** A mechanism is available to dismiss the additional content without moving pointer hover or keyboard focus, unless the additional content communicates an input error or does not obscure or replace other content;
- **Hoverable:** If pointer hover can trigger the additional content, then the pointer can be moved over the additional content without the additional content disappearing;
- **Persistent:** The additional content remains visible until the hover or focus trigger is removed, the user dismisses it, or its information is no longer valid.

Exception: The visual presentation of the additional content is controlled by the user agent and is not modified by the author.

Note: Examples of additional content controlled by the user agent include browser tooltips created through use of the HTML title attribute.

Note: Custom tooltips, sub-menus, and other nonmodal popups that display on hover and focus are examples of additional content covered by this criterion.

7.1.5 Guideline 2.1: Keyboard Accessible

Make all functionality available from a keyboard.

2.1.1: Keyboard (Level A)

All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints.

Note 1: This exception relates to the underlying function, not the input technique. For example, if using handwriting to enter text, the input technique (handwriting) requires path-dependent input but the underlying function (text input) does not.

Note 2: This does not forbid and should not discourage providing mouse input or other input methods in addition to keyboard operation.

2.1.2: No Keyboard Trap (Level A)

If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away.

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance Requirement 5: Non-Interference.

2.1.4 Character Key Shortcuts (Level A) [WCAG 2.1]

If a keyboard shortcut is implemented in content using only letter (including upper- and lower-case letters), punctuation, number, or symbol characters, then at least one of the following is true:

- **Turn off:** A mechanism is available to turn the shortcut off;

- **Remap:** A mechanism is available to remap the shortcut to use one or more non-printable keyboard characters (e.g. Ctrl, Alt, etc);
- **Active only on focus:** The keyboard shortcut for a user interface component is only active when that component has focus.

7.1.6 Guideline 2.2: Enough Time

Provide users enough time to read and use content.

2.2.1: Timing Adjustable (Level A)

For each time limit that is set by the content, at least one of the following is true:

- Turn off: The user is allowed to turn off the time limit before encountering it; or
- Adjust: The user is allowed to adjust the time limit before encountering it over a wide range that is at least ten times the length of the default setting; or
- Extend: The user is warned before time expires and given at least 20 seconds to extend the time limit with a simple action (for example, "press the space bar"), and the user is allowed to extend the time limit at least ten times; or
- Real-time Exception: The time limit is a required part of a real-time event (for example, an auction), and no alternative to the time limit is possible; or
- Essential Exception: The time limit is essential and extending it would invalidate the activity; or
- 20 Hour Exception: The time limit is longer than 20 hours.

Note: This success criterion helps ensure that users can complete tasks without unexpected changes in content or context that are a result of a time limit. This success criterion should be considered in conjunction with Success Criterion 3.2.1, which puts limits on changes of content or context as a result of user action.

2.2.2: Pause, Stop, Hide (Level A)

For moving, blinking, scrolling, or auto-updating information, all of the following are true:

- Moving, blinking, scrolling: For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and
- Auto-updating: For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential.

Note 1: For requirements related to flickering or flashing content, refer to Guideline 2.3.

Note 2: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance Requirement 5: Non-Interference.

Note 3: Content that is updated periodically by software or that is streamed to the user agent is not required to preserve or present information that is generated or received between the initiation of the pause and resuming presentation, as this may not be technically possible, and in many situations could be misleading to do so.

Note 4: An animation that occurs as part of a preload phase or similar situation can be considered essential if interaction cannot occur during that phase for all users and if not indicating progress could confuse users or cause them to think that content was frozen or broken.

7.1.7 Guideline 2.3: Seizures

Do not design content in a way that is known to cause seizures.2.3

2.3.1: Three Flashes or Below Threshold (Level A)

Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.

Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance Requirement 5: Non-Interference.

7.1.8 Guideline 2.4: Navigable

Provide ways to help users navigate, find content, and determine where they are.

2.4.1: Bypass Blocks (Level A)

A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.

2.4.2: Page Titled (Level A)

Web pages have titles that describe topic or purpose.

2.4.3: Focus Order (Level A)

If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.

2.4.4: Link Purpose (In Context) (Level A)

The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general.

2.4.5: Multiple Ways (Level AA)

More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process.

2.4.6: Headings and Labels (Level AA)

Headings and labels describe topic or purpose.

2.4.7: Focus Visible (Level AA)

Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible.

7.1.9 Guideline 2.5 Input Modalities

Make it easier for users to operate functionality through various inputs beyond keyboard.

2.5.1 Pointer Gestures (Level A) [WCAG 2.1]

All functionality that uses multipoint or path-based gestures for operation can be operated with a single pointer without a path-based gesture, unless a multipoint or path-based gesture is essential.

Note: This requirement applies to web content that interprets pointer actions (i.e. this does not apply to actions that are required to operate the user agent or assistive technology).

2.5.2 Pointer Cancellation (Level A) [WCAG 2.1]

For functionality that can be operated using a single pointer, at least one of the following is true:

- **No Down-Event:** The down-event of the pointer is not used to execute any part of the function;
- **Abort or Undo:** Completion of the function is on the up-event, and a mechanism is available to abort the function before completion or to undo the function after completion;
- **Up Reversal:** The up-event reverses any outcome of the preceding down-event;
- **Essential:** Completing the function on the down-event is essential.

Note: Functions that emulate a keyboard or numeric keypad key press are considered essential.

Note: This requirement applies to web content that interprets pointer actions (i.e. this does not apply to actions that are required to operate the user agent or assistive technology).

2.5.3 Label in Name (Level A) [WCAG 2.1]

For user interface components with labels that include text or images of text, the name contains the text that is presented visually.

Note: A best practice is to have the text of the label at the start of the name.

2.5.4 Motion Actuation (Level A) [WCAG 2.1]

Functionality that can be operated by device motion or user motion can also be operated by user interface components and responding to the motion can be disabled to prevent accidental actuation, except when:

- **Supported Interface:** The motion is used to operate functionality through an accessibility supported interface;
- **Essential:** The motion is essential for the function and doing so would invalidate the activity.

7.1.10 Guideline 3.1: Readable

Make text content readable and understandable. 3.1

3.1.1: Language of Page (Level A)

The default human language of each Web page can be programmatically determined.

3.1.2: Language of Parts (Level AA)

The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text.

7.1.11 Guideline 3.2: Predictable

Make Web pages appear and operate in predictable ways. 3.2

3.2.1: On Focus (Level A)

When any component receives focus, it does not initiate a change of context.

3.2.2: On Input (Level A)

Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behaviour before using the component.

3.2.3: Consistent Navigation (Level AA)

Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.

3.2.4: Consistent Identification (Level AA)

Components that have the same functionality within a set of Web pages are identified consistently.

7.1.12 Guideline 3.3: Input Assistance

Help users avoid and correct mistakes.

3.3.1: Error Identification (Level A)

If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text.

3.3.2: Labels or Instructions (Level A)

Labels or instructions are provided when content requires user input.

3.3.3: Error Suggestion (Level AA)

If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content.

3.3.4: Error Prevention (Legal, Financial, Data) (Level AA)

For Web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true:

1. Reversible: Submissions are reversible.
2. Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
3. Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.

7.1.13 Guideline 4.1: Compatible

Maximize compatibility with current and future user agents, including assistive technologies.

4.1.1: Parsing (Level A)

In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their

specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.

Note: Start and end tags that are missing a critical character in their formation, such as a closing angle bracket or a mismatched attribute value quotation mark are not complete.

4.1.2: Name, Role, Value (Level A)

For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies.

Note: This success criterion is primarily for Web authors who develop or script their own user interface components. For example, standard HTML controls already meet this success criterion when used according to specification.

4.1.3 Status Messages (Level AA) [WCAG 2.1]

In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be presented to the user by assistive technologies without receiving focus.

8 Contact details

Accessibility Consultancy and User Experience Team
Royal National Institute of Blind People
Northminster House, Northminster, Peterborough, UK, PE1 1YN

Email: nppd@rnib.org.uk