Style & design guide

Analytics Product Development Team
NHS England

Last modified: March 2022

england.analyticsproductsteam@nhs.net

Contents

List of the topics we have covered in this style guide.

Analytics Product Development Team
NHS England

Last modified: March 2022

england.analyticsproductsteam@nhs.net

01 Introduction

We convey our visual identity through every form of communication. This style guide is to help analysts and developers apply best practice to their dashboard work and promote consistency in look and feel across analytical products, creating a strong, professional and positive perception.

Purpose of these guidelines

Design guidelines help us to work together on sophisticated digital products to communicate using a standardised visual language. The guidelines here are for developers and those carrying out quality assurance for Tableau dashboards.
This document is complementary to other NHS style guides. Guidance has been documented in accordance with the NHSI Analytics Products Team and NHS Identity guidelines.

Useful links:

- Download our Tableau Style Guide Template

These design guidelines are useful for:

Ensuring consistency
Creating a unified visual experience across the product and considering how this links across analytical products, will ensure a strong, professional and positive perception.

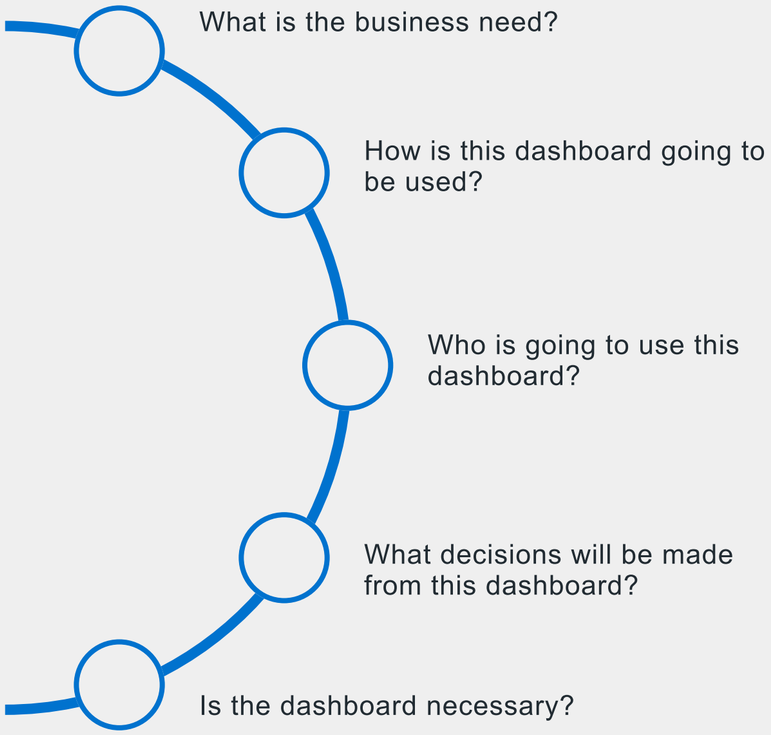
Sharing vocabulary
Having one document for the Tableau Development team to refer to helps the work to become collaborative. These guidelines are a tool that can be relied on for quick iteration and consistent digital experiences.

Onboarding
Having an agreed style guide will help new team members get up to speed quickly and enable them to make design decisions, soon after joining us.

Format/ code standardisation
Design guidelines specify specific sizing and formatting so front-end developers can follow the same design standards.

02 Dashboard purpose

Please think about the following questions before designing the dashboard:



Instead of structuring a dashboard into different data sources, try instead to consider the users. Could an executive benefit from having multiple data sources in one easy to read page? Think about the question each tab will be answering and who would be asking the question.

03 Planning cycle

1	**Define the problem**	Approach the initial report requirement with the art of the possible in mind.
2	**Identify stakeholders**	Think about your customer base and stakeholders in detail and how their requirements may differ.
3	**Develop use cases**	Develop use cases and questions the dashboard should be answering.
4	**Source data**	Source the data (new data may be required to answer all your questions).
5	**Develop wireframes**	Plan out your report layout. This may be an exercise on paper or in a tool.
6	**Develop dashboard**	Begin the development.
7	**Testing**	Test the dashboard.

04 UX design principles

Empathy is at the heart of design. Without the understanding of what others see, feel, and experience, design is a pointless task.

—Tim Brown, CEO of the innovation and design firm IDEO Font

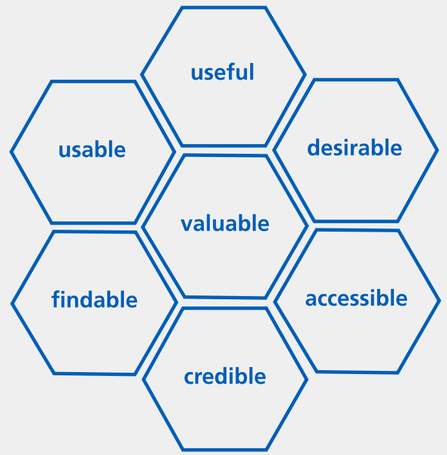
User experience

User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations. It also takes into account the business goals and objectives of the group managing the project. UX best practices promote improving the quality of the user's interaction with and perceptions of your product and any related services.

Factors that influence UX:

At the core of UX is ensuring that users find value in what you are providing to them. Peter Morville represents this through his User Experience Honeycomb.
In order for there to be a meaningful and valuable user experience, information must be:

- **Useful:** Your content should be original and fulfil a need
- **Usable:** Site must be easy to use
- **Desirable:** Image, identity, brand, and other design elements are used to evoke emotion and appreciation
- **Findable:** Content needs to be navigable and locatable onsite and offsite
- **Accessible:** Content needs to be accessible to people with disabilities
- **Credible:** Users must trust and believe what you tell them



england.analyticsproductsteam@nhs.net

Levels of fidelity

Prototyping is a way to validate or invalidate our assumptions. It simulates the experience we want to deliver without requiring us to build the real thing. The only prototyping rule is: do it early and do it often. You shouldn't worry about making it perfect as long as it communicates the idea and is appropriate for the feedback you are aiming to get.

LO-FI ——— **HI-FI**

Sketch Wireframe Prototype

Sketches

Sketching is an important part of UX design. You do not need to be a natural born artist to be able to sketch meaningful designs. Sketching allows you to form and evolve ideas at speed.

Wireframes

Wireframes serve as a middle ground between sketches and your first prototype. They help you plan the layout and interaction patterns of your users without distracting details like colours or copy. The user journey should be clear without needing colour or shading or fancy menus.

A wireframe is a low fidelity layout of the design which has three simple but direct targets:

1. To present the main information group.
2. To draw the outline of structure and layout.
3. To provide the vision and description of the user interface.

A wireframe has very obvious visual limitations as it usually only shows lines, boxes and different greyscale colours.

Prototypes

Prototypes are early models of your product built to test a concept and learn from it. They are designed to emulate not just the functionality of the product but also the look and feel. Where possible, develop prototypes with the intention of recycling code from the prototype into the finished product.

Intuition

Products should be intuitive. Try asking someone who is not involved in the development or the subject to look through the dashboard without explaining any of the content or functionality to them before you start (though remember to consider Information Governance). This may highlight areas which require further attention, for example:

- Was there anything they didn't understand or asked you to explain?
- Was there any functionality they didn't find or found difficult?
- What message did they conclude from the product, is it what you were hoping to convey?

Make sure that any questions asked are considered as feedback for improvement.

Simplicity is key.

Avoid designs that will confuse users or will make it difficult for them to navigate. Consider quality not quantity, don't overload the view.

Themes

Splitting data tables and charts into themes can help with user experience, you could do this through subheadings on a single sheet or consider splitting unrelated data into separate tabs.

So what?

Consider adding a written 'so what' to your data/graphs to add context and understanding. This may need to be dynamic to give accurate, useful information.

Users

A large part of communication is understanding and relating to your audience. Try to minimise the number of user groups you are catering for, this will help with stakeholder interactions and with user experience. If there are a number of different user groups with conflicting requirements, consider separate dashboards.

05 Wireframing best practices

To bring the best out of the wireframes and to set a proper foundation for the next step of the process UI, follow these several simple rules below.

- Understand the goals, objectives and key functionalities of the dashboards before building a wireframe.
- It will be a great help to have the use cases available before starting on the wireframes. Ask the business analysts / product managers to provide the use cases, approved by stakeholders.
- Wherever possible use real data. If real data is not available, use 'meaningful but random data'. This should start with having some information about the data - the approximate number of data points for example, their range and spread, and so on.
- Use the simple design of the components / visualisations - adding detailed components will take you a lot of time and effort without being particularly useful.
- Maintain consistency - similar components must look the same on all your wireframes.
- Use annotations to describe the functionality / logic to the developers.
- Based on the use cases, provide the viz options to the stakeholders which make sure the viz is not overcrowded (we recommend not to show more than five measures on a single viz.)
- Plan the user journeys - consider what could be the entry points to the dashboard, and its tabs.
- Think of different options a user could try on the filters and how the data should display accordingly.
- To give a better sense of data to the users, group and categorise the related viz / tables. You can achieve this by using boxes, borders or background colours.
- Follow a consistent style for the text eg the links/ buttons/ information icons and anything that is interactive should be in blue throughout the dashboards.
- Wherever possible, update the results on the dashboard only after the user selects all of the required attributes within a filter and click the ‘apply’ button, rather than updating it for every single option selection.
- Minimise the use of colour in wireframes wherever possible.
- In a few instances when the wireframes aren’t the best solution, start with the sketches and present your ideas to the stakeholders.

Design guidelines

Things to consider when designing your dashboard.

- The first place your eyes go is to the top of a screen. Placing information here will create a good visual hierarchy that users can easily scan.
- Use consistent size for all dashboards in a workbook.
- Guidelines and borders should be used sparingly and only when absolutely needed.
- Without any white space, your dashboard will look cluttered. This makes it difficult to distinguish which information is the most important.
- Grouping like data together will allow users to navigate through the information easily.
- The NHS logo should be placed on the top right hand corner of each dashboard tab.
- Stand far back from your screen to check your layout and presentation.
- Print the views in black and white to consider how it may look for people printing the report or for another perspective.
- There should not be any nulls on dashboards. Use appropriate values to replace these i.e. ‘Unknown’ or ‘Not Applicable’.

Effective communication

Things you should consider to better communicate information to users.

- Consider your audience and your message carefully before starting to design your report and dashboard.
- Apply a clear and consistent style across reports.
- Avoid overloading reports - remove any elements that are not needed to convey the message.
- Use colours and shapes economically, limiting the number of colours and shapes in a report or a dashboard.
- Use fonts consistently as per this design guide.
- Emphasise key information while de-emphasising less important information.
- Use sizing effectively to make sure your visualisation and text is easily visible.
- Ensure methodologies are included, especially when including metrics or statistics.

06 Information page

All analytical products must have a cover page or an about page which provides an overview of the information being presented.

Information page check list

- A **brief description** of the product.
- A **data source table** showing data frequency, latest available data, refresh frequency, most recent refresh, and whether the data requires IG approval.
- **Author:** Team name. e.g. Analytics Product Development Team.
- **Contact details:** contact email of the relevant team, e.g. england.analyticsproductsteam@nhs.net (add this as a URL link)
- Release number and year of creation.
- Information on how to share the dashboard with colleagues should be included on this page.

About page

We should use an ‘About’ page to provide the user with details about what the dashboards objectives are, data sources and contact details for the author.

Name of the dashboard - About

This dashboard gives a summary of daily operational performance measures within acute hospital settings. The report shows trend charts for each measure to view historical performance. Data is submitted by trusts on a daily basis for activity during the time period of 00:00:01 to 24:00:00 (yesterday), snapshots are taken at 08:00:00.

- **Information Governance (IG) Approval Required:** UNPUBLISHED: Yes
- **Data Source:** NHSI Web Collections
- **Frequency:** Daily

Data source	Data frequency	Latest available data	Refresh frequency	Most recent refresh	Access approval required?
Sample - Superstore	Monthly	30/12/2017	2nd Thursday of each month	22/08/2019	No
Sample - Superstore	Monthly	30/12/2017	2nd Thursday of each month	22/08/2019	No

Author: Analytics Product Development Team
Contact details: england.analyticsproductsteam@nhs.net
Release and release year: 1.4, 2017

To share the dashboard, please email england.analyticsproductsteam@nhs.net

About page - UI Specs

32px

40px

Name of the dashboard - About

60px

This dashboard gives a summary of daily operational performance measures within acute hospital settings. The report shows trend charts for each measure to view historical performance. Data is submitted by trusts on a daily basis for activity during the time period of 00:00:01 to 24:00:00 (yesterday), snapshots are taken at 08:00:00.

Developer's discretion

- **Information Governance (IG) Approval Required:** UNPUBLISHED: Yes
- **Data Source:** NHSI Web Collections
- **Frequency:** Daily

75px

30px

32px

Data source	Data frequency	Latest available data	Refresh frequency	Most recent refresh	Access approval required?
Sample - Superstore	Monthly	30/12/2017	2nd Thursday of each month	22/08/2019	No
Sample - Superstore	Monthly	30/12/2017	2nd Thursday of each month	22/08/2019	No

Developer's discretion

32px

30px

Author: Analytics Product Development Team

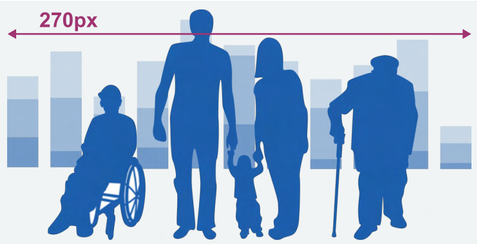
Contact details: england.analyticsproductsteam@nhs.net

Release and release year: 1.4, 2017

To share the dashboard, please email england.analyticsproductsteam@nhs.net

270px

150px



32px

07 Metric descriptions

For users to better understand the graphs and tables they are using, add a metric description tab.
Columns should include the display name, description, numerator, denominator and calculation details of each metric in the workbook.
MIDAS is a centralised indicator governance service. It applies standardised approaches to improve the use and consistency of metrics and addresses the efficacy and quality of indicators in use.
Use descriptions from the MIDAS library or link to the MIDAS site where appropriate.

Useful links:

- Metric descriptions from the **MIDAS library**

Indicator name	Indicator description	Numerator	Denominator	Calculation details
Bed occupancy (percentage)	The change in bed occupancy since the selected comparison value	Todays Bed occupancy - Comparisons bed occupancy	N/A	Numerator
Beds occupied by delayed transfers	Number of beds unavailable due to delayed transfers of care (acute and non-acute)	Sum(Beds occupied by delayed transfers)	N/A	Numerator
Beds occupied by delayed transfers %	The number of beds unavailable due to delayed transfers of care (acute and non-acute) as a percentage of occupied beds	Beds occupied by delayed transfers	Total beds occupied	Numerator/Denominator
Beds occupied by extended length of stay (21 days)	The count of any patient who has been in a hospital bed for 21 days or more	Sum(Beds occupied by extended length of stay (21 days))	N/A	Numerator
Beds occupied by extended length of stay (21 days) %	The count of any patient who has been in a hospital bed for 21 days or more as a percentage of occupied beds	Beds occupied by extended length of stay (21 days)	Total beds occupied	Numerator/Denominator

08 Making your own icons

Buttons and icons should be clear and concise. They should be easily understood at a 32 x 32 pixel square size. Make the background of the image transparent so that when you hover on the image it will highlight around the image instead of the white outside box.

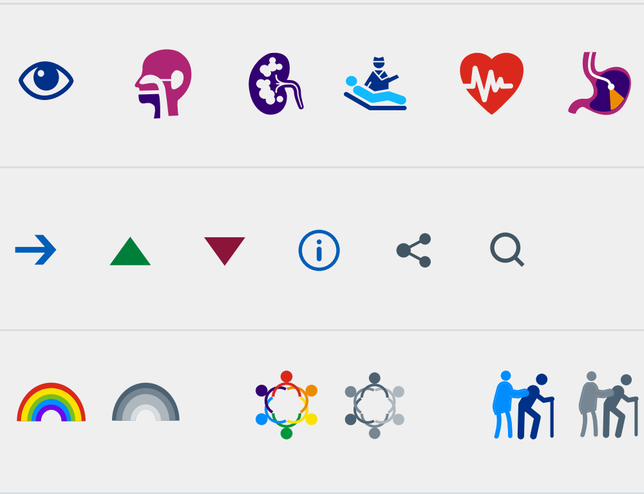
Colour

- Icons are not required to be NHS Blue but the image should be clear and still convey the same message when monochrome.
- Colours should be used only to enhance the visual and should be chosen from the NHS colour palette.
- Use block colours and shapes rather than shading and small intricate parts.

Use the Analytics Product Development Team's icons or Model Hospital's icons where possible to create a consistent picture throughout the organisation. Please be strict that an image can only be reused if the meaning is the same (For example, the Quality of Care image below should only be used to represent Quality of Care, not also for something like Heart Surgery).
Model Hospital have two types of icon, interface and clinical please follow their guidelines when using these. To gain access to Model Hospital's icons and guidance, please email NHSI.ModelHospitalProdSupport@nhs.net.

CQC ratings

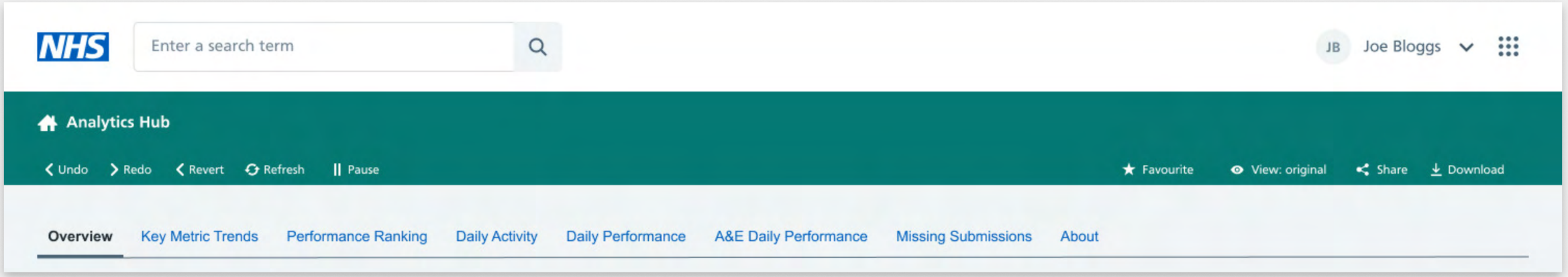
For the Outstanding rating, use the custom star shape and the colours as described on their guidance. This should only be used for an outstanding CQC score.



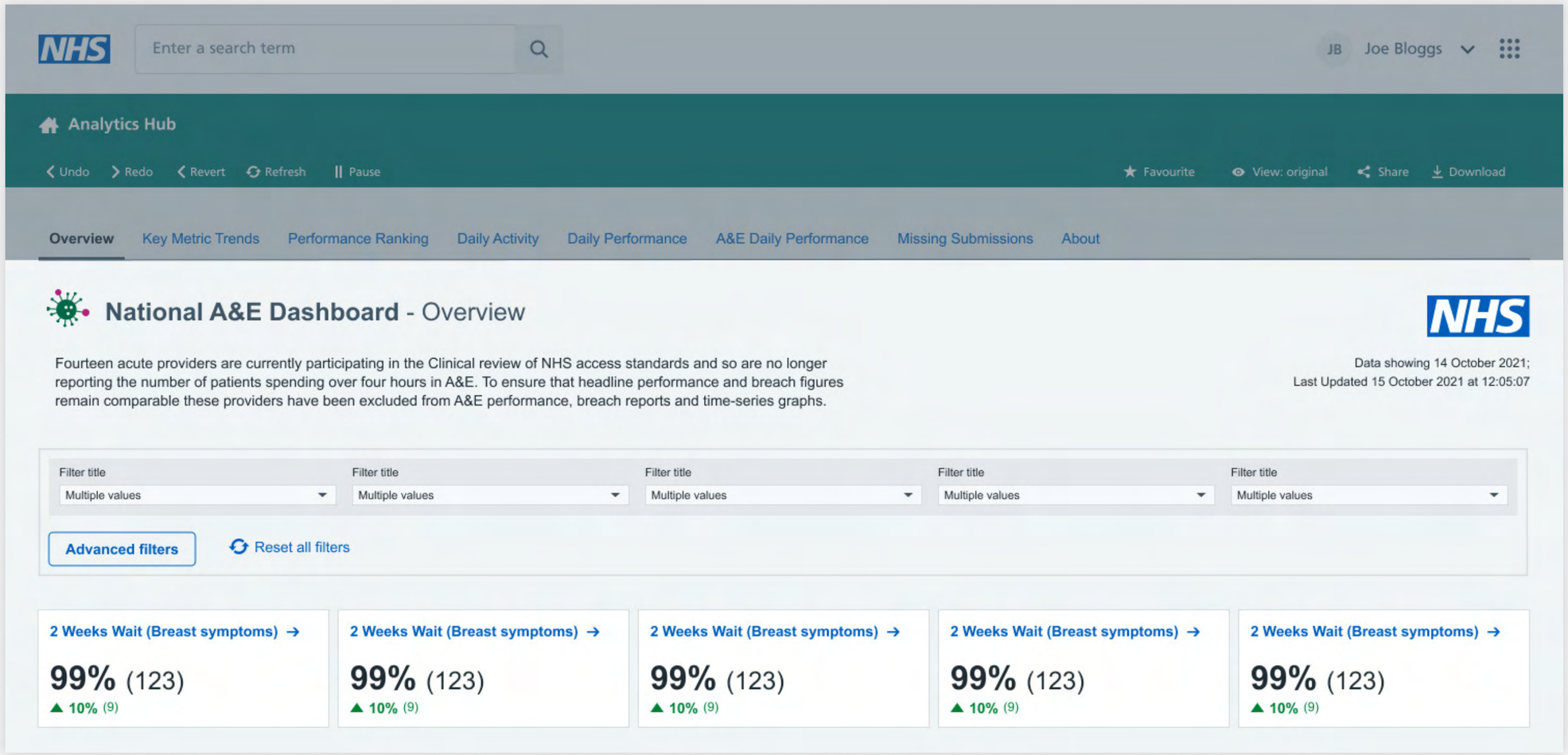
Useful links:

- **Analytics Product Development (APD) icons**
  To gain access to these APD icons and guidance:
  Email: england.analyticsproductsteam@nhs.net
- **Creating your own icons**
  Follow the steps on this link to create your own icons using powerpoint.
- **Model Health System (MHS) Icons**
  To gain access to MHS icons and guidance:
  Email: england.analyticsproductsteam@nhs.net
- **CQC ratings guidance**

09 The Web Wrapper



The Web Wrapper meets Tableau



The section at the top of this image with the grey overlay is the Web Wrapper.
Tableau developers should build their pages from beneath the tabs.

england.analyticsproductsteam@nhs.net

10 Navigation

Tabs as navigation

Including default tabs is the quickest, easiest way to allow users to navigate the dashboard. They are used in many products so users will be accustomed to using them naturally and they maximise space simply. We would advise this method. It is ideal not to have more than eight tabs.

KPIs / Visualisation as navigation

User should able to navigate through dashboards by clicking on the KPIs or on any areas within the visualisations.

Hyperlinks

Add hyperlinks to websites with more information (such as the HES Data Dictionary or published data on NHS England website) or on the cover / about page.

Icons

We have a set of common icons for use on dashboards. For example (i) icons to show the tooltips.

How to use icons for more information on a tooltip:

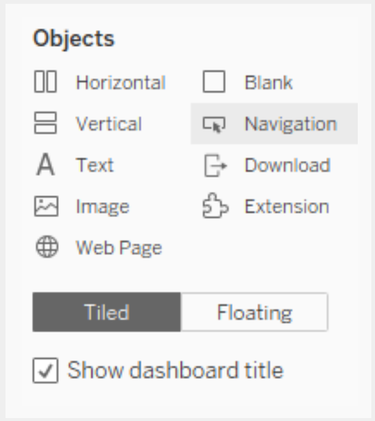
1. Create a new sheet, add MIN(Number of Records) to Shape.
2. Choose your icon image.
3. Add your information to the tooltip.

Buttons as navigation

Buttons could be used as a navigation, but we recommend to use the tabs wherever possible.

How to add a button on the dashboard:
You can use the 'button' object on the bottom left hand side.

1. Drag it to the dashboard like an image or text box
2. Click the 'edit button' to define its attributes.
3. You can add this button as an image or as a text.
4. Test it in the presentation mode to make sure it is working correctly.



Useful links:

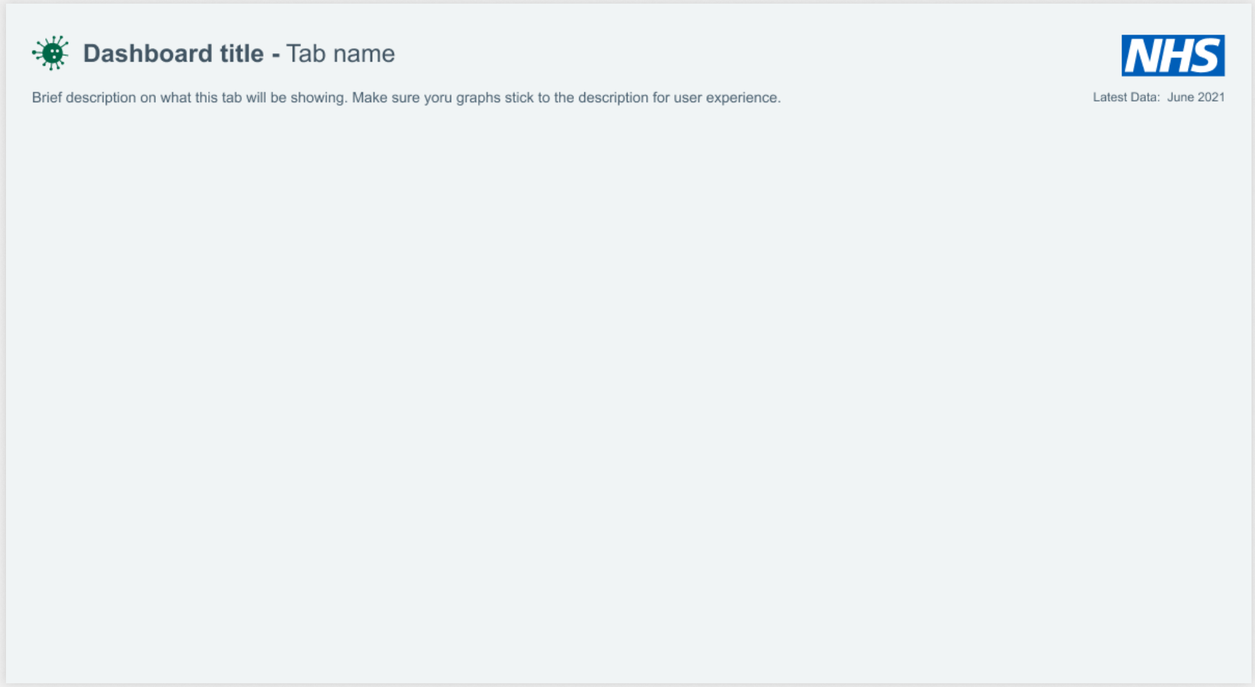
- For more info on **Buttons**

11 Page layout

Layout done perfectly, will be invisible to the user, layout done badly may be the only thing they see.

Titles and subtitles

For easy identification and navigation, every tab should show the workbook title (NHS Grey1, 24pt, Arial, title case), and the subtitle which matches the tab name (Black, 24pt, Arial, sentence case, with a black dash with spaces either side).
A brief description of what the tab is showing can be added.



Data refresh date

The data refresh date should be shown on the right side of the title and subtitle

Margins

Left, top and right margins should be 32 pixels. The bottom of each page should show an NHS Blue line (height = 2 pixels) and contact information. Additional information on latest data available is an optional extra.

NHS identity

NHS logo should be 75x40 pixels, 32 pixels from the top and right hand sides.

Tableau template

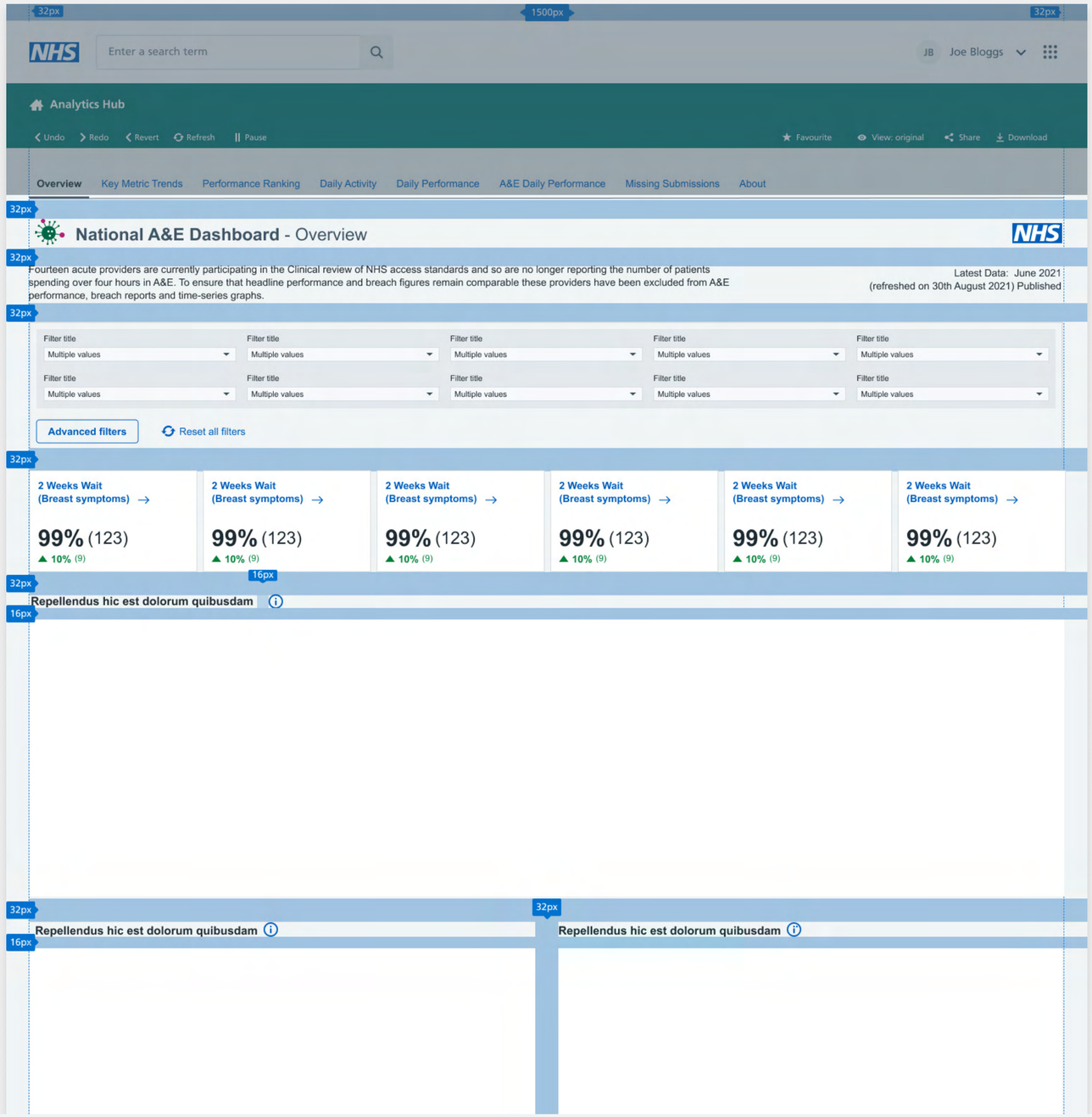
Tableau template download link

12 Dashboard layout

The following page template is used across the product, particularly for report pages. It is a best practice to use a Z-formation, like how you would read a book.

General rules

- 32px margin on left and right sides of the dashboard.
- 16px padding on top, bottom, left, right of the card.
- 32px spacing between cards on the dashboard.
- Minimum font size 11px or 11pt.
- Utilise various weights to establish a hierarchy. Be consistent in size, boldness and colour.
- Workbook name should be in title case.
- Filters should be in sentence case.
- Place filters horizontally under the dashboard title if you only have a few.
- Dashboard background colour #F0F4F5 (NHS Grey 5).
- If we are using multiple cards in a single row (side by side) make sure they are of the same height.
- If the viz is going to show more data (more lines/bars) use the full width card so it helps the user to digest information quickly.



england.analyticsproductsteam@nhs.net

13 Adaptive Webview

Fitting

The sheet size that fits in a Tableau workbook during development is different from what it will look like once published, and may be different from how it will fit on screens with different resolutions.

If the smallest iframe dimension is...	This device layout appears...
500 pixels or less	Phone
Between 501 and 800 pixels	Tablet
Greater than 800 pixels	Desktop

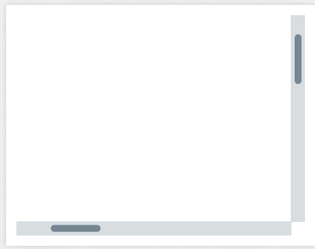
Scroll bars

In general you should try to avoid scroll bars in your products. However, where the use of a scroll bar is necessary, ensure that there is only one scroll bar on your dashboard either vertical or horizontal.

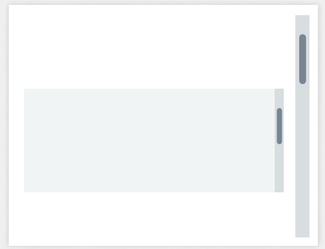
Not two vertical scroll bars (one applied for the browser and the second one applied to a component within the dashboard).

Vertical scroll bar only

Horizontal scroll bar only



Vertical & horizontal scroll bars

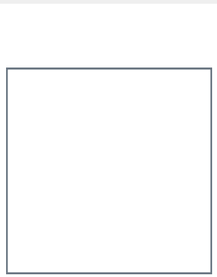


Two vertical scroll bars

Control overall dashboard size

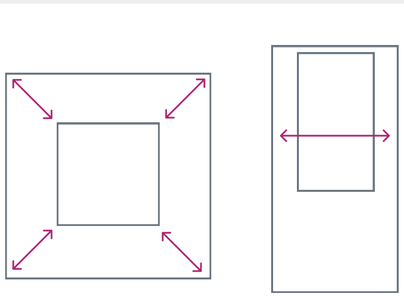
Fixed

- The dashboard remains the same size, regardless of the size of the window used to display it. If the dashboard is larger than the window, it becomes scrollable.
- These dashboards let you specify the exact location and position of objects, which can be useful if there are floating objects.
- These will load faster because they're more likely to use a cached version on the server.



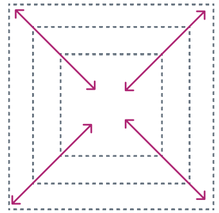
Range

- The dashboard scales between minimum and maximum sizes that you specify.
- If the window used to display the dashboard is smaller than the minimum size, scroll bars are displayed. If it is larger than the maximum size, white space is displayed.
- Use this setting when you are designing for two different display sizes that need the same content and have similar shapes—such as small- and medium-sized browser windows.



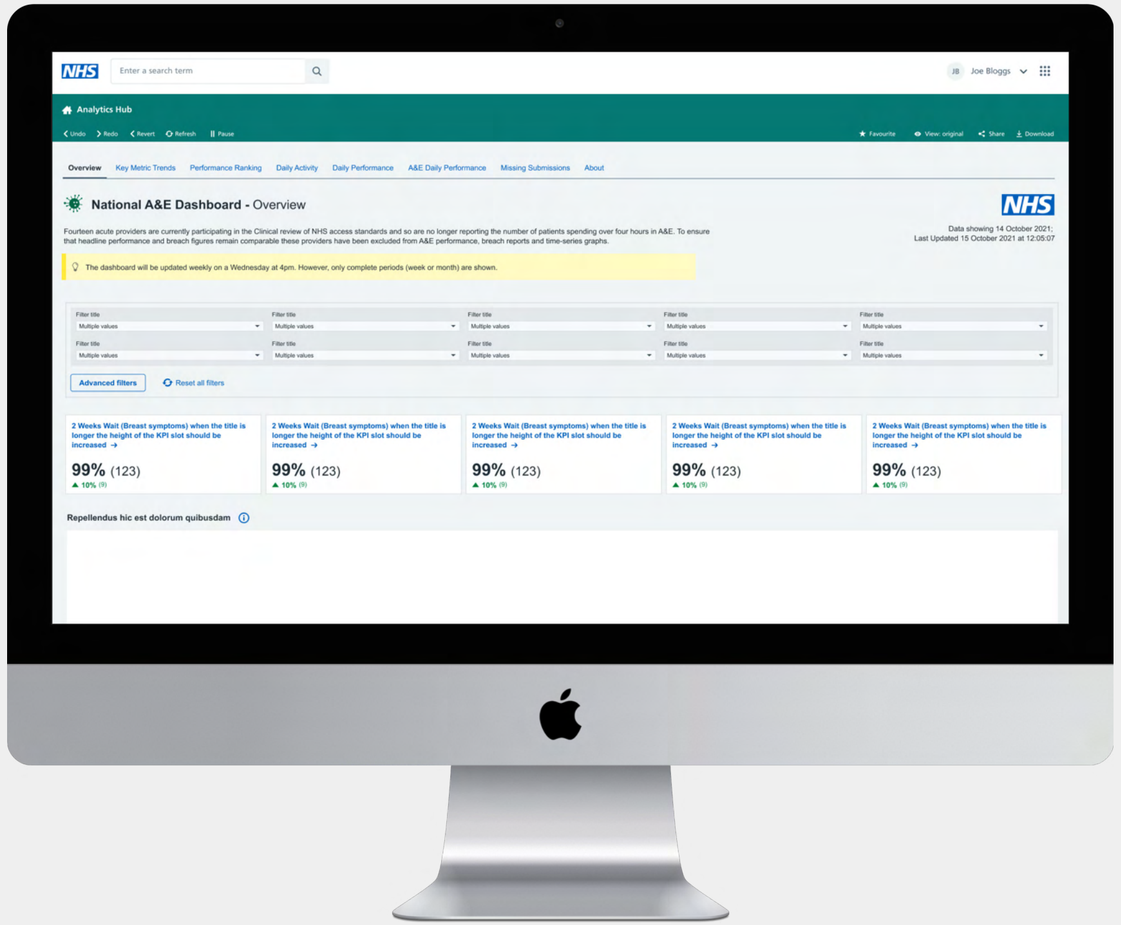
Automatic

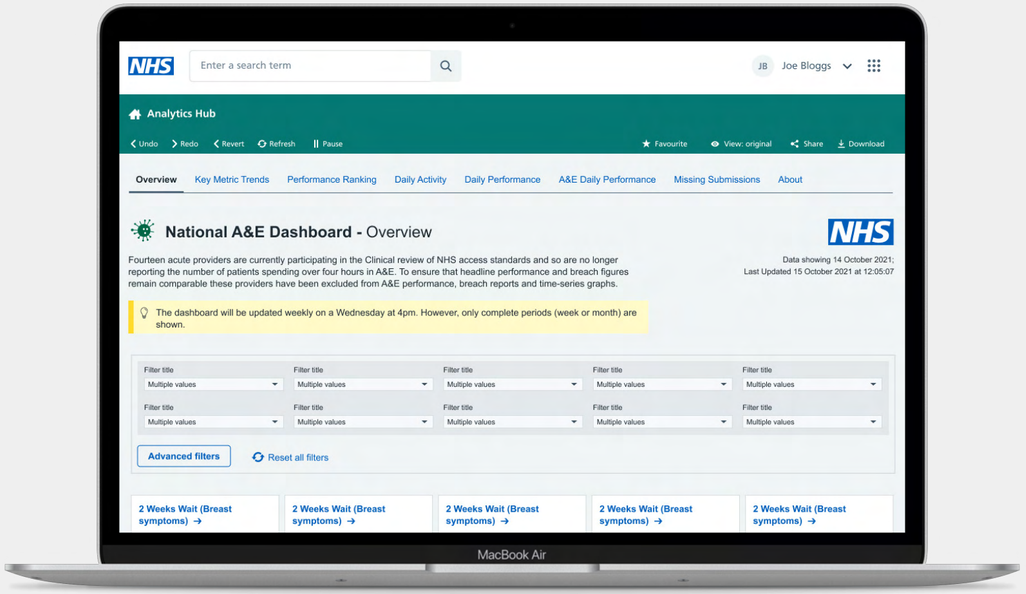
- The dashboard automatically resizes to fill the window used to display it.
- Use this setting if you want Tableau to take care of any resizing. For best results, use a tiled dashboard layout.



Desktop (range above 800 pixels)

- If the user is looking at the dashboard in a browser that is less than 1200 pixels width then a horizontal scroll bar should appear.
- If the user is viewing the dashboard in a browser that is wider than 1920 pixels, then the dashboard has to be centre aligned to the screen by leaving space on either side.
- Based on the screen size, the width of the elements (filter dropdowns, KPIs) should change but not the space between them.
- Five filters per row.
- Six KPIs per row.





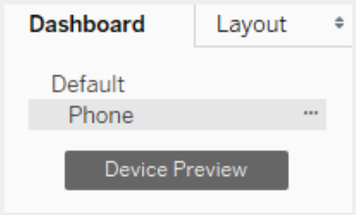
england.analyticsproductsteam@nhs.net

Tablet (range between 501 - 800 pixels)

- If the user is viewing the dashboard in a screen range between 501-800, then the tablet layout should be populated.
- Three filters per row.
- Four KPIs per row.
- Please note, as users will not be able to do the hover on touch devices (mobile & tablet), avoid tooltips and hover actions. It is advisable to complete your dashboard before setting this functionality, up otherwise each time you make changes to the dashboard, they need to be done in both views.
- Based on the screen size, the width of the elements (filter dropdowns, KPIs) should change but not the space between them.

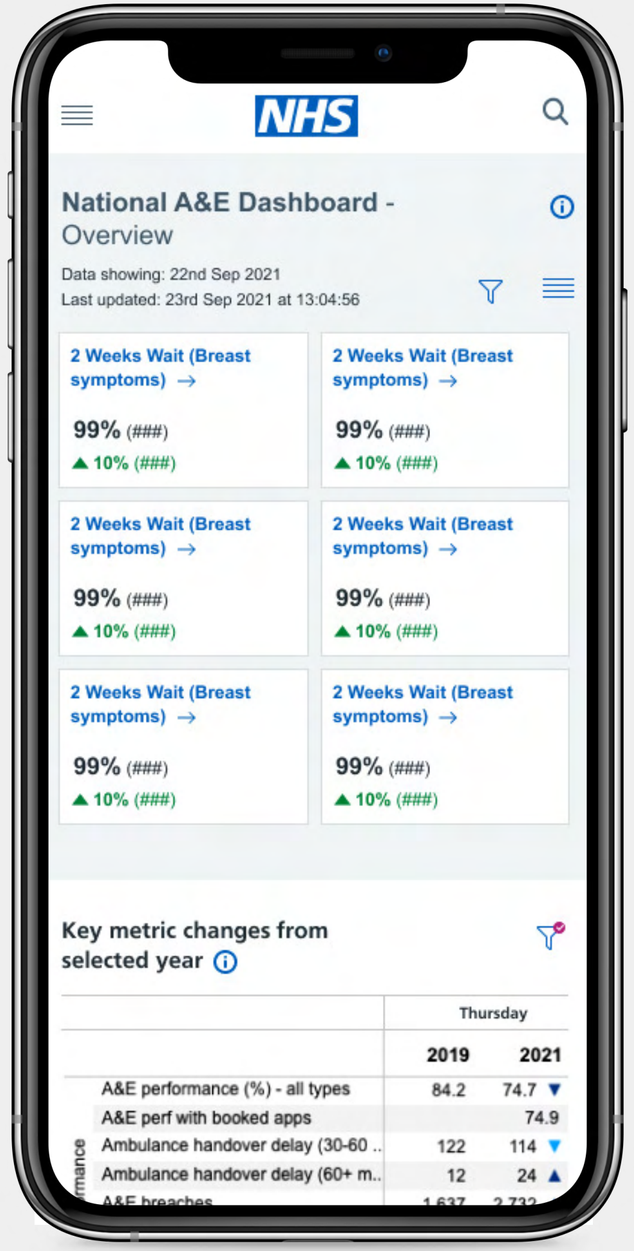
Different views on Tableau

Tableau gives you the option to create different views based on a user's device.



Mobile (range between 500 or less)

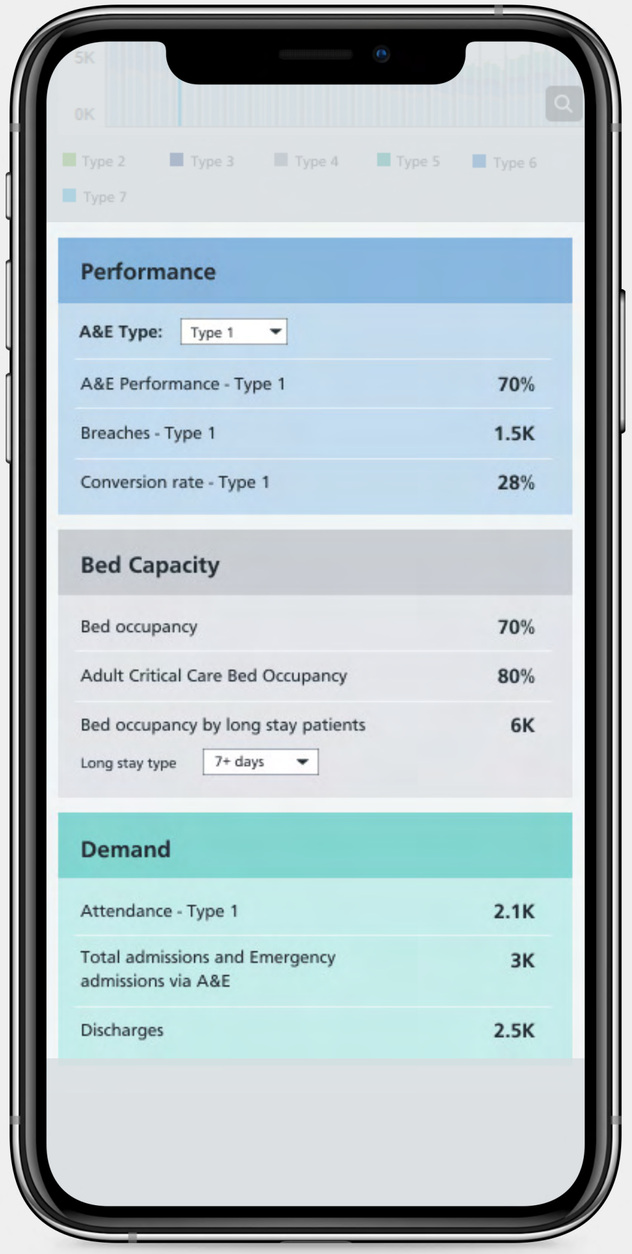
- If the user is viewing the dashboard in a screen range of fewer than 500 pixels, then the mobile layout should be populated.
- Three filters per row.
- Four KPIs per row.
- Although we have identified a few patterns/examples on how we can simplify and present the data on mobile devices, we should still look at each dashboard individually to suggest any recommendations or simplify further.
- Because of the limited space on mobile, whereever possible please present only important information. If the user requires a deeper analysis we will ask them to visit the desktop version.
- Do not put graphs side by side.
- Please note, as users will not be able to use the hover on touch devices (mobile & tablet), so avoid tooltips and hover actions. It is advisable to complete your dashboard before setting up this functionality otherwise, each time you make changes to the dashboard, they need to be done in both views.



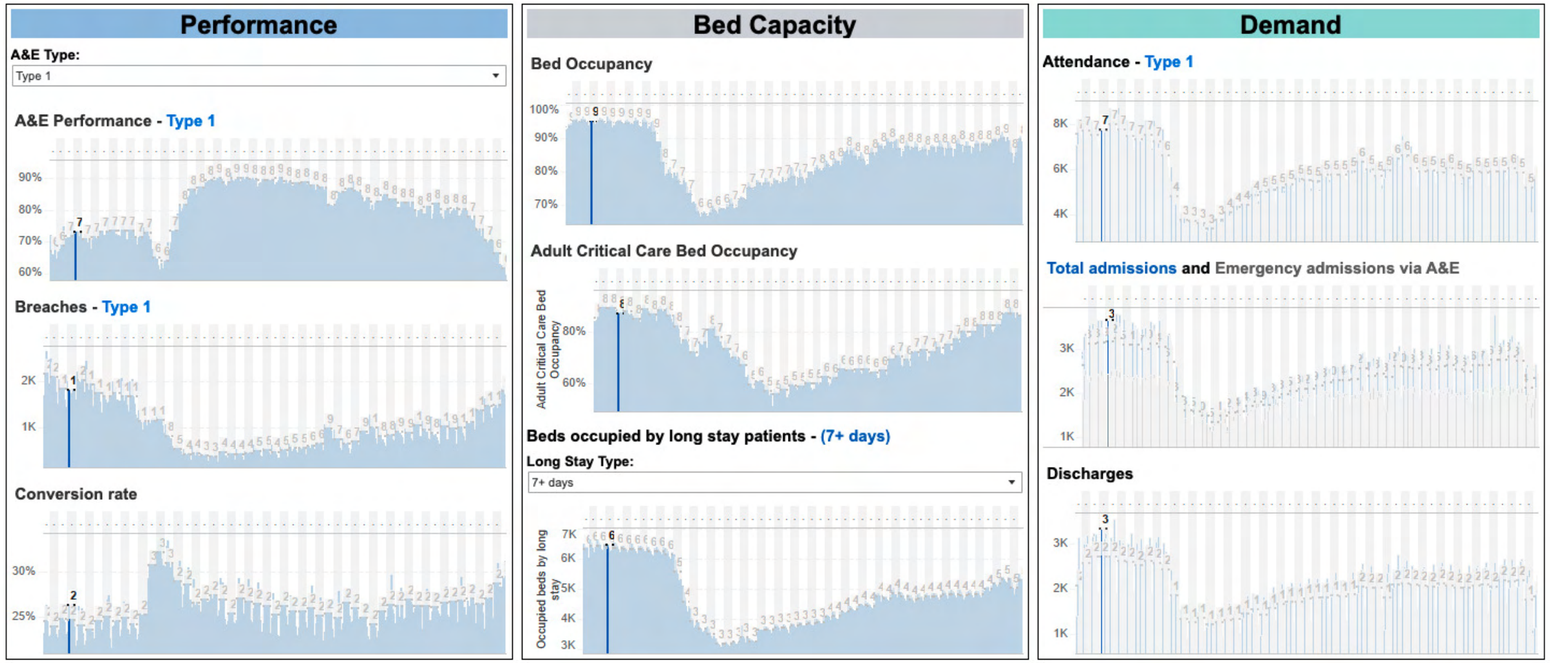
england.analyticsproductsteam@nhs.net

Optimising for Mobile - 1

- This is an example showing how the multiple visualisations with complex data (on desktop) could be simplified for mobile.
- For each category (Performance, Bed Capacity & Demand), we show only the highest values in a tabular format rather than showing the visualisation.



Visualisations on the desktop view:



england.analyticsproductsteam@nhs.net

Optimising for Mobile - 2

- This is also an example to show how the complex tabular data on the desktop could be simplified for mobile.
- Rather than showing multiple days in the table, we could give an option for the user to select a day in the filters (right side screen).

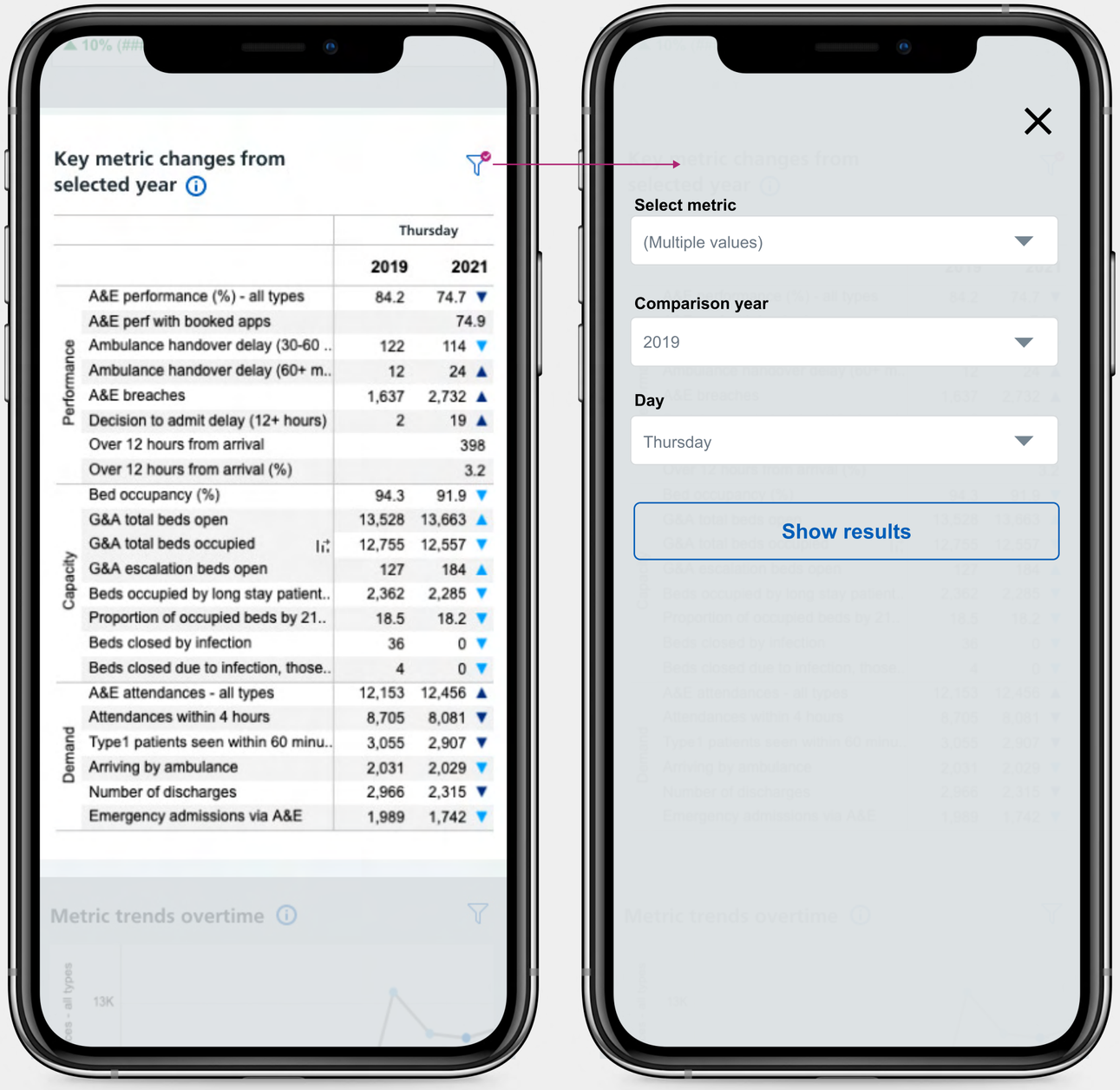


Table on the desktop view:

Select Metric: (Multiple values) | Comparison Year: 2019

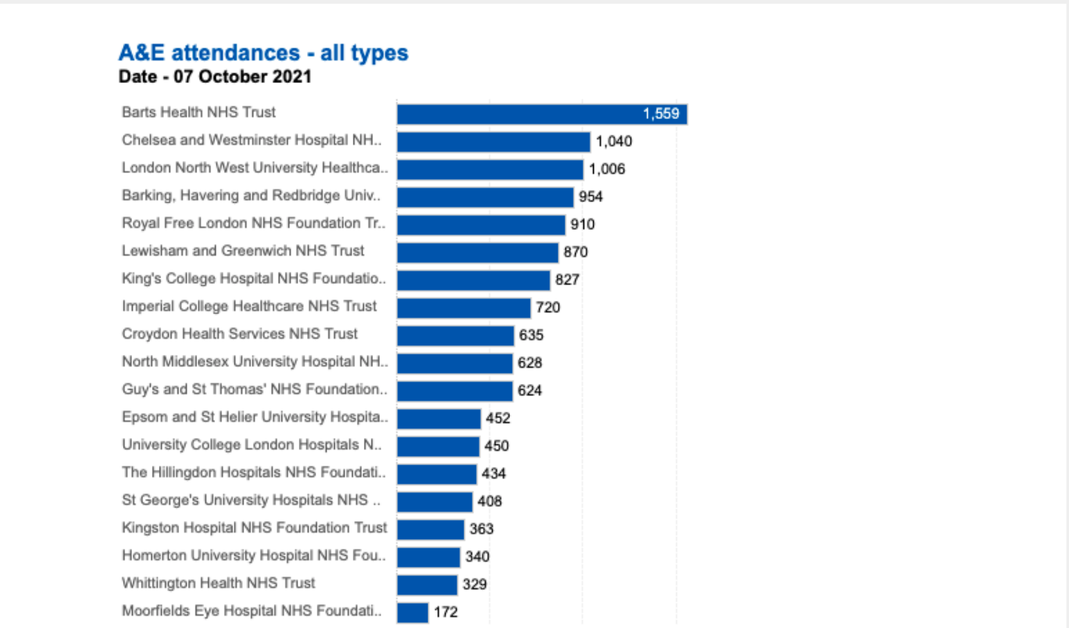
		Thursday		Friday		Saturday		Sunday		Monday		Tuesday		Wednesday	
		2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021
Performance	A&E performance (%) - all types	84.2	74.7 ▼	83.2	75.8 ▼	84.5	74.1 ▼	83.5	75.8 ▼	79.9	73 ▼	82.3	73.1 ▼	82.3	73 ▼
	A&E perf with booked apps		74.9		76		74.4		75.9		73		73.2		73.3
	Ambulance handover delay (30-60 ..	122	114 ▼	74	164 ▲	84	140 ▲	71	156 ▲	158	271 ▲	220	247 ▲	201	253 ▲
	Ambulance handover delay (60+ m..	12	24 ▲	7	29 ▲	1	34 ▲	5	19 ▲	30	83 ▲	27	80 ▲	18	56 ▲
	A&E breaches	1,637	2,732 ▲	1,793	2,642 ▲	1,515	2,554 ▲	1,624	2,368 ▲	2,412	3,254 ▲	1,895	3,046 ▲	1,889	3,028 ▲
	Decision to admit delay (12+ hours)	2	19 ▲	3	27 ▲	4	46 ▲	6	46 ▲	7	31 ▲	7	41 ▲	4	7 ▲
	Over 12 hours from arrival		398		395		307		284		392		388		367
	Over 12 hours from arrival (%)		3.2		3.1		2.7		2.5		2.8		3		2.8
Capacity	Bed occupancy (%)	94.3	91.9 ▼	93.2	89.9 ▼	92.3	89.6 ▼	94	90.6 ▼	95.1	91.5 ▼	95.4	91.3 ▼	95.4	90.8 ▼
	G&A total beds open	13,528	13,663 ▲	13,489	13,633 ▲	13,514	13,608 ▲	13,492	13,616 ▲	13,516	13,798 ▲	13,585	13,764 ▲	13,516	13,759 ▲
	G&A total beds occupied	12,755	12,557 ▼	12,574	12,262 ▼	12,471	12,196 ▼	12,688	12,339 ▼	12,858	12,629 ▼	12,961	12,560 ▼	12,898	12,491 ▼
	G&A escalation beds open	127	184 ▲	95	174 ▲	117	203 ▲	131	184 ▲	141	223 ▲	148	207 ▲	111	192 ▲
	Beds occupied by long stay patient..	2,362	2,285 ▼	2,348	2,241 ▼	2,393	2,237 ▼	2,414	2,201 ▼	2,381	2,225 ▼	2,330	2,230 ▼	2,324	2,211 ▼
	Proportion of occupied beds by 21..	18.5	18.2 ▼	18.7	18.3 ▼	19.2	18.3 ▼	19	17.8 ▼	18.5	17.6 ▼	18	17.8 ▼	18	17.7 ▼
	Beds closed by infection	36	0 ▼	34	2 ▼	41	2 ▼	37	2 ▼	35	1 ▼	4	2 ▼	4	1 ▼
	Beds closed due to infection, those..	4	0 ▼	2	0 ▼	6	0 ▼	6	0 ▼	6	0 ▼	3	0 ▼	2	0 ▼
Demand	A&E attendances - all types	12,153	12,456 ▲	12,369	12,640 ▲	11,533	11,482 ▼	11,563	11,415 ▼	14,054	13,886 ▼	12,484	13,048 ▲	12,488	12,953 ▲
	Attendances within 4 hours	8,705	8,081 ▼	8,859	8,270 ▼	8,256	7,321 ▼	8,240	7,435 ▼	9,596	8,794 ▼	8,839	8,258 ▼	8,766	8,189 ▼
	Type1 patients seen within 60 minu..	3,055	2,907 ▼	3,029	2,936 ▼	2,828	2,573 ▼	2,646	2,599 ▼	2,943	2,976 ▲	2,878	2,826 ▼	3,019	3,133 ▲
	Arriving by ambulance	2,031	2,029 ▼	2,176	2,014 ▼	2,054	1,872 ▼	2,055	1,863 ▼	2,205	2,195 ▼	2,096	2,102 ▲	2,106	2,089 ▼
	Number of discharges	2,966	2,315 ▼	3,264	2,667 ▼	1,894	1,528 ▼	1,577	1,157 ▼	2,571	1,961 ▼	2,877	2,363 ▼	2,908	2,238 ▼
	Emergency admissions via A&E	1,989	1,742 ▼	2,010	1,766 ▼	1,709	1,569 ▼	1,714	1,398 ▼	1,977	1,596 ▼	1,987	1,718 ▼	1,998	1,692 ▼

england.analyticsproductsteam@nhs.net

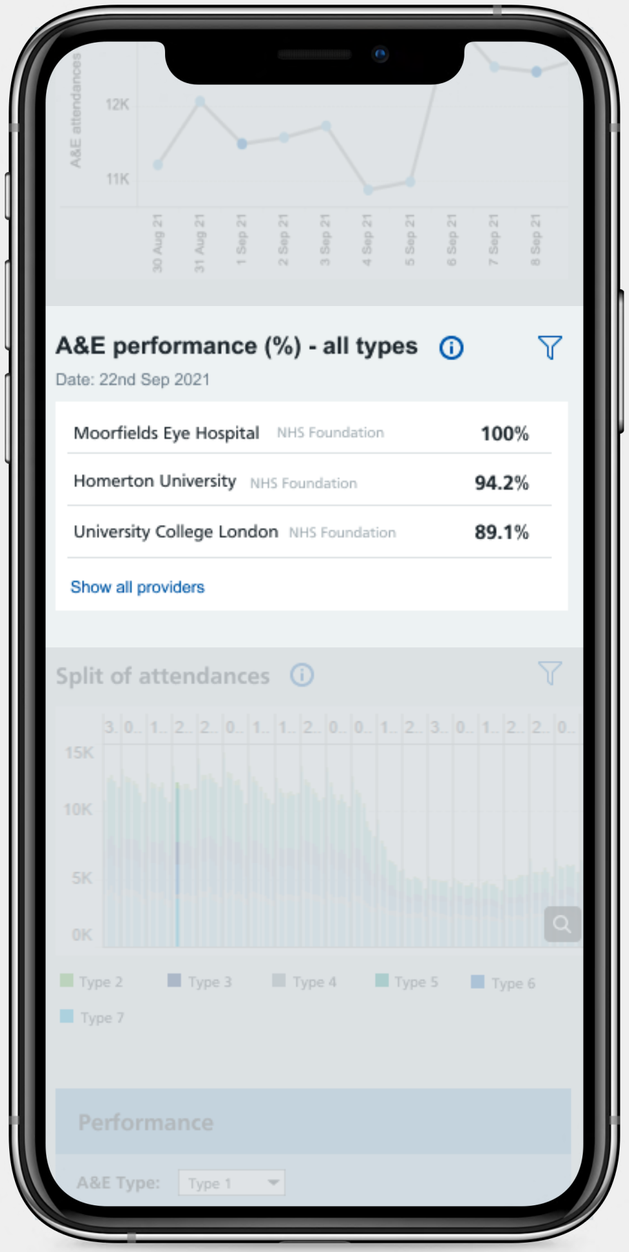
Optimising for Mobile - 3

- **Option 1:** Show the three topmost performing providers by default. Users could still see the complete list of providers by clicking on the link ‘Show all providers’.
- **Option 2:** The number of items shown in the list has been reduced for the mobile version. Users can see the complete list by clicking on the link ‘Show all providers’.

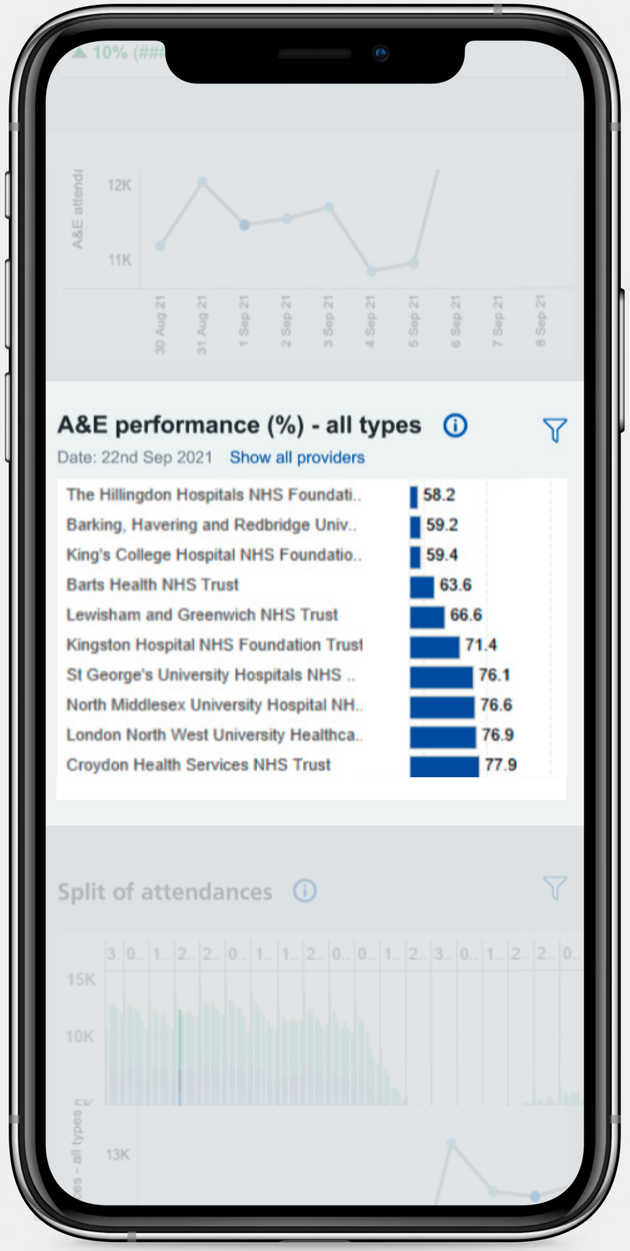
Providers list on desktop view



Option 1



Option 2



england.analyticsproductsteam@nhs.net

14 Logo guidelines

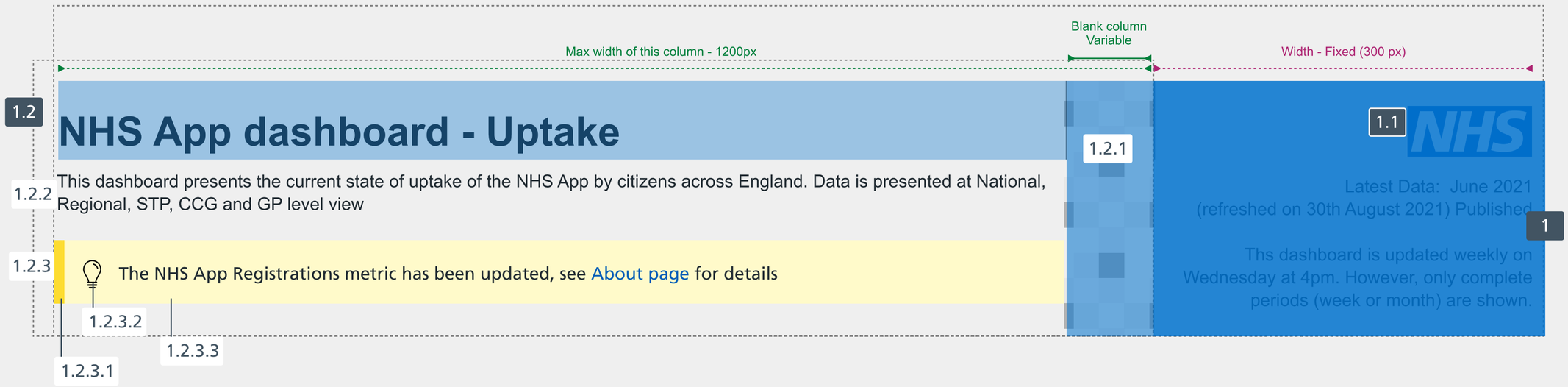
- Type and NHS England logo should always be reproduced in 100% solid colour, never in a tint.
- The NHS England logo should never be reversed out of a tint, only out of 100% solid NHS blue.
- 100% solid NHS blue should always be the dominant colour over any tints.
- Desktop logo: height 40px, width 75px, margin 32px

15 Heading + Intro

1. Entire horizontal container, contains two objects (1.1 & 1.2):

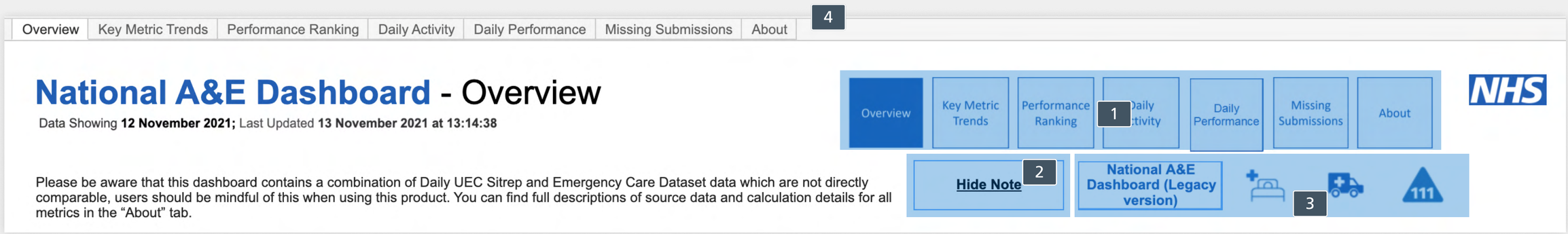
    1.1. The date sheet should be of the fixed width of 300px;
    1.2. A second horizontal container should be set to variable width. Inside this container is:
        1.2.1 A variable width blank.
        1.2.2 The heading area and the blurb on the left side should set to the maximum width of 1200px.
        1.2.3 Horizontal container with the light yellow (#FFFACA) - 16px for top & bottom padding - containing:

            1.2.3.1 Blank of 8px Dark yellow (#FDDC31).
            1.2.3.2 <Bulb/Exclamation icon> 24px.
            1.2.3.3 Text box for the message.



Guidelines for header area

1. Do not add any buttons in the header area for navigation purposes. Users can navigate between the tabs in the workbook using the default tabs. In the example below, the buttons are doing the same job as tabs, so the buttons are not necessary. This repetition makes the header look busy.
2. Please do not use the ‘Hide note’ functionality in the header area.
3. In the example, the three icons redirect users to different dashboards.
   a. Firstly these icons are not intuitive because there is no label associated with them.
   b. Secondly, these will increase the visual clutter.
      The purpose of these icons is to help the users who would like to do a deeper analysis of certain indicators on the dashboard. We recommend having the links to the related dashboards within/at certain indicators on the dashboard, rather than showing on the top of the page. For example, the icon with bed links to ‘Long stays dashboard’, which is useful for the users who are interested in doing the deeper analysis of ‘Bed consumption’ which is one of the indicators on this dashboard. Place the ‘Long stays dashboard’ link within the ‘Bed consumption’ indicator but not in the header. The same rule applies to other icons too.
4. If they are any dashboards that are useful for the users to access while using a particular dashboard, we can place them within a new tab called ‘related dashboards’.



16 Typography

Typefaces are an important element of the NHS identity. The consistent use of the permitted typefaces helps to create a unified approach for patients and the public.

Fonts

The primary NHS typeface is Frutiger, but this is not always available on programmes such as Tableau, so the font Arial should be used.
This is a widely available typeface that all users should have free access to. Given its availability, Arial is used for internally produced documents like letters, internal communications and Powerpoint presentations.

Arial Bold

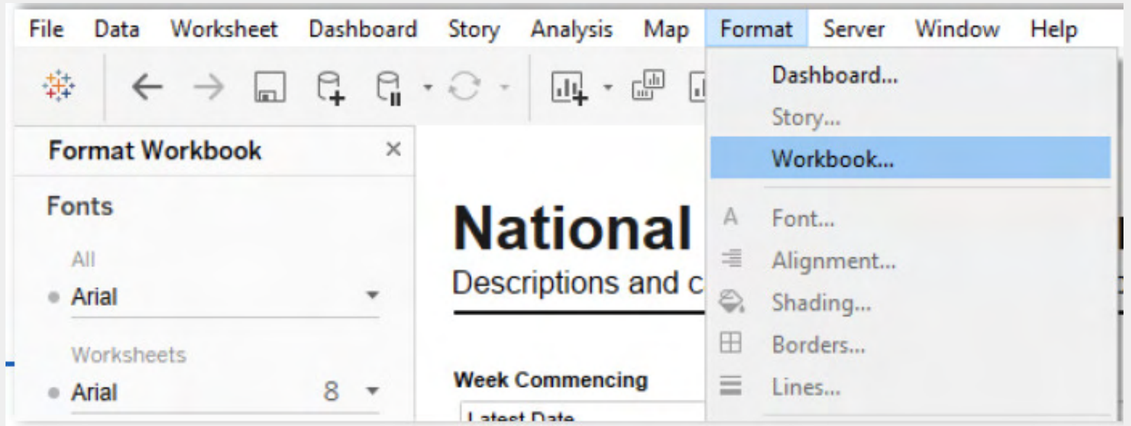
Aa

Arial Regular

Aa

Font size

Font should not be smaller than point size 10. Size 12 is recommended where possible for accessibility reasons.
Setting your font type and size at the start of design could save a few hours of formatting. Go to “Format” and “Workbook…” to set your preferences.



england.analyticsproductsteam@nhs.net

Typography - Best practices

- Make sure your language is easy to understand.
- If using acronyms, ensure these are explained the first time they appear or in a information tooltip.
- Avoid abbreviations and technical jargon where possible.
- Users may avoid reading large blocks of text, especially if there are charts and graphs to look at so try to keep it short.
- Emphasise key information and deemphasise the information that is less important.
- Try not to mix or overuse too many features, colours or sizes. Use just one if possible or it may become distracting and difficult to read.
- Use UK spelling and grammar.
- Avoid fonts smaller than size 10.
- Only the title of the dashboard should be Title Case. Everything else should be in Sentence case - tab names, metric names, sentences, directions.

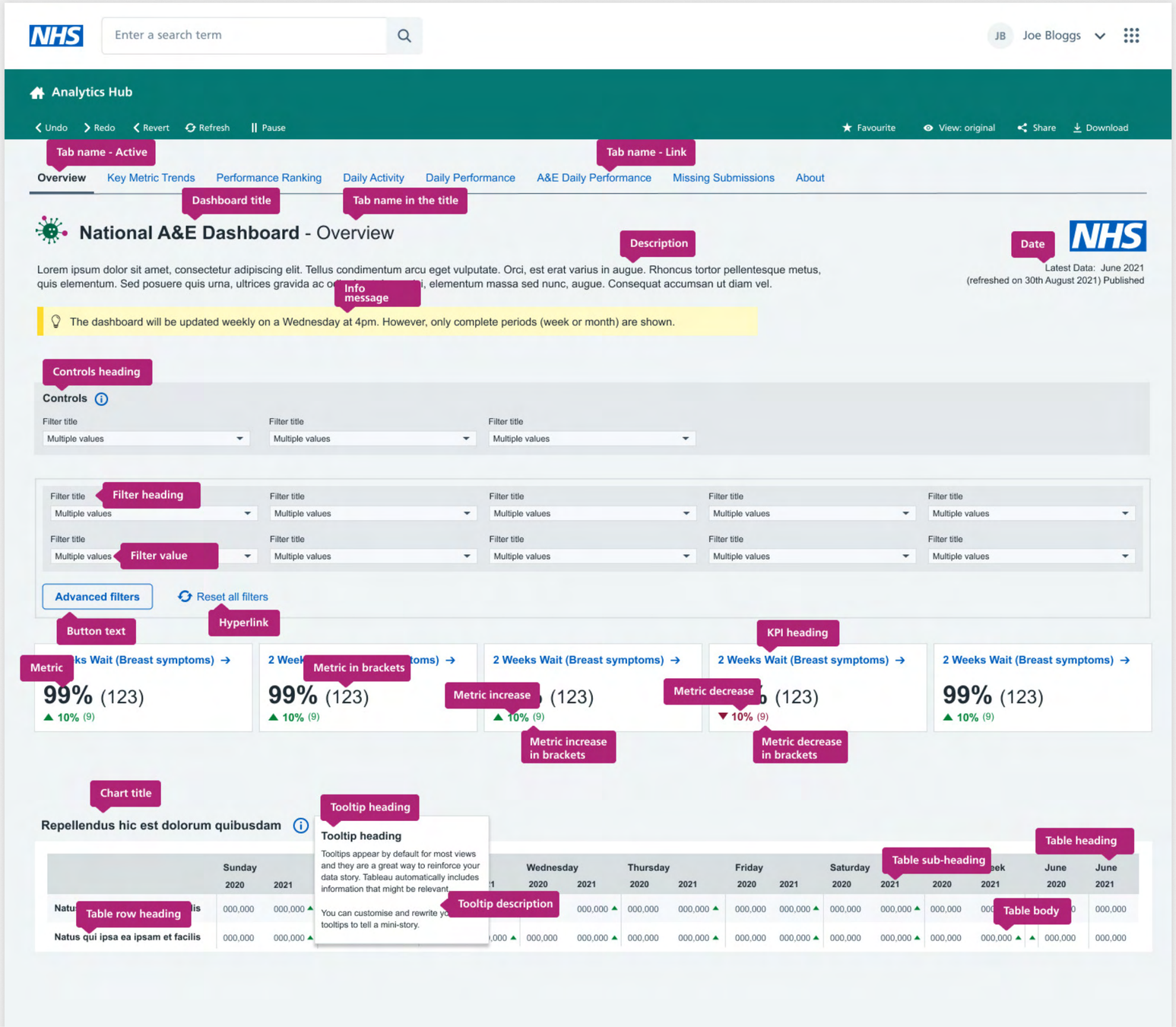
Objects	Font	Weight	Size	Colour	HEX Code	Alignment
Dashboard title	Arial	Bold	24px / 18pt	NHS Black	#212B32	Left
Tab name in the title	Arial	Regular	24px / 18pt	NHS Black	#212B32	Left
Description / Paragraph	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Info / Warning message	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Date	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
KPI heading	Arial	Bold	15px / 11pt	NHS Black	#212B32	Left
KPI heading as link	Arial	Bold	15px / 11pt	NHS Blue	#005EB8	Left
Metric	Arial	Bold	32px / 24pt	NHS Black	#212B32	Left
Metric in brackets	Arial	Regular	24px / 18pt	NHS Black	#212B32	Left
Metric decrease	Arial	Bold	15px / 11pt	NHS Dark Red	#8A1538	Left
Metric decrease in brackets	Arial	Regular	15px / 11pt	NHS Dark Red	#8A1538	Left
Metric increase	Arial	Bold	15px / 11pt	NHS Dark Green	#007F3B	Left
Metric increase in brackets	Arial	Regular	15px / 11pt	NHS Dark Green	#007F3B	Left
Controls heading	Arial	Regular	16px / 12pt	NHS Black	#212B32	Left

Objects	Font	Weight	Size	Colour	HEX Code	Alignment
X-axis / Y-axis variables	Arial	Regular	13px / 10pt	NHS Grey 1	#4C6272	Centre
Value on bars (light colour)	Arial	Regular	13px / 10pt	NHS Grey 5	#F2F2F2	Centre
Value on bars (dark colour)	Arial	Regular	13px / 10pt	NHS Grey 1	#4C6272	Centre
Caption	Arial	Regular	13px / 10pt	NHS Grey 1	#4C6272	Left

Controls heading - 12pt bold

Objects	Font	Weight	Size	Colour	HEX Code	Alignment
Filter title	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Filter body	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Table heading	Arial	Bold	16px / 12pt	NHS Black	#212B32	Left
Table column heading	Arial	Bold	15px / 11pt	NHS Grey 1	#4C6272	Left
Table column Sub-heading	Arial	Bold	15px / 11pt	NHS Grey 1	#4C6272	Left
Tab row heading	Arial	Bold	15px / 11pt	NHS Grey 1	#4C6272	Left
Table body / Rows	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Tooltip heading	Arial	Bold	16px / 12pt	NHS Grey 1	#4C6272	Left
Tooltip description	Arial	Regular	15px / 11pt	NHS Grey 1	#4C6272	Left
Button text	Arial	Bold	16px / 12pt	NHS Blue	#005EB8	Centre
Hyperlink	Arial	Regular	16px / 12pt	NHS Blue	#005EB8	Left
Chart heading	Arial	Bold	16px /12pt	NHS Black	#212B32	Left
Legends	Arial	Regular	13px / 10pt	NHS Grey 1	#4C6272	Left
X-axis / Y-axis labels	Arial	Regular	12px / 9pt	NHS Grey 3	#768692	Centre

Font sizes & font colour: Arial



england.analyticsproductsteam@nhs.net

17a Filters

The following tips will help to optimise the efficacy of your filters.

- Try to apply filters to all the views in one dashboard unless there is a strong reason to have separate filters for each view. Users should not have to search around the page to cancel previous choices.

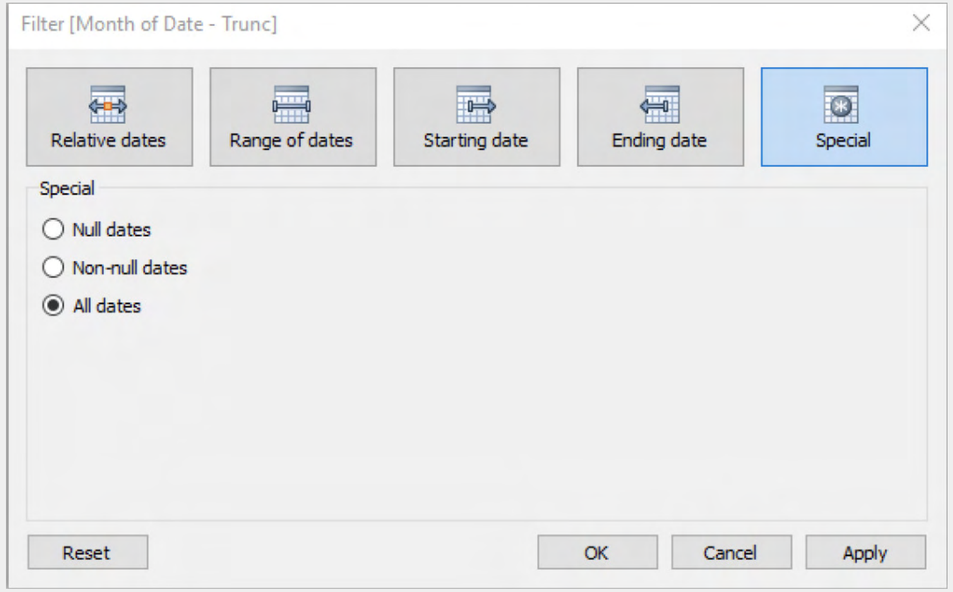
- Make sure the values in the quick filter are ordered in a way that makes sense for your data. You can specify the order of a quick filter by setting the default sort order for that field.

- If your user can make multiple selections within a Filter dropdown then use an ‘apply’ button.

- Slider filters are great for date and numerical values, while list filters are better for categorical data. If your filter is continuous it may show date and time when published to prod, you can avoid this by making your date filter discrete with Day(Date), Month(Date), etc.

- Discrete date filters can be set to filter to the latest date value in the data source.

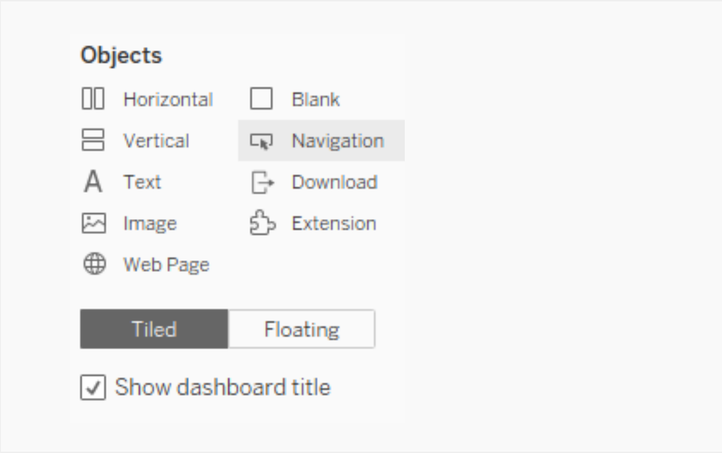
- If your users require start and end dates on the slide filter, this will not automatically update when new data comes through. To avoid this, instead of filtering on range of dates, choose ‘all dates’ on the ‘special’ tab and turn the filter into a slider.



england.analyticsproductsteam@nhs.net

How to add a button on the dashboard

1. You can use the ‘button’ object on the bottom left hand side.
2. Drag it to the dashboard like an image or text box.
3. Click the ‘edit button’ to define its attributes.
4. You can add this button as an image or as a text.
5. Test it in the presentation mode to make sure it is working correctly.



To use buttons as filters

1. Add a button as mentioned above.
2. Add the filters you want to implement onto filter.
3. Once placed in the dashboard:
   a. go to dashboard ‘actions’
   b. check the shape sheet in the first box, and the sheet to be filtered on the next

Button to reset all filters in a dashboard

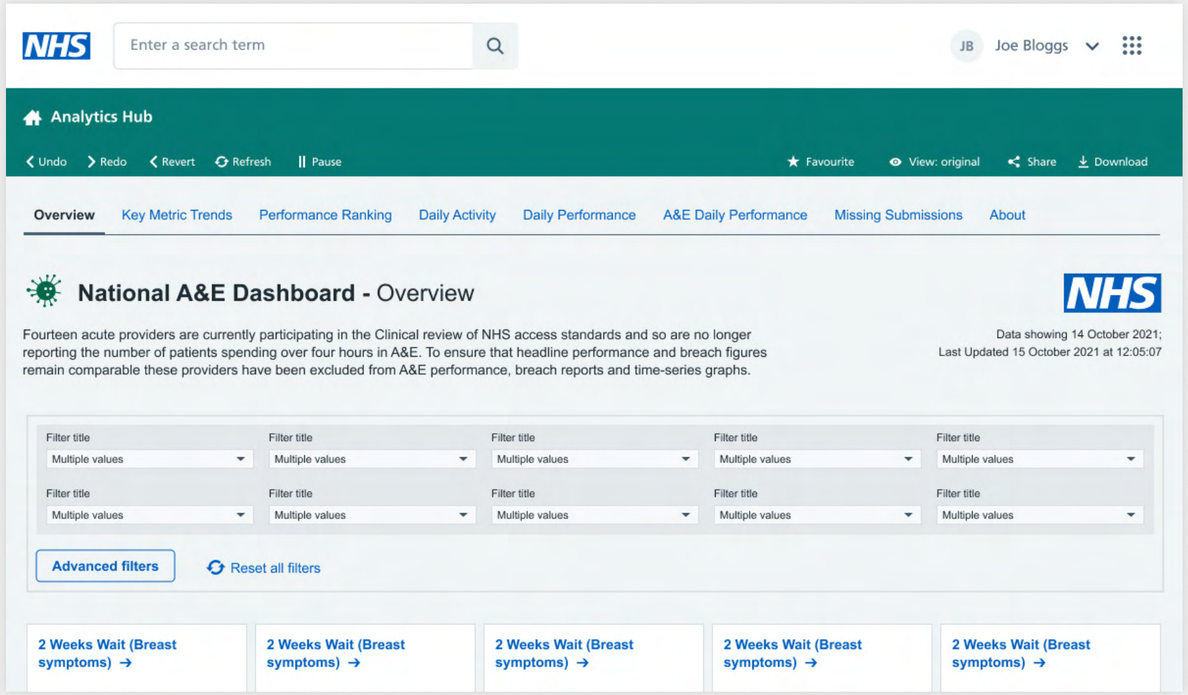
How to create a "reset button" for all filters in a dashboard.

Useful links:

- For more information on **Buttons**
- How to **create a reset button** for all filters in the dashboard

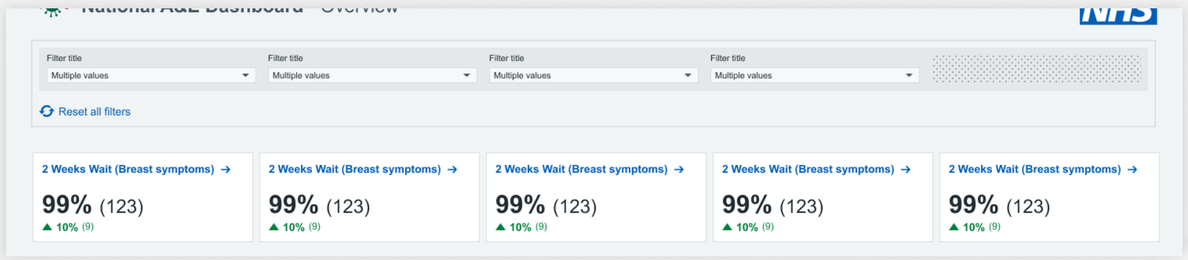
Filters summary

- The filters on a dashboard should span across the width of the navigation line left aligned to the dashboard.
- Maximum of two rows (10 filters) should display on a dashboard. If more filters are required, then they should be included in the ‘advanced filters’ container.
- Filters should always show a reset link, which resets all of the filters applied incuding the advanced filters.
- When adding filters to a dashboard do not change the font colour and size on the worksheet. The font colour will be set in the template.
- Advanced filters button is optional and should be added only if there are more than 10 filters.



Filters size

- All filters should be in equal width the container width in which filter sits should set to variable.
- The spacing between each filter container should always be 16px.
- Based on the screen size, the width of the each filter’s container width should change, but not the spacing between them.
- There can be any number of filters on a dashboard but a maximum of five should display in a row.



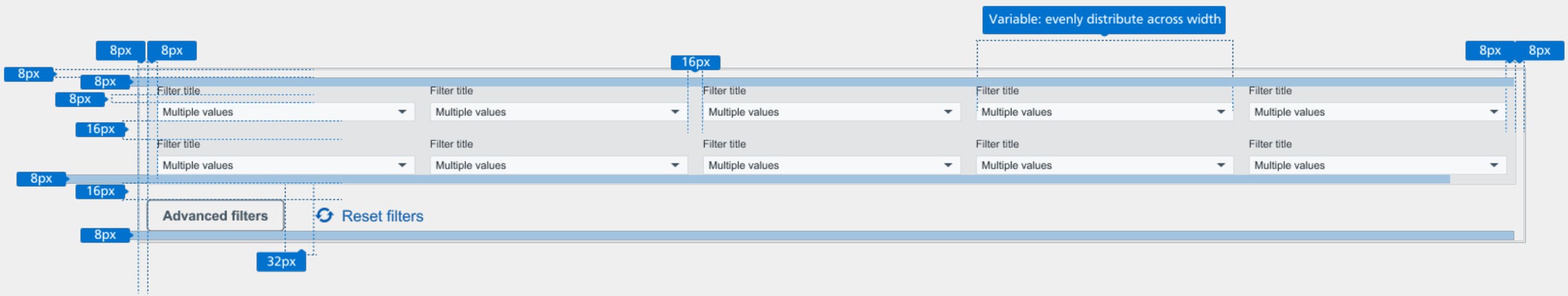
Filters - empty slot:

- If there are <5 filters on a dashboard, then the rest of the filter container slots should be left as empty and set a variable width similar to the other filter containers.

england.analyticsproductsteam@nhs.net

Filters in two rows - desktop

- Filters should always show a reset link, which resets all of the filters applied incuding the Advanced filters.
- Only five filters should appear in a row for desktop, for 10 filters they have to slipt into two rows.
- When adding filters to a dashboard do not change the font colour and size on the worksheet. The font colour will be set in the template.
- ‘Advanced filters’ button is optional and should be added only if there are more than 10 filters.

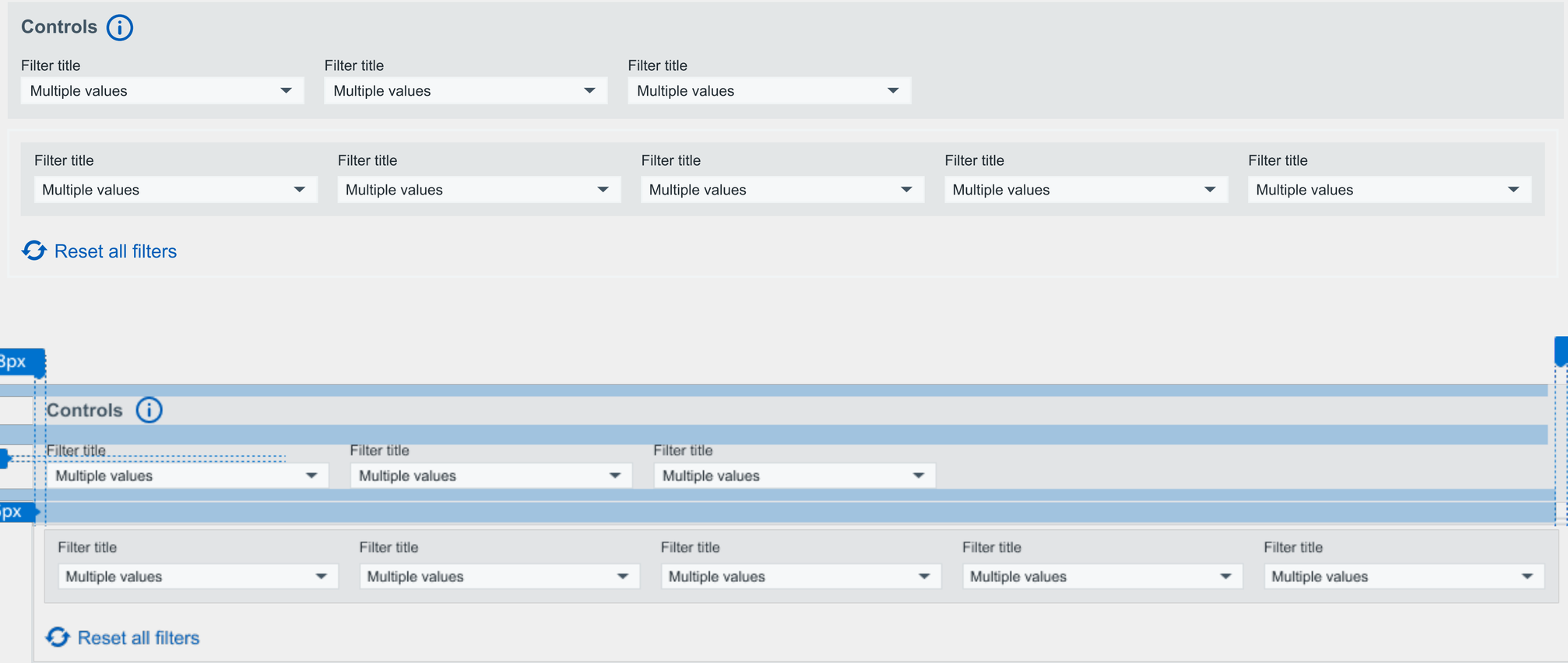


england.analyticsproductsteam@nhs.net

Filters with controls

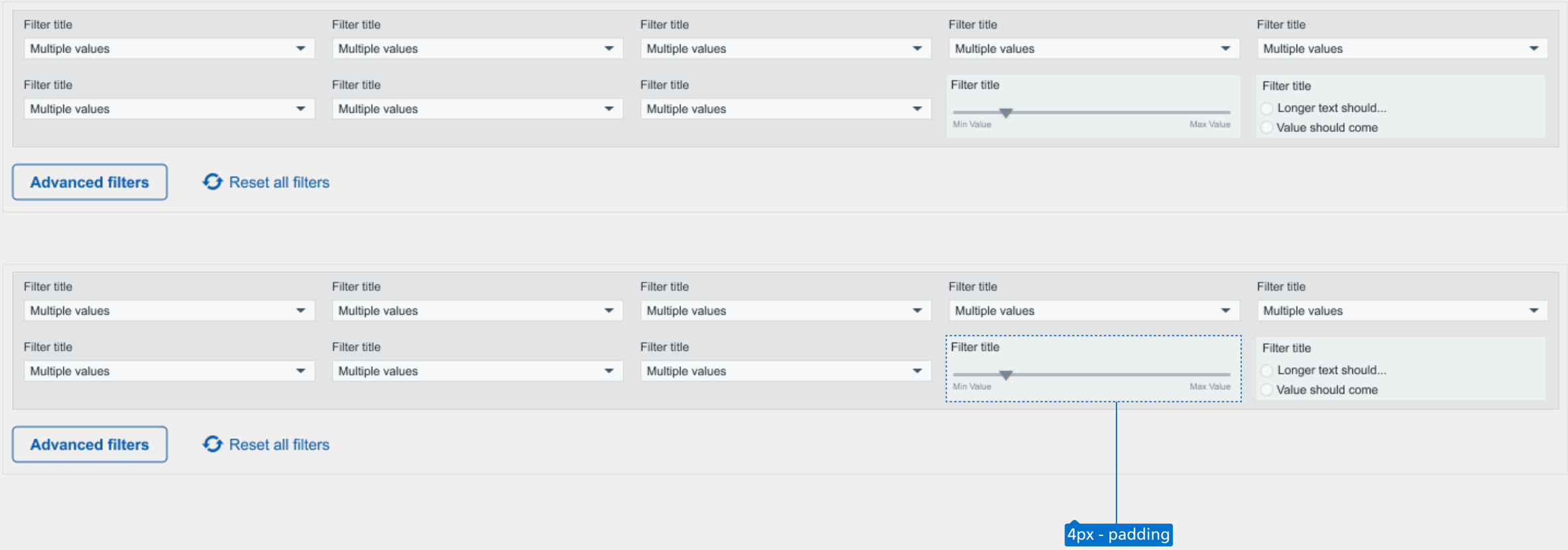
Few dashboards may require extra Controls along with the filters. The purpose of the controls is to change the way the measures are being calculated.
Eg: Absolute values, 7 day rolling average, Population rates.

Note: Controls and filters will both work in conjunction to refine the data.



Filters with radio buttons & sliders

- Based on the data we populate on the dashboard, it may required to use radio buttons and sliders as filters.
- As per the examples below, radio buttons and sliders should appear with a background colour (#EDF0F1) in their containers.



england.analyticsproductsteam@nhs.net

Filters in context

- If any filters are applicable only for a certain vizualisation then those filters should sit within its card layout, as shown below.

Repellendus hic est dolorum quibusdam ⓘ

Filter title: Multiple values | Filter title: Multiple values | Filter title: Multiple values

		Thursday		Friday		Saturday		Sunday		Monday		Tuesday		Wednesday		2019 Week
		2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	
Performance	A&E performance (%) - all types	81.6	78.4 ▼	80.5	76.4 ▼	82.2	75.9 ▼	83.7	75.3 ▼	82.3	72.4 ▼	81	74.5 ▼	81.7	75.3 ▼	81.7
	A&E perf with booked apps		78.6		76.5		76.3		75.3		72.6		74.7		75.5	
	Ambulance handover delay (30-60 ..	190	221 ▲	245	196 ▼	144	241 ▲	167	162 ▼	273	238 ▼	228	256 ▲	222	210 ▼	723
	Ambulance handover delay (60+ m..	31	53 ▲	19	80 ▲	23	43 ▲	8	37 ▲	124	99 ▼	31	90 ▲	59	58 ▼	214
	A&E breaches	1,916	2,196 ▲	2,024	2,425 ▲	1,776	2,234 ▲	1,583	2,391 ▲	2,099	3,280 ▲	2,058	2,838 ▲	1,963	2,570 ▲	6,120
	Decision to admit delay (12+ hours)	5	12 ▲	5	21 ▲	10	8 ▼	5	31 ▲	1	63 ▲	4	14 ▲	7	4 ▼	12
	Over 12 hours from arrival		284		305		284		308		378		387		303	
	Over 12 hours from arrival (%)		2.4		2.6		2.6		2.7		2.7		3		2.7	
	Bed occupancy (%)	95.5	91.3 ▼	93.7	89.2 ▼	93.6	88.7 ▼	95.1	90 ▼	95.5	91.3 ▼	95.5	92.2 ▼	95.9	93.5 ▼	95.6

17b Advanced filters

- All secondary filters which help to refine the data should be treated as ‘advanced filters’.

- The button ‘advanced filters’ should appear only if there are advanced set of filters for a dashboard.

- We suggest to show the filters only up to two rows on desktop (10 filters) by default, if you need more than that, then the rest of filters should be treated as ‘advanced filters’.

- Three different examples for ‘advanced filters’:
  a. Which **do not require** info to describe the filters.
  b. Which requires **short info** to describe the filters.
  c. Which requires **long info** to describe the filters.

- The ‘advanced filters’ panel should be fixed to 1200px width (this doesn’t work as a range).

- On clicking ‘advanced filters’ button, the panel with the advanced set of filters should appear just below the main filters by overlapping the elements which are already there on the page.

- When the set of the advanced filters are visible, the button ‘advanced filters’ in the main filters section should be toggled to ‘close advanced filters’. On clicking this button, the panel with advanced set of filters should be closed.

Advanced filters (a)

This set of advanced filters does not require any information to explain all/any advanced filter.

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Close Advanced Filters

Reset all filters

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

▲ 10% (9)

▲ 10% (9)

▲ 10% (9)

▲ 10% (9)

2 Weeks Wait (Breast symptoms) →

99% (123)

▲ 10% (9)

UI specs for the Advanced filters
Padding: 8px;
Background colour: #FFFFFF
Border: 3px
Border colour: #D8DDE0

england.analyticsproductsteam@nhs.net

Advanced filters (b)

This set of advanced filters requires short information to explain all/any filter. The info should be shown in a tooltip when user clicks on the (i) icon.

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Close Advanced Filters

Reset all filters

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Filter title
Multiple values

Tooltip heading

Tooltips appear by default for most views and they are a great way to reinforce your data story. Tableau automatically includes information that might be relevant.

You can customise and rewrite your tooltips to tell a mini-story.

▲ 10% (9)

▲ 10% (9)

▲ 10% (9)

▲ 10% (9)

1200px fixed width

2 Weeks Wait (Breast symptoms) →

99% (123)

▲ 10% (9)

england.analyticsproductsteam@nhs.net

Advanced filters (c)

This set of advanced filters requires long information to explain all/any filter.

Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values
Filter title — Multiple values

Close Advanced Filters Reset all filters

Fine tune the model

We are using a peak comparison

Peak comparison
- ○ Local
- ○ National

Sensitivity level <Large changes | Small changes>
3

Peak comparision

This helps the flagging system to understand what is good/bad for each metric and location. It is based on the metrics value at its peak within the crisis in comparison to the total number of beds available.

Local:
shows flags in comparison to each location's largest peak.

National:
shows flags in comparison to the national peak; to avoid disproportionately flagging trusts that had small peaks on that first wave of the virus

Sensitivity:
A low sensitivity will identify only trusts which have a large rise for their comparative size.

Note: As the sensitivity level rises, trusts will be more likely to flag and by sensitivity level 5, any rise >1 will be flagged. 3 is set as our default and means that if the same level of change

Fine tune the markers

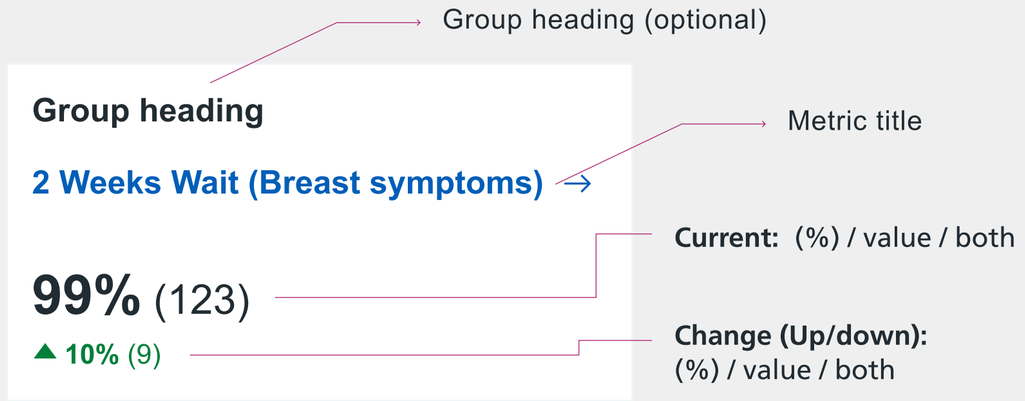
Turn flags on or off to adjust the marker count in the dashboard.

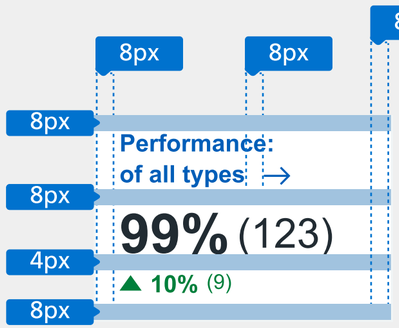
Flag absolute change from 1 day ago:	ON
Flag % change from 1 day ago:	ON
Flag absolute change between last and previous 3 days averages:	OFF
Flag % change between last and previous 3 days averages:	ON
Flag absolute change between last and previous 7 days averages:	ON
Flag % change between last and previous 7 days averages:	OFF
Flag absolute change from forecast mean	ON
Flag % change from forecast mean	OFF

There are up to 8 tests being run on each location on each of the displayed metrics.

18 KPIs

- The width of the KPI slots should change based on the screen size, but not the spacing between them. The space between each KPI slot should always be 8px.
- If there is any description available for the KPI that has to be shown in a tooltip on rollover the KPI slot.
- There can be any number of KPIs shown on a dashboard (we suggest not more than 10), but a minimum of four and a maximum of five slots should be allocated per row to display the KPIs.
- If there are <5 KPIs then we use blank spaces for the remaining slots out of five.
- If a KPI slot has a click-through, then its title should appear in blue colour (#005EB8) along with an arrow, otherwise it should always be in black (#212B32) without an arrow. In any scenario, there shouldn't be a mix of interactive and non-interactive KPIs on the dashboard, which means either all of them should have a click-through or none of them should have it.
- Titles for the KPIs will be pulled dynamically from the data, so during the testing, if we notice the titles are long then increase the height of these KPI slots.





Performance all types

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc vulputate massa tellus et varius pellentesque neque, velit. Id nunc, vestibulum, integer adipiscing eu tincidunt.

Previous: 90% (114)

KPIs per row

There can be any number of KPIs appear on Dashboard (we suggest not more than 10), but a maximum of five slots and a minimum of four should allocate per row to display the KPIs.

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

KPIs - with long titles

2 Weeks Wait (Breast symptoms) when the title is longer the height of the KPI slot should be increased →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) when the title is longer the height of the KPI slot should be increased →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) when the title is longer the height of the KPI slot should be increased →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) when the title is longer the height of the KPI slot should be increased →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) when the title is longer the height of the KPI slot should be increased →

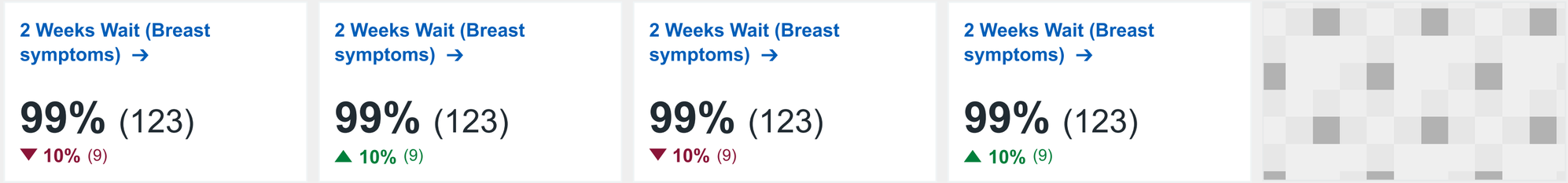
99% (123)
▼ **10%** (9)

england.analyticsproductsteam@nhs.net

KPIs per row - empty slots

If there are <5 KPIs then the remaining slots out of five should left as blank.

As there are only 4 KPIs, the 5th slot was left as blank.



As there are only 3 KPIs, the 4th and 5th slots were left as blank.

As there is only 2 KPIs (which could be a rare case), the 3rd, 4th and 5th slots were left as blank.

england.analyticsproductsteam@nhs.net

KPI variations

Interactive KPIs.
The title will be blue (#005EB8) ending with an arrow, on clciking these users will be redirected to different area of the dashboard

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)
▼ **10%** (9)

Non-interactive KPIs:
The title will be in black (#212B32), there will be no click-throughs on these KPIs

2 Weeks Wait (Breast symptoms)

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms)

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms)

99% (123)
▼ **10%** (9)

2 Weeks Wait (Breast symptoms)

99% (123)
▲ **10%** (9)

2 Weeks Wait (Breast symptoms)

99% (123)
▼ **10%** (9)

england.analyticsproductsteam@nhs.net

KPIs - Grouping

- 5 KPIs should be spread across the screen.
- When there is a mixed scenario of grouped KPIs and individual KPIs then we have to leave an extra space on the top of the slot.
- If possible arrange the KPIs with the groups first followed by the individual KPIs.

Group heading

Performance of all types →

99% (123)

▲ **10%** (9)

Decision to admit delay (12+ hrs) →

99% (123)

▲ **10%** (9)

Handover delay (30-60 mins) →

99% (123)

▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

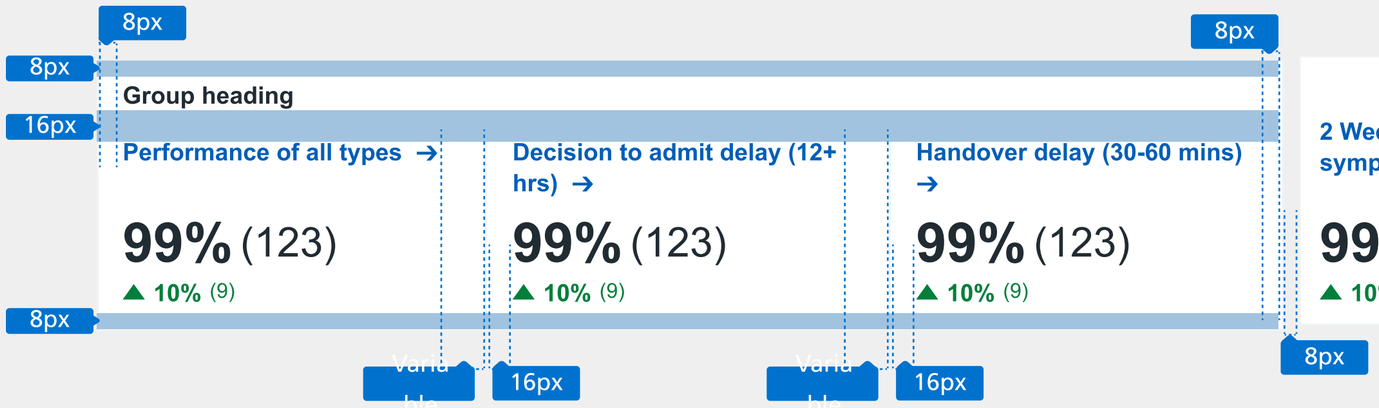
99% (123)

▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)

▼ **10%** (9)



2 Weeks Wait (Breast symptoms) →

99% (123)

▲ **10%** (9)

2 Weeks Wait (Breast symptoms) →

99% (123)

▼ **10%** (9)

19 Tooltips

There are numerous types of tooltips used across the platform and are used to provide more information on a specific area. Tooltips must have a heading and can include supporting text and numbers.

- Tooltip titles should be the most important information a user needs to know.
- Ensure that units are included for all numbers in tooltips.
- The number of decimal places shown as text on a graph or table should match the decimal places of the value shown in the tooltip. Axis decimal places do not need to match this.

Sizing

See example on the right for recommended text, size and spacing.

If you are showing a viz within the tooltip then we suggest the maximum size of that viz should be 710px (W) x 425px (H).

Keep it simple and descriptive

Avoid unnecessary words and especially at the start of the name where it effects the alphabetical listing.

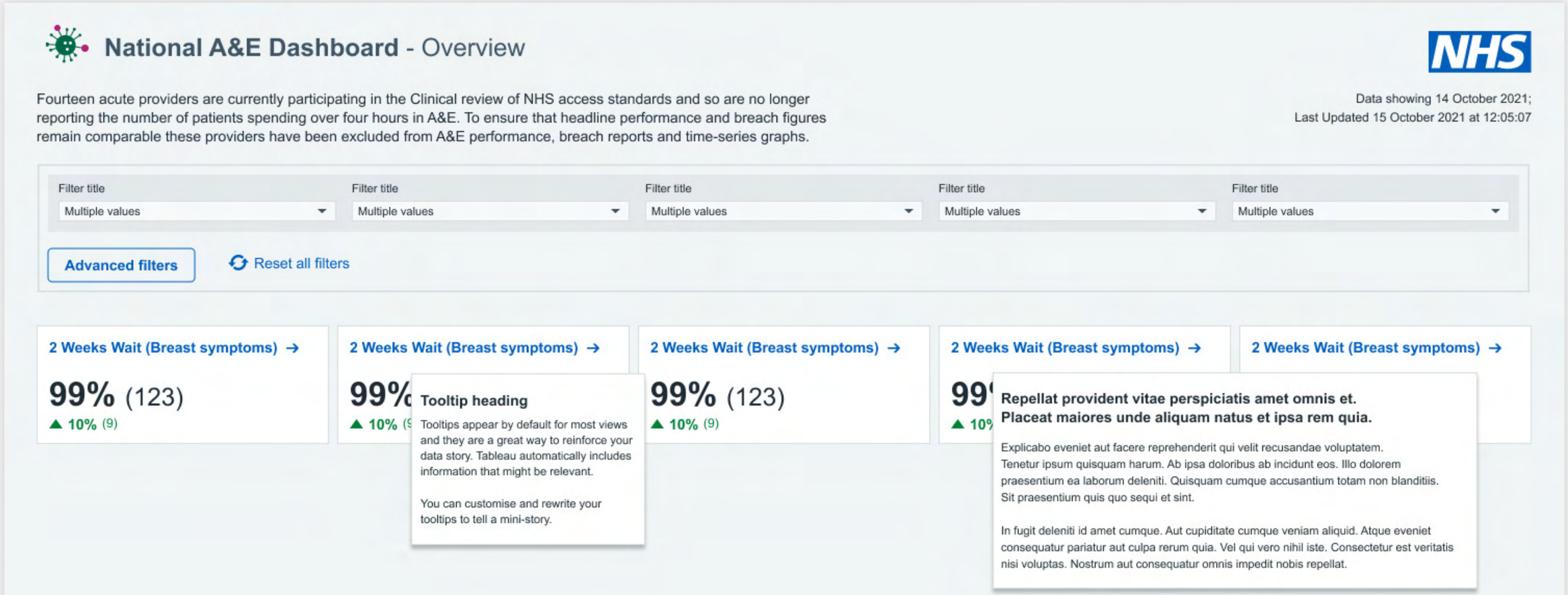
Where possible avoid using acronyms in the product name, unless widely understood
Eg: RTT.

If an acronym needs to be included in the product title, ensure it is also written out in full.
Eg: Summary Emergency Department Indicator Table (SEDIT)

Other tooltips

Some tooltips will have an ‘i’ icon next to the title. Hovering over this ‘i’ will show a tooltop that provides details on how to use/ interpret that visualisation. These tooltips can include supporting text, number and data, an image or annotation.

Example of tooltip



Example of tooltip showing vizs within it (1)

August 2021

2 weeks wait (Cancer suspected)

Performance: (178,617/210,931)*100

84.7%

▲ -0.95%

(Patients seen within target/total patients seen)*100

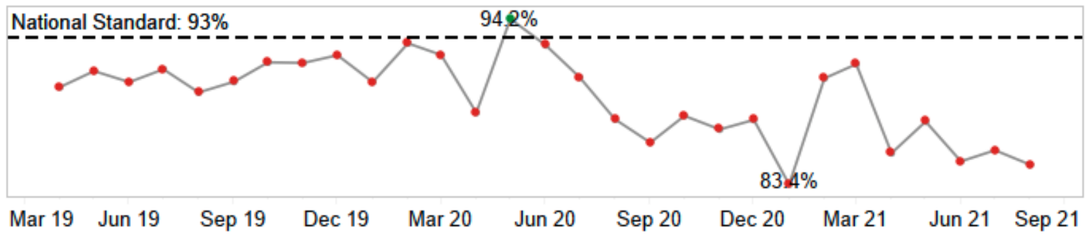
England performance: **84.7%**

Difference as compared to fiscal year:

Fiscal Year	Fiscal Year Compared To	Month		
2021/22	2020/21	Aug	% Diff in Total Patients Seen	24.02%
			% Diff in Patients Seen Within Target	19.82%
			Difference in Performance excl 2WW..	-2.97%
2020/21	2019/20	Aug	% Diff in Total Patients Seen	-15.09%
			% Diff in Patients Seen Within Target	-16.76%
			Difference in Performance excl 2WW..	-1.76%

Performance over time:

Minimum and maximum values are labelled



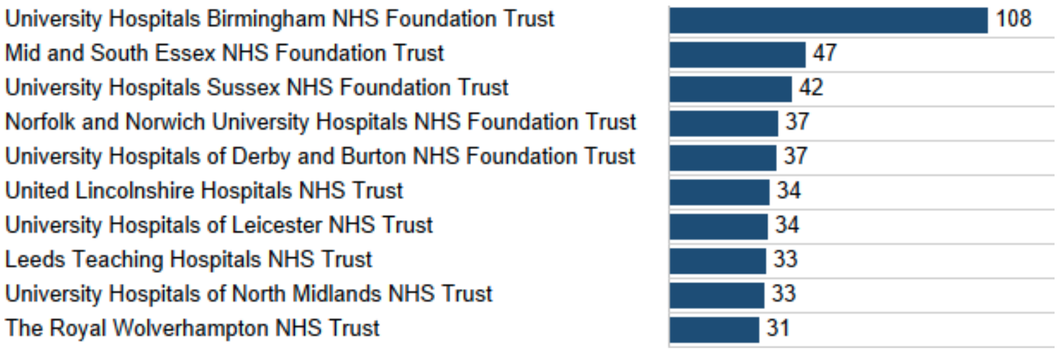
Example of tooltip showing vizs within it (2)

March 2021

Patients waited longer than 104 days: 1,489

Split by indicator:

Top 10 organisations at national level:



Example of tooltip showing information without heading

CCG Name: **Hampshire, Southampton and Isle of Wight**

20 Colours

Colour is a key element of any organisation’s identity. Our research shows that patients and the public strongly associate the NHS with the colours blue and white.

NHS blue and white

87% of people spontaneously recall these two colours – white and NHS blue – when asked about the NHS identity. Therefore, NHS blue and white are the dominant colours in our colour palette. They also ensure that communications maximise the strong value of the NHS identity and the positive attributes that patients, the public and stakeholders attach to it.
You can use the other NHS blues to support the main NHS Blue and add tonal variety/emphasis. Use NHS neutral black and grey for type (NHS Blue can also be used).

Useful links:

- For further information on the NHS colours:
  NHS Identity Guidelines - Colours

NHS Blue
RGB: 0/94/184
#005eb8

White
255/255/255
#FFFFFF

NHS Regions

Use these in boundary maps, or sparingly in charts wherever it would be useful for identifying the separate regions.

North East
NHS Blue
#005EB8

North West
NHS Light Blue
#41B6E6

East of England
NHS Purple
#330072

Midlands
NHS Pink
#AE2573

London
NHS Light
Green
#78BE20

South West
NHS Yellow
#FAE100

South East
NHS Orange
#ED8B00

england.analyticsproductsteam@nhs.net

NHS Ambulance

Use these in maps, or sparingly in charts wherever it would be useful for identifying the ambulances.

North East
NHS Dark Blue
#003087

Yorkshire
NHS Blue
#005EB8

North West
NHS Light Blue
#41B6E6

East of England
NHS Purple
#330072

East Midlands
#880FB8

West Midlands
NHS Pink
#AE2573

London
NHS Light Green
#78BE20

South Western
#ECE354

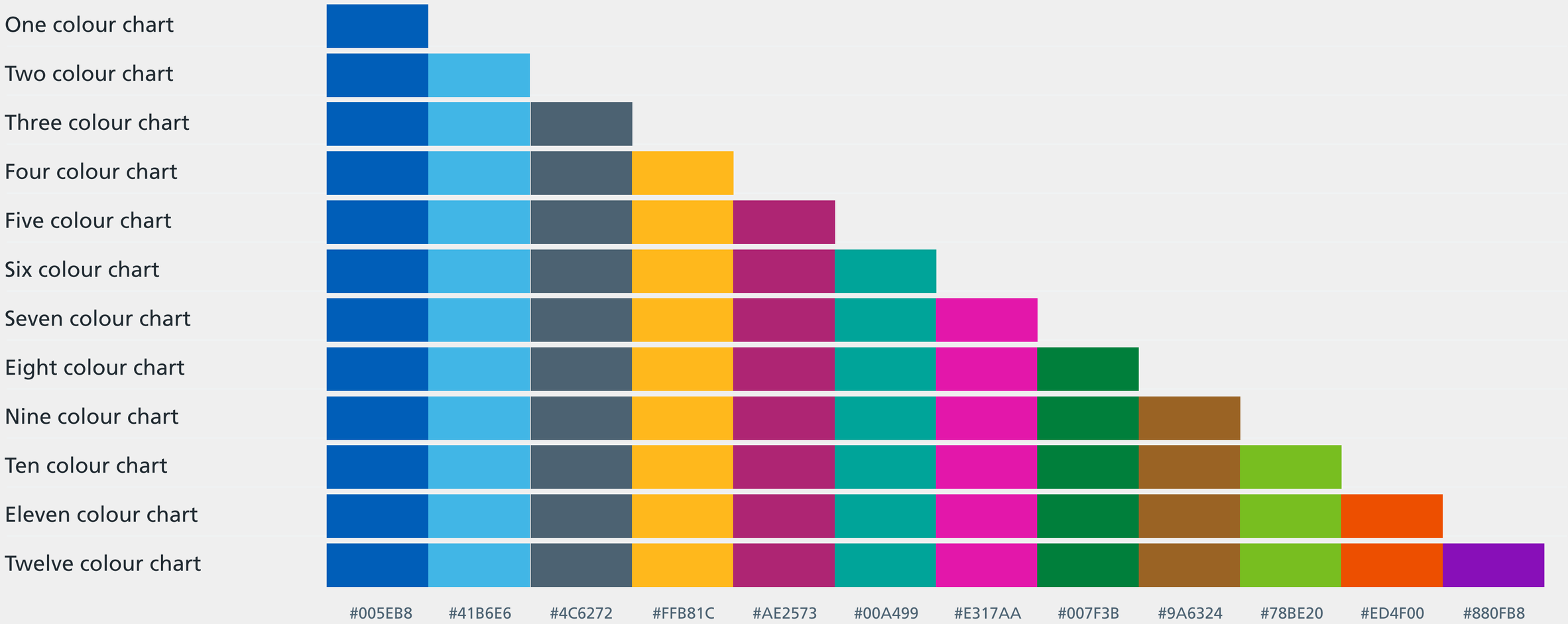
South Central
#EE9F00

South East
#ED4F00

england.analyticsproductsteam@nhs.net

Use of colour on charts

We recommend to stick to no more than five different variables on a graph or it will get confusing. Anymore than five, please consider a different visualisation.
For any reason, if we have to use more than five colours in a visualisation (to show multiple values on the same graph where no measure is more important than another) please use the colours listed below. For example showing number of sales of a number of different products over time.
Note: This colour palette is not applicable if your visualisation is dealing with Regions or Ambulances (as they have their own set of colours defined in the earlier slides).



england.analyticsproductsteam@nhs.net

Use of colour on charts for measures - tints

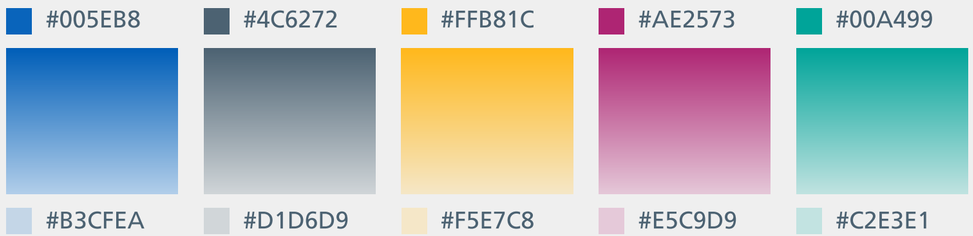
Important factors need to be considered when using tints:

- 100% solid NHS blue should always be the dominant colour over any tints.
- Tints should never endanger the legibility or accessibility of any communication.
- The colour emphasis should always be adhered to when using tints.

On a continuous scale:

On giving the dark and light colour values, the inbetween colours will be produced by Tableau automatically.

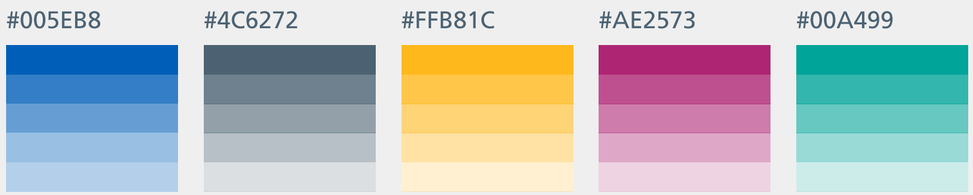
Eg: Continuous scale: 1, 1.1, 1.2, 1.3, 1.4 etc,



On a discrete scale:

The top bar in each case shows the solid (100%) value of the colour and the bars below show decreasing values from 80% to 20%. It is acceptable to use tints of the colours. Any % value is accepted as long as it is visible, clear and accessible.

Eg: Discrete scale: 10, 6, 5, 2 etc.,



Use of colour on charts for measures - tints

Below set of the gradients should be used if the value of the measure has to be displayed based on the intensity of the colour.
If there are multiple measures need to be displayed in the Viz, use the listed colour options below:

Chart with one measure

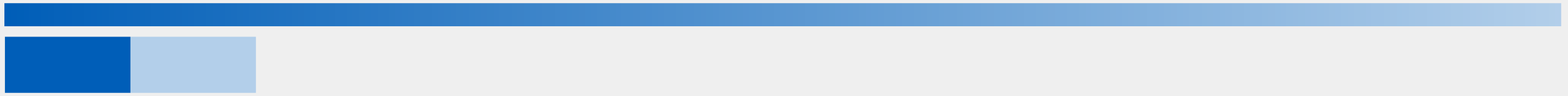


Chart with two measures

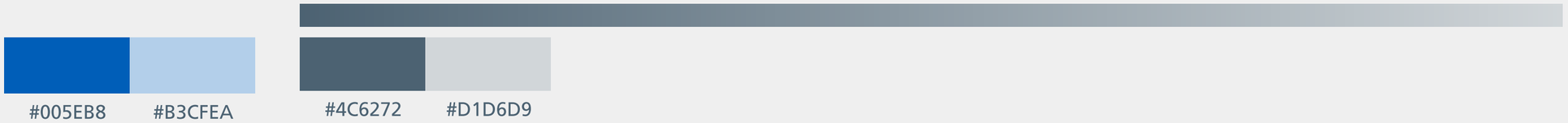


Chart with three measures

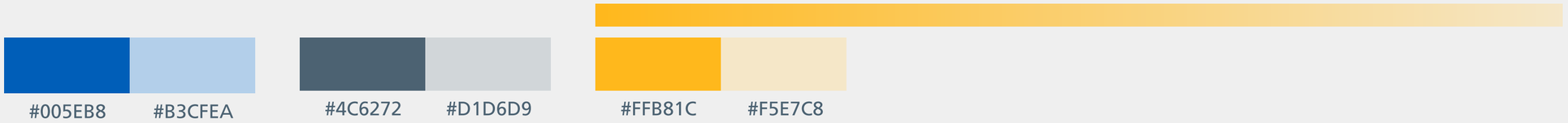
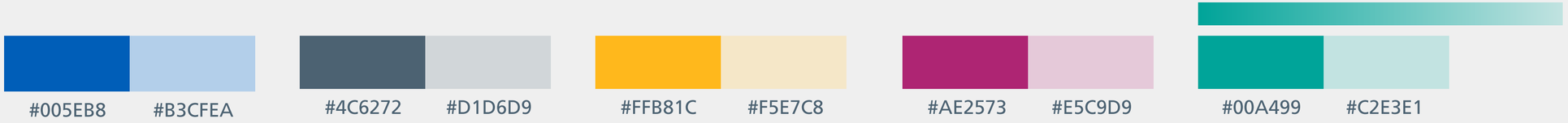


Chart with four measures

Chart with five measures



england.analyticsproductsteam@nhs.net

RAG Colours

RG (Red - Green)
for national targets

Purpose: Should be used when the viz has to show national target.
Green: Target met
Red: Target has not met.

Example: A&E performance, Cancer performance

RAG (Red - Amber - Green)
for local targets

Purpose: Should be used when the viz has to show good, neutral & bad values for local targets
Green: Good
Amber: Needs improvement
Red: Bad

Example: If there is a pre-defined range where we have information that specifies bad (red), warning (orange) and good (green).

Divergence

Purpose: Should be used when the viz has to show the wide range of good, netural and bad areas and where there is a clear pre-defined centred value (Eg: 0)
We can only define the far end colours (dark red, dark blue) but not the neutral colour in Tableau, it will be picked by dynamically.

Example: Difference of year on year comparison.

NHS colour palette

The NHS colour palette template is a categorical colour palette which includes all the tints decreasing from 100% (solid) to 10%, by 10% decrements. It can be saved onto your computer for quick access to NHS colours on Tableau.
It is available from 01 Useful resources folder within TFS, or on NHS Futures.

How to add NHS colour palette on Tableau:

1. Go to the Preferences.tps file in your ‘My Tableau Repository’.
2. Right click on the file and choose “Edit with notepad”.
3. Copy and paste from the NHS colour palette template between the ‘preferences’ tags.
4. Save the Preferences.tps file and then restart Tableau Desktop.

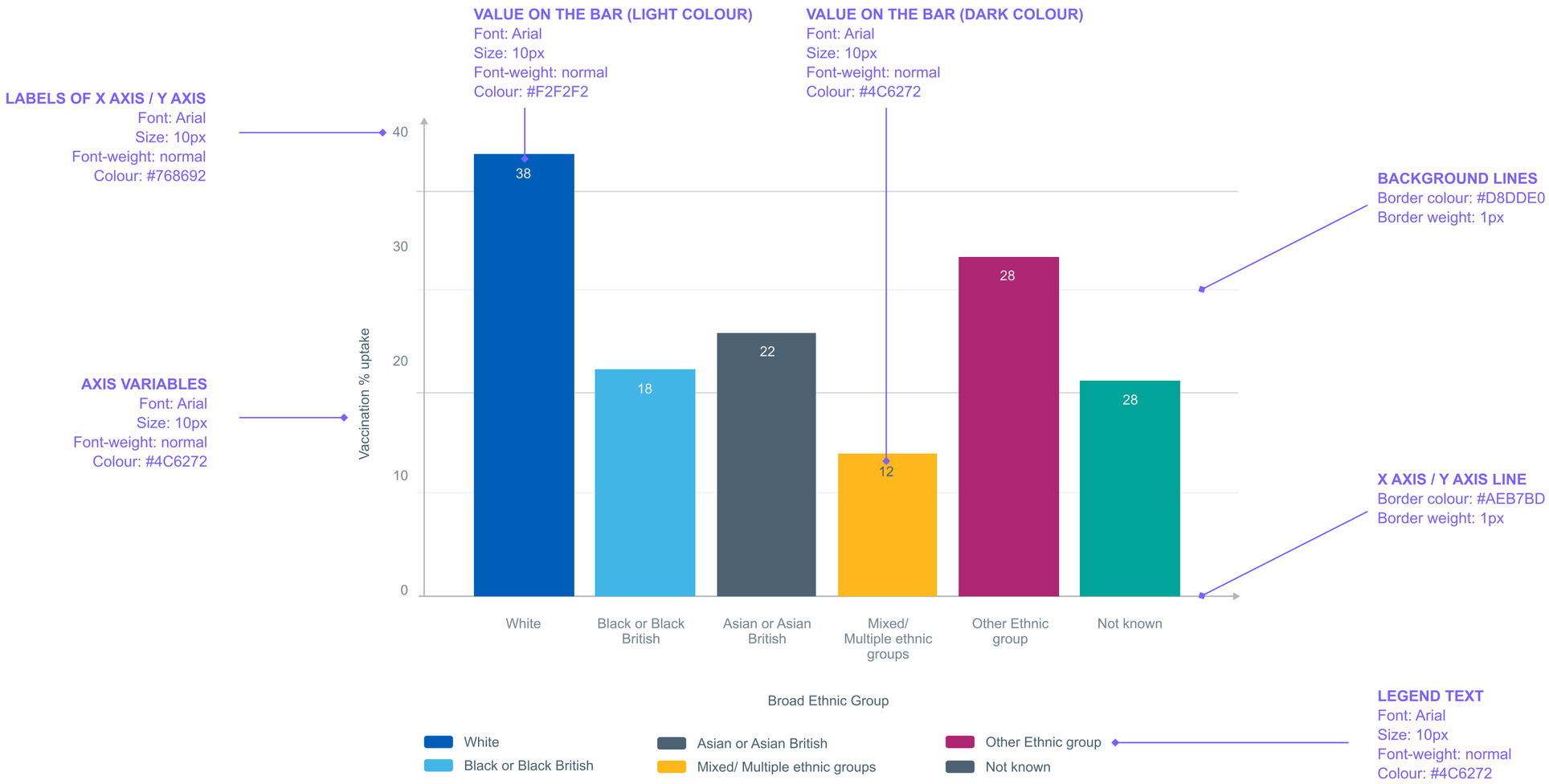
Legend

When we are using multiple colours or tints we need to explain what the colours meant in the viz as a legend.

Useful links:

- **Download Tableau colour palette** from NHS Futures

UI specs for visualisation



england.analyticsproductsteam@nhs.net

21 Chart types

The same numbers can be shown in several ways, it is up to you to select the one that ensures your message is clear and accurate.

Chart or Table?

Use a table	Use a chart
To allow comparison of precise, individual values	To give an overview, when precise individual values aren't necessary.
To show multiple units of measure (e.g. n and %)	To show relationships in the data
To show values and their sums	To highlight patterns and trends

Which type of chart to use

Make sure you are answering intelligent, useful and practical questions with your charts; consider quality not quantity. Use your questions as a starting point to help you think about the most appropriate chart type. We have provided flow charts to help you make the right decision based on your data and your product's purpose.

Useful links:

- **Visual vocabulary** - Alan Smith, The Chart Doctor @Financial times
- **How to choose the right chart for your data -** Infogram
- **Choosing the right chart**

How to...

demonstrate deviation

- Diverging bar
- Surplus/deficit filled line
- Diverging stacked bar
- Spine chart

better understand relationships

- Line + Column
- Connected scatter plot
- Scatter plot
- Bubble chart
- XY heatmap

understand flow

- Waterfall
- Network
- Chord
- Sankey

show rank

- Slope
- Ordered proportional symbol
- Bar graph
- Lollipop chart
- Column graph
- Bullet graph/ Dot strip

analyse trends

- Fan chart
- Calendar heatmap
- Priestley timeline
- Circle timeline
- Area chart
- Dual-axis chart
- Connected scatter plot
- Stock price
- Slope
- Line graph
- Column chart
- Seismogram

Understand the distribution

- Dot plot
- Barcode plot
- Dot strip plot
- Box plot
- Violin plot
- Histogram
- Population pyramid
- Cumulative curve

show composition

- Venn diagram
- Stacked proportional bar
- Stacked column
- Tree map
- Sunburst
- Waterfall chart
- Grid plot
- Arc/pie chart
- Donut chart

demonstrate magnitude

- Isotypes
- Paired bar graph
- Paired column graph
- Parallel coordinates
- Bar graph
- Column graph
- Lollipop chart
- Radar chart

geographical patterns

- Flow map
- Basic choropleth
- Proportional symbol
- Contour map
- Heat map
- Dot density
- Scaled cartogram
- Equalized cartogram

demonstrate deviation

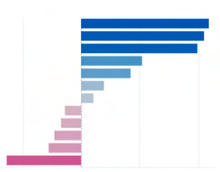
Positive/Negative

1 dimension

Static

Diverging bar

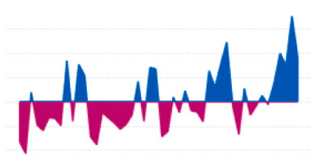
Shows positive and negative magnitude



Over time

Surplus/deficit filled line

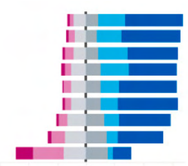
demonstrates balance over time



2 dimensions

Diverging stacked bar

perfect for presenting survey results



2 contrasting components

Spine chart

shows magnitude back to back (e.g. male/female)

england.analyticsproductsteam@nhs.net

Better understand relationships

Interval data

2 variables

Split by time

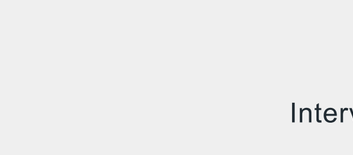
or

Line + Column

highlights similarities between two variables over time

Connected scatter plot

highlights similarities in the dataset over time



Split by other

Scatter plot

is used when you want to high-light similarities verging stacked bar

3 variables

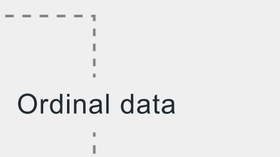
Bubble chart

can show distribution or relationship, with an added third dataset indicated by bubble size

Ordinal data

XY heatmap

can show patterns between two categories of data



england.analyticsproductsteam@nhs.net

understand flow

Positive/negative

Waterfall

shows split of data through a flow process (e.g. budgets)

Geography is important

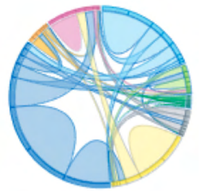
Network

shows strength and interconnectedness geographically

Either direction

Chord

illustrates two way flow in a matrix



1 or more stages in one direction

Sankey

shows one directional flow through conditions. Good for tracing eventual outcomes

england.analyticsproductsteam@nhs.net

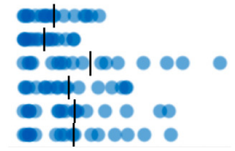
show rank

1 ranked component

Extra detail?

Bullet graph / Dot strip

plot reveals progress toward a goal.



2 ranked components

or

Slope

is perfect for showing how ranks have changed between categories or over time

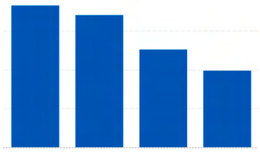
Ordered proportional symbol

can show ranked relationship, with an added third dataset indicated by bubble size.

Short names

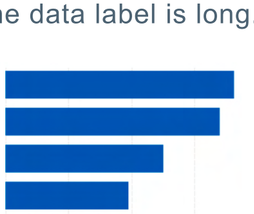
Column graph

is used to show a comparison among different items.



Bar graph

is used to avoid clutter when the data label is long.



or

Lollipop chart

draws more attention to the data value. Doesn't have to start with zero

england.analyticsproductsteam@nhs.net

analyse trends

Fan chart

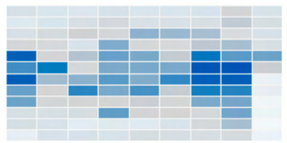
is used to show uncertainty in future projections

Is it predictive?

Are you looking at temporal patterns?

Calendar heat map

can highlight temporal patterns (e.g. daily, weekly, monthly)



Priestly timeline

shows date and duration of different components

Is duration important?

Is there an additional dimension?

Circle timeline

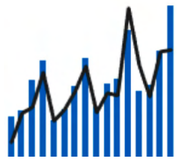
is used to show a dataset with regular time intervals.

Area chart

is useful for showing overall and individual trend information.

Dual-axis chart

is used with three datasets, one continuous and one categorical, plotted using two y-axis and a shared x-axis



Connected scatter plot

highlights similarities in the dataset over time

Slope

is can show how components have changed over time. Use with care

Line graph

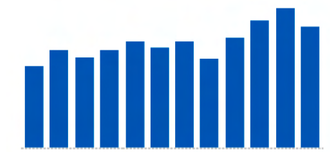
is used to show a continuous dataset over time

Are you comparing two Variables?

Is detail not important?

Column chart

is used to show a dataset over time. Y-axis must start at 0



Is there a deeper time data available?

Stock price

shows a dataset over time with additional distribution information

Seismogram

is used to show a continuous dataset over time

england.analyticsproductsteam@nhs.net

Understand the distribution

Two components

Split into components

Single component

or

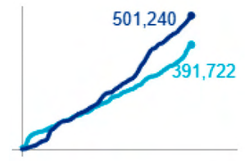
A few components

Population pyramid

is a back to back pair of histograms that shows the population distribution by age and sex.

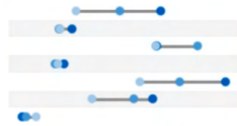
Cumulative curve

can demonstrate where distributions are unequal



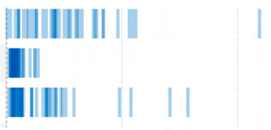
Dot plot

can be used to show change or range across multiple categories



Barcode plot

is a simple way to show all data in a table and highlight individual values

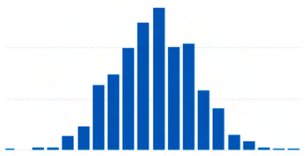


Violin plot

is similar to a box plot but more effective with complex distributions

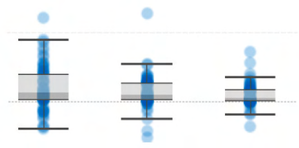
Histogram

shows the underlying distribution of a set of continuous data.



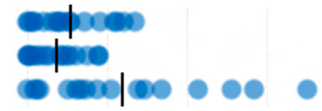
Boxplot

is a visual representation of the median and quartiles.



Dot strip plot

is a simple way to show all data in a table and highlight individual values



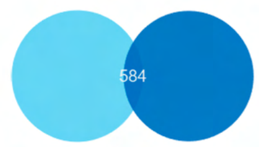
england.analyticsproductsteam@nhs.net

show composition

Are you interested in crossover of 2/3 areas?

Venn diagram

demonstrates crossover between two areas



2 dimensions

Stacked column

is used to compare many different items and show the composition of each

3 dimensions

Stacked proportional bar

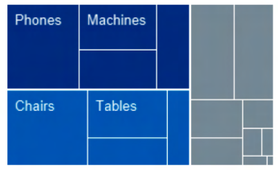
is used to compare many different items and show the composition of each

1 dimension

Is there deeper detail within the dimension?

Tree map

can show you how your data is distributed across measures



Sun burst

visualises hierarchical composition

england.analyticsproductsteam@nhs.net

Waterfall chart

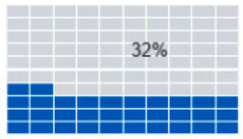
shows composition where some components are negative

Positive and negative components?

Only 2 (max three) components?

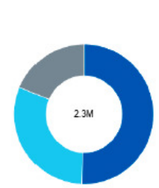
Grid plot

shows percentage information. Works well in multiple layout form



Donut chart

shows how categories represent part of a whole. Donut charts are preferable to pie charts and arc charts because they are generally easier for users to interpret.



england.analyticsproductsteam@nhs.net

demonstrate magnitude

1 dimension

Magnitude of one thing

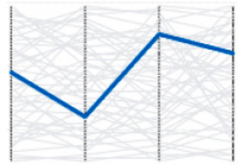
Isotypes

simple representation of magnitude

Is the category order significant?

Parallel coordinates

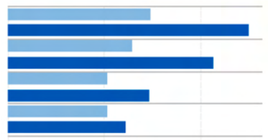
an alternative to radar charts where arrangement is significant



2 dimensions

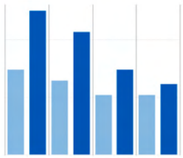
Paired bar graph

is similar to standard bar graph with additional dimension



Paired column graph

is similar to standard column graph with additional dimension

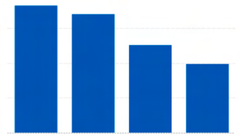


Bar graph

is used to avoid clutter when the data label is long. X-axis starts at zero

Column graph

is used to show a comparison among different items. Y-axis starts at zero



Lollipop chart

draws more attention to the data value. Doesn't have to start with zero

Radar chart

shows multiple variables in a space efficient way

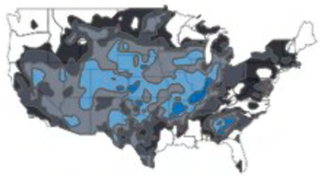
geographical patterns

Flow map

shows movement across

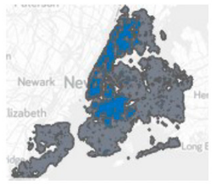
Contour map

shows areas of equal value



Heat map

like a choropleth graph but not snapped to area



Equalized cartogram

groups values on a map into equally sized areas

Considering movement?

Individual points not necessary

Are you plotting specific areas?
(e.g. trusts, sites, ...)

Area?

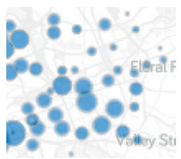
Position?

Basic choropleth

shows values by fixed areas on map

Proportional symbol

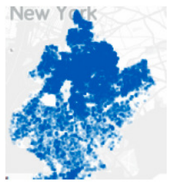
shows values by fixed positions on map



Some values are hidden due to scale (area) or proximity (position)

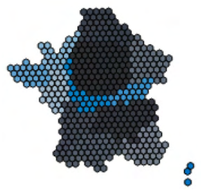
Dot density

reveals individual events by location



Scaled cartogram

distorts areas within map to provide areas with



england.analyticsproductsteam@nhs.net

22 Table design

Always assess the information you are working with and display it in the clearest style possible. This section demonstrates a number of ways to present information.

Best practices - Table design (1)

Simplicity

- Minimal use of borders, with a few line rules to distinguish column headings and totals.
- White space is used to separate columns.
- Title and subheadings are in bold so that they stand out.

Please ensure there are consistent colours across tabs for tables and charts by using NHS blues, tints and highlight colours.

Alignment

- Right align column headings and the numbers in each column (the exception being the first column category title which is left aligned).
- Don’t use centred or variable alignments. Right align to better highlight the difference in values at the same level of precision.

Date Formats

- Use “FY 2017/18” format for financial year. You can bring this from the date dimension during data preparation.
- Use “Q1 2019” or “Quarter 1, 2019” for date quarters.
- Use “January 2019” or “Jan 19” to display month.
- Use “4 January 2019”, “4 Jan 19” or “4/1/2019” for days.
- Use “Wednesday, 4 January 2019”, “Wednesday” or “Wed” for weekday.

Best practices - Table design (2)

Numbers

- Always use commas to indicate thousands, millions, billions: £1,234,567.89 not £1234567.89.
- Always start with zero for values less than 1 (Example: 0.756 not .756).
- Always use a consistent level of precision within a table.
- Ensure negative values are indicated by a minus sign (Example: -65).
- Round data in a way to sufficiently convey value and add context to data, but don’t oversell confidence in data quality through being too accurate For example £123,234.49 implies a confidence in the data quality to the nearest penny. Whereas if the data quality is lower, or submitted data is unvalidated, a lower significance level should be given, eg £123,230.
- Percentages shouldn’t be at a greater detail than 1dp unless specifically required.
- Use the lowest possible level of detail depending on the intended audience.

Press Release	£0.5M
Government Briefing	£0.529M
Methodological Notice	£528,576.30

Level of detail

Thin tables

Try to minimise the data-ink ratio

Grand Total	**5,619**	**1,286**	**834,656**
Always left align row headers	87	36	53,607
Black, not bold, Arial, size 12	416	146	62,547
Bolton NHS foundation trust	416	83	11,478
Burton hospitals NHS foundation trust	300	111	40,481
Cornwall partnership NHS foundation trust	179	59	67,019
Croydon health services NHS trust	790	245	71,078
Dartford and Gravesham NHS trust	407	144	62,253
North Tees and Hartlepool NHS trust	2,772	195	313,401
Yeovil NHS trust	252	103	53,792

Right align column header and numerical values.
Font sizes as in the typography list.
Header text alignment should be vertical middle and right.

england.analyticsproductsteam@nhs.net

Wide tables

Shading allows the user to keep their eye on a specific row as they scan from left to right

Table header colour: #D8DDE0
Alternate row colour: #F0F4F5
Text colour: #212B32

	Header 1	Header 2	Header 3	Header 4	Header 5	Header 6	Header 7
Always left align row headers	87	36	53,607	76,519	36	34,567	300
Black, not bold, Arial, size 12	416	146	62,547	74,662	146	67,890	179
Bolton NHS foundation trust	416	83	11,478	238,272	83	205,345	790
Burton hospitals NHS foundation trust	300	111	40,481	789,456	111	53,234	407
Cornwall partnership NHS foundation trust	179	59	67,019	56,432	59	67,019	2,772
Croydon health services NHS trust	790	245	71,078	34,567	245	76,519	25
Dartford and Gravesham NHS trust	407	144	62,253	67,890	144	74,662	283
North Tees and Hartlepool NHS trust	2,772	195	313,401	205,345	195	238,272	111
Yeovil NHS trust	252	103	53,792	53,234	103	789,456	59

Text tables

Text should be left-aligned, and the headers should be right-aligned of the column

Table header colour: #D8DDE0
Alternate row colour: #F0F4F5
Text colour: #212B32

	Aberdeen	Abilene	Akron	Albuquerque	Alexandria	Allen	Allentown	Altoona
Aberdeen	JL-15505	DK-13375	JM-15865 KB-16315 MB-17305 MD-17350 TT-21070	MB-17305 MD-17350	DD-13205 RC-17345	AG-42305 AW-2345	CJ-12010	
Corporate			EB-13705 KH-16630 SP-20650	DW-13705 FC-16630 ML-20650	AG-13705 GM-16630			BT-11395
Home Office			MB-17305 MD-17350	MB-17305 MD-17350	MB-17305		AG-42305 AW-2345	

If a table has four or less columns, based on the content that goes within each column, define a fixed width for those columns, and create a container after the table and set it as variable.

Number of trusts missing at least one site: 15

Region Name	Trust Name	
East Of England	North West Anglia NHS Foundation Trust	1 / 3
London	University College London Hospitals NHS Foundation Trust	2 / 4
Midlands	Sherwood Forest Hospitals NHS Foundation Trust	1 / 3
	University Hospitals Birmingham NHS Foundation Trust	3 / 4
	Worcestershire Acute Hospitals NHS Trust	1 / 7
North West	East Lancashire Hospitals NHS Trust	2 / 5
	Manchester University NHS Foundation Trust	1 / 8
	University Hospitals of Morecambe Bay NHS Foundation Trust	1 / 4
	Wirral University Teaching Hospital NHS Foundation Trust	1 / 4
South East	East Kent Hospitals University NHS Foundation Trust	2 / 7
	Maidstone and Tunbridge Wells NHS Trust	1 / 4
South West	Great Western Hospitals NHS Foundation Trust	1 / 4
	Northern Devon Healthcare NHS Trust	2 / 3
	Royal Cornwall Hospitals NHS Trust	2 / 13
	Torbay and South Devon NHS Foundation Trust	2 / 4

Fixed Width | Fixed Width | Fixed Width | Variable Width

england.analyticsproductsteam@nhs.net

23 Dashboard naming conventions

Information page check list

Naming of products is key, particularly in the context of an A-Z Product List within the core platform. We are aware from user research that discoverability of products is an issue. Naming of products is a key aspect to be addressed to improve discoverability. Alongside the name, the brief description is also valuable in helping the user find the data they are looking for.

Guidelines for naming new dashboards

1. Start with key word / words eg Cancer, COVID, A&E,
2. Consider frequency, daily, weekly, monthly
3. Describe functionality; (monitoring) performance, forecasting, benchmarking

Keep it simple and descriptive

Avoid unnecessary words and especially at the start of the name where it affects the alphabetical listing. Where possible avoid using acronyms in the product name, unless widely understood eg RTT. Avoid creation of acronyms. If an acronym needs to be included in the product title, ensure it is also written out in full.

Eg Summary Emergency Department Indicator Table (SEDIT)

Consider alphabetical listing

Ensure key word is at the start of the sentence, this also ensures similar dashboards are grouped together. Do not start the name with ‘the’. The Long Stays dashboard always appears under ‘t’ in an alphabetical list.

Avoid starting name with NHS or national as again this results in a cluster alphabetically. Eg Accident and Emergency Monthly Performance dashboard does not appear alongside National A&E dashboard in an alphabetical listing. There will be cases where NHS is required eg NHS 111

General

Capitalisation is generally to be avoided in accordance with NHS style guidelines. It is recommended that the name of product has capital initial for each word key word as this is product name.

Once agreed, always use same name in all instances. There are products that have different names in different places eg COVID 19 dashboard and COVID 19 Sit Rep. Don’t use dashboard in a title – this is to ensure consistency.

Where there are multiple dashboards within a topic, ensure they are clearly named and distinguishable eg NHS 111 weekly, NHS 111 monthly.

If an updated version of a dashboard is released it should ideally replace the previous version. However if it is required for a new version to be added and the previous version to be still available then it should be clearly distinguishable eg A&E Daily Performance (new) -or- A&E Daily Performance (2021)
Note: This type of naming convention is still be agreed with the Improvement Analytics team (Sonu / Farhad)

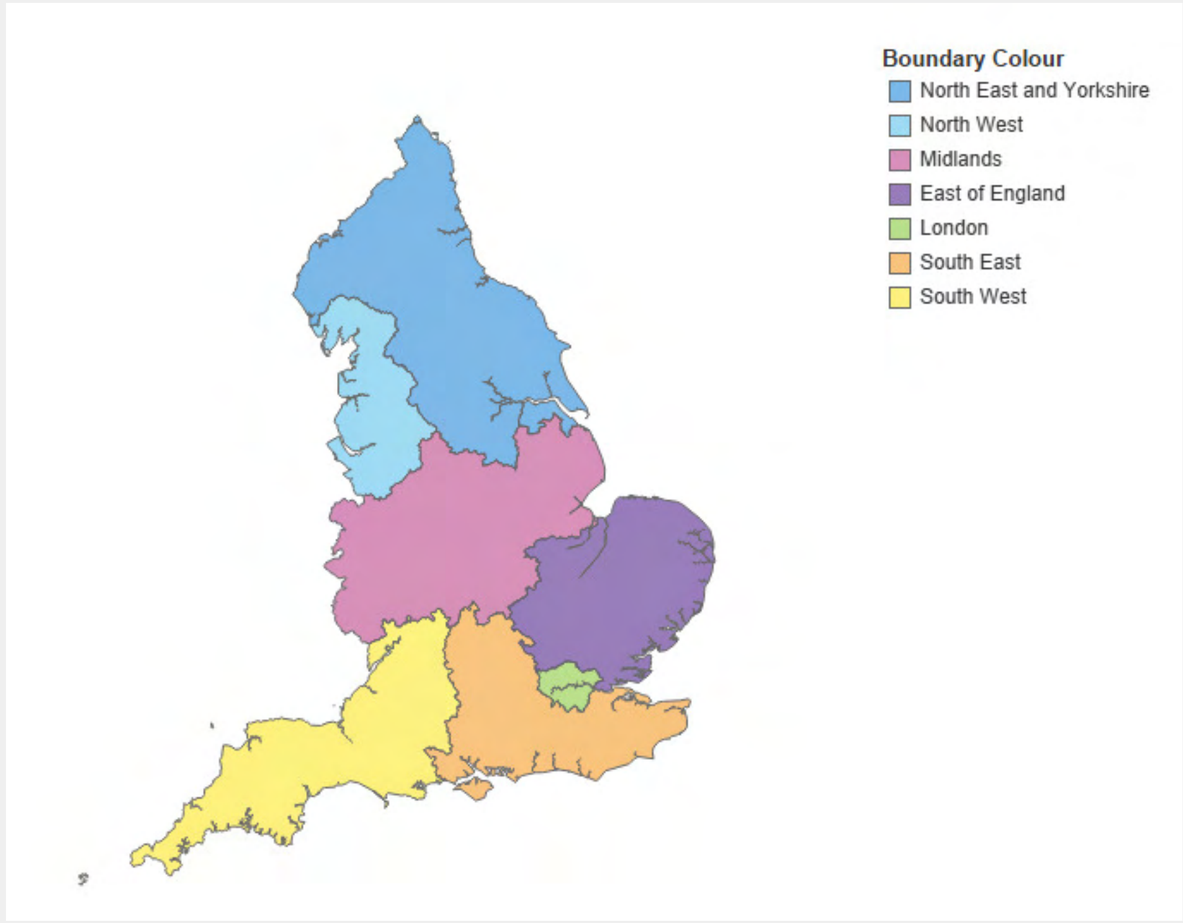
24 Data maps

Removing as much clutter as possible removes potential distractions from your data and makes everything easier to read.

Best practice

Forgo 'chart-junk'

- For filled maps, you can get rid of everything in the map by setting washout to 100% in map layers
- For unfilled map, uncheck base to remove the water colour



Uncluttered map in Tableau

Useful links:

- See how data mapping has halted the epidemic - **John Snow's cholera map**

25 Data quality

Sharing known data quality issues can reduce misinterpretation of data

Data quality check list

Unfortunately the data we use is not always 100% complete, or 100% accurate.
Adding a tab to include information on data quality can be very useful for users.
Try adding information such as:

- Missing submissions
- Known missing or incorrect data
- Dates highlighting when new metrics were introduced or methodologies were changed
- Known data quality issues

Metric information tab

The data quality tab and metric descriptions tab can be combined to one metric information tab.

26 Data-ink ratio

Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away

Antoine de Saint-Exupery

Definition

The data-ink ratio is a concept introduced by Edward Tufte. He refers to data-ink as the non-erasable ink used for the presentation of data. If data-ink would be removed from the image, the graphic would lose the content. The non-erasable portion of a graph is subjective, so Tufte follows up his principal of data-ink with the five laws of data-ink.

Five laws of data-ink

1. Above all else show the data
2. Maximise the data-ink ratio
3. Erase non-data ink
4. Erase redundant data-ink
5. Revise and edit

See overleaf for examples of what this looks like in practice

Redesign of the bar chart

The data ink ratio on this chart can be reduced significantly by taking the following actions :

- remove backgrounds
- remove redundant labels
- remove borders
- reduce colours
- remove special effects
- remove bolding
- lighten labels
- lighten lines or remove lines
- direct label

Remember, 'less is more'

Credits: darkhorseanalytics.com

england.analyticsproductsteam@nhs.net

Evolving a standard bar chart to a “low data-ink ratio” bar chart:

- Hide field labels for columns
- Widen the columns
- Reduce bar chart height

- Reduce the data-ink ratio

england.analyticsproductsteam@nhs.net

27 Testing

A dashboard can contain many intricate parts;

- data
- text
- graphs
- formatting
- navigation
- functionality
- usability
- colour
- sizing
- adherence to style and design guide
- emphasis
- filters
- calculations
- decimal places
- tooltips and legends
- etc

With so many things to consider, there are bound to be a few mistakes and areas for improvement. However, when people use a dashboard they expect it to be correct. If they see spelling errors, incorrect numbers or other errors, their confidence in the dashboard will drop. Removing errors is very important.

Testing is your own responsibility

You need to make sure you test the dashboard, you need to make sure testers test it, and you need to make sure users test it. Remember that even if the data errors are due to data quality, if you are displaying it, it is your duty to make the users aware of the limitations.

Tips on testing:

- Don’t just check once, keep checking until you can’t find any more errors
- Go through your dashboard multiple times, concentrating separately on each area highlighted above

Grey is the most important colour in data visualisation

Andy Kirk, Data visualisation wizard

Best practice

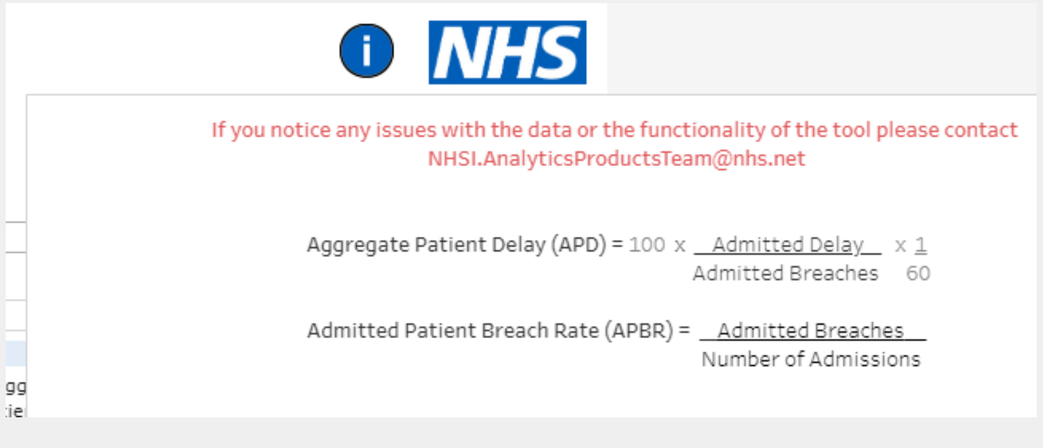
Choose appropriate colours in your visualisation to distinguish the selected trust from its comparators. Using grey for less important elements in your chart makes your highlight colours stand out even more. In the radar chart below, the selected trust metric is in NHS Blue, and that of its comparators in NHS Mid Grey. Grey is helpful for general context data and less important annotations, to show what is unselected by the user.

england.analyticsproductsteam@nhs.net

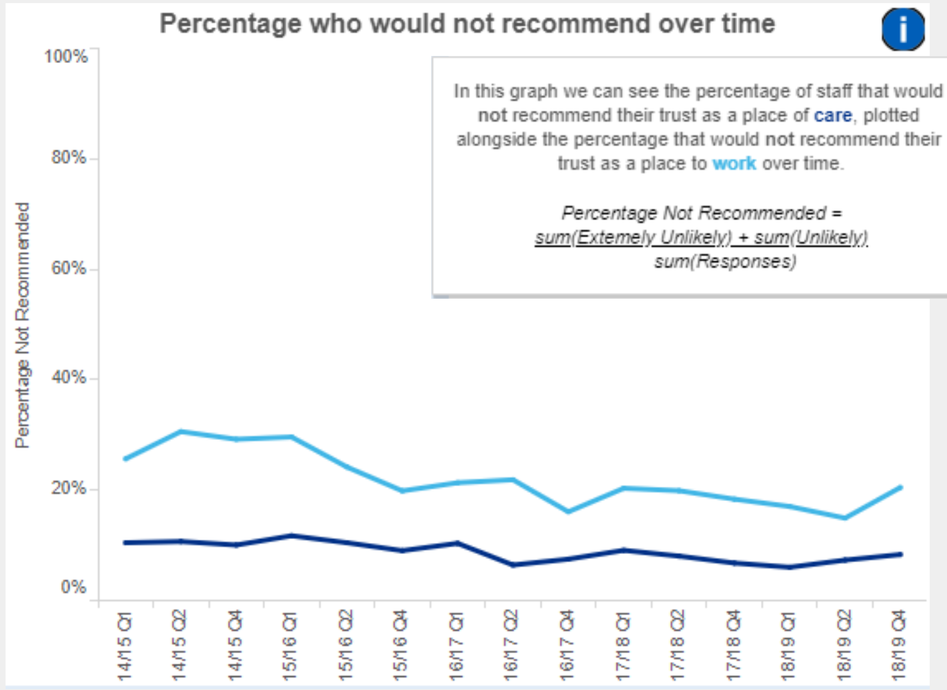
29 Additional features

Information button

1. Add an information button tooltip next to the NHS logo if information is relevant to the entire sheet



2. If the information is only relevant to specific graphs, add a button tooltip next to the graph



National standards

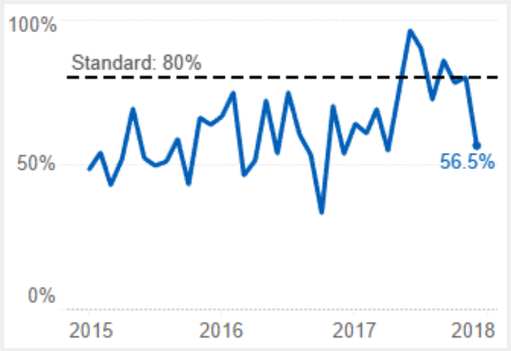
National standards should be clearly labelled in a table or chart wherever applicable.

1. If multiple metrics with multiple different national standards are shown, label these in the table

Metrics Overview

Theme	Metric	Latest Period	National Standard (not met if)
	Cancer 62-day waits - Urgent GP referral	Jul 2018	<85%
	Early Intervention psychosis waits - People with a first episode of p..	Jul 2018	<53%
	Data quality maturity index	Mar 2018	
Operational Performance	Early Intervention psychosis waits - People with a first episode of p..	Jun 2018	<53%
	IAPT 6-week wait	Jun 2018	<75%
	IAPT 18-week wait	Jun 2018	<95%
	IAPT recovery	Jun 2018	<50%

2. On charts the national standard should be shown with a black dashed (not dotted) line and “standard = 93%” label.



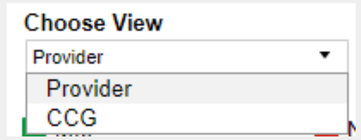
3. To highlight whether national standards are met in a table, colour the text in RAG colours or add a background 20% RAG colour.

98.31	87.50	97.34	95.19	92.89	94.76
98.31	87.50	97.34	95.19	92.89	94.76

4. RAG rating should only be used where there is a national standard being met or not met, otherwise it should not be used.

Weighted data

Where it is helpful to show data by both crude or weighted, or if your view can switch between provider or commissioner, you can add a single value button toggle, or a multiple value drop down.



Tooltips

Tooltips appear by default for most views and they are a great way to reinforce your data story. Tableau automatically includes information that might be relevant. You can customise and rewrite your tooltips to tell a mini-story.

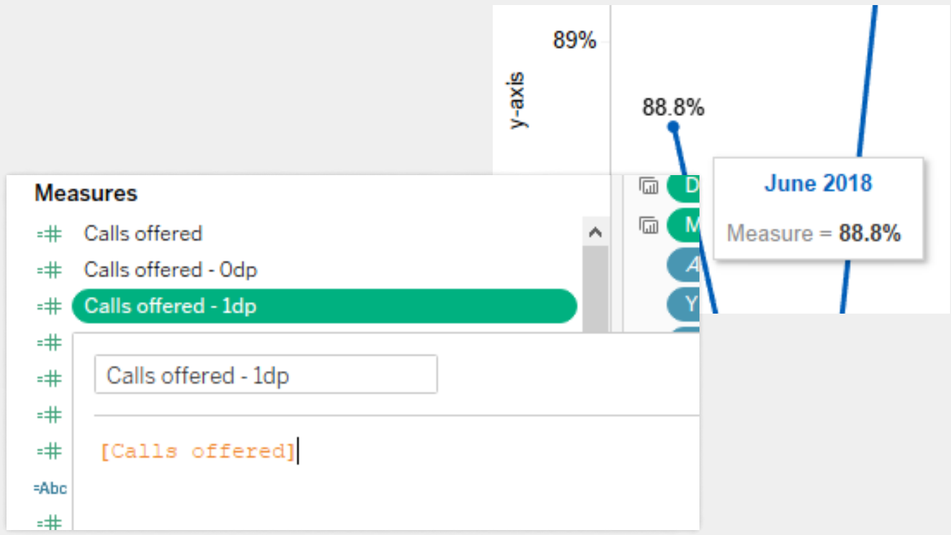
- The tooltip can be written as a phrase and key elements put in bold to draw the viewer's attention.
- Identify the most important part of the tool tip and make that your title.
- Ensure that units are included for all numbers in your tooltips.

Customised tooltip with key elements in bold

Uncheck “Include command buttons” to exclude “keep only” and “exclude” from the tooltip.

Decimal Places

The number of decimal places shown as text on a graph or table should match the decimal places of the value shown in the tooltip. Axis decimal places do not need to match this.
Tableau makes axis and tooltip decimal places equal, so to avoid this you can create a new calculated field which equals the original measure and then edit the format to the relevant decimal places, place the new pill on text and tooltip.



england.analyticsproductsteam@nhs.net

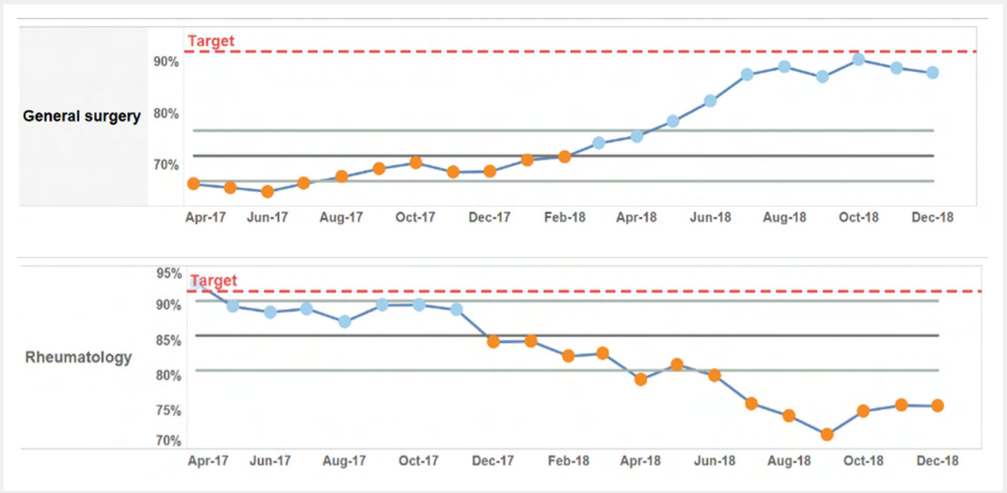
SPC Charts

Approaches popular in the NHS, such as red, amber, green (RAG) rating and two point comparisons, have limitations for good decision-making.

Specialty RTT Performance — Target 92.0%

Specialty Performance	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Trend	Trend
General Surgery	75.5%	78.5%	82.4%	87.5%	89.0%	87.1%	90.4%	↓	-0.9%
Rheumatology	79.4%	81.5%	79.9%	76.0%	74.1%	71.5%	74.9%	↓	-0.1%

The table above contains a lot of data but key messages such as “Are we improving or declining?” are very hard to determine. These two specialities when viewed as an SPC chart with more data, show a more informative picture. Clearly, conversations with these two specialties should be different, something the RAG table would not have suggested.



SPC charts will allow you to understand when something statistically significant is happening, caused by an external factor, rather than the natural variation of the system. SPC can help to avoid tampering and the costs associated with it. It can also help you to determine if, given the variance of the system, a target can be met and how reliably. This will help to guide you when a system needs a complete re-design, an improvement cycle, or is in fact capable. You can use SPC anywhere where you have a metric that displays variance in between a time period. The data does not have to have a normal distribution.

Caution: Although there are many benefits to using SPC charts, they should also be applied with caution. If there are situations where your data set displays seasonality, autocorrelation or small data sets, then additional research on how to construct an SPC accurately is necessary. Caution should also be taken with users, as interpreting an SPC chart not only requires understanding on how to interpret SPC charts, but a proper knowledge of the data and it’s relationship with other information to avoid incorrect conclusions. Consider whether including SPC will benefit the conversation.

Useful links:

- NHS England > Making data count

30 Quick Summary

Dashboard layout

It is best practice to use a Z-formation, like how you would read a book.

NHS logo & navigation bar

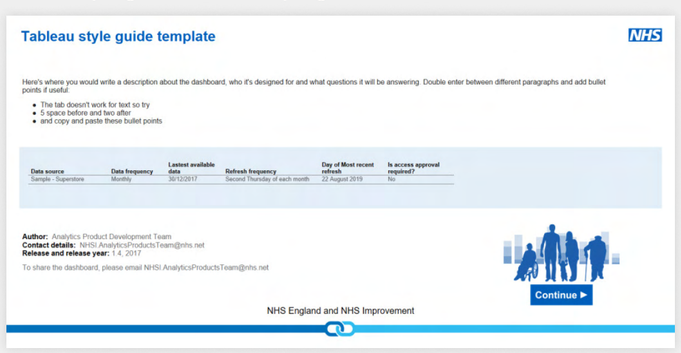
Always place the NHS logo in the top right hand corner of your dashboard with w=75 width and h=30 height. The distance from top and right is 30. Navigation bar should be to the left of the NHS logo unless there is limited space, in which case it will go below

Header and footer

Add a short note below each title to explain what the tab is showing. The whole tab should be relevant to your description. If the description is too long, add to the tooltip in an ‘i’ button instead. Footers should include contact information and, if useful, a last refreshed date/time.

Cover page or About page

Cover page or About page.



[Tableau style guide template]

Case

Workbook name should be in title case, which means that the first letter of each key word should be capitalised. The small, minor words such as *in, of, with, at, etc* should be in lower case.

Tabs should be in sentence case, which means only the first letter of each sentence should be captialised.

Filters

Place filters horizontally under the dashboard title and introduction.
Filter titles, should be in Arial, black. They do not need to have a colon after the label or say “Choose”.

Font

Use Arial as your primary typeface, no smaller than 10pt. Utilise various weights to establish a hierarchy. Be consistent in size, boldness and colour.

Alignment

Right align numbers.
Left align text.

Use lots of white…

…prominent use of NHS Blue…

…more blues and greys…

…with the NHS support greens as support…

…and the highlights sparingly.

Main colours	#005EB8	#FFFFFF			
NHS blues	#003087	#0072CE	#41B6E6	#00A9CE	
NHS neutrals	#231F20	#425563	#768692	#D8DDE0	
NHS support greens	#006747	#009639	#78BE20	#00A499	
NHS highlights	#330072	#7C2855	#AE2573	#8A1538	
	#ED8B00	#FFB81C	#FAE100		
NHS special highlights	#DA291C Usually associated with emergency and urgent care, so be careful where you use this.		#FFEB3B To be used only for ambulance livery		

england.analyticsproductsteam@nhs.net

Benchmarking

If you are benchmarking against one other value (for when one value is to be shown with more focus than the other).

#005EB8 (focus)

#768692 (benchmark)

Varying intensity

In cases where the values displayed have a variety of intensity, for example, patients waiting 10 hours, 7 hours, 4 hours, use the same colour with different levels of washout

#005EB8

#337EC6

#669ED4

#99BFE3

#B3CFEA

Multiple values

When showing multiple values on the same graph where no measure is more important than another. For example showing sales of three different products

#005EB8

#41B6E6

#4C6272

#FFB81C

#AE2573

#00A499

#E317AA

#007F3B

#9A6324

#78BE20

#ED4F00

#880FB8

RAG rating

RAG rating is only to be used in cases where a national standard is met or not met. Amber is to be used sparingly.

#DA291C

#ED8B00

#006747

#DA291C

#D2DEED

#2865AF

(Accessibility colours)

Many or varying values

When showing many or varying values on the same graph, use the Multi NHS option

england.analyticsproductsteam@nhs.net

Regional colour

When using colour to represent regions, use the following. You may use an appropriate level of washout depending on your own requirements.

North East and Yorkshire
#0072CE

North West
#41B6E6

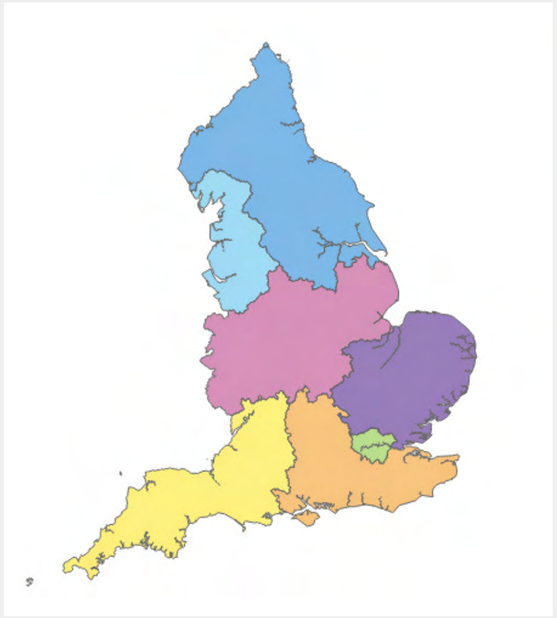
Midlands
#AE2573

East of England
#330072

London
#78BE20

South East
#ED8B00

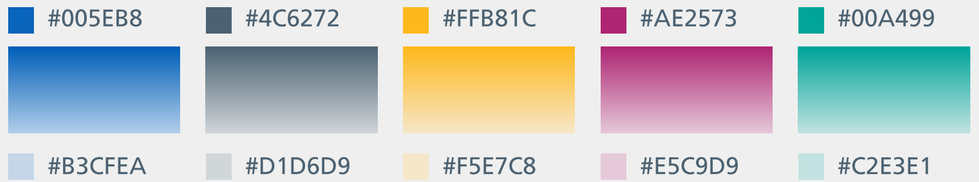
South West
#FAE100



Use of colour on charts for measures - tints

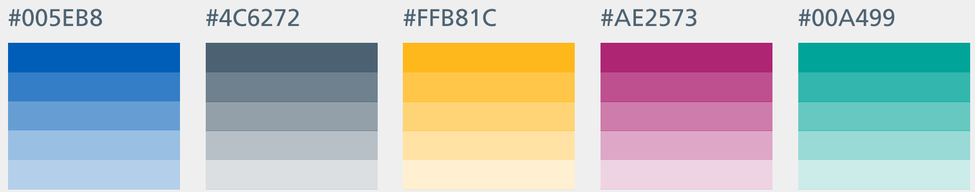
On continuous scale:

On giving the dark and light colour values, the inbetween colours will be produced by Tableau automatically.
Eg: Continuous scale: 1, 1.1, 1.2, 1.3, 1.4 etc,



On a discrete scale:

The top bar in each case shows the solid (100%) value of the colour and the bars below show decreasing values from 80% to 20%.
Eg: Discrete scale: 10, 6, 5, 2 etc.,



APPENDIX

A

NHS Colours

NHS Blues

NHS Dark Blue
#003087

NHS Blue
#005eb8

NHS Bright Blue
#0072CE

NHS Light Blue
#41B6E6

NHS Aqua Blue
#00A9CE

NHS Neutrals

NHS Black
#212b32

NHS Grey 1
#4c6272

NHS Grey 2
#768692

NHS Grey 3
#aeb7bd

NHS Grey 4
#d8dde0

NHS Grey 5
#f0f4f5

NHS White
FFFFFF

NHS Support Greens

Green is close to blue in the colour spectrum and gives a feel of being in the same colour family. Therefore, when greens are used moderately and in a secondary support role, they will not compromise the strong associations people have with blue and white. However, if green becomes too dominant it will affect people's ability to instantly recognise the NHS as the source of information.

NHS Dark Green
#006747

NHS Green
#007f3b

NHS Light Green
#78BE20

NHS Aqua Green
##00A499

england.analyticsproductsteam@nhs.net

NHS Highlights

Highlights are very useful for drawing attention to details, helping to warm up the blue. However, they should not be used too heavily as they change the overall look dramatically and people will not associate your communication with the NHS. Therefore, use minimally and avoid large blocks of these highlight colours.

NHS Purple
#330072

NHS Dark Pink
#7C2855

NHS Dark Red
#8A1538

NHS Pink
#AE2573

NHS Red
#da291c

NHS Orange
#ED8B00

NHS Warm Yellow
#ffb81c

NHS Yellow
#ffeb3b

NHS Pale Yellow
#FFF9C4

england.analyticsproductsteam@nhs.net

Document control information

Please help maintain the accuracy of this styleguide by keeping the details up to date.

Document Owner	Document Author	Contributors	Reviewers	Approver
Analytics Product Development Team	Sonu Mittal	Neil Thompson Samantha Khor Ash Tanna Henry Gu Tanbir Miah	APD Team Design Team Mridula Sori Neil Martin Farhad Hossen	Mridula Sori

Thank you

Analytics Product Development Team
NHS England

Last modified: March 2022

england.analyticsproductsteam@nhs.net