

The logo for Optum, featuring the word "Optum" in a white, bold, sans-serif font. The letter "O" is significantly larger than the other letters. The logo is positioned on the left side of the page, set against a solid orange background that curves into a white circular shape on the right.

Optum

PHM Pathfinder

Detailed User Guide

January 2025

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Sign Up

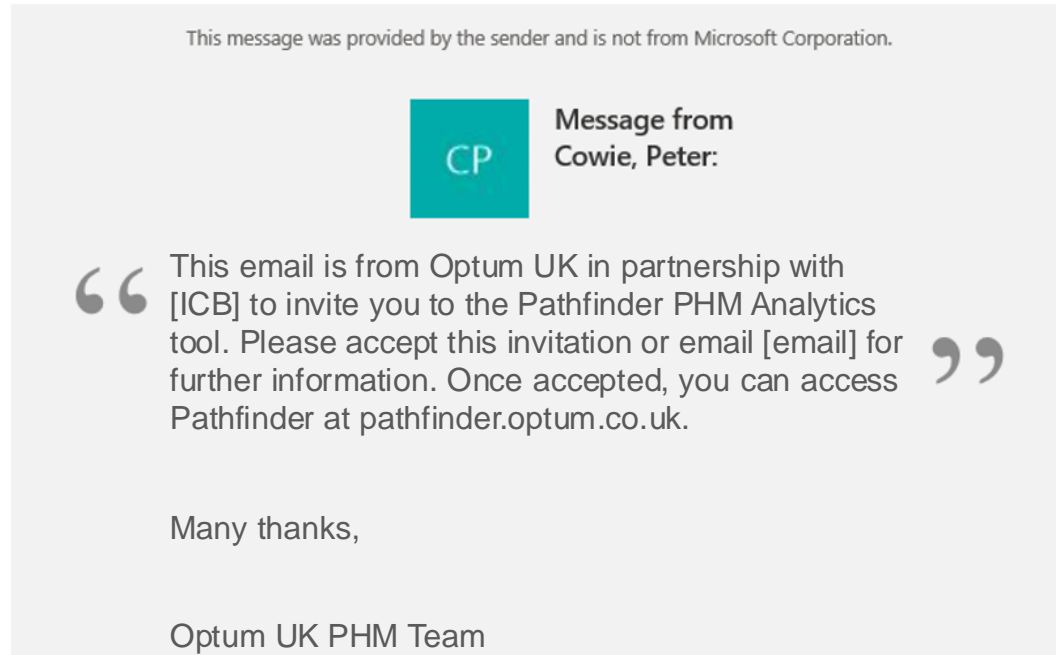
Sign Up: Step 1

Upon being signed up for the PHM Pathfinder, you will receive an email with your log in details:

1 You need to click the “Accept Invitation” button. You must do this on your NHS device logged into your email account

Sender: [redacted]@optumcloud.com
Organization: UHGUKAzure
Domain: uhgukazure.onmicrosoft.com

Note:
The initial email will come from a **UHGUKAZURE Microsoft email**



Note:
The link in your email will be **specific to you and only usable by you**

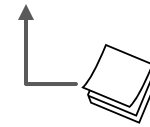
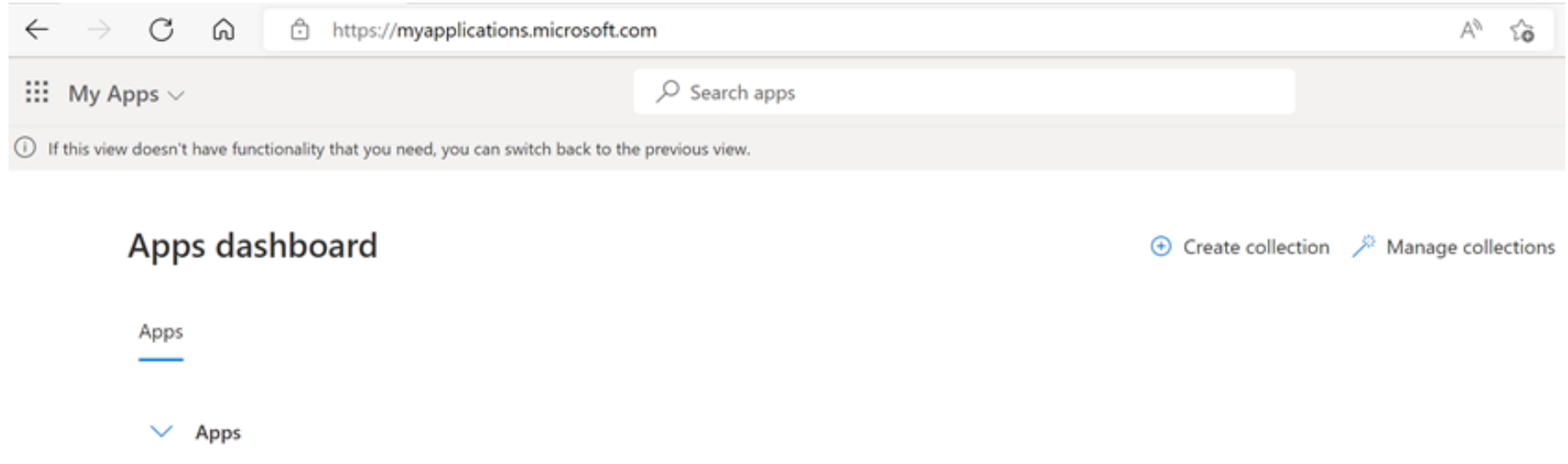
If you accept this invitation, you'll be sent to [https://account.activedirectory.windowsazure.com/?tenantid=\[redacted\]URL&login_hint=\[redacted\]Your Email](https://account.activedirectory.windowsazure.com/?tenantid=[redacted]URL&login_hint=[redacted]Your Email)

[Accept invitation](#)

Sign Up: Step 2

You will need to set up automatic authentication through Microsoft:

- 2 You will then need to accept the standard permissions review from Microsoft. This will link your email account to the Optum MS Azure account automatically



Note:
Once you are here there is **nothing further to do, go to step 3**

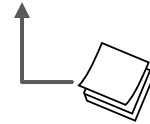
Sign Up: Step 3

Follow the link to access Pathfinder:

3 Please click on this link to access Pathfinder



<https://pathfinder.optum.co.uk>



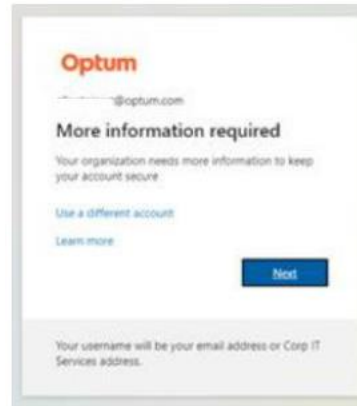
Note:
The Pathfinder URL **will** authenticate using your email account

Sign Up: Step 4

You will need to set up automatic authentication through Multi Factor Authentication

- 4 When you log in via Azure, you will be asked by Microsoft to complete some additional steps to add MFA.

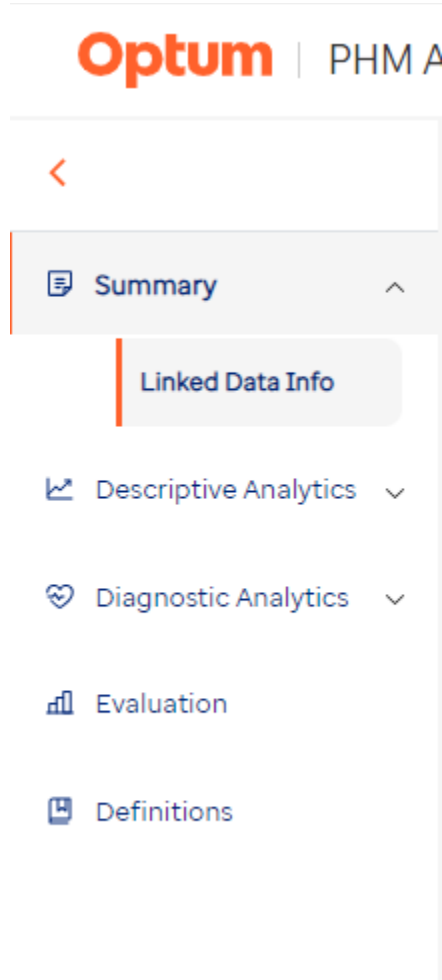
You may use the Microsoft Authenticator app or an authenticator app of your choosing. The screens will guide you through this process, and in future when logging in you will need to enter an MFA code



Navigating

Navigating Pathfinder

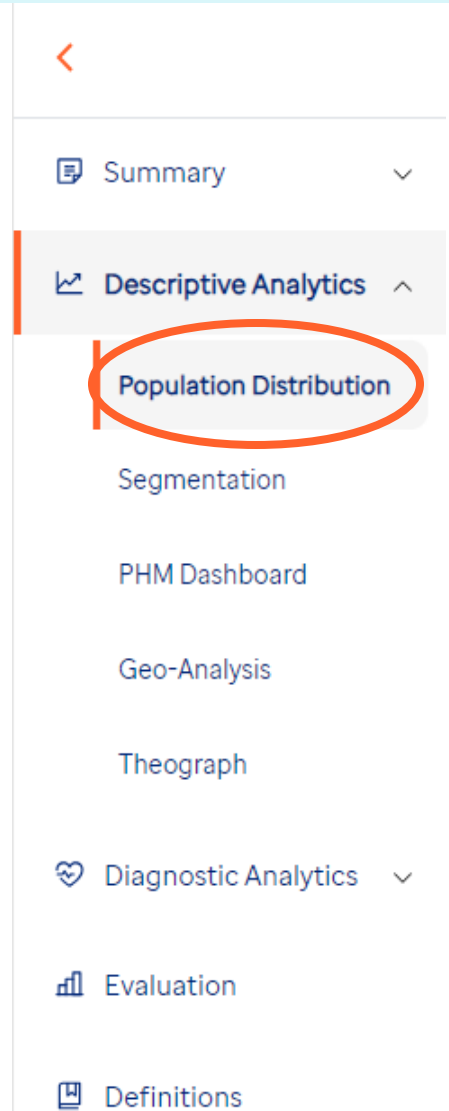
Pages within Pathfinder are arranged into Domains and Pages on the Left Hand Side:



Summary domain is selected, and the second row shows the pages to choose from.



Descriptive Analytics domain is selected, and the second row has changed to show a different set of pages, which can now be navigated to.



'How to Use' Buttons

The 'i' icon button on each page can be accessed to provide more information:

The screenshot shows a data dashboard with a 'How to Use' modal open. The dashboard features a bar chart with three columns: 'Complexity', 'Middle Complexity', and 'High Complexity'. Each column contains two rows of data represented by colored bars (light blue, purple, and teal). A red circle highlights an information icon (an 'i' in a square) on the dashboard, with a red arrow pointing to the 'How to Use' modal. The modal contains a 'Summary' section, a 'Reading the Report' section, an 'Overall Population Measures' section, a 'Finance and Activity Measures' section, and a 'Physical Health, Mental Health and Other Characteristics' section.

Complexity	Middle Complexity	High Complexity
35.6M	85.9K	4.3K
£388	£44.8M	£5.8M
£522	£1.3K	£1.3K

How to Use

Summary

From the linked data model, we can derive many different metrics by which we can understand our population.

This visual allows us to compare each segment across each metric, to assess in detail our population's demographics, activity & finance, outcomes, and bio-psycho-social risk factor prevalence.

Reading the Report

In general, most of metrics on this page are presented as averages, such as average number of A&E attendance within a segment, or average age. Any with a % sign indicate a prevalence rate - showing what percentage of that segment have been recorded with the relevant indicator. The sections are also collapsible.

Overall Population Measures

High level demographic measures, from age & gender, to deprivation & ethnicity, and average multimorbidity (number of health conditions), for each segment.

Finance and Activity Measures

The average spend or activity rate for the listed care sector, for each segment.

Physical Health, Mental Health and Other Characteristics

The prevalence of the risk factors within the segment is displayed (%)

Cohorting

Specific groups in your Population: Creating a Cohort (1 of 13)

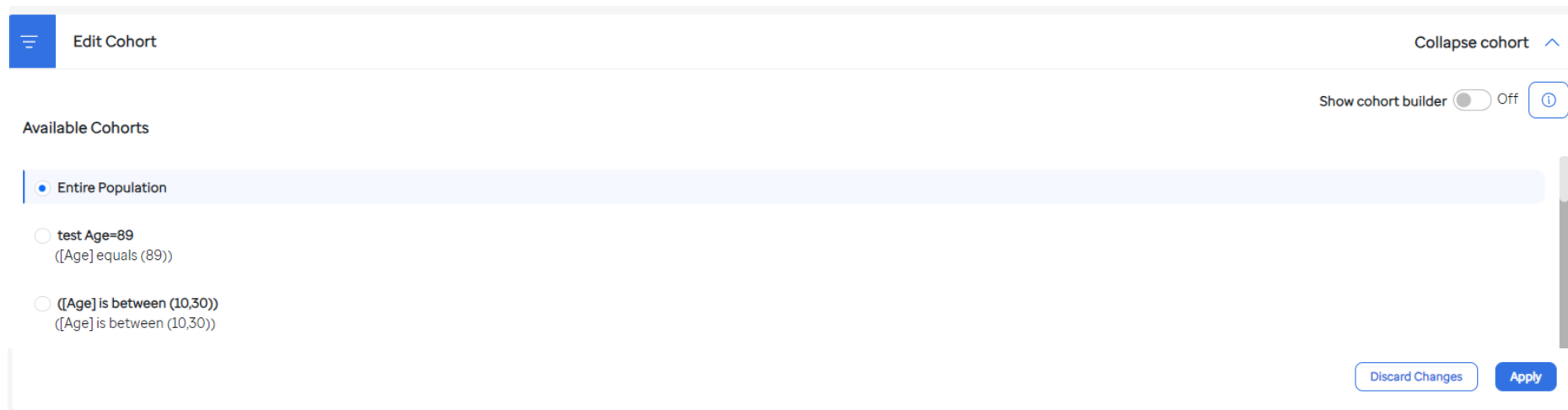
You can use the Cohort Builder to select specific groups of people within your population. This is available on the Population Distribution, Segmentation, PHM Dashboard and Geo-Analysis pages.

To open the cohort builder, click the banner.



The screenshot shows the top navigation bar of the Analytics dashboard. On the left, the word "Analytics" is visible. On the right, there is a status indicator "Using data for: Apr23-Mar24" with a sub-note "Last refresh: 07/08/24, 13:14" and an "Account" link. Below this, a banner is highlighted with a red border. The banner contains a blue menu icon, the text "Showing data for Entire Population", and an "Expand cohort" dropdown menu. Below the banner, the page title "Population Distribution" is displayed with an information icon on the right.

A list of available cohorts are displayed by default, with 'Entire Population' selected when no specific cohort is selected. In this list you can see all your saved cohorts, as well as cohorts that have been saved by other people in your ICS, that they have marked as 'Shared'. (for 'Saving a Cohort go to Slide 27)



The screenshot shows the "Edit Cohort" interface. At the top, there is a blue menu icon, the text "Edit Cohort", and a "Collapse cohort" dropdown. Below this, there is a "Show cohort builder" toggle switch set to "Off" and an information icon. The main area is titled "Available Cohorts" and contains a list of cohorts. The first cohort, "Entire Population", is selected with a blue dot. Below it are two other cohorts: "test Age=89" with the description "(Age] equals (89))" and "[Age] is between (10,30)" with the description "(Age] is between (10,30))". At the bottom right, there are two buttons: "Discard Changes" and "Apply".

Specific groups in your Population: Creating a Cohort (2 of 13)

To start building a cohort, toggle the 'Show cohort builder' ON.

If 'Show cohort builder' is ON, the cohort builder will be shown. This allows the construction of cohorts (groups of people) based on a set of characteristics defined by you.

The screenshot shows the 'Edit Cohort' interface. At the top right, there is a 'Collapse cohort' button with an upward arrow. Below it, a red box highlights the 'Show cohort builder' toggle, which is currently turned 'On'. The main area is titled 'Building cohort filtered for:' and shows a filter configuration for 'Group 1'. It consists of three columns: 'A Characteristic', 'B Operator', and 'C Value'. Each column has a dropdown menu currently set to '-None-'. To the right of the 'Operator' dropdown is a '+' button. At the bottom of the configuration area is an 'Add Group' button. At the bottom left are 'Save Cohort' and 'Clear Characteristics' buttons. At the bottom right are 'Discard Changes' and 'Apply' buttons.

Use the characteristics dropdown **A** to search for and select the characteristic that you wish to filter your population on. These characteristics might be demographics, clinical factors, health inequalities factors, organisational membership (such as GP Practice), or anything else in the dataset. This dropdown is searchable so type to find the option you are looking for. Once you select the characteristic, the operator dropdown **B** will be populated with options relevant to the characteristic and you will be able to choose or input a value **C**.

Specific groups in your Population: Creating a Cohort (3 of 13)

Adding additional characteristics

To add additional characteristics to further narrow down the cohort, use the '+' icon **D**. On the left you can choose whether the 'and' / 'or' operator **E** is applied to that characteristic.

The screenshot shows the 'Edit Cohort' interface. At the top left, it says 'Building cohort filtered for:' followed by a query string **F**: `([Practice] is any of (Practice 01) AND [Diabetes] is present (Yes))`. On the right, there is a 'Collapse cohort' button and a 'Show cohort builder' toggle set to 'On'. Below the query string, there is a section for 'Group 1' with three columns: 'Characteristic' **A**, 'Operator' **B**, and 'Value' **C**. The first row shows 'Practice' as the characteristic, 'Is any of' as the operator, and 'Practice 01' as the value. To the right of this row is a '+' icon **D**. Below this, there is an 'And/Or:' section with a dropdown set to 'And' **E**, a 'Characteristic' dropdown set to 'Diabetes', and an 'Is Present' section with 'Yes' selected. To the right of this section are '+' and trash icons. At the bottom center is an 'Add Group' button. At the bottom left are 'Save Cohort' and 'Clear Characteristics' buttons. At the bottom right are 'Discard Changes' and 'Apply' **G** buttons.

As you create your cohort, the query string **F** is generated on the top left to help you. To apply your cohort to the page, click Apply **G**. Once your cohort is applied, the banner at the top turns blue to identify that the cohort is applied to the chart.



Specific groups in your Population: Creating a Cohort (3 of 13)

Clear Characteristics and Discard Changes

The 'Clear Characteristics' button **H** clears the cohort builder to allow you to start fresh building a cohort. The 'Discard Changes' button **I** revert your changes to the most recently applied cohort.

By toggling on 'Retain Cohort filters on relevant pages' in the Account Menu, your filters will be applied to all relevant pages across Pathfinder for the duration of your session.

The screenshot shows the 'Edit Cohort' interface. At the top, it says 'Building cohort filtered for: ([Practice] is any of (Practice 01) AND [Diabetes] is present (Yes))'. Below this, there are two filter groups. The first group, 'Group 1', has a 'Characteristic' dropdown set to 'Practice', an 'Operator' dropdown set to 'Is any of', and a 'Value' dropdown set to 'Practice 01'. The second group, 'And/Or', has an 'And' dropdown, a 'Characteristic' dropdown set to 'Diabetes', and 'Is Present' radio buttons with 'Yes' selected. At the bottom, there are buttons for 'Save Cohort', 'Clear Characteristics' (with a red 'H' above it), 'Add Group', 'Discard Changes' (with a red 'I' above it), and 'Apply'. A 'Show cohort builder' toggle is set to 'On'.

The screenshot shows the 'Account' menu. At the top, it says 'Using data for: Apr20-Mar21' and 'Last refresh: 30/03/23, 18:54'. Below this, it says 'Signed in as ella.steinert@optum.com!' and 'Logout'. The 'Retain Cohort filters on relevant pages' toggle is turned on, and the 'Remember Chart configurations' toggle is also turned on. The 'Account' label and the 'Retain Cohort filters on relevant pages' toggle are circled in red.

Specific groups in your Population: Creating a Cohort (5 of 13)

Understanding the Dynamic Readable String

As you build your cohort, a dynamic readable string is generated in the top left of the cohort builder. Each group is presented on the same line, separated by RED Brackets.

The screenshot displays the cohort builder interface. At the top left, a dynamic readable string is shown: `([Age] is greater than or equal (18) AND [Diabetes] is present (Yes) OR ([Age] is greater than or equal (65) AND [Cardiovascular Diseases] is present (Yes))`. Red arrows point from this string to the corresponding filter groups below. The interface includes a 'Show cohort builder' toggle (On) and a help icon. Below the string, there are two filter groups, 'Group 1' and 'Group 2', each with a 'Remove Group' button. Group 1 contains two filters: 'Age' with operator 'Is greater than or equal (>=)' and value '18', and 'Diabetes' with operator 'And' and 'Is Present' set to 'Yes'. Group 2 contains two filters: 'Age' with operator 'Is greater than or equal (>=)' and value '65', and 'Cardiovascular Diseases' with operator 'And' and 'Is Present' set to 'Yes'. At the bottom, there are buttons for 'Save Cohort', 'Clear Characteristics', 'Add Group', 'Discard Changes', and 'Apply'.

Specific groups in your Population: Creating a Cohort (6 of 13)

Creating Complex Cohorts, Example 1

If you would like to create more complex cohorts, including groups of conditions, use the 'Add Group' button **J** to add another group. This puts brackets around the subsequent characteristics.

If you use 'AND' and 'OR' in the same group, 'AND' is evaluated over 'OR', and we show precedence within groups using **BLUE** brackets. We recommend using different groups when using different operators.

In this example, we have created a cohort for Adults (18+) with Diabetes and either are Obese, have High Blood Pressure or a Cardiovascular Disease.

The screenshot shows the 'Edit Cohort' interface. At the top, it says 'Building cohort filtered for:' followed by a visual representation of the cohort definition: `([Age] is greater than or equal (18) AND [Diabetes] is present (Yes)) AND ([Obesity] is present (Yes) OR [High Blood Pressure] is present (Yes) OR [Cardiovascular Diseases] is present (Yes))`. Below this, the interface is organized into two main sections: 'Group 1' and 'Group 2'. 'Group 1' contains a single characteristic: 'Age' with the operator 'Is greater than or equal (>=)' and the value '18'. 'Group 2' contains three characteristics: 'Diabetes', 'Obesity', and 'High Blood Pressure', each with the 'Is Present' radio button set to 'Yes'. The 'Diabetes' characteristic is connected to the 'Age' characteristic in Group 1 by an 'And' operator. The 'Obesity', 'High Blood Pressure', and 'Cardiovascular Diseases' characteristics are connected to each other and to the 'Diabetes' characteristic by 'Or' operators. The interface includes buttons for 'Add Group' (marked with a red 'J'), 'Remove Group', 'Save Cohort', 'Clear Characteristics', 'Discard Changes', and 'Apply'. A 'Show cohort builder' toggle is set to 'On'.

Specific groups in your Population: Creating a Cohort (7 of 13)

Understanding the Dynamic Readable String

If you use 'AND' and 'OR' in the same group, 'AND' is evaluated over 'OR', and we show precedence within groups using **BLUE** brackets. 'OR' acts to close a set of brackets and open a new set.

See the example below, where both 'AND' and 'OR' are in the same group, the order of the characteristics chosen, changes the cohort selected.

The image displays two screenshots of a cohort builder interface, illustrating how the order of characteristics and operators affects the resulting dynamic readable string.

Left Screenshot: The interface shows a group labeled "Group 1" with the following configuration:

And/Or:	Characteristic	Operator	Value
	PCN	Is any of	PCN 02, PCN 03
And	Age	Is greater than or equal (>=)	65
And	Depression	Is Present	Yes
Or	Anxiety	Is Present	Yes

The dynamic readable string shown is: `{ [PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) AND [Depression] is present (Yes) } OR [Anxiety] is present (Yes)`. A blue bracket highlights the first three items, indicating that 'AND' is evaluated first.

Right Screenshot: The interface shows a group labeled "Group 1" with the following configuration:

And/Or:	Characteristic	Operator	Value
	PCN	Is any of	PCN 02, PCN 03
And	Age	Is greater than or equal (>=)	65
Or	Anxiety	Is Present	Yes
And	Depression	Is Present	Yes

The dynamic readable string shown is: `{ [PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) } AND { [Anxiety] is present (Yes) AND [Depression] is present (Yes) }`. A blue bracket highlights the last three items, indicating that 'AND' is evaluated first within that set.

Specific groups in your Population: Creating a Cohort (8 of 13)

Creating complex cohorts, Example 2a

In this example, we have created a cohort for people in “PCN 02” or “PCN 03” whose age is 65+, who either have depression or have anxiety

The screenshot shows the 'Edit Cohort' interface with the following configuration:

- Building cohort filtered for:**
 - ([PCN] is any of (PCN 02, PCN 03) AND [Age] is greater than or equal (65)
 -)
 - AND
 - (
 - [Depression] is present (Yes) OR [Anxiety] is present (Yes)
 -)
- Group 1:**
 - Characteristic: PCN
 - Operator: Is any of
 - Value: PCN 02, PCN 03
- And/Or:**
 - And
 - Characteristic: Age
 - Operator: Is greater than or equal (>=)
 - Value: 65
- Group 2:**
 - Characteristic: Depression
 - Is Present: Yes
- And/Or:**
 - Or
 - Characteristic: Anxiety
 - Is Present: Yes

Buttons at the bottom include: Save Cohort, Clear Characteristics, Add Group, Remove Group, Discard Changes, and Apply.

Specific groups in your Population: Creating a Cohort (9 of 13)

Creating complex cohorts, Example 2b

This is another example of the same cohort;

People in “PCN 02” or “PCN 03” whose age is 65+, who either have depression or have anxiety

The screenshot shows the 'Edit Cohort' interface with the following structure:

- Building cohort filtered for:**
 - ([PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) AND [Depression] is present (Yes))
 - OR
 - ([PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) AND [Anxiety] is present (Yes))
- Group 1:**
 - Characteristic: PCN, Operator: Is any of, Value: PCN 02, PCN 03
 - And/Or: And, Characteristic: Age, Operator: Is greater than or equal (>=), Value: 65
 - And/Or: And, Characteristic: Depression, Operator: Is Present, Value: Yes
- Group 2:**
 - Characteristic: PCN, Operator: Is any of, Value: PCN 02, PCN 03
 - And/Or: And, Characteristic: Age, Operator: Is greater than or equal (>=), Value: 65
 - And/Or: And, Characteristic: Anxiety, Operator: Is Present, Value: Yes

Buttons at the bottom include: Save Cohort, Clear Characteristics, Add Group, Remove Group, Discard Changes, and Apply.

Specific groups in your Population: Creating a Cohort (10 of 13)

Using a combination of 'And' and 'Or' Operators Example 3

In this example, we have created a cohort for people in “PCN 02” or “PCN 03” whose age is 65+, who have depression or people that have anxiety

Using this very similar example, we haven't used groups and the cohort is different. That's because Age, PCN and Depression are all evaluated together, and then those with anxiety are included.

The screenshot shows the 'Edit Cohort' interface. At the top, it says 'Building cohort filtered for:' followed by a visual representation of the filter rule: `([PCN] is any of (PCN 02, PCN 03) AND [Age] is greater than or equal (65) AND [Depression] is present (Yes)) OR [Anxiety] is present (Yes)`. Below this, the interface is organized into a table-like structure for 'Group 1'.

	Characteristic	Operator	Value	
	PCN	Is any of	PCN 02, PCN 03	+
And/Or:	And	Age	Is greater than or equal (>=)	65 + -
And/Or:	And	Depression	Is Present	Yes (selected) No + -
And/Or:	Or	Anxiety	Is Present	Yes (selected) No + -

At the bottom of the interface, there are buttons for 'Save Cohort', 'Clear Characteristics', 'Add Group', 'Discard Changes', and 'Apply'.

Specific groups in your Population: Creating a Cohort (11 of 13)

Using a combination of 'And' and 'Or' Operators Example 4

Using another example, we have added another layer of complexity looking for;

People in “PCN 02” or “PCN 03” whose age is 65+, who have depression or have anxiety as well as people in “PCN 04” who have depression and no A&E Attendances or Emergency Admissions

Building cohort filtered for:

```
(  
  [PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) AND [Depression] is present (Yes)  
)  
OR  
(  
  [PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65) AND [Anxiety] is present (Yes)  
)  
OR  
(  
  [PCN] is any of (PCN 04) AND [Depression] is present (Yes) AND [A&E Attendances] equals (0) AND [Emergency Admissions] equals (0)  
)
```

Show cohort builder On

Group 1			
Characteristic	Operator	Value	
PCN	Is any of	PCN 02, PCN 03	+
And/Or:	Characteristic	Operator	Value
And	Age	Is greater than or equal (>=)	65 +
And/Or:	Characteristic	Is Present	
And	Depression	<input checked="" type="radio"/> Yes <input type="radio"/> No	+ +
Or Group 2			
Characteristic	Operator	Value	
PCN	Is any of	PCN 02, PCN 03	+
And/Or:	Characteristic	Operator	Value
And	Age	Is greater than or equal (>=)	65 +
And/Or:	Characteristic	Is Present	
And	Anxiety	<input checked="" type="radio"/> Yes <input type="radio"/> No	+ +
Or Group 3			
Characteristic	Operator	Value	
PCN	Is any of	PCN 04	+
And/Or:	Characteristic	Is Present	
And	Depression	<input checked="" type="radio"/> Yes <input type="radio"/> No	+ +
And/Or:	Characteristic	Operator	Value
And	A&E Attendances	Equals (=)	0 +
And/Or:	Characteristic	Operator	Value
And	Emergency Admissions	Equals (=)	0 +

Remove Group

Remove Group

Remove Group

Add Group

Save Cohort Clear Characteristics Discard Changes Apply

Specific groups in your Population: Creating a Cohort (12 of 13)

Using a combination of 'And' and 'Or' Operators Example 5

In this similar example. We have used a different combinations of groups to create a cohort that includes;

People in “PCN 02” or “PCN 03” whose age is 65+, who have depression or have anxiety as well as people in “PCN 04” who have depression and no A&E Attendances or Emergency Admissions

Where groups are evaluated with different operators, we have evaluated ‘AND’ first. Therefore Group 1 and Group 2 are evaluated together, and then Group 3 is evaluated. As seen within the dynamic readable string denoted by the **BLUE** brackets

The screenshot displays the Optum cohort builder interface. At the top right, there is a toggle for "Show cohort builder" which is turned "On". The main area is divided into two sections: a dynamic readable string and a visual configuration of groups.

Dynamic Readable String:

```
Building cohort filtered for:  
(  
  ([PCN] is any of (PCN 02,PCN 03) AND [Age] is greater than or equal (65)  
)  
AND  
(  
  ([Depression] is present (Yes) OR [Anxiety] is present (Yes)  
)  
)  
OR  
(  
  ([PCN] is any of (PCN 04) AND [Depression] is present (Yes) AND [A&E Attendances] equals (0) AND [Emergency Admissions] equals (0)  
)  
)
```

Visual Configuration:

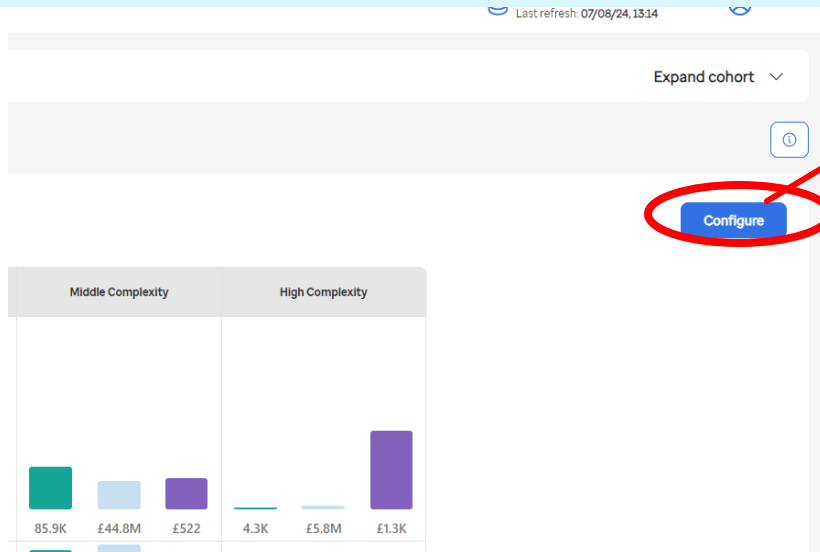
The visual configuration shows three groups defined by characteristics, operators, and values:

- Group 1:** PCN (Is any of) PCN 02, PCN 03 AND Age (Is greater than or equal (>=)) 65 AND Depression (Is Present) Yes OR Anxiety (Is Present) Yes.
- Group 2:** PCN (Is any of) PCN 04 AND Depression (Is Present) Yes AND A&E Attendances (Equals (=)) 0 AND Emergency Admissions (Equals (=)) 0.
- Group 3:** PCN (Is any of) PCN 04 AND Depression (Is Present) Yes AND A&E Attendances (Equals (=)) 0 AND Emergency Admissions (Equals (=)) 0.

The interface includes buttons for "Add Group", "Remove Group", "Save Cohort", "Clear Characteristics", "Discard Changes", and "Apply".

Configuring a Report (1 of 1)

You can use our Configuration panels on each page to select the data and characteristics to view on the page to create a report.



Segmentation

Saved Charts Custom Chart

Row Segment Model
Age Band All

Column Segment Model
Complexity

Using data for: Apr23-Mar24
Last refresh: 07/08/24, 13:14

Account

Signed in as ella.steinert@optum.com

Logout

Retain Cohort on relevant pages On

Remember Chart configurations On

Make selections about which data and characteristics including risk factors and health indicators you would like to see and click apply to view on the report.

Cancel Save chart **Apply**

You can save your report configurations (per session) by toggling on 'remember chart configuration' in the Account Menu.

Saving

Saving a Cohort

Saving your Cohort

To save your cohort to come back to it later. Click the 'Save Cohort' button **H** and give it a unique name **I**, and decide if the cohort is Shared or Private **J**. Shared cohorts are visible to anyone in your organisation and private cohorts are only available to you. Saved cohorts can be selected from the 'Available Cohorts' list **K** which is shown when you open the cohort builder, or by toggling 'Show cohort builder' OFF .

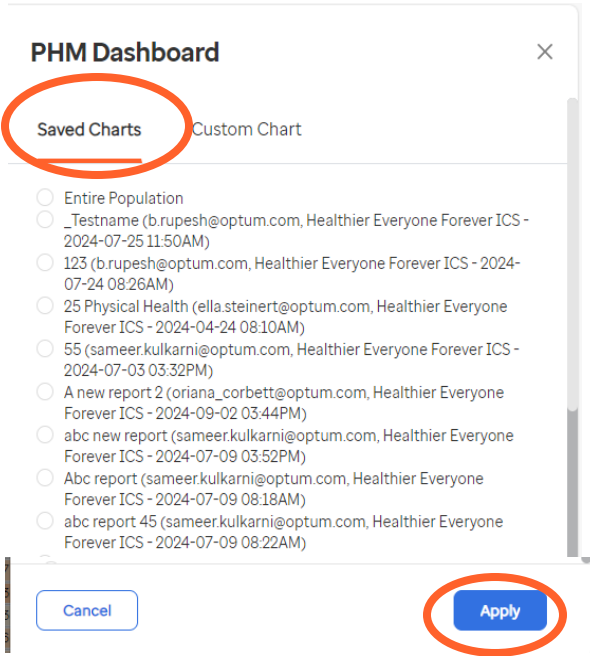
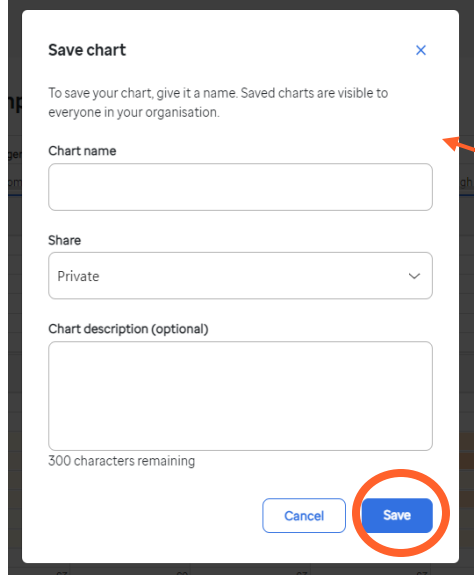
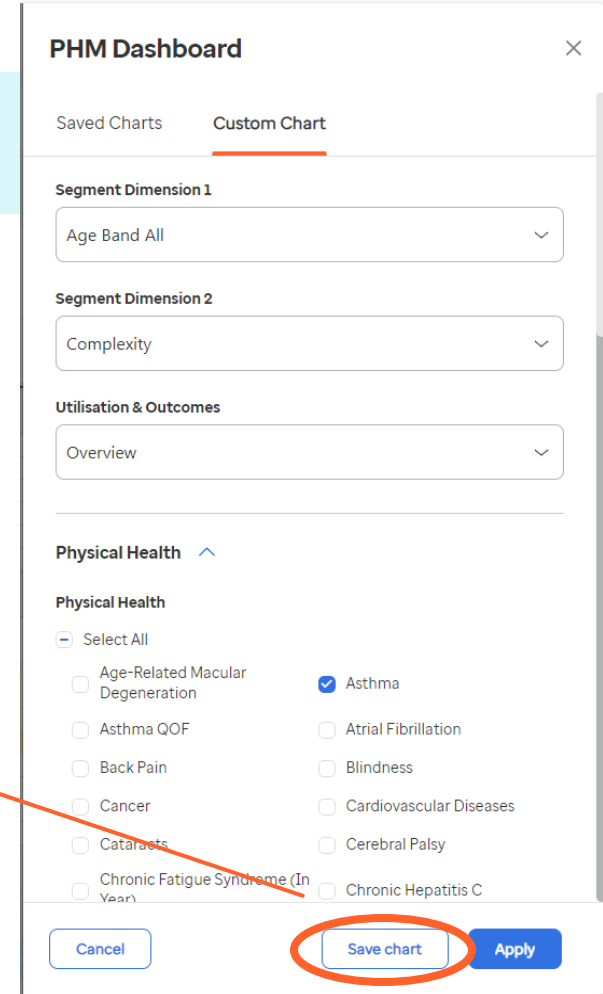
The image displays three screenshots of the 'Edit Cohort' interface. The leftmost screenshot shows the 'Building cohort filtered for:' section with a filter expression: `(([Practice] is any of (Practice 01) And [D`. Below this, there are 'Characteristic' fields containing 'Practice' and 'Diabetes', and an 'And/Or:' dropdown set to 'And'. A red arrow points from the 'Save Cohort' button (labeled **H**) to the 'Save cohort' dialog box in the middle screenshot. The dialog box prompts the user to 'To save the filters as a cohort, give it a name.' and 'Choose whether your saved cohort is 'private' or 'shared', it is visible to everyone in your organisation'. It features a 'Cohort name' input field (labeled **I**), a 'Share' dropdown menu set to 'Shared' (labeled **J**), and buttons for 'Cancel', 'Save', and 'Save and Apply'. The rightmost screenshot shows the 'Available Cohorts' list (labeled **K**) with several options: 'Entire Population', 'Age between 10 and 50', 'Age between 10 and 70', 'Age between 10 and 77', 'Anxiety or ADHD', and 'ES testing'. A 'Show cohort builder' toggle switch is visible in the top right corner, currently set to 'Off'.

Saving a Chart

You can save your chart configurations and cohort to come back to later by using the 'Save Chart' functionality.

In the Configure Panel, you can save your configurations and the filter applied by clicking the 'Save Chart' button.

This will open a Modal that will allow you to give your chart a name, decide if the chart is Shared or Private and give your chart a description. Shared charts are visible to anyone in your organisation and private charts are only available to you. All reports must have unique names across your ICS.

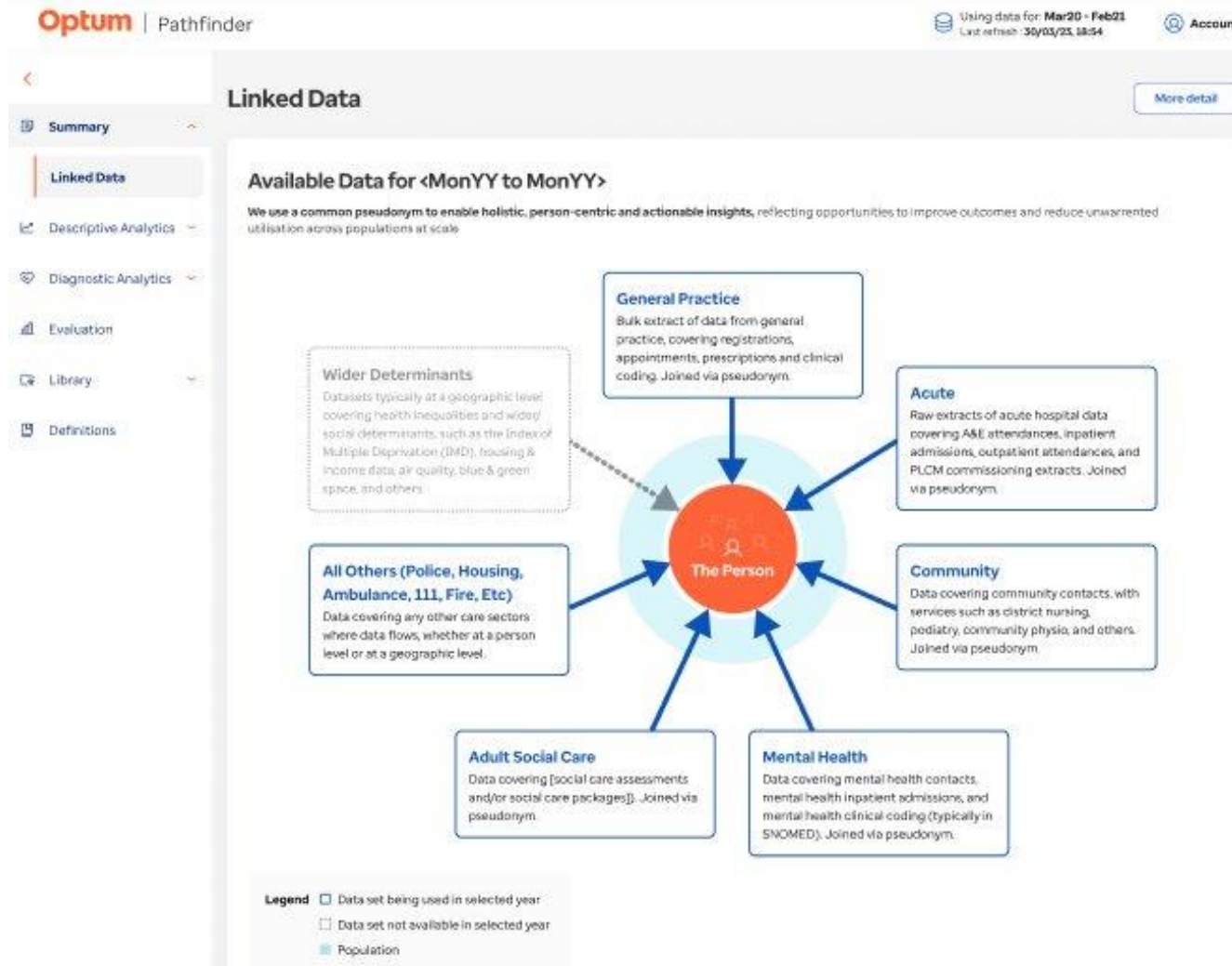


You can also load a previously saved chart (your own or Shared within your ICS) in the Saved Charts tab by selecting the chart you want to load and clicking Apply.

Data and PHM

Summary: Linked Data

Understanding the Data you have access to in the Linked Data Model



- Most of the analytics in the PHM Dashboard makes use of the **Population Health Person Master Index (PHPMI)**, a single output dataset bringing together demographic, social, economic & activity, clinical, and other metrics to holistically represent a whole population, at a person level, using the common pseudonym
- This dataset enables us to analyse **person-level demographics, total cost of care and risk factors** through a range of analytical approaches and visualisations
- The Linked Data Page shows you which data sets are available in Pathfinder for you

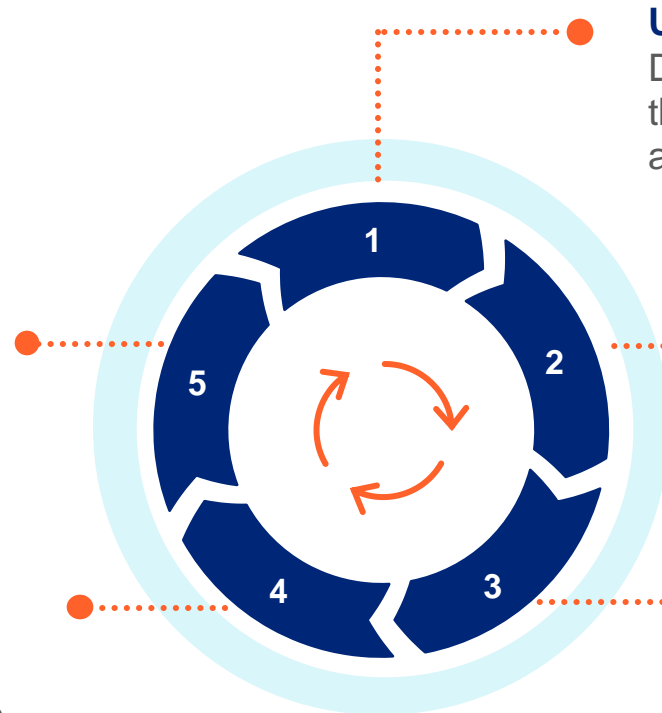
The PHM cycle — making things stick through continuous learning and doing

Active monitoring and rapid improvement

Whole system impact assessment to measure net impact on population groups (utilisation, cost, outcomes and experience).

Design and begin to implement interventions

Design and implementation of multidisciplinary, cross-organisational interventions that are targeted at high-risk population segments through a bio-psycho-social approach.



Understanding Population Health and care needs

Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.

Opportunity analysis and targeting

Analytics such as risk stratification and segmentation models to identify characteristics and the groups challenged by them.

Financial system modelling

Future-facing financial modelling of unmitigated and mitigated system financial risk using person level costing data and mitigated scenarios.

[NHS England » Population health management](#)

Understanding Population Health and Care Needs

Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.

Descriptive Analytics: Population Distribution

Population Distribution shows the way in which a population is divided amongst a chosen segment model, and a characteristic or outcome rate for each segment as well.

Summary

The chart allows you to get a quick, high-level understanding of a particular population according to one segment model and characteristic or outcome of interest. For example, it can show how many individuals are in each 5-year age band, and what the average A&E attendances per person per year are.

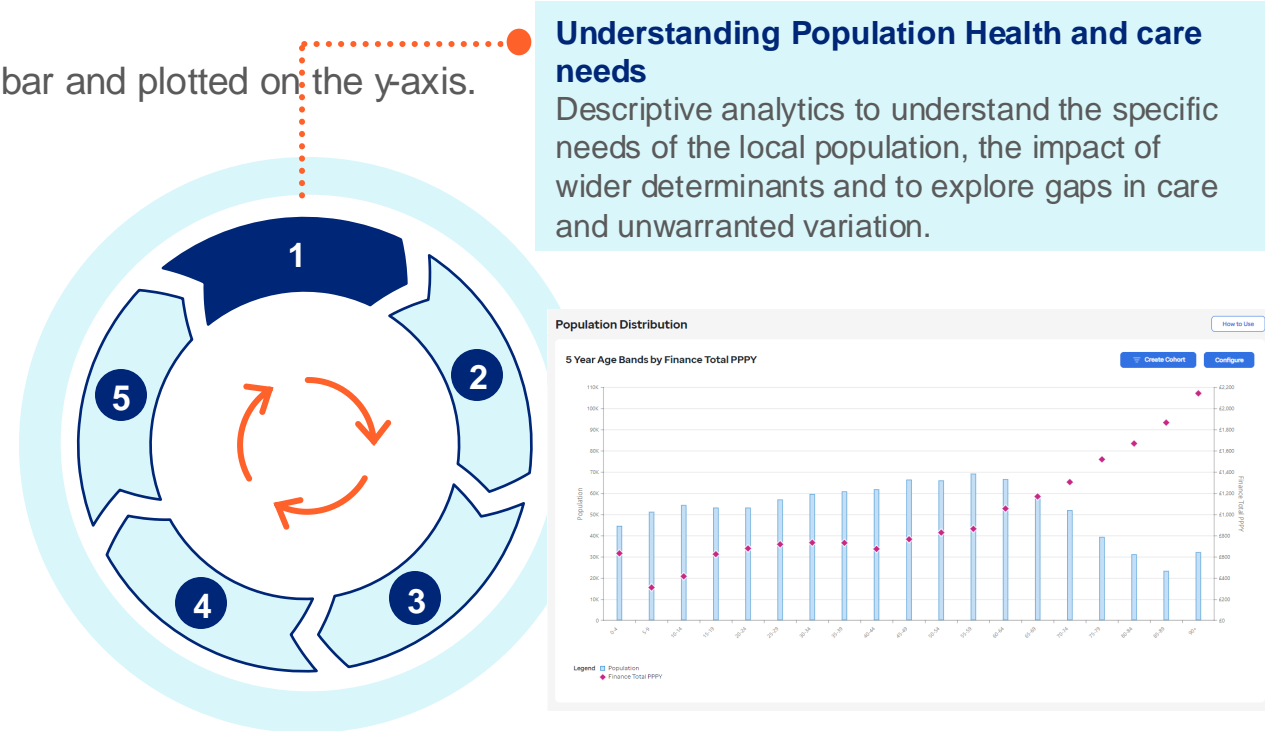
For the specific segments chosen you can see the:

Population

How many people are in each segment represented by the height of the bar and plotted on the y-axis. The hover over will display the exact number.

Characteristic or Outcome

A characteristic or outcome is chosen to display as a diamond on the chart which is plotted on the righthand side y-axis. The hover over will display the exact number for this characteristic or Outcome and segment.



Descriptive Analytics: Population Distribution

Reading the Report

Population **A**

How many individuals are in this segment represented by the height of the bar and plotted on the y-axis. The hover over will display the exact number.

Characteristic or Outcome **B**

Choose which characteristic or outcome to display as a pink diamond on the chart which is plotted on the right-hand side y-axis. The height of the shape relates to average value for that segment shown on the righthand y-axis and the hover over will display the exact number for this option and segment.

Segment Model **C**

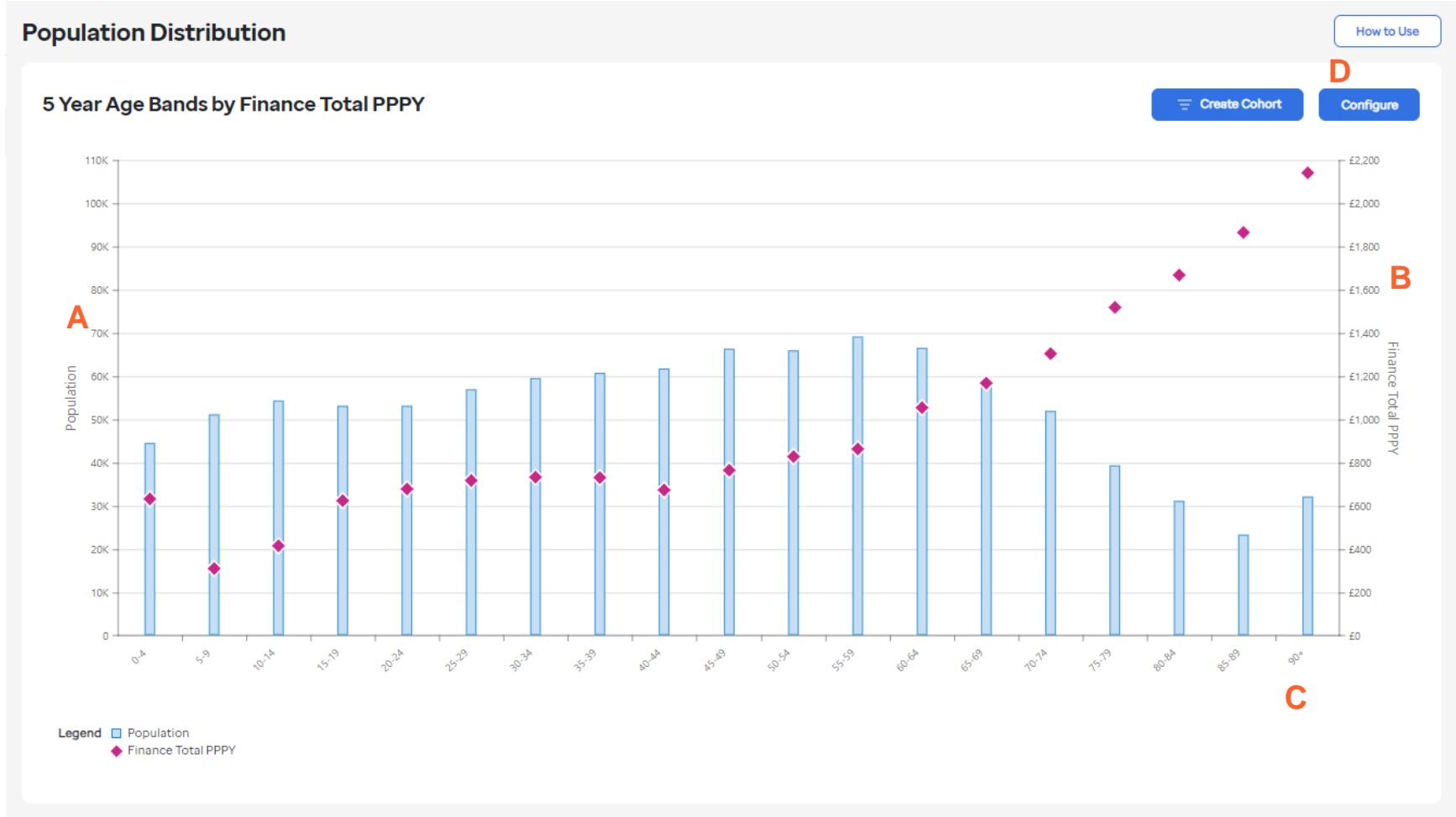
Displayed with labels on the x-axis as segments.

Configuration of the Report **D**

A Segment model and can be chosen via the Configure Panel which will display along the x-axis as segments for comparison. A characteristic or outcome can also be chosen via the Configure Panel using the searchable dropdown.

Example

By default, '5 year Age Bands' is the segment model displayed and 'Finance Total PPPY (per person per year)' is the outcome shown. The height of the bar will always be Population and is not configurable.



Descriptive Analytics: Segmentation

Segmentation is a methodology by which we can understand the composition of specific groups within a population.

Summary

This is the population segmentation view on Pathfinder. Segmentation refers to the process of dividing a population into distinct subgroups based on specific criteria. This allows you to gain better population insights and optimise outcomes.

The “matrix segmentation” allows you to segment the population by considering two different characteristics, such as age, complexity, deprivation, etc., which helps to gain a deeper understanding of specific population groups.

For the specific segments chosen you can see the:

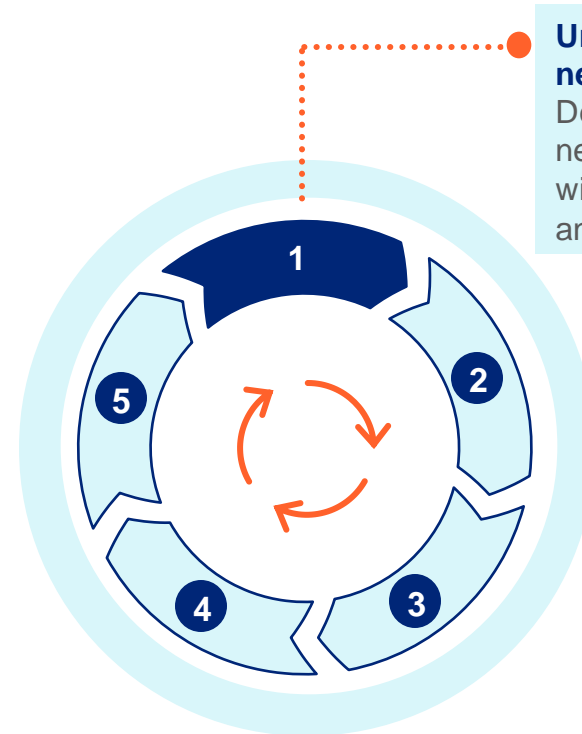
Total number of people for each segment (population)

Total resource utilisation over a 12-month period

Total resource utilisation as a per person per year (PPPY)

Further Resources and References:

[NHS England » Population health management](#)



Understanding Population Health and care needs

Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.



Descriptive Analytics: Segmentation

Reading the Report

Population **A**

How many individuals are in the segment.

Finance Total **B**

Total spend on the population of the specific segment.

Please note that this is the total spend across all care sectors.

PPPY **C**

Average spend PPPY (per person per year) for a 12-month period.

Please note that values result from dividing total spend by population.

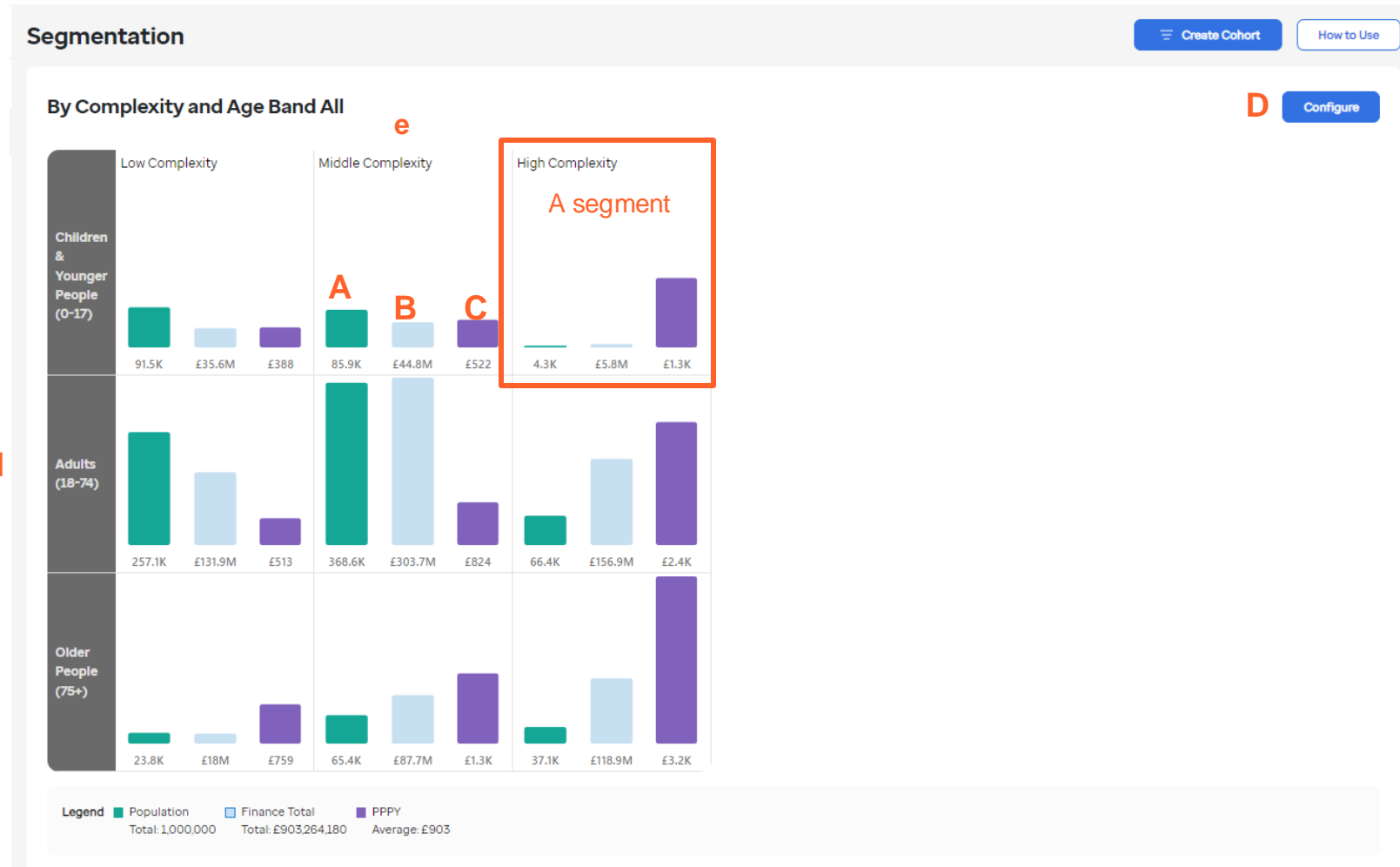
Configuration of the Report

Up to two segment models can be chosen in the configure panel which you can open by clicking the 'Configure' button **D**.

The chosen segment model will give you the rows (**d**) and columns (**e**) of the matrix.

Example

By default, 'Age' and 'Complexity' are the two segment models selected. Reading across the bottom row within Older People (75+), we can see that as we move from Low Complexity to High Complexity, the purple Spend PPPY bar grows in height. This shows resource use increasing as people become more clinically complex.



Descriptive Analytics: PHM Dashboard

From the linked data model, we can derive many different metrics by which we can understand our population.

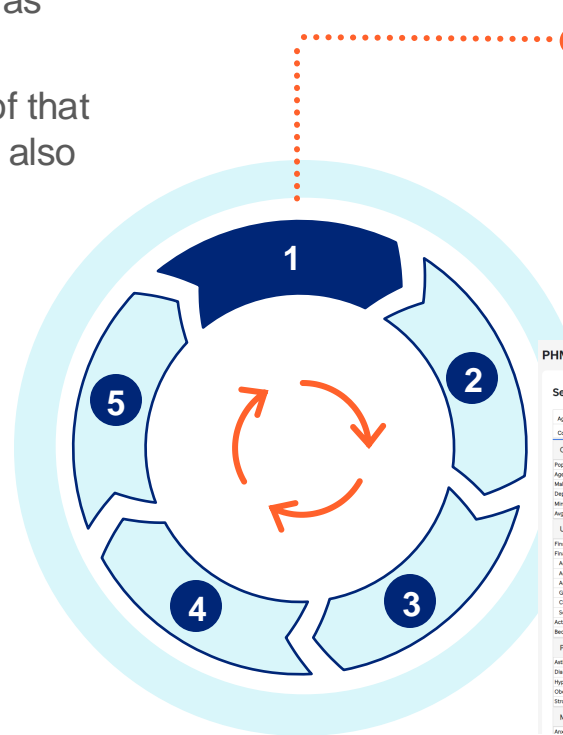
Summary

On the PHM dashboard visual you can compare a specific segment across a specific metric. This allows you to assess in detail your population demographics, outcomes and bio-psycho-social prevalences.

This is an interactive dashboard that you can configure according to your needs.

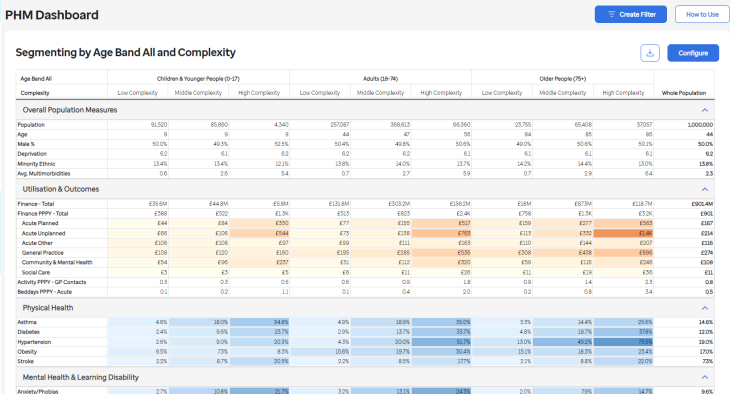
In general, most of metrics on this page are presented as averages, such as average number of A&E attendance within a segment, or average age.

Any with a % sign indicate a prevalence rate - showing what percentage of that segment have been recorded with the relevant indicator. The sections are also collapsible.



Understanding Population Health and care needs

Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.



Age Band All	Children & Younger People (0-17)			Adults (18-74)			Older People (75+)			Whole Population
Complexity	Low Complexity	Middle Complexity	High Complexity	Low Complexity	Middle Complexity	High Complexity	Low Complexity	Middle Complexity	High Complexity	
Overall Population Measures										
Population	61,500	66,800	4,340	257,067	368,613	66,300	23,750	66,418	37,027	1,000,000
Age	9	9	9	44	47	56	84	85	96	44
Male %	50.0%	49.3%	52.3%	50.4%	49.8%	50.8%	49.0%	50.8%	50.1%	50.0%
Depression	6.2	6.1	6.2	6.2	6.2	6.1	6.1	6.1	6.1	6.2
Mixing Cities	23.4%	23.4%	22.7%	13.6%	14.0%	14.0%	14.0%	14.4%	13.1%	13.6%
Avg Multimorbidities	0.6	0.6	0.4	0.7	0.7	0.9	0.7	0.9	0.4	0.5
Utilisation & Outcomes										
France - Total	€36.6M	€44.8M	€1.8M	€13.8M	€33.2M	€16.2M	€3M	€37.3M	€18.7M	€92.4M
France PHM - Total	€366	€322	€134	€933	€920	€240	€758	€134	€524	€961
Acute Planned	€44	€84	€30	€77	€25	€52	€10	€27	€65	€207
Acute Unplanned	€95	€206	€346	€75	€219	€395	€110	€330	€188	€924
Acute Other	€206	€206	€97	€209	€261	€200	€100	€144	€207	€226
General Practice	€109	€200	€109	€185	€308	€308	€438	€438	€169	€274
Community & Mental Health	€54	€54	€37	€51	€212	€200	€39	€10	€26	€291
Social Care	€5	€2	€1	€1	€1	€20	€1	€19	€10	€31
Activity PHM - GP Contacts	0.3	0.3	0.3	0.6	0.6	0.9	0.9	1.4	1.4	0.8
Beddays PHM - Acute	0.1	0.2	0.1	0.1	0.4	0.2	0.2	0.8	0.4	0.5
Physical Health										
Asthma	4.1%	3.2%	34.8%	4.4%	3.8%	30.9%	5.7%	34.4%	24.6%	14.1%
Diabetes	2.4%	9.6%	28.7%	2.0%	13.7%	38.7%	4.6%	18.7%	37.6%	12.0%
Hypertension	2.6%	3.0%	20.3%	4.3%	20.0%	30.7%	13.0%	49.3%	28.8%	19.0%
Obesity	6.5%	7.9%	8.7%	10.6%	10.7%	10.4%	10.4%	10.1%	11.6%	12.0%
Stroke	2.2%	8.7%	20.9%	2.2%	8.5%	17.7%	2.1%	8.8%	20.2%	7.2%
Mental Health & Learning Disability										
Anxiety/Phobias	2.7%	20.8%	20.7%	3.2%	13.1%	14.2%	2.0%	7.9%	10.7%	9.6%

Descriptive Analytics: PHM Dashboard

Overall population measures

High-level demographic characteristics such as age, gender, deprivation, etc., for a specific segment (column) of the population. **A**

Outcome measures

For each specific segment (columns), you can see the average spend or activity for each care sector, such as acute planned, general practice, and social care. **B**

Physical Health, Mental Health and Other characteristics

For each specific segment (columns), you can see the prevalence (in %) for the population that have a specific characteristic. **C**

Configuration of the report

Open the configuration panel by clicking the 'Configuration' button. This allows you to completely configure your PHM Dashboard table. **D**

PHM Dashboard

Create Filter How to Use

Segmenting by Age Band All and Complexity

Download Configure

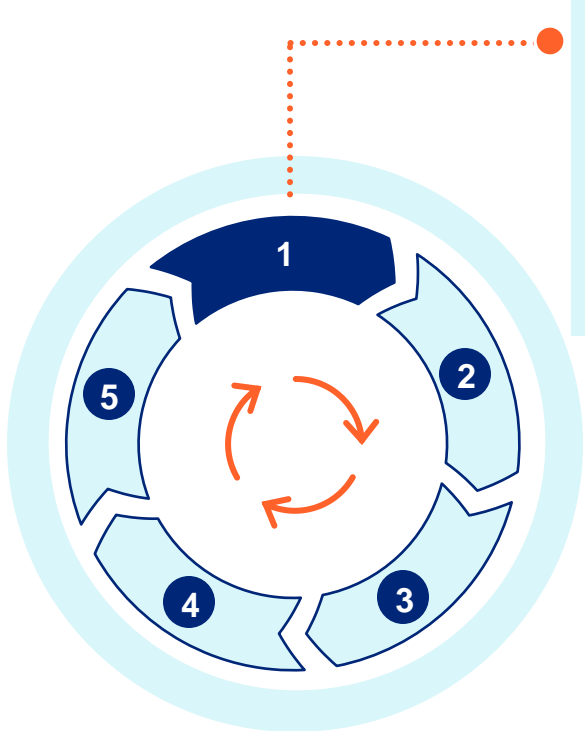
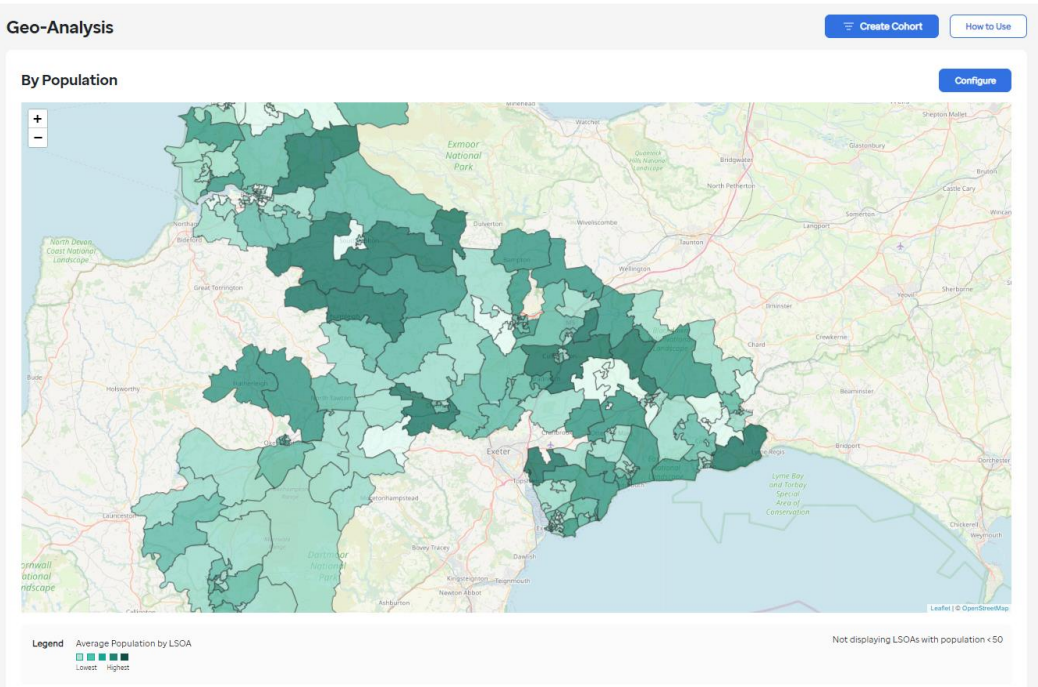
Age Band All	Children & Younger People (0-17)			Adults (18-74)			Older People (75+)			Whole Population
Complexity	Low Complexity	Middle Complexity	High Complexity	Low Complexity	Middle Complexity	High Complexity	Low Complexity	Middle Complexity	High Complexity	
A Overall Population Measures										
Population	91,520	85,860	4,340	257,087	368,613	66,360	23,755	65,408	37,057	1,000,000
Age	9	9	9	44	47	56	84	85	86	44
Male %	50.0%	49.3%	52.5%	50.4%	49.8%	50.6%	49.0%	50.6%	50.1%	50.0%
Deprivation	6.2	6.1	6.2	6.2	6.2	6.1	6.1	6.1	6.1	6.2
Minority Ethnic	13.4%	13.4%	12.1%	13.8%	14.0%	13.7%	14.2%	14.4%	13.0%	13.8%
Avg. Multimorbidities	0.6	2.6	5.4	0.7	2.7	5.9	0.7	2.9	6.4	2.3
B Utilisation & Outcomes										
Finance - Total	£35.6M	£44.8M	£5.8M	£131.8M	£303.2M	£156.2M	£18M	£87.3M	£118.7M	£901.4M
Finance PPPY - Total	£388	£522	£1.3K	£513	£823	£2.4K	£758	£1.3K	£3.2K	£901
Acute Planned	£44	£84	£330	£77	£155	£517	£159	£277	£563	£167
Acute Unplanned	£66	£106	£544	£73	£138	£763	£113	£332	£1.4K	£214
Acute Other	£106	£108	£97	£99	£111	£163	£110	£144	£207	£116
General Practice	£108	£120	£160	£195	£285	£536	£308	£438	£696	£274
Community & Mental Health	£54	£96	£237	£51	£112	£320	£59	£116	£246	£108
Social Care	£3	£3	£5	£6	£11	£26	£11	£19	£36	£11
Activity PPPY - GP Contacts	0.3	0.3	0.5	0.6	0.9	1.8	0.9	1.4	2.3	0.8
Beddays PPPY - Acute	0.1	0.2	1.1	0.1	0.4	2.0	0.2	0.8	3.4	0.5
C Physical Health										
Asthma	4.6%	18.0%	34.8%	4.9%	18.9%	35.0%	3.3%	14.4%	25.6%	14.6%
Diabetes	2.4%	9.6%	23.7%	2.9%	13.7%	33.7%	4.8%	19.7%	37.8%	12.0%
Hypertension	2.6%	9.0%	20.3%	4.3%	20.0%	51.7%	13.0%	45.2%	73.5%	19.0%
Obesity	6.5%	7.3%	8.3%	15.6%	19.7%	30.4%	15.1%	18.3%	23.4%	17.0%
Stroke	2.2%	8.7%	20.5%	2.2%	8.5%	17.7%	2.1%	8.8%	22.0%	7.3%
Mental Health & Learning Disability										
Anxiety/Phobias	2.7%	10.8%	21.7%	3.2%	13.1%	24.3%	2.0%	7.9%	14.7%	9.6%

Descriptive Analytics: Geo-Analysis

Geo-analysis allows you to visualise a population on a map and see a comparison of different characteristics across your population by geographic area

Summary

You can see the number of people who live in each area, their average age or level of multi-morbidity, their utilisation or prevalence rate, or any other characteristic.



Understanding Population Health and care needs
Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.

Descriptive Analytics: Geo-Analysis

Reading the Report

Here you can see each LSOA (Lower Layer Super Output Area) highlighted in a different gradient colour. **A** The gradient colour is shown according to the characteristic or outcome selected and is ordered from low to high as per the legend. **B**

If you hover over an LSOA, a summary will appear. **C**

Configuration of the report

You can choose the characteristic or outcome you are interested in by clicking the 'Configure' button and opening the side panel. **D**

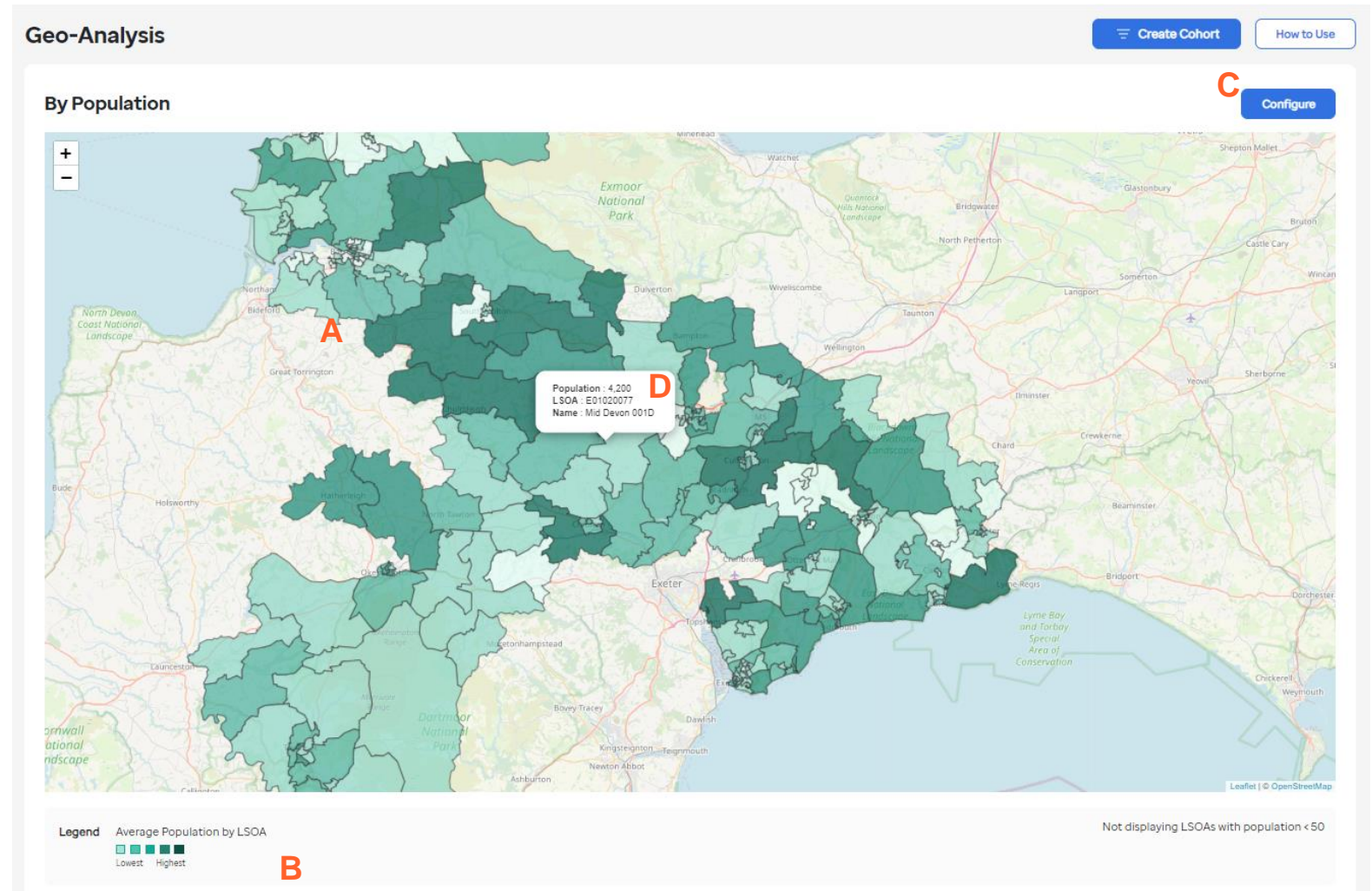
Typically you will visualise average rates, except for "Population", which is a total.

Utilisation can be visualised by spend or activity. By default, we hide LSOAs with fewer than 50 individuals and you can also choose whether to display LSOAs with fewer than 6 and fewer than 25.

Example

By default, the map shows Population, the number of people in each LSOA. Those with the highest population shaded the darkest, and those with the lowest population the lightest, as indicated by the legend.

Upon changing the characteristic to LTC Count, the LSOA shading now represents the average number of long-term conditions amongst those individuals who live in each LSOA.

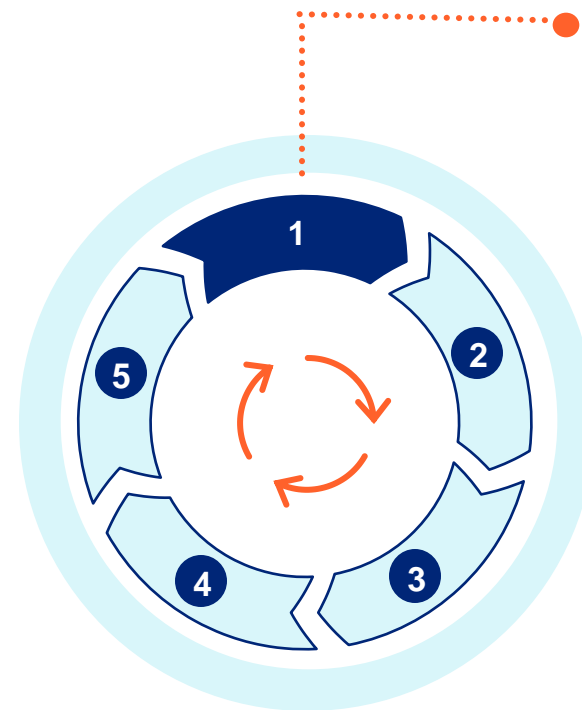
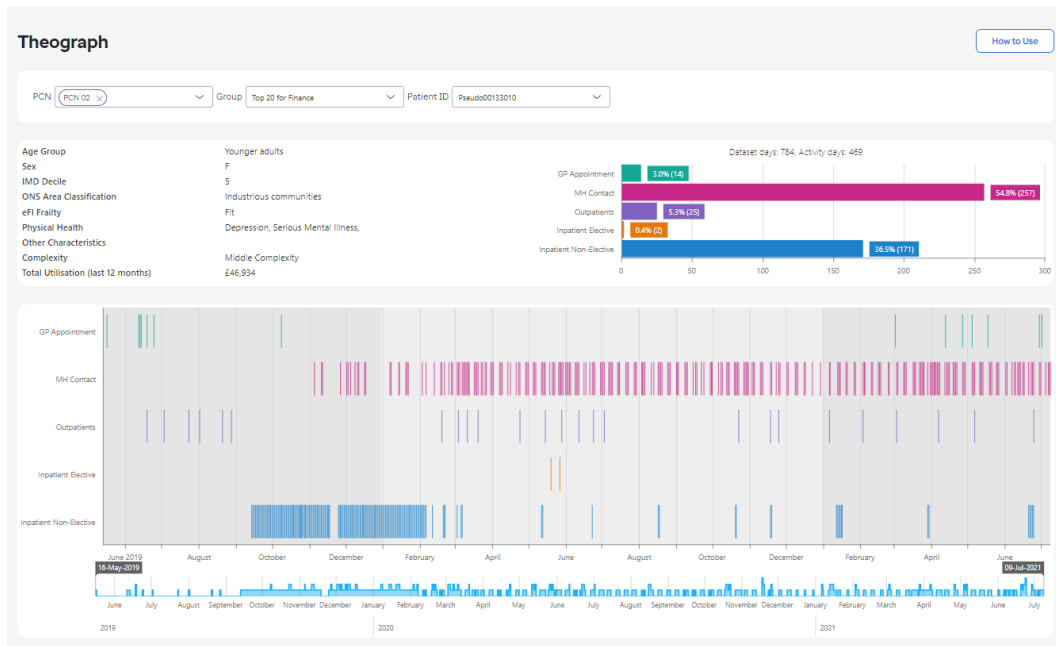


Descriptive Analytics: Theograph

Theographs use the linked data at an individual level, to illustrate a person's journey through health and care services over time.

Summary

This individual level visualisation provides a cross-sector, person-level timeline for historic care delivery.



Understanding Population Health and care needs
Descriptive analytics to understand the specific needs of the local population, the impact of wider determinants and to explore gaps in care and unwarranted variation.

Descriptive Analytics: Theograph

Reading the Report

Individual Summary

You can visualise the main characteristics of the individual selected such as age group, sex, IMD decile etc. **A**

Outcomes Summary Chart

This graph represents a percentage of the resource utilisation by the selected individual across the system **B**

Timeline View

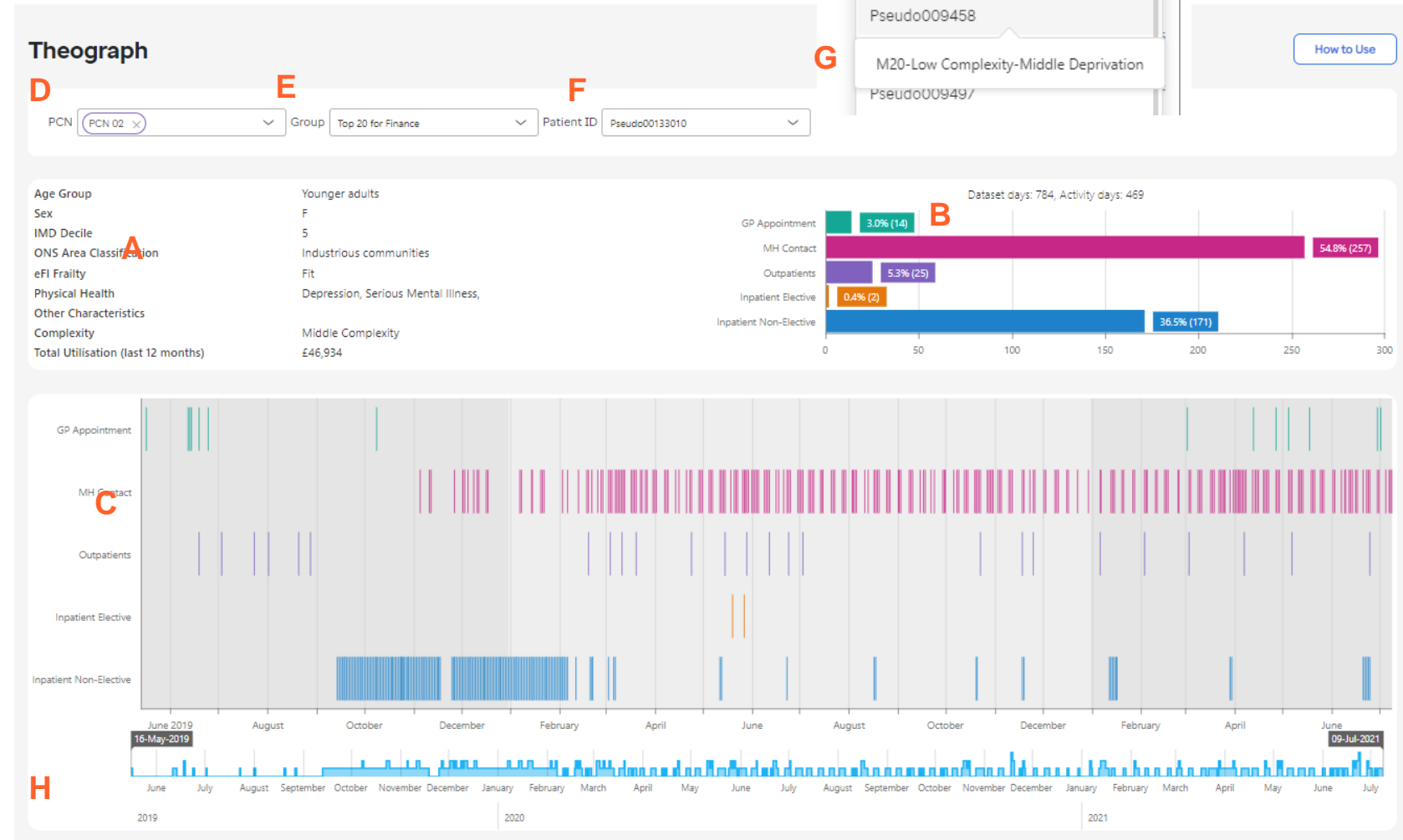
You can visualise the individual's journey through the health and care system over a period. You can see in detail all the interactions the individual has had in a specific period across different organisations in the system such as GP appointments, Outpatients appointments, Inpatient Elective, etc. **C**

Configuration of the report

You can select your highest utilisation individuals by PCN **D** using the drop down function as well as a group of interest **E** such as Finance total, Beddays, etc.

You can then proceed to the "Patient ID" drop down box where you can select a specific individual **F**. You can see a summary of the person by hovering on the pseudonumber **G**

You can also change the timeline on the longitudinal view by scrolling on the timeline or dragging the start and end points **H**.



Opportunity analysis and targeting

Analytics such as risk stratification and segment models to identify characteristics, and the groups challenged by them.

Diagnostic Analytics: Risk Stratification

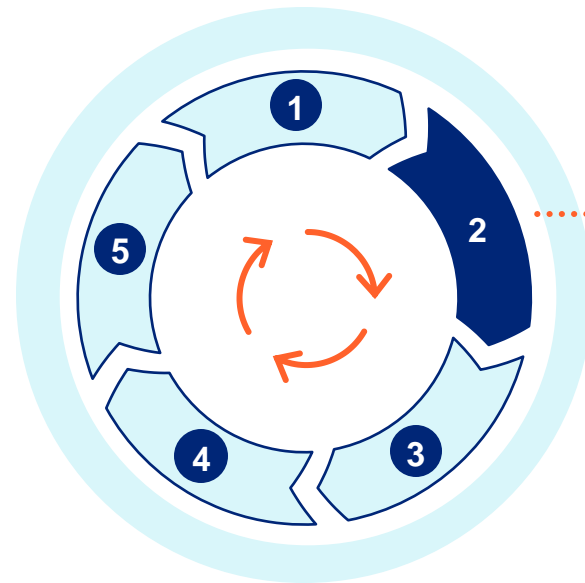
Risk stratification involves categorising people into different risk groups based on various factors.

Summary

Pathfinder uses linear regression, hurdle models, decision trees, and statistical tests (such as t-test) to understand the link between characteristics in a population and an outcome of interest (such as activity or finance).

This graph shows the number of individuals with each risk factor and the model's estimate of the associated increase or decrease in the outcome, at a per person, per year level. It shows how much more activity or spend happen on average to a person with a characteristic versus a comparable person without this characteristic.

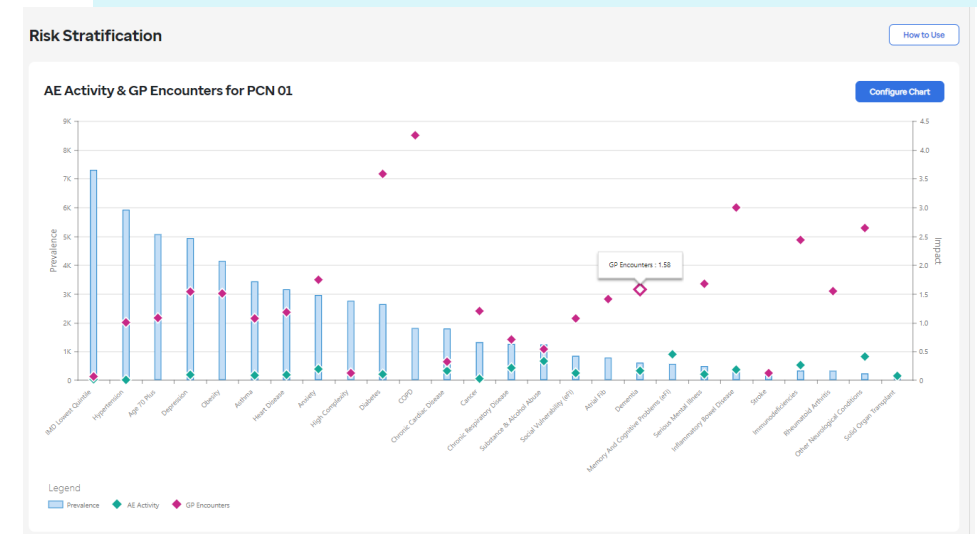
A model is built for each PCN, allowing us to understand that area's unique population and the characteristics that influence the way they access care.



Further Resources: [NHS England » Population health management](#)

Opportunity analysis and targeting

Diagnostic analytics such as risk stratification and segmentation models to identify characteristics and the groups challenged by them.



Diagnostic Analytics: Risk Stratification

Reading the Report

Vertical Prevalence Axis

The blue bars represent the number of individuals in a PCN that have a specific characteristic. **A**

Vertical Impact Axis

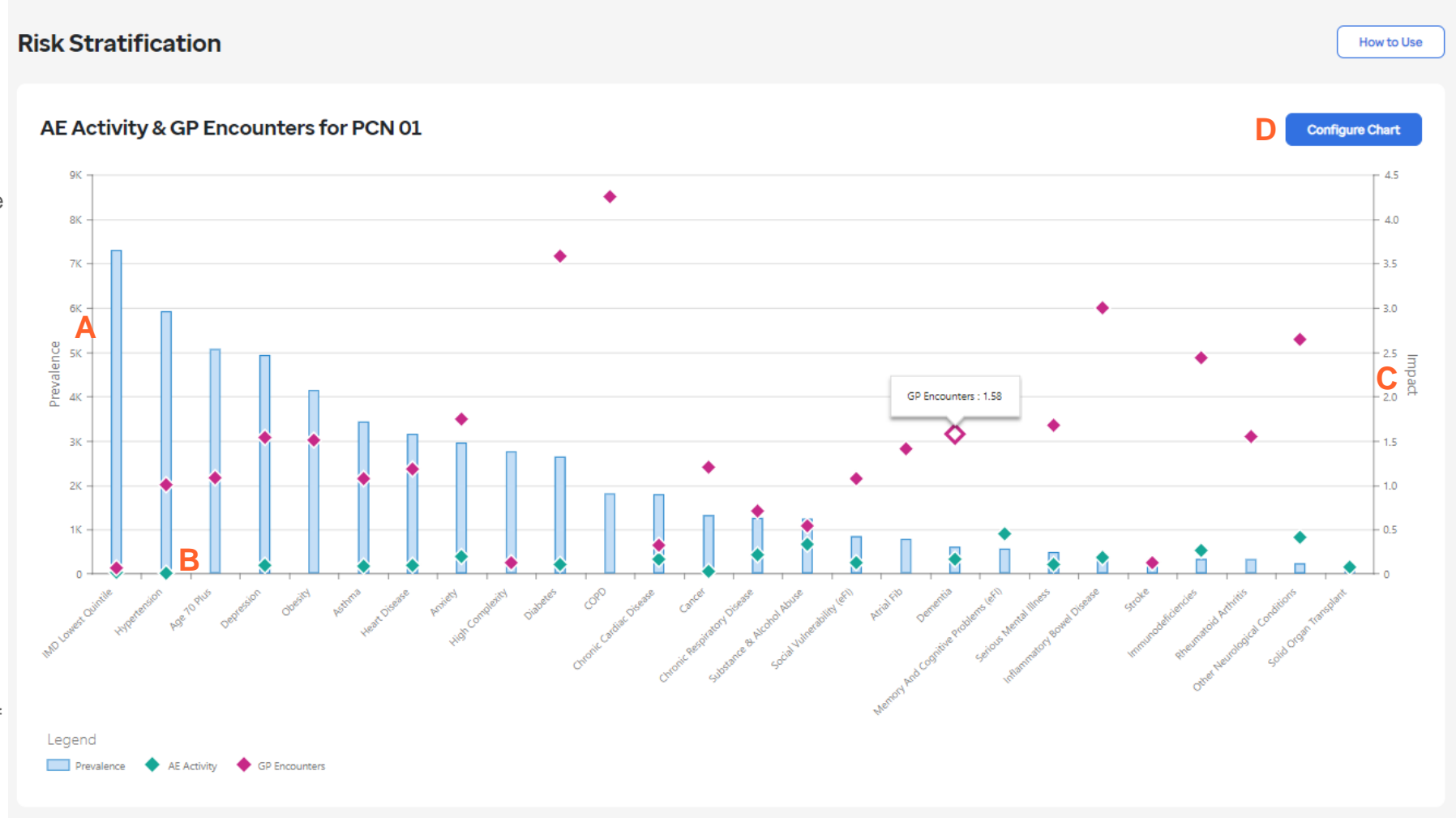
The diamonds on the chart. Each diamond shows the average size of the association between an individual with a characteristic (e.g., Anxiety, Obesity, etc.) and the selected outcome (e.g., A&E Activity, GP Encounters) when compared with someone who does not have the characteristic. The association is expressed as the number of system interactions (e.g., number of GP visits), while for financial spend, the association is expressed in GBP (£). **C**

Configuration of the Report

You can use the “Configure” button on the right-hand corner to open the Configure Chart Panel. Here you can select the specific PCN you want to explore, and the characteristics you want to visualise on the horizontal axis against the impact on outcomes. **D**

Example

Using Anxiety as an example, if A&E Activity has an impact of 3, it means that in the selected reporting period, someone with Anxiety visited A&E 3 more times on average compared to someone without Anxiety. If, for example, Diabetes is also found to have an impact of 3 on A&E Activity, information on prevalence may help decide on which condition to intervene. If Diabetes has a prevalence of 10,000, while Anxiety has a prevalence of 3,000, intervening on a Diabetes subgroup may reduce A&E attendance by a greater number than intervening on a subgroup with Anxiety.



Diagnostic Analytics: Risk Benchmarking

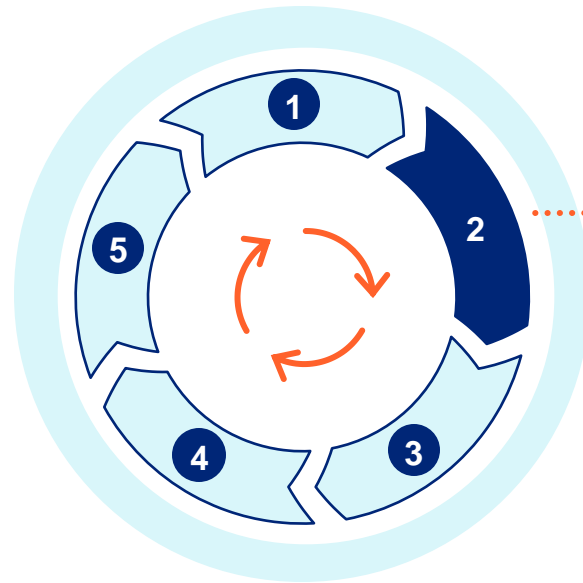
Risk Benchmarking is a method of comparing the importance of population characteristics and the impact on outcomes across an area, by organisation.

Summary

Using the risk stratification models, we can compare increases or decreases in activity associated with particular characteristics and look for areas of commonality or outliers.

Those areas of similarity may be where characteristics act on PCNs in a consistent way and systemic action can resolve this; conversely, we can see where there are differences and some PCNs are outliers, and tailored interventions might be the solution.

The impact between characteristics and outcomes (in activity or spend) for each selected area (e.g., PCN) can be visualised and is expressed as the average change per person per year.



Opportunity analysis and targeting

Diagnostic analytics such as risk stratification and segmentation models to identify characteristics and the groups challenged by them.



Diagnostic Analytics: Risk Benchmarking

Reading the Report

Diamonds

The diamonds **A** on the chart represent, for a single PCN, the size of the impact of a characteristic (e.g. Anxiety, Social Vulnerability, Obesity, etc.) **B** on the selected target (activity or spend). Within a PCN, this can be interpreted by the average change per person with the characteristic, compared to not having the characteristic.

Vertical Axis

Here you can see the impact of a characteristic when compared to an individual that does not have the same characteristic. **C** For measures of activity, the impact is expressed as the number of system interactions (e.g., number of GP visits), while for financial spend, the association is expressed in GBP (£).

Horizontal Axis

Here you can see all the bio-psycho-social characteristics.

Configuration of the report

You can use the “Configure” button in the right-hand corner to open the Configure Chart Panel. Here, you can select the characteristics you want to visualise on the horizontal axis, the impact metric on activity or spend, and the PCNs you would like to perform benchmarking.



Risk Benchmarking

[How to Use](#)

Impact on GP Encounters

Highlights potential impact of the selected risk factors on GP Encounters at the selected practices.

D [Configure Chart](#)

Largest outlier

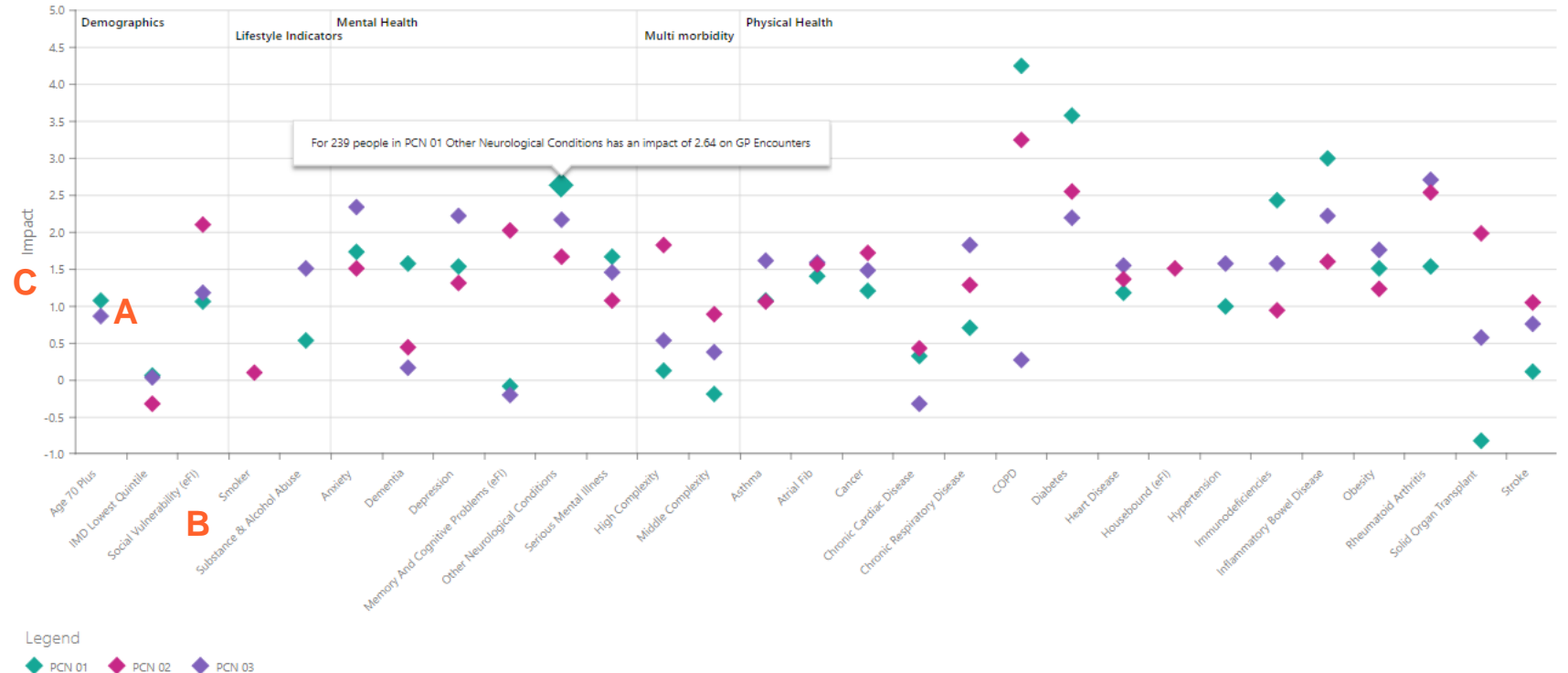
PCN 01 is an outlier for GP Encounters related to COPD, showing the highest correlation across all risk factors and all areas shown in the chart.

Greatest variance

GP Encounters activity related to IMD Lowest Quintile shows the most variance across all areas shown in the chart, meaning that this risk factor has a highly variable impact.

Lowest variance

GP Encounters related to Atrial Fib shows the least variation between all areas shown in the chart; as this correlation appears consistent, systemic action may be appropriate.

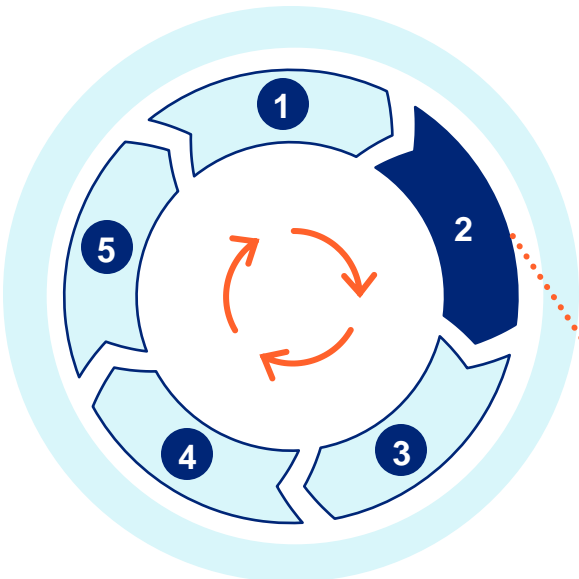


Diagnostic Analytics: Comorbidity Matrix

This visual allows you to view the overlap in comorbidities across your population, in the 'bubble matrix' format.

Summary

Each circle represents the % of individuals with a characteristic, that also have another specific characteristic.



Opportunity analysis and targeting

Diagnostic analytics such as risk stratification and segmentation models to identify risk factors and the groups challenged by them.



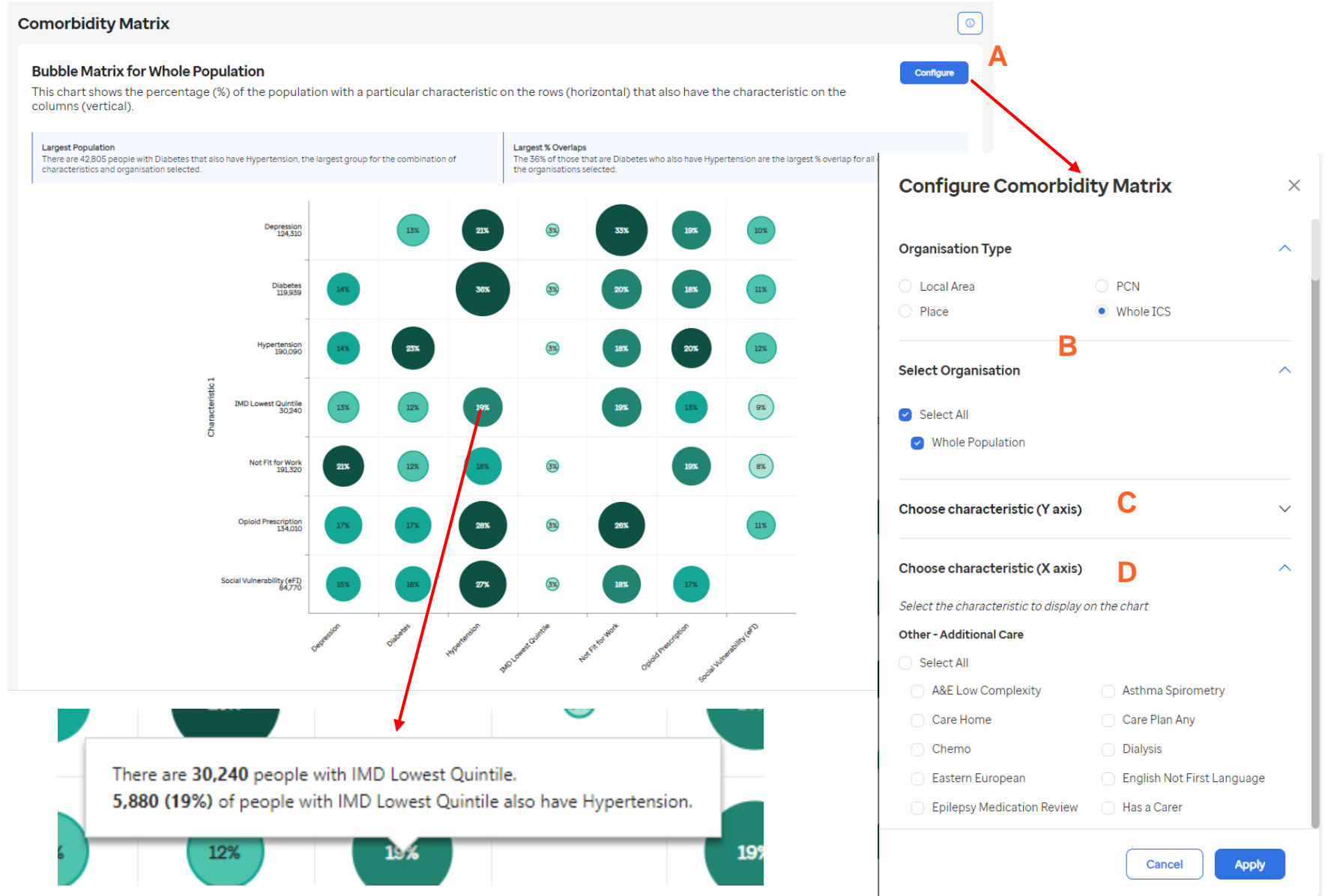
Diagnostic Analytics: Comorbidity Matrix

Reading the Report

Each circle represents the % of individuals with a characteristic, that also have another specific characteristic. By tracking where the row characteristic intersects with a column characteristic the presented circle indicates the percentage of people with the row characteristic who also have the column characteristic. The colour and size of the circle are also proportionate. You can also mouse over to see more details including number of people.

Configuration of the report

You can use the "Configure" button **A** on the right-hand corner to open the Configure Panel. Here you can select the Organisations **B** for which you want to view the comorbidities for, as well as the row (Y axis) **C** and column (X axis) **D** characteristics.



Active monitoring and rapid improvement

Whole system impact assessment to measure net impact on population groups (utilisation, cost, outcomes and experience).

Evaluation

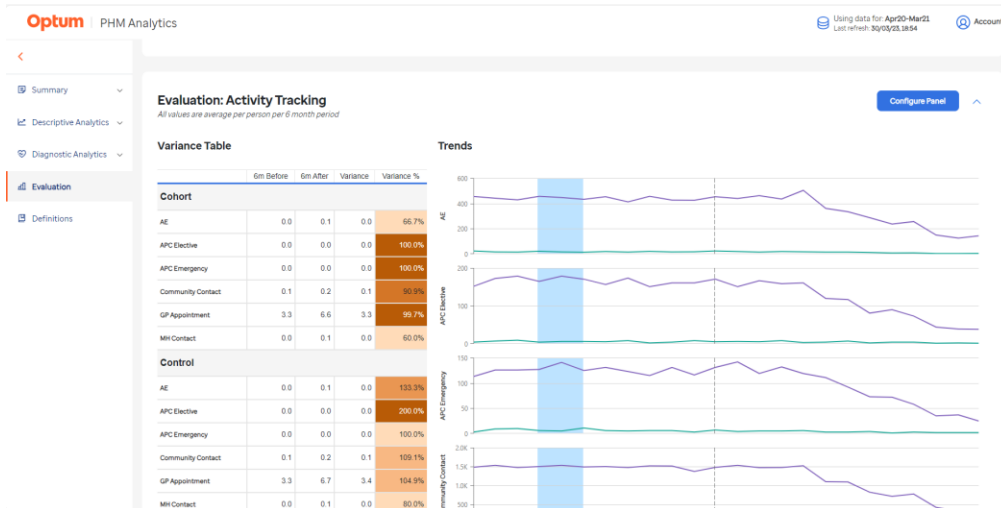
You can use this page to assess the impact of an intervention.

Summary

By selecting populations who have received an intervention, and a similar population that has not received an intervention, you can track the utilisation and outcomes of these cohorts over time to build a strong picture of the effectiveness of these interventions.

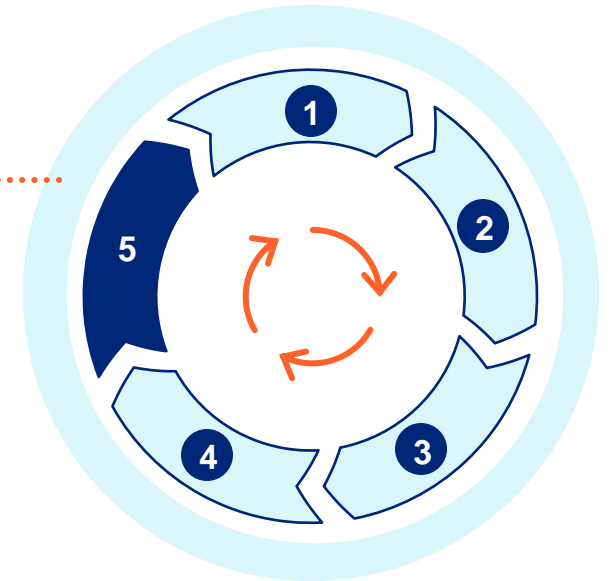
This module allows you to select intervention groups, control groups, and track the utilisation and clinical outcomes before and after the intervention.

Hypothesis tests are applied to assess the statistical significance of any movements.



Active monitoring and rapid improvement

Whole system impact assessment to measure net impact on population groups (utilisation, cost, outcomes and experience).



Evaluation: Create Intervention

Choosing populations who have received an intervention, an appropriate control group to use as a comparator, and when the interventions occurred, is essential for evaluating the effectiveness on any intervention.

Evaluation

Intervention

Load saved intervention

Create new intervention

A

Navigate to the Create Intervention page **A** and follow the steps below

Step 1: Intervention Details

Give your intervention a memorable and descriptive name **B** that will appear on your dashboards and allow you to re-load at any time to track progress. Pick the date the intervention started and finished **C**. Not all interventions will occur on the same day but try and pick the period of 1 – 3 months when most of it was delivered.

Step 1: Intervention Details

B

Report Name

Start Date

End Date

C

The start and end dates will be used for calculating activity and outcomes before and after the intervention. Pick dates when the intervention was at its peak.

Evaluation: Create Intervention

Selecting your cohort and control

Select Cohort

Use the cohort builder tool to select the group that the intervention has been targeted at. As you build your cohort, observe the table in the top right to see how many people you have selected, and what their broad demographic breakdown is **A**.

You can filter by Geography and Demography Factors, Age, Characteristics and Utilisation and Outcomes.

On the right, filter by additional characteristics by clicking 'Add another characteristic' **B** or filter by those that do not have a characteristic by using the 'Population does not have (is false)' dropdown. **C**

You can also 'Apply a save cohort' **D**, which will provide a list of cohort saved using the 'Save chart' functionality.

A cohort will often be delivered in a specific geography (e.g. PCN, Practice, etc), and people with certain criteria (e.g. Severely Frail patients with Cardiovascular Disease). Use the cohort builder to narrow down to these groups accordingly. The 'Utilisation and Outcomes' options can be used to select users who have been frequent users of health services in the past year.

Select a Control

Use the cohort builder in the 'Step 3: Select Control' Panel to find your control group.

Often the most natural control group has the same criteria (e.g. Severely Frail patients with Cardiovascular Disease), but in a neighbouring geography where the intervention has not been implemented. It is often sensible to pick ALL other geographies – this will generally create a larger control group than the intervention cohort, but this is statistically fine and adds power to the calculations.

After Cohorts and Controls have been selected, review the table on the right to check they look comparable (there is more functionality on the main Evaluation page to help confirm this), and then click the Save button at the bottom.

Step 2: Select Cohort

Apply a saved group **D** Off

Geography and Demography

PCN

Practice

Deprivation decile

Frailty

Complexity

Life Course Segment

Life Course Subsegment

Age

Conditions

Population has (is true):

Condition 1: **B**

Population does not have (is false):

Condition 1: **C**

Health Care Utilisation

Metric 1

Range

Min Max

Cohort vs Control **A**

Make sure your Control Group is representative of the Cohort selected. The groups should be broadly comparable, though the Control group can be larger.

Group	Cohort	Control
Population Size	1,000,000	1,000,000
Age	44	44
% Male	50.0%	50.0%
Deprivation	6.2	6.2
% Ethnic Minority	13.8%	13.8%
Avg. Multimorbidities	2.3	2.3
Average Spend PPPY	£645.46	£645.46

Evaluation

Cohort and Control summary table **A**

In general, most of characteristics on this table are presented as averages, such as average spend, or average age. Ideally, the cohort and control columns should be similar, which is a good indication that the groups are comparable. The main exception to this rule is population size – it is not essential for the two cohorts to be equally sized, as all values elsewhere in the report are calculated as averages.

Key Insights **B**

The similarity of the cohorts is also assessed in the first Key Insight box – Cohort/Control comparison. This tells you how many of the characteristics are statistically well matched. If they are not well matched, it may be necessary to adjust the makeup of your control group to make it match the intervention (cohort) group better (e.g. use the cohort builder to make it older, or more deprived).

The Utilisation variance and Outcomes variance Key Insight boxes both use t-tests to determine whether there has been a statistically significance change before and after interventions in the Cohort group compared to the Control group.

Intervention

Date: 25 Feb 2024 to 08 Mar 2024

[Edit intervention](#)

Key Insights **B**

- Cohort/ Control comparison**
Your control group matches the cohort group well for 4 out of 6 key variables. You may want to alter the 'Age', 'Average Spend PPPY' of the control group to make it more representative of the cohort selection.
- Activity/ Cost variance**
No statistically significant activity was observed.
- Outcomes variance**
No statistically significant activity was observed.

Group	Cohort	Control
Population Size	70	0
Age	35	0
% Male	71.4%	0.0%
Deprivation	14	0
% Ethnic Minority	16.7%	0.0%
Avg. Multimorbidities	3.1	0.0
Average Spend PPPY	£396.57	£0.00

Evaluation: Utilisation Tracking

This panel shows you how Activities have changed over time for your Control and Cohort before and after your intervention

Configuring the Report

Open the Configure Panel by clicking the 'Configure' button **A**. Here you can select the activity or spend you would like to see on the variance and trends chart **B**

You can also switch between a variance chart and table **C** and select for which timeframe you would like the trends chart to display, which also impacts the variance calculations. **D**

You can also choose whether to display the measures as activity/ finance per person, activity/ finance per thousand population or activity/ finance actual (aggregate). The best measure might depend on your data. **E**

If you select Finance, you will also see a total row for both cohort and control which will be the sum of the utilisation selected. The values are rounded to the nearest GBP so if a difference calculation looks incorrect by a value of 1, please be assured this is a nature of the rounding, if you hover over you will see the value to the nearest pence.

Remember to click Apply before closing the panel to see your changes applied. **F**

Variance Table

The Variance Table **G** shows for each activity or spend characteristic, the number of contacts or cost per person per timeframe, before and after the intervention. It also shows the difference in these averages, and what percentage change this represents. The top table is for the cohort group, and the middle is for the control group, and the bottom table is the Difference between the cohort and control group.

Trends Graph

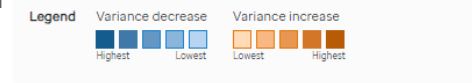
The Trends graph **H** on the right is a time series showing the trends for both cohorts for the full extent of the data available, for each activity or spend characteristic. The blue shaded area is the time when the selected intervention took place, and the dashed lines represent when the measurement period for the table started and finished. It is important to visually look for changes and trajectories after the blue shaded area and the second dashed line. This will be where the impact of the intervention is

Evaluation: Activity Tracking

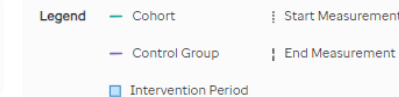
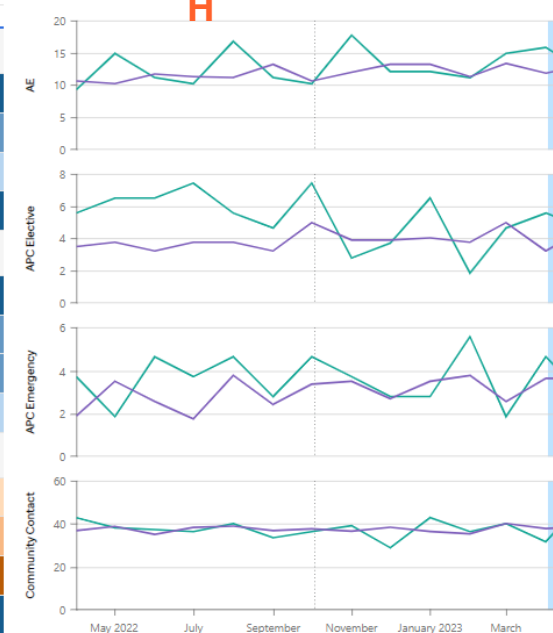
All values are average per thousand population per 6 month period

Variance Table

	6m Before	6m After	Variance	Variance %
Cohort				
AE	78.14	49.30	-28.84	-36.90%
APC Elective	26.05	18.60	-7.44	-28.57%
APC Emergency	21.40	16.74	-4.65	-21.74%
Community Contact	227.91	150.70	-77.21	-33.88%
Control				
AE	74.12	46.36	-27.76	-37.45%
APC Elective	25.20	16.98	-8.22	-32.62%
APC Emergency	19.54	13.21	-6.33	-32.41%
Community Contact	224.12	159.16	-64.96	-28.98%
Difference				
AE	4.02	2.94	-1.07	0.55%
APC Elective	0.84	1.62	0.78	4.05%
APC Emergency	1.85	3.54	1.68	10.67%
Community Contact	3.78	-8.47	-12.25	-4.89%



Trends



A Configure Panel

Configure Utilisation

Measure type

- Rate per person **E**
- Rate per thousand population
- Actual (aggregate)
- Finance per person
- Finance per thousand population
- Finance actual (aggregate)

Utilisation

Select All **B**

- 111 Calls
- Acute Devices
- Ambulance Calls
- Community Contacts
- Emergency Admissions
- IAPT Contacts
- Mental Health Contacts
- Outpatient Attendances
- A&E Attendances
- Acute Drugs
- CHC Care Packages
- Elective Admissions
- GP Appointments
- Mental Health Admissions
- Non-Elective Other Admissions
- Social Care

Show Variance as

- Chart
- Table **C**

Before and after timeframe (Utilisation & Outcomes)

- 3 months
- 6 months **D**
- 9 months
- 12 months
- 18 months

F

Cancel Apply

Evaluation: Outcomes Tracking

This panel shows you how Outcomes have changed over time for your Control and Cohort before and after your intervention

Configuring the Report

Open the Configure Panel by clicking the 'Configure' button **A**.

Here you can select the measure type (Rate per person, rate per thousand or actual (aggregate)). **B**

You can also select the outcomes you would like to see on the variance Chart and Table **C** select for which timeframe you would like the trends chart to display, which also impacts the variance calculations.

The timeframe and you have selected of the Utilisation panel, applies to the outcomes automatically.

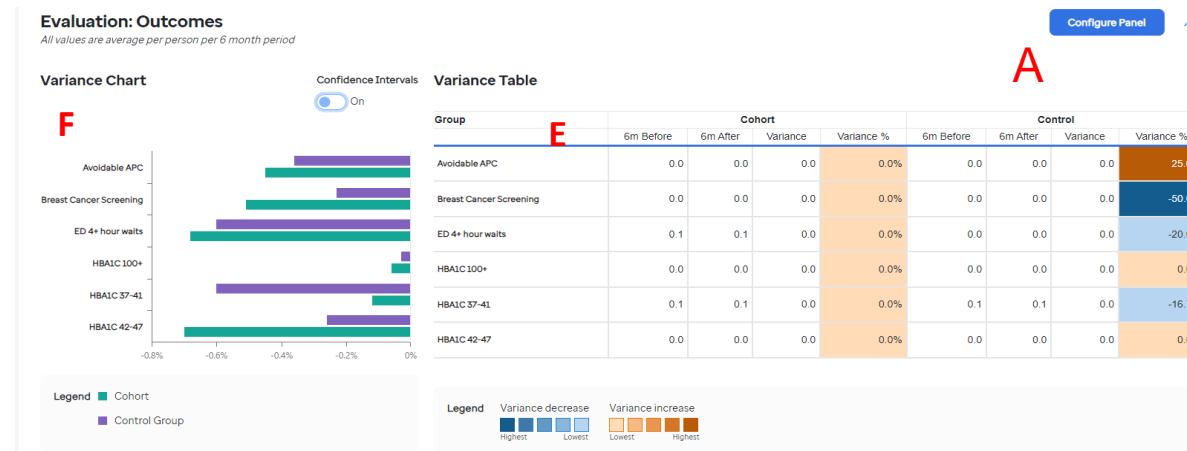
Remember to click Apply before closing the panel to see your changes applied. **D**

Variance Table **E**

The Variance Table on the right shows the number of clinical outcomes per person per timeframe. The variance field shows if things have increased or decreased in terms of volumes, and the variance % field shows the proportionality of this. It also shows the difference in these averages, and what percentage change this represents.

The Variance Chart **F**

The Variance Chart to the left represents the Variance % field of the table in a graphical format. Bars flowing to the left represent decreases, and bars flowing to the right represent increases. It is important to look for differences between Cohort and Control as this represents the possible impact of your intervention.



Configure Outcomes

Measure type

- Rate per person
- Rate per thousand population
- Actual (aggregate)

Outcomes

- Select All
- 21+ day admissions
- Avoidable ED attendances
- BMI Obese
- BMI Underweight
- Breast Cancer Screening
- CoVID Vaccination
- ED 12+ hour waits
- Excess bed day spells
- HBA1C 100+
- HBA1C 42-47
- Health Check
- Outpatient DNAs
- Pneumonia Vaccination
- Avoidable APC
- BMI Healthy weight
- BMI Overweight
- Bowel Screening
- Cervical Screening
- Diabetes Annual Review
- ED 4+ hour waits
- Flu Vaccination
- HBA1C 37-41
- HBA1C 48-99
- High Blood Pressure
- PAM
- Readmissions

Before and after timeframe (Utilisation & Outcomes)

- 3 months
- 6 months
- 9 months
- 12 months
- 18 months

Cancel Apply

Next Steps

Next Steps

Coaching & handover sessions, query collation, and PHM Pathfinder focus sessions

1

Orientation sessions

Once a majority of the group have access, virtual handover sessions will be held to get everyone started

2

Focus Sessions

Focus sessions will dive into the detail on specific topics e.g., the data process, specific analytical approaches and/or the data science used

3

Ongoing Feedback

Throughout, we welcome feedback and ideas on how to develop this tool further and support your use cases

FAQs

FAQs

Please read the following frequently asked questions (FAQs):

1 What if I haven't received an email?

- A) Please check with your Implementation lead that you were on the user list sent to Optum. If not, please request access through them in the first instance
- B) The email invite will come from UHGUKAzure and a Microsoft email as below*. Please check your junk mail, if you still cannot find it, please contact the Customer Service Desk (please see slide 16)

*
Sender: [redacted]@optumcloud.com
Organization: UHGUKAzure
Domain: uhgukazure.onmicrosoft.com

2 How do I request access for a colleague?

Ask your Implementation Lead to send additional user details to the Customer Services Desk (please see slide 49)

3 What if I can't make *any* of the sessions?

Ask your Implementation Lead to record the session so you can catch up on valuable material later

4 What if I have further questions?

Send your query to the Customer Services Desk (please see slide 49) who will be happy to help you

Get in Touch

Get in Touch

if you have any
questions or queries

Please contact:

Who: Customer Service Desk

Email: customerserviceuk@optum.com

Telephone: 02476 214 700

Available: Monday to Friday, 8am to 6pm

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