



Queen Mary
University of London



APL-AF Medicines optimisation tool for atrial fibrillation

User guide for SystemOne

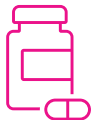


Clinical Effectiveness Group
Queen Mary University of London

About APL-AF

Helping practices to manage patients with atrial fibrillation and prevent heart attacks and strokes

APL-AF lists all registered patients with key indicators of atrial fibrillation and allows you to filter the list into cohorts to take action. The tool will support you to:



Optimise medications, including:

- Increase anticoagulation, to prevent heart attacks and strokes;
- Reduce patients on dual therapy for longer than necessary, to prevent major bleeds;
- List warfarin users who may benefit from a discussion about switching to DOAC.

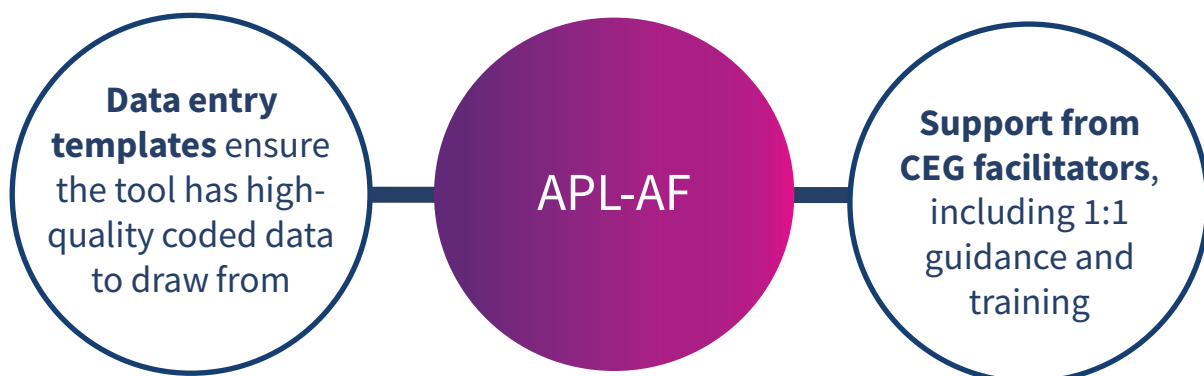


Tailor your approach

- See other relevant medications, co-morbidities, vulnerabilities, and latest blood pressure recording for each patient.

Supporting elements

The APL-AF software tool is part of a wider programme of support that CEG provides to GP practices in the North East London NHS region. This includes data entry templates and training and guidance from our team of facilitators. The tool is intended for use with these supporting elements in place.



About APL-AF

Quick reference cohorts

With no filters selected, APL-AF will list **all patients currently registered with the practice who are aged 18+ and have a diagnosis of atrial fibrillation** (excluding atrial fibrillation resolved). Use the following filters to create these suggested cohorts:

Patients at high risk of stroke who are not on anticoagulation

Anticoagulant medications reduce the risk of stroke in people with AF by more than half.

- Prescribing: **No anticoagulant**
- CHA₂DS₂-VASc score: **≥ 2**

Patients on dual antithrombotic therapy

Ensure they are not taking it for longer than necessary.

- Prescribing: **Dual therapy**
- + Review **Patient Information** page

Warfarin users who may benefit from a discussion about switching to DOAC

- Prescribing: **Warfarin**
- Medication review in 12m: **No**

Patients who require reassessment of stroke and bleeding risk scores to determine the need for anticoagulation

As risk factors change over time.

- Prescribing: **No anticoagulant**
- CHA₂DS₂-VASc score: **Recorded >12m** and **Not recorded**

Assist in performing personalised anticoagulation medication reviews

- Medication review in 12m: **No**
- + Review **Patient Information** page

Patients taking NSAIDs and anticoagulation, to assess and advise regarding risk of GI bleeding

- Prescribing: **DOAC** and **Warfarin** separately
- NSAID issued: **Yes**

Clinicians' decisions must be based on review of the full EMIS or SystemOne record.

About APL-AF

Limitations

APL-AF is not a diagnostic tool or intended to replace clinical judgement

The tool lists people for whom there may be issues of clinical concern and displays their data. It does not make management recommendations – these are entirely a matter for the clinician.

Prescribing status may not be current or complete

- The tool only displays medications that were selected as relevant for the tool, so the list of prescribed medications is **not exhaustive**. Patient records must be checked to obtain a full list of prescribed medications.
- The tool shows **all selected prescriptions within the last six months**. If a patient's medications have changed within those six months – for example aspirin was stopped, or warfarin was changed to DOAC – then the tool will display all of these and may not show the current situation. The patient record must be checked for current prescribing status.

Relevant information could be missing

- **Third party prescribing data could be missing.** There are several third parties other than the GP who may prescribe, including hospitals and community pharmacies. Where these have been coded into the patient record by the practice, they will display in the tool. But if this hasn't been done, the medications will be missing from both the patient record and the tool. There is separate CEG advice on [how to record third party prescribing](#) at your practice.
- The tool only presents information that is coded in the patient health record **using standard codes described by NHS Digital**. If clinicians use free text or non-standard codes, these will not display in the tool. Clinicians' decisions must be based on review of the full EMIS or SystemOne record.

APL-AF should be used in conjunction with CEG templates. Our templates will support you to code activity correctly and ensure the tool has high quality data to draw from.

About APL-AF

Definitions

Filters

- Prescribing** Prescriptions recorded **within the preceding six months**. Use the checkboxes to list patients with:
- prescription for a direct oral anticoagulant (DOAC)
 - prescription for warfarin - includes anticoagulants known as vitamin K antagonists, such as warfarin sodium, acenocoumarol, phenindione
 - no anticoagulant prescribed
 - prescription for aspirin/antiplatelets only
 - prescription for dual therapy (anticoagulant and antiplatelet)
 - Selecting 'All AF' will clear the prescribing filters

Patient list

- CHA₂DS₂-VASc, ORBIT** Most recent value recorded within the preceding 12 months, with date.
- Anticoagulants** Shows whether the patient was prescribed anticoagulant medication within the preceding six months or not. The field will also display whether the prescription is for a DOAC or warfarin, eg: 'YES - DOAC'.
- Aspirin/antiplatelet, NSAID (excluding aspirin), statin** Shows whether or not the patient was prescribed these medications within the preceding six months.
- CVD, HTN** Shows whether the patient has ever been coded with cardiovascular disease (CVD), or hypertension (HTN).
- BP** Shows most recent blood pressure value recorded (no maximum timeframe).

Patient Information view

- Medications** Displays other relevant prescriptions within the preceding six months, including medication name and date of issue. Any relevant third party prescribing coded in the patient record is shown for the preceding 12 months.
- Comorbidities** Shows 'yes' for presence of the listed comorbidities. Includes heart failure (HF), chronic kidney disease stage 3-5 (CKD), ischemic heart disease (IHD), stroke/transient ischaemic attack (TIA), peripheral arterial disease (PAD), hypertension (HTN), type 1/type 2 diabetes (Diab), liver failure, bleeding history, palliative care.
- Process Measures** Shows latest ever, except for international normalised ratio (INR) which is latest in the preceding 24 months.

The tool uses QOF indicator codes for all variables unless indicated otherwise. Codesets are available on request - please speak to your [CEG facilitator](#).

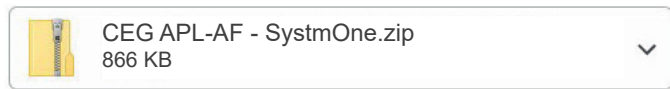
Step-by-step: Downloading the tool

You only need to do this once

Step 1: Download

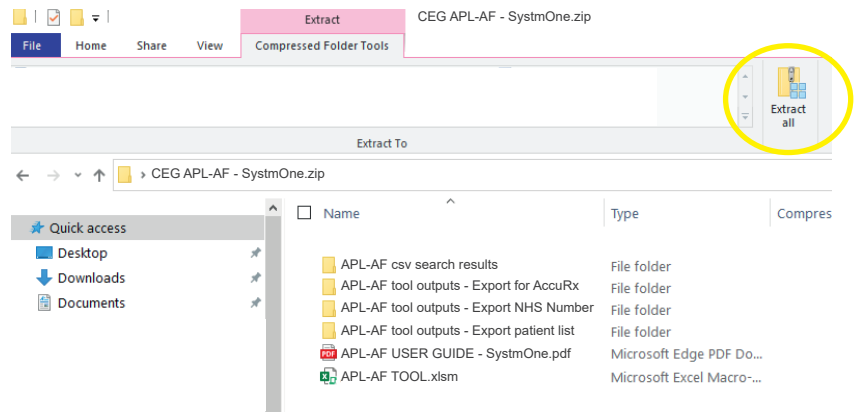
1.1 Download the SystmOne zip file.

1.2 Double click the zipped file, then double click again.



Step 2: Extract

Click 'Extract all' to extract the files.



Step 3: Save

Save the files in a secure device or network that is accessible to other practice staff, including any clinicians reviewing your work. **Choose a secure device or network if you intend to save exports of patient identifiable data in the same place.**

Step 4: Unblock macros

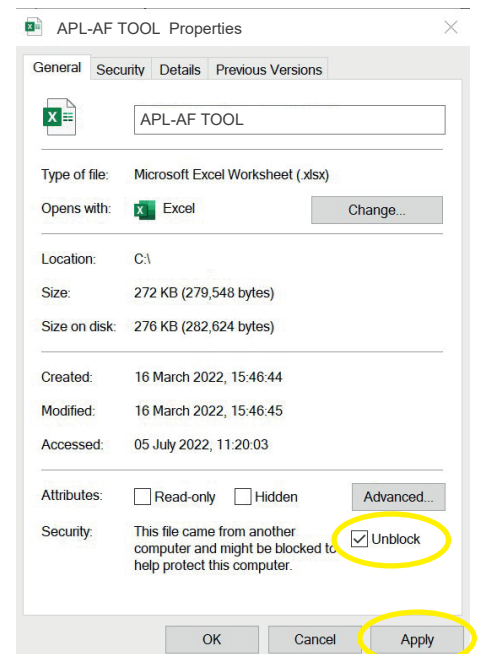
Microsoft has introduced a security feature that blocks Excel macros by default. Macros are automated actions that the tool uses to run - without them, it will not work.

4.1 Right click on the 'APL-AF TOOL' XLSM file and select 'Properties'.

4.2 In the 'General' tab, tick the box to 'Unblock'

4.3 Click 'Apply'. You must click 'Apply' before 'OK', otherwise the change won't take affect.

If you accidentally click 'OK' without clicking 'Apply', the option will no longer be visible and you will need to download the file again.



Troubleshooting

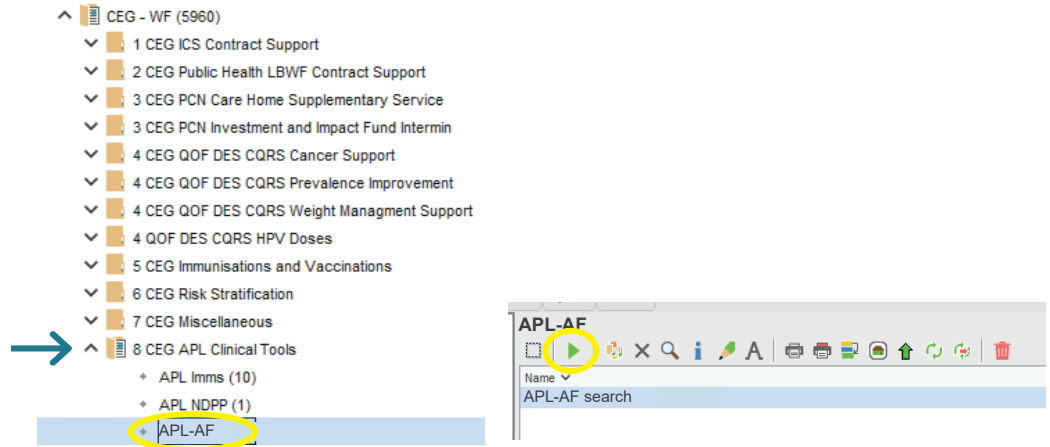
If you unblocked macros but still find some of the tool functions do not work, add the folder you saved it into as a 'trusted location'. In Excel, click 'File', 'Options', then 'Trust Center', then follow [Microsoft's instructions](#). **If you have any problems installing or using the tool, contact your local CEG facilitator for help.**

Step-by-step: Using the tool

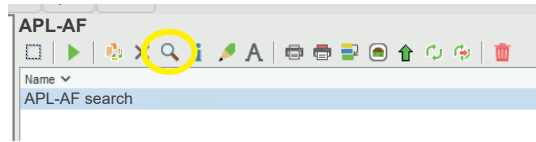
Step 1: Run the search in SystemOne

1.1 Open SystemOne. Locate the APL-AF reports (saved in the 'CEG APL Clinical Tools' folder).

Highlight the search file and click 'run' (green play button).

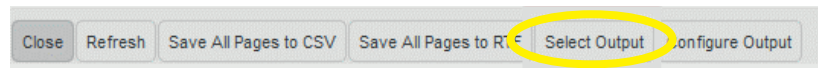


1.2 Once the search has run (showing a tick), click 'Show patients' (magnifying glass).

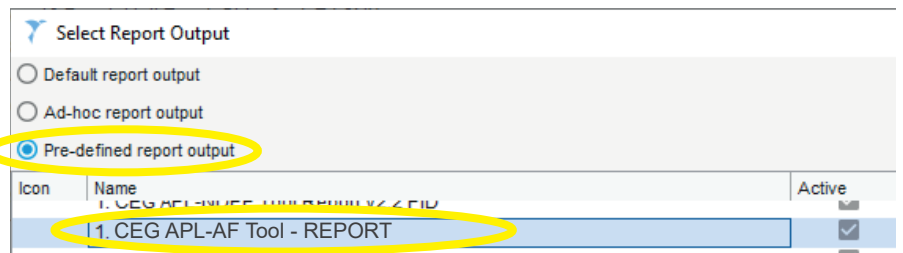


Step 2: Export the report results

2.1 Click 'Select Output', on top of the ribbon.

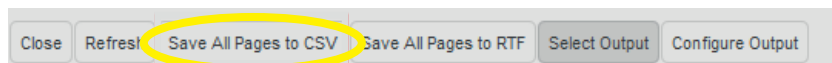


2.2 Select 'Pre-defined report output'.



2.3 Select APL-AF tool - Report, click 'OK'.

2.4 Click 'Save all pages to CSV' on top of the ribbon.



2.5 Save the file in its own folder - you can use the empty folder 'csv search outputs' included in the tool download if you choose to, as long as this has been placed in a secure location.

Due to their size, the reports may take a little longer to export than other reports
If you want to continue working while you wait, you can open a second instance of SystemOne.

Step-by-step: Using the tool

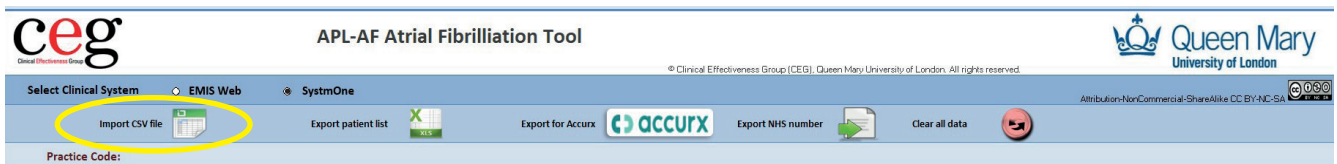
Step 3: Import data into the tool

3.1 Open **APL-AF TOOL.xlsm** (Excel file).

3.2 Select **'SystemOne'** as your clinical system:



3.3 Click **'Import CSV file'** and find and select the file you just exported from SystemOne:



The tool will list the patients from your search and display relevant information from their record.

The screenshot shows the main interface of the APL-AF Atrial Fibrillation Tool. It includes a filters section, a patient list table, and a summary panel. The filters section allows users to select a prescribing method (All AF, DOAC, Warfarin, No anticoagulant, Aspirin/Antiplatelets ONLY, Dual therapy) and other criteria like CHA₂DS₂-VASC, ORBIT, Age, Vulnerabilities, BP, and Medication review. The patient list table displays columns for Full Name, Age, Gender, Patient Reference no., CHA₂DS₂-VASC, ORBIT, Anticoagulant issued (6m), Aspirin/Antiplatelet issued (6m), NSAID issued excl. Aspirin (6m), Statin issued (6m), CVD, HTN, BP, and Medication Review latest date. The summary panel provides an overview of the patient list, including the number of patients and the percentage of patients meeting various criteria.

Full Name	Age	Gender	Patient Reference no.	CHA ₂ DS ₂ -VASC	ORBIT	Anticoagulant issued (6m)	Aspirin/Antiplatelet issued (6m)	NSAID issued excl. Aspirin (6m)	Statin issued (6m)	CVD	HTN	BP	Medication Review latest date		
Patient_1	75	Male	111001	8	01-06-2023	3	01-06-2023	YES - DOAC	NO	NO	NO	YES	YES	130/72	11-01-2024
Patient_2	83	Male	111002	7	13-04-2023	1	13-04-2023	YES - DOAC	NO	NO	YES	NO	YES	147/84	13-04-2023
Patient_3	80	Female	111003	7	01-12-2022			YES - DOAC	NO	NO	YES	YES	YES	135/61	18-07-2023
Patient_4	75	Female	111004	7	21-03-2023	3	21-03-2023	YES - DOAC	NO	NO	YES	YES	YES	130/70	25-02-2023

Summary		
Atrial Fibrillation Register	140	100%
*Modified AF08: CHA ₂ DS ₂ -VASC ≥ 2 issued Anticoagulants (6m)	91	84%
CHA ₂ DS ₂ -VASC ≥ 2 and NOT issued anticoagulant (6m)	17	16%
CHA ₂ DS ₂ -VASC ≥ 2 issued Aspirin/Antiplatelets ONLY (6m)	5	5%
CHA ₂ DS ₂ -VASC ≥ 2 issued BOTH Anticoagulants + Antiplatelets (6m)	3	3%
CHA ₂ DS ₂ -VASC ≥ 2 issued DOAC (6m)	84	78%
*Modified AF006: new CHA ₂ DS ₂ -VASC in last 12m	84	86%
*Modified QoF: no exclusions for contraindication or declined		

The screenshots in this guide show a dummy dataset, not real patients.

Summary

The tool also shows a summary for the whole patient list (irrespective of filters), so you can see an overview of your practice's performance.

Step-by-step: Using the tool

Step 4: Filter the patient list

With no filters selected, APL-AF will list **all patients currently registered with the practice who are aged 18+ and have a diagnosis of atrial fibrillation** (excluding atrial fibrillation resolved).

Use the **checkboxes** to filter your list and create a cohort of patients to focus on. You can use multiple filters at once. Click the same checkbox again to deselect it.

The screenshot shows the APL-AF Atrial Fibrillation Tool interface. The top navigation bar includes the CEG logo, the tool name, and the Queen Mary University of London logo. Below the navigation bar, there are options for clinical systems (EMIS Web, SystemOne) and actions like 'Import CSV file', 'Export patient list', 'Export for Accurx', 'Export NHS number', and 'Clear all data'. The main area is divided into 'Filters' and 'Summary' sections.

Filters:

- Prescribing: All AF, DOAC, Warfarin, No anticoagulant, Aspirin/Antiplatelets ONLY, Dual therapy
- CHA₂DS₂-VASC: ≥ 2, 1, 0, Recorded > 12m, Not Recorded
- ORBIT: ≥ 4, Recorded > 12m, Not Recorded
- Age: < 65, 65 - 79, 80+
- Vulnerabilities: SMI, Learning Disability, Dementia, Housebound, CVD (MI/Stroke/TIA/PAC), Yes, No, Statin issued, Yes, No, NSAID excl. Aspirin, Yes, No
- BP (mmHg): < 130/80, < 140/90, 140/90 - 159/99, ≥ 160/100
- Medication review in 12m: Yes, No

Summary:

Atrial Fibrillation Register	Count	Percentage
*Modified AF008: CHA ₂ DS ₂ -VASC ≥ 2 Issued Anticoagulants (6m)	91	84%
CHA ₂ DS ₂ -VASC ≥ 2 and NOT issued anticoagulant (6m)	17	16%
CHA ₂ DS ₂ -VASC ≥ 2 Issued Aspirin/Antiplatelets ONLY (6m)	5	5%
CHA ₂ DS ₂ -VASC ≥ 2 Issued BOTH Anticoagulants + Antiplatelets (6m)	3	3%
CHA ₂ DS ₂ -VASC ≥ 2 Issued DOAC (6m)	84	78%
*Modified AF006: new CHA ₂ DS ₂ -VASC in last 12m	84	86%
*Modified QoF no exclusions for contraindication or declined		

Freeze Panes:

Full Name	Age	Gender	Patient Reference no.	CHA ₂ DS ₂ -VASC		ORBIT		Anticoagulant issued (6m)	Aspirin/Antiplatelet issued (6m)	NSAID issued excl. Aspirin (6m)	Statin issued (6m)	CVD	HTN	BP	Medication Review latest date
				Value	latest date	Value	latest date								
Patient_5	90	Male	111005	7	20-03-2023			CONTRA	NO	NO	NO	YES	YES	159/84	14-02-2024
Patient_37	80	Male	111037	4	22-12-2023	1	22-12-2023	NO	NO	NO	YES	NO	YES	154/92	20-09-2023
Patient_42	83	Female	111042	4	23-08-2023			NO	YES	NO	YES	NO	NO	99/53	22-04-2021
Patient_43	89	Male	111043	4	10-01-2023			CONTRA	NO	NO	NO	YES	YES	124/86	24-01-2023

Quick reference cohorts

See [page 3](#) of this guide for example cohorts, and which filters you can use to create them.

Step-by-step: Using the tool

Step 5: View more information about an individual patient

Click on a name in your list to view the Patient Information page for that individual.

Click 'back' to return to the patient list.

Links to external resources
Including NICE anticoagulation guidance and creatinine clearance.

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APL-AF Atrial Fibrillation Tool

Queen Mary University of London

← BACK

Useful Links

- [NICE CKS guidance \(Anticoagulation\)](#)
- [Creatinine Clearance \(MDCALC\)](#)

Legend

- High Risk
- Moderate Risk
- Mild Risk
- Optimal Treatment

CHA₂DS₂-VASc Risk Factors

Risk Factors	Points
Congestive Heart Failure (CHF)	1
Hypertension	1
Age ≥ 75	2
Age 65-74	1
Diabetes mellitus	1
Ischaemic Stroke/TIA/Thromboembolism	2
Vascular disease	1
Sex Female	1

ORBIT Bleeding Risk Score for AF

Clinical Characteristic	Points
Sex	
- Males with haemoglobin <130 g/L or hematocrit <40%	
- Females with haemoglobin <120 g/L or hematocrit <36%	
Haemoglobin <120/130 g/L or hematocrit <36%/40%	2
Age >74 years	1
Bleeding history	
Any history of GI bleeding, intracranial bleeding, or hemorrhagic stroke	2
eGFR <60 mL/min/1.73 m ²	1
Treatment with antiplatelet agents	1

ORBIT Score	Risk group	Bleeds per 100 patient-years
0 - 2	Low	2.4
3	Medium	4.7
4 - 7	High	8.1

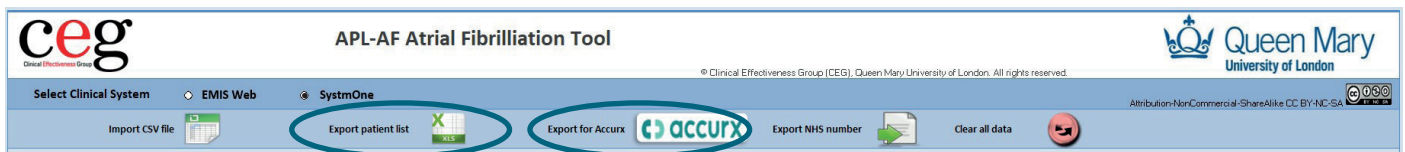
AUDIT SCORES *

- AUDIT > 15 : High or severe drinking risk
- AUDIT-C > 5 : High or severe drinking risk

Quick reference guides to calculating CHA₂DS₂-VASc and ORBIT scores

Step-by-step: Using the tool

Step 6: Print or export your list



Ways to use your filtered list outside of the tool:

Option 1: Print

Click **'File'** then **'Print'**. Set the orientation to 'landscape' and scale to fit.

Option 2: Export as an Excel file

Click **'Export patients list'**.

Option 3: Export list for Accurx

Click **'Export Accurx'**.

To make your list available to other practice staff

To contact patients or arrange appointments

The APL-Renal download includes a set of empty folders that you can use to save and organise your exports. Ensure the folders are placed in a secure location, as the exports will contain patient identifiable information.

Troubleshooting

Frequently asked questions

Can I select multiple filters at once?

Yes – See [page 3](#) of this guide for examples of how you can combine the filters to create useful cohorts.

How do I deselect a filter?

Click the checkbox again to deselect an individual filter. Or click ‘Reset Filters’ to deselect all.

What does the ‘Clear all data’ button do?

This will remove all patient data from the tool – you will then need to reimport your search results to use it again.

Can I save the tool with a patient list within it?

If you want to save a particular cohort, export it using the instructions on page 12. Save the export in a suitable secure location as it will contain patient identifiable data.

Who do I contact for help?

Practices in North East London should contact their [local CEG facilitator](#). They can help you to install the tool and use it effectively.

Contact us

If you have any questions or feedback about our APL-AF tool or this user guide, please get in touch:

CEG-Feedback@qmul.ac.uk
qmul.ac.uk/ceg/about-us/contact-us

By post:

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