



Queen Mary
University of London



APL-AF Medicines optimisation tool for atrial fibrillation

User guide for EMIS Web

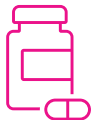


Clinical Effectiveness Group
Queen Mary University of London

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.

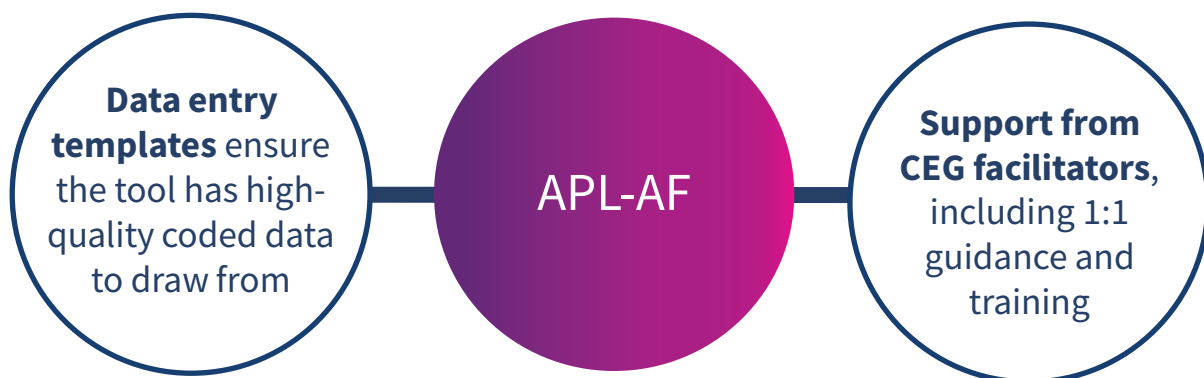


Tailor your approach

- 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](#).

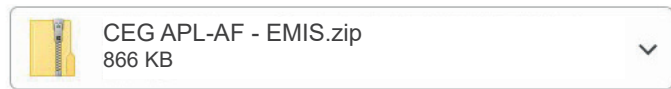
Step-by-step: Downloading the tool

You only need to do this once

Step 1: Download

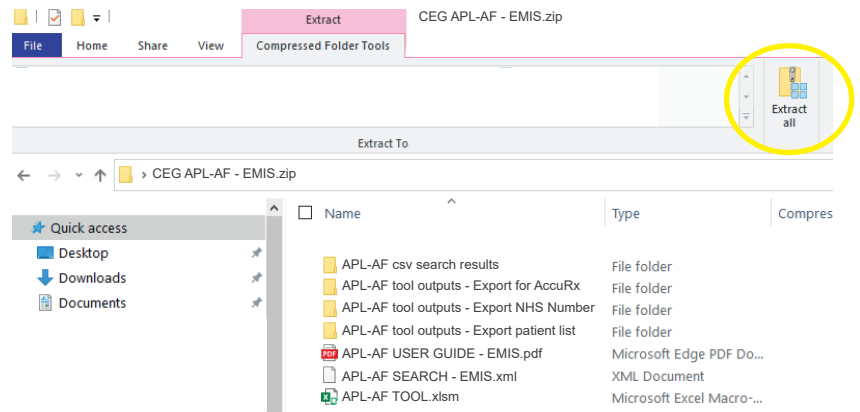
1.1 Download the EMIS zip file.

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

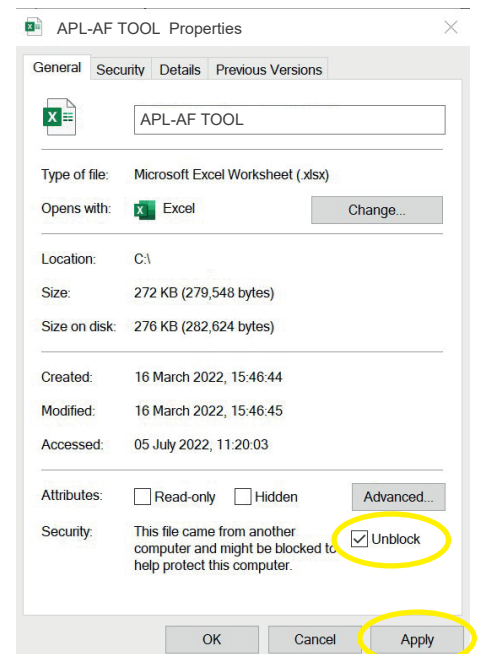
Microsoft has introduced a security feature that blocks Excel macros by default. Macros are automated actions that the tool uses to run - without them, it will not work.

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

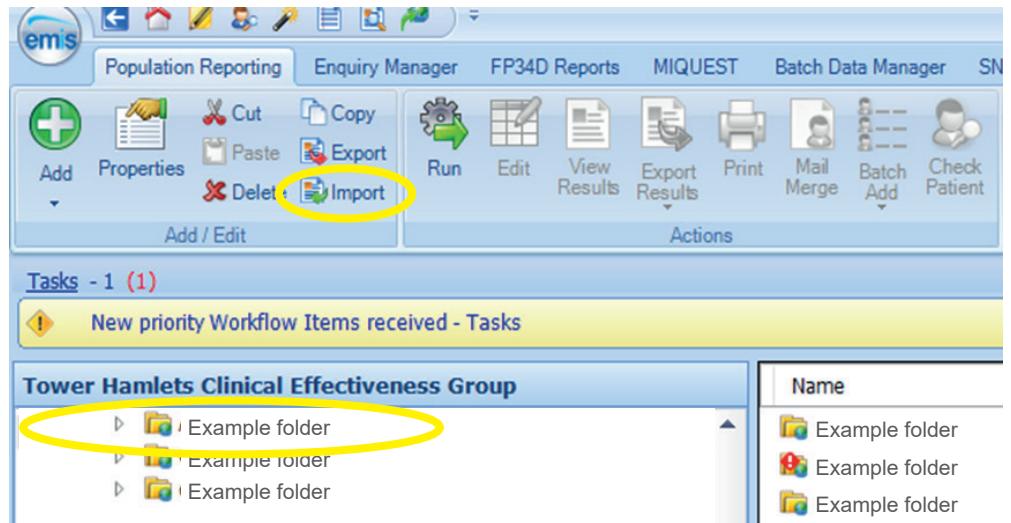
If you unblocked macros but still find some of the tool functions do not work, add the folder you saved it into as a 'trusted location'. In Excel, click 'File', 'Options', then 'Trust Center', then follow [Microsoft's instructions](#). **If you have any problems installing or using the tool, contact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

Step-by-step: Using the tool

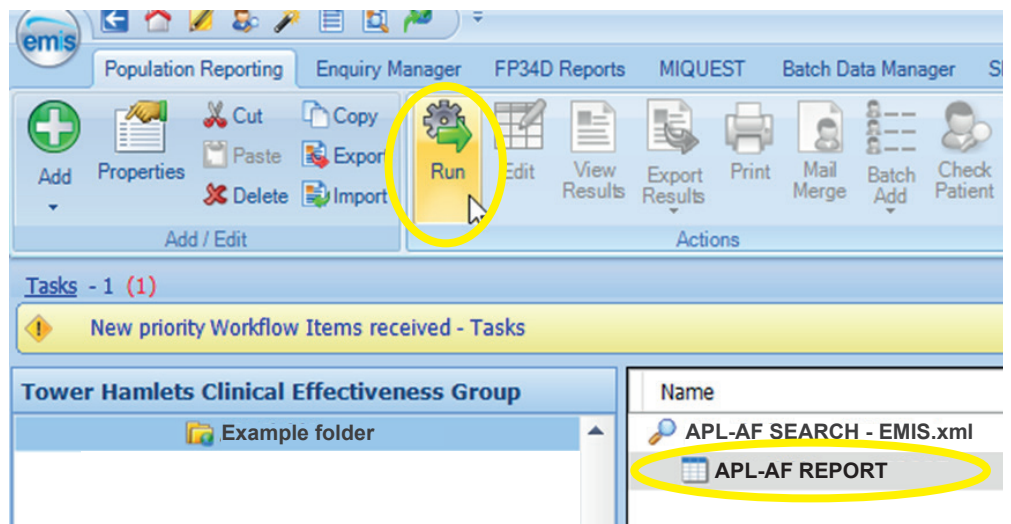
Step 1: Run the search in EMIS

1.1 Open EMIS Web and click '**Population Reporting**' in the Quick Launch Menu.

1.2 Choose a destination folder and click '**Import**':



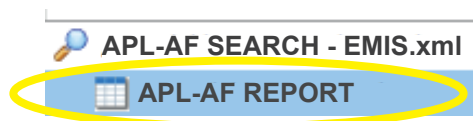
1.3 Navigate to **APL-AF SEARCH - EMIS.xml**, select the **REPORT** (it has a grid icon rather than a magnifying glass) and click '**Run**':



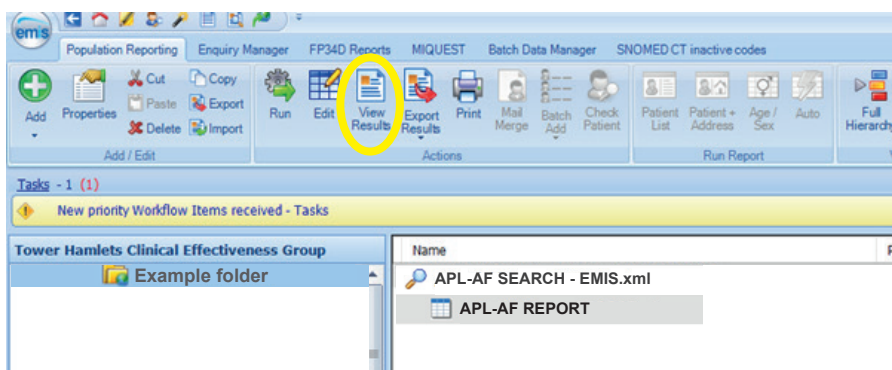
Step-by-step: Using the tool

Step 2: Export the search results

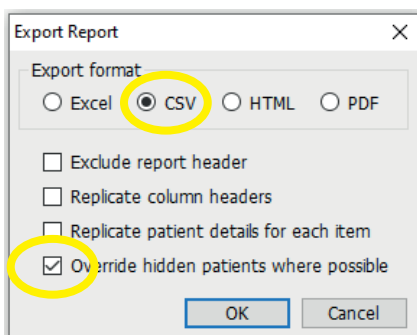
2.1 When the run is complete, select the **APL-AF REPORT** again:



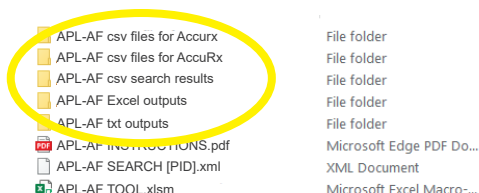
2.2 Click 'View Results' in the top ribbon. When the table of patients has loaded, click 'Export'.



2.3 Choose to export it as a **CSV** and tick the bottom checkbox: 'Override hidden patients where possible':



2.4 Save your export in a location where you can find it easily and include the export date in the file name.



The APL-AF download includes a set of empty folders that you can use to organise your files if you wish.

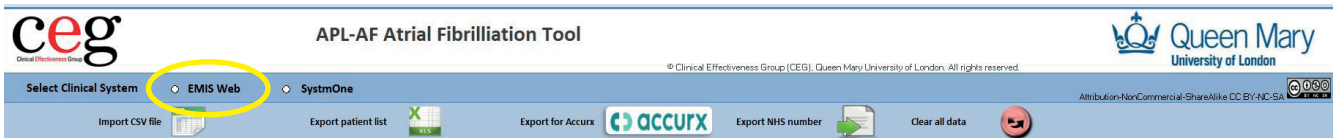
Important: Patient identifiable data should always be stored on a secure device or network.

Step-by-step: Using the tool

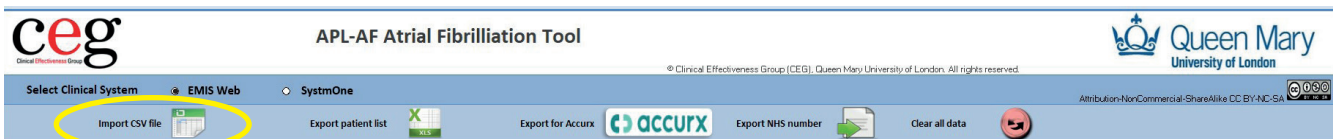
Step 3: Import data into the tool

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

3.2 Select **'EMIS Web'** as your clinical system:



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



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

| 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. At the top, there are logos for 'ceg' and 'Queen Mary University of London'. The main header is 'APL-AF Atrial Fibrillation Tool'. Below this, there are navigation options: 'Select Clinical System' (EMIS Web, SystemOne), 'Import CSV file', 'Export patient list', 'Export for Accurx', 'Export NHS number', 'Clear all data', and 'Date of last run: 22/February/2024'. The interface is divided into several sections:

- Filters:** A section with various checkboxes and radio buttons for filtering patients. The 'No anticoagulant' filter is selected. Other filters include 'All AF', 'DOAC', 'Warfarin', 'Aspirin/Antiplatelets ONLY', 'Dual therapy', 'CHA₂DS₂-VASC', 'ORBIT', 'Age', 'Vulnerabilities', and 'BP (mmHg)'. A 'Filtered patients count = 17' is displayed.
- Summary:** A table showing the distribution of patients across different filter categories. For example, 'Atrial Fibrillation Register' has 140 patients (100%), and '*Modified AF008: CHA₂DS₂-VASC ≥ 2 issued Anticoagulants (6m)' has 91 patients (84%).
- Freeze Panes:** A section with a lock icon.
- Table:** A table with 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 table shows four patient records.

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.

The screenshot displays the 'APL-AF Atrial Fibrillation Tool' interface. At the top, there are logos for 'ceg Clinical Effectiveness Group' and 'Queen Mary University of London'. A 'BACK' button is highlighted with a yellow circle. A blue circle highlights the 'Useful Links' section, which includes 'NICE CKS guidance (Anticoagulation)' and 'Creatinine Clearance (MDCALC)'. A red arrow points to these links from the text above. Below the patient information, there are sections for Medications, Risk Score, Comorbidities, Process Measures, Medication Review, and Exception Reporting. On the right side, there is a 'Legend' for risk levels (High, Moderate, Mild, Optimal Treatment), a 'CHA₂DS₂-VASC Risk Factors' table, an 'ORBIT Bleeding Risk Score for AF' table, and 'AUDIT SCORES *'.

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 |

AUDIT SCORES *

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

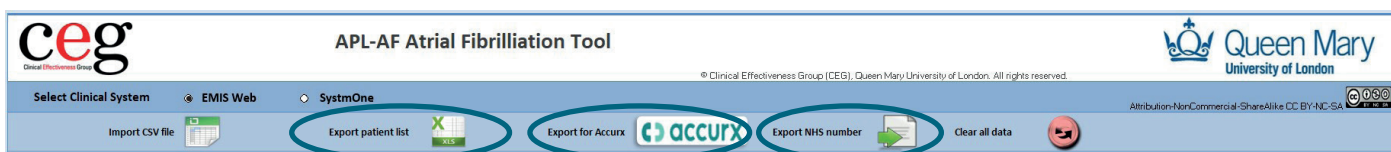
AUDIT SCORES *

| |
|--|
| 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'**.

Option 4: 'Export NHS number'

This will create a .txt file that you can import back into EMIS to batch add codes or letters, or run auto reports.

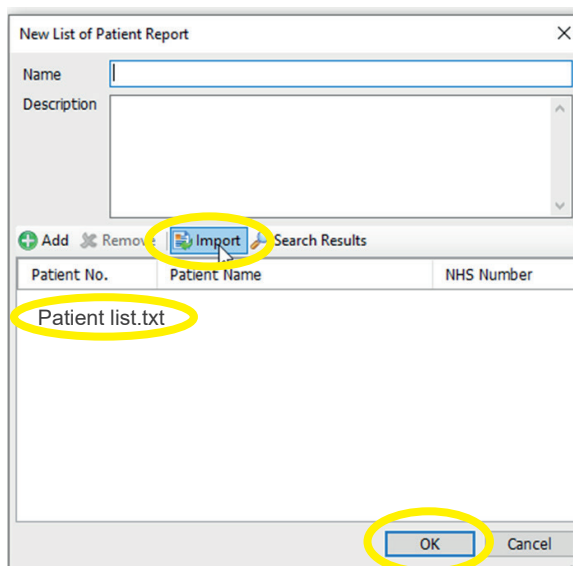
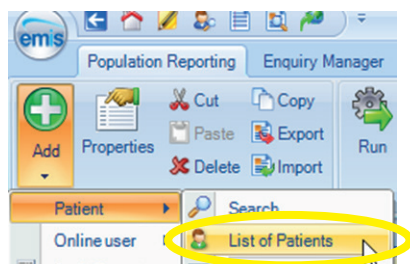
To make your list available to other practice staff

To contact patients or arrange appointments

Advanced use

How to import NHS numbers into EMIS (for advanced users)

- 1 Follow **Option 4** above to export your list as NHS numbers.
- 2 Open EMIS Web and click **'Population Reporting'**.
- 3 Select a folder of your choosing. Click **'Add'**, **'Patient'**, **'List of Patients'**.
- 4 Click **'Import'** and navigate to your .txt file of NHS numbers (repeat if you have multiple lists) then click **'OK'**.



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 suitably 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

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