



APL – Hypo tool

Reviewing patients with type 2 diabetes
on sulfonylureas or insulin
to reduce hypoglycaemia



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Introduction

Treatment of type 2 diabetes with sulfonylureas or insulin is associated with increased risk of hypoglycaemia.

A number of factors interact to cause hypoglycaemia. Age over 65 years is the most important, and this is compounded by comorbidity, reduced renal function, dementia or impaired health literacy, frailty and interacting drugs and previous hypoglycaemia.

These factors often interact with low HbA1c < 53mmol/mol (7%) resulting from treatment with insulin and/or sulfonylureas.

In an average CCG about 600 people with type 2 diabetes on sulfonylureas and/or insulin are at high risk of hypoglycaemic. That's about 15 patients per practice whose treatment needs reviewing in the context of their personal risks and their own views about choice of treatment.

New guidance now recommends more relaxed HbA1c targets 64-75mmol/mol (8-9%) for people at increased hypoglycaemia risk and a greater emphasis on patient preference. This is discussed more fully in CEG guidance "Reducing hypoglycaemia". <http://www.blizard.qmul.ac.uk/ceg-home.html>

Aim of the APL-T2DM tool

The Active Patient Link – Type 2 Diabetes Mellitus tool (APL-T2DM) assesses hypoglycaemic risk. Based on research studies, this ranks the risk of hypoglycaemia; each factor scores either 1 or 2 points depending on the magnitude of risk. For example:-

Low HbA1c

HbA1c < 53mmol/mol scores **1**

HbA1c < 48mmol/mol scores **2**.

Impaired renal function

eGFR <60ml/min scores **1**

eGFR <30ml/min scores **2**.

Other risks

Dementia, previous hypos, interacting drugs, age >75 years all score **2**.

This score is not predictive, it simply ranks the total scores from highest to lowest so that GPs can make a decision about who to call first for medication review and will be reminded about the multiple factors that influence risk. The tool then displays relevant information about each patient – including whether housebound, BP and statin treatment.

Hypoglycaemia may also have behavioural causes such as missing meals, irregular tablet taking and errors in insulin dosing – all of which are frequent occurrences. All these factors will need to be weighed up and there are so far no decision support tools that have been shown to reduce hypoglycaemia.

The decision to change treatment

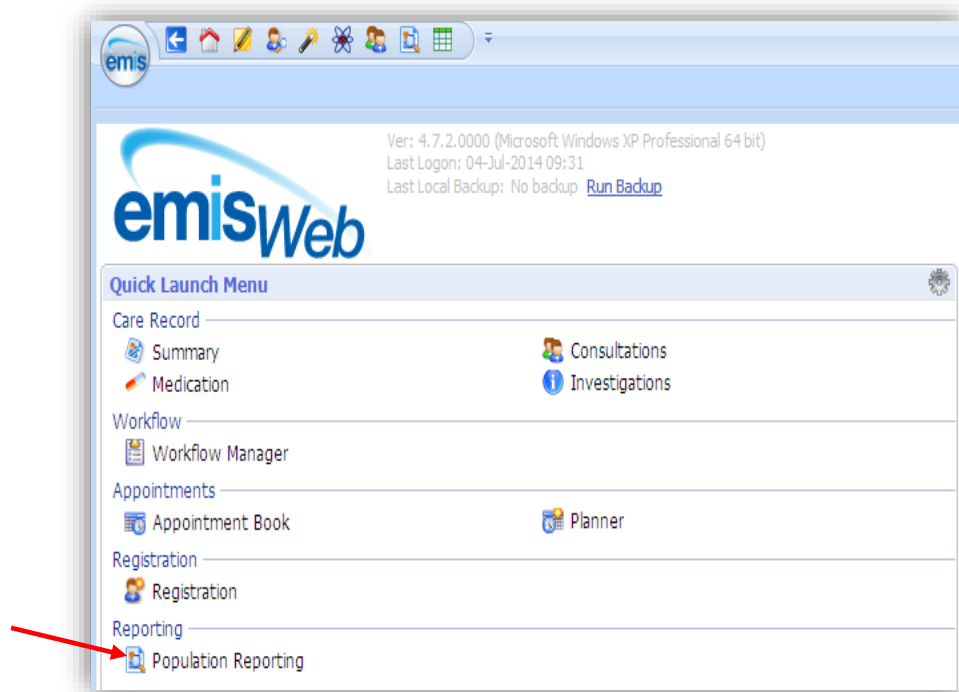
The key issue is whether treatment is more likely to result in patient benefit or harm. In older patients with established diabetes, limited life expectancy or hypoglycaemic risk factors, cardiovascular benefits of intensive treatments to reduce glycaemia are outweighed by hypoglycaemic harms. For most older people, a more relaxed HbA1c target of 64-75mmol/mol is recommended by international guidance and accords with NICE recommendations for individualised treatments.

The decision to change treatment to reduce hypoglycaemia risk will need to consider a wide range of complex factors including patient preference. Stepped changes and appropriate monitoring are advised.

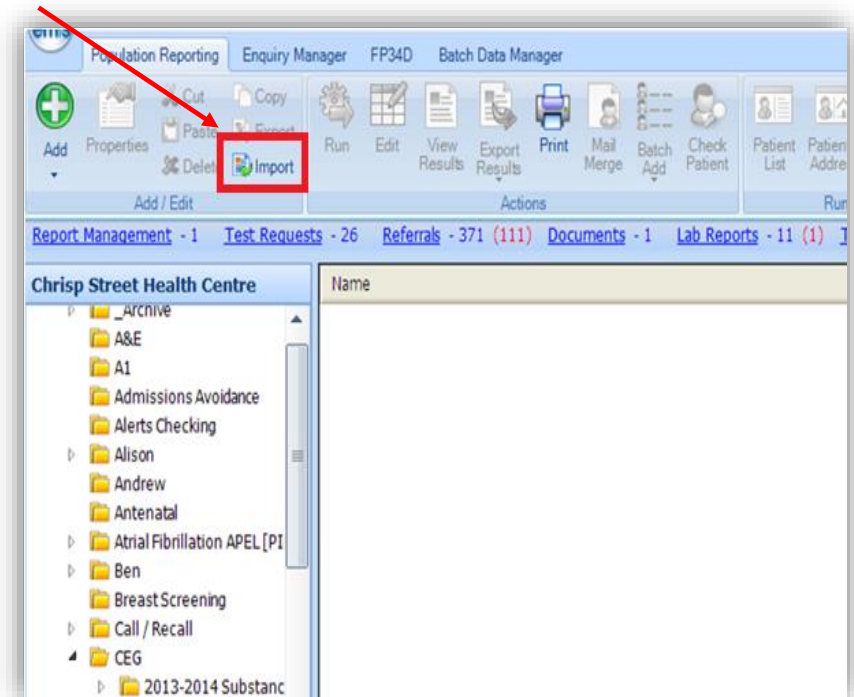
How to Import Search and Export the Search Results

This software may aid clinical decision making but is not intended to replace clinical judgment. Any queries about this tool, contact CEG at ihse-ceg-admin@qmul.ac.uk

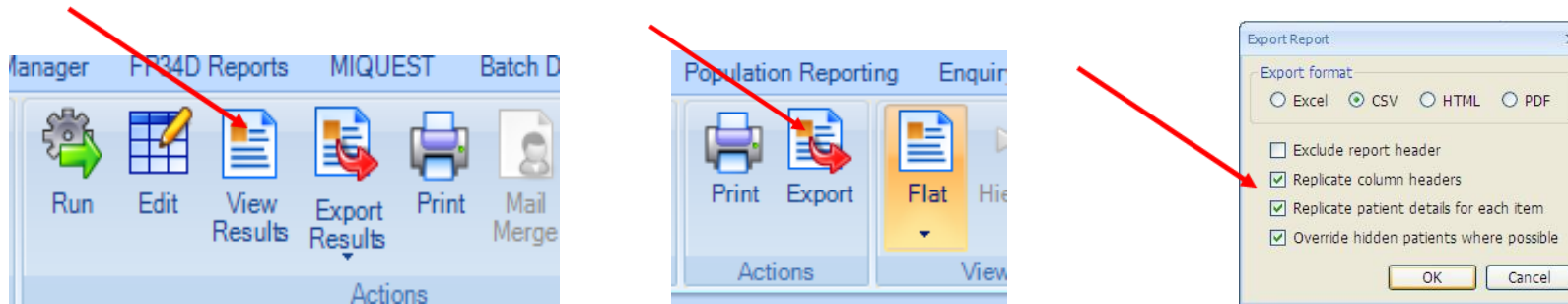
I. Access 'Population Reporting' in EMIS Web.



II. Select **IMPORT** as shown. This will bring up a browser window. Navigate to the saved location of the tool .xml file and import it into EMIS Web.



- III. **Run the search and report.** 'View' and 'Export' the report output to the computer as a 'CSV' file – save and close the file.
 Select each of the three boxes 'Replicate column headers', 'Replicate patient details' and 'Override hidden patients' checkboxes.




How to Enter Data into T2DM Tool



Open the Tool and Import the data. Click on the 'Press to locate CSV' button. It will prompt you to find and select the Emis output csv. file.


Running the T2DM Tool


1. **Apply criteria filters to the data.** Click “Press to see patients list”, then when it has finished loading select some filters to apply to the data.





APL - Type 2 Diabetes Tool

1. Press to locate CSV file


2. Press to see patients list


Export to xlsx


Clear All


Date of last run: 22/May/2020

Filters Filtered patients = 699

Prescribing All T2 diabetic 699 Insulin only 99 Sulphonylureas only 147 Both SU/I 11 On Neither 442

HbA1c mmol/mol < 48 48 – 58 59 – 75 76+ **eGFR ml/min** < 30 < 60 **Age** 65 – 74 75+ Previous Hypo

Vulnerable groups BMI < 20 BMI ≥ 35 SMI / LD / Dementia **BP** < 140/90 140/90 – 159/99 160/100 – 179/119 ≥ 180/120

Exclude medication reviewed in last 12m ⚠ Warning: if patient has previous Hypo, or HbA1c < 53 and eGFR < 60 Reset Filters

Full Name	Gender	Age	Usual GP	HbA1c ↓	BP	eGFR	Previous Hypo	Hypo Ranking	⚠
81add694-aad5-bbe3-08fe-f127860d4cb5	Female	55	IB	132	134/76		No	1	
c6755c4b-4f3d-4ca0-28c6-08574205ce74	Male	74	IB	119	134/78		No	5	
f47246df-b206-37ea-c093-1654b5f4337b	Female	51	UMA	115	134/76		Yes	3	⚠

II. Examine individual patient data

Click the name of a patient to bring up a more detailed breakdown of their data in the Patient Info tab.


The individual patient display looks like this – the patient’s own risks are highlighted either:

red (high risk)


amber (moderate risk)


yellow (mild risk)

green (optimal).



APL - Type 2 Diabetes Tool





Patient Information

Patients Name: f47246df-b206-37ea-c093-1654b5f4337b		Hypo	3
Patient Details			
Age	51	Gender	Female
Diabetes Medication		Name, Dosage and Quantity	Date of Issue
Insulin		NovoRapid FlexPen 100units/ml solution for injection 3ml pre-filled pens	27-Apr-2020
Sulphonylureas			
Increased Hypoglycaemic Risk Medication		Name, Dosage and Quantity	Date of Issue
High Risk Drugs			
Medium Risk Drugs			
HbA1c		Value	Date Recorded
Latest HbA1c		115	27-Jan-2020
eGFR		Value / Description	Date Recorded
CKD 4-5 or eGFR <30			
CKD 3 or eGFR 30-59			
High Risk		Value / Description	Date Recorded
Dementia/SMI/Learning Difficulties			
Palliative Care			
Previous hypoglycaemia			
BMI		20	23-Jan-2020
Other factors		Value / Description	
IHD/Stroke/TIA/COPD/AF/PAD/HF			
Alcohol >6u per week/Housebound			
Falls			
Non Risk factors		Value / Description	Date Recorded
Blood Pressure		134/76	23-Jan-2020
On Statins	Optimal Dose	Atorvastatin 80mg tablets	27-Apr-2020
Date of last diabetes medication review			

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Useful Links

[Type 2 diabetes Reducing hypoglycaemia](#)

[Statin guidance update](#)

Legend

	High Risk
	Moderate Risk
	Mild Risk
	Optimal