Irish Primary Care Research Network (iPCRN)
Exporting Data from Health one to the iPCRN

1. Background

The Irish Primary Care Research Network is a not for profit research collaboration between the Irish College of General Practitioners, The Western Research and Education Network and The HRB Centre for Primary Care Research.

The aim is to develop, in collaboration with GPIT, a tool that facilitates audit and research in Primary Care.

This document described the implementation of the extraction for the iPCRN network within HEALTH one.

2. Extraction of the patient population

In order to extract the patient, a query plus analysis is deployed under the HEALTH one analysis tab:
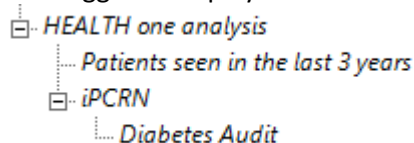This analysis will select

- active patients
- having an item 'problem' or "medical History" that contains any of the following code: ICPC:T89;ICPC:T90;ICD:E10*;ICD:E11*;ICPC:W85;ICD:O24*
- excluding the patients having an item 'problem' or "medical History" that contains ICPC:O24.0

In order to allow multiple analysis to be used to export the data, the export is available on all the analysis having a category = iPCRN.
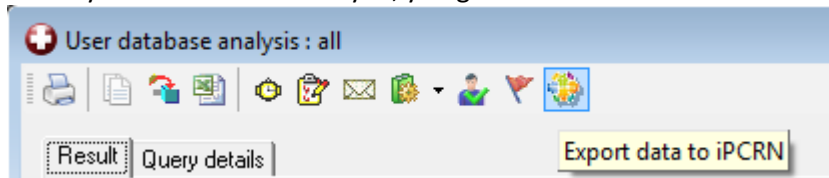
Default analysis will be deployed under the HEALTH one analysis, but it will be possible to add other analysis.
The trigger to display the button or not will be the category (**iPCRN** in this case).

```
⊟ HEALTH one analysis
     ┆··· Patients seen in the last 3 years
  ⊟ iPCRN
       ┆···· Diabetes Audit
```

3. User interface

When you run an iPCRN analysis, you get an extra button.

This button activates the export to the iCPRN and displays the following dialog :

The user has to fill in the details.
All the user information is extracted from the HEALTH one user Db.

The tick box "I agree to terms and conditions" has to be ticked each time.
On clicking the label "I agree to terms..", go to the web site page that describes the terms and conditions.

Several checks are done before the export.
e.g. The user need to confirm the email address of the practice.

<u>Note</u>: During the first export, a practice ID is generated by HEALTH *one*.
So the user gets the same number back for each export. The ID should not be changed.

4. Export process.

4.1. Configuration.
The export process does not require any configuration. A default list of items and transactions are configured within HEALTH one.

The default items used are those listed in the sample below.

4.1.1. Disease codes
HEALTH *one* extracts to ICPC & ICD code from the items specified in the configuration (or a defauly set of data is initialised)
The items can contain either an ICPC or ICD code or also an HEALTH one code.
In this case, HEALTH *one* extracts the ICPC & ICD-10 from the mapping table.

Disease codes are exported in the <Coding> field that contains:
- Patient ID   : ID of the patient (numeric)
- DateCoded   : Date (format YYYY-MM-DD)
- CPFS_ICPC   : Code ICPC if any
- CPFC_IDC10   : Code ICD10 if any
- CPFS_Type   : Type of disease (based on the items) = Active, Past, Family, Social.

Sample of export for the below:

☞ problem:	influenza	HoCode mapped to ICD10 code (J11.1) and ICPC (R80)
☞ medical history:	coxarthrose	ICPC code (L89)
☞ family history:	hypertension secondaire	ICD10 code (I15)
☞ social history:	depression	HoCode mapped to ICD10 code (F32.9) and ICPC (P76)

4.1.2. Prescriptions
Prescriptions are exported in the <Prescription> element.
Depending on the configuration, HEALTH *one* exports all the repeat prescriptions or the active therapy.

4.1.3. Consultations
Each transaction is exported in the <Consultation> element.
It is possible to exclude some transaction from the export by specifying the transaction name code in the
Consultation_Excluded properties.

The status contains 'Visit' if the patient actually comes in to see the doctor vs empty when a consultation is created to just update a chart.

Sample:
If the consultation contains a diagnosis influenza.

☞ assessment:	influenza

The consultation will be exported like this.
```
<Consultation>
```

4.1.4. Vitals measurements
All items are exported (*full history even if the value is 10 year old*)
The list of items exported for this section is configured using the Vitals_Items properties.

The default list of parameters is:
- Vitals
    - weight (0099)
    - height (cm) (009A)
    - systolic blood pressure (009B)
    - diastolic blood pressure (009C)
    - abdominal circumference (089A)

4.1.5. Previous investigations
All items are exported (*full history even if the value is 10 year old*)
The list of items exported for this sections is configured using the Investigations_Items properties.

The default list of parameters is:
- Investigations_Items
    - HbA1c [IFCC] or HbA1c [DCCT] – conversion of unit
    - cholesterol (total)
    - cholesterol (HDL) (mg/dl)
    - LDL cholesterol (mg/dl)
    - eGFR
    - creatinine (mg/dl)
    - creatinine [U]
    - albumin [U]
    - microalbumin/creatinine ratio

```
</Cholesterol>
```

4.1.5.1. Special conversion for the Hba1C
For the Hba1C, the result are always converted to the new IFCC units .
HEALTH one uses 3 terms to record the Hba1C:

HbA1c:	9.4	%
HbA1c [DCCT]:	8.2	%
HbA1c [IFCC]:	74	mmol/mol

HEALTH *one* interprets the value based on the Item code and converts the value for both item HbA1c and HbA1C [DCCT] if the value is less than 20

4.1.6. Vaccinations
All vaccine items are exported under the <vaccination> element.
The export procedure takes the patientID, the vaccination date and the vaccination name
(content of the item vaccine)

4.2.   Exclusion of some patients

To comply with data protection we'll need to give patients a chance to 'opt out' of the research.
An HEALTH one item **'iPCRN export allowed'** controls the export of data.
By default, the item does not exist and the data are exported normally.
If the patient wants to opt out, the GP adds the item in the administrative transaction and sets content to no.

- In this cae no data is exported

Setting the content to 'yes' or deleting the item will enable to export.

5. Sending the file to iCPRN

When the xml file is created, HEALTH one connects to the iCPRN website and exports the file

6. Export to Excel

There is a possibility to export the data in an Excel Spread sheet by clicking the Export to Excel button. The process is the same but the data is not formatted as XML but as Excel.
The Excel file is not sent to ICPRN.

Sample of generated data:

iPCRN

							04/11/2012 21:42:53	
							117 records	
Data type	**Patient ID**	**Date**	**Datas**					
Demographic	1484922944	-	2	1944	Male		UnKnowr	UnKnown
Coding	1484922944	09/12/2001			Family			
VitalMeasure	1484922944	09/12/2001	systolic	183				
VitalMeasure	1484922944	09/12/2001	diastolic	57				
VitalMeasure	1484922944	09/12/2001	weight	86.2				
Consultation	1484922944	09/12/2001		Visit				
Consultation	1484922944	10/07/2012		Visit				
Prescription	1484922944	09/12/2001	Flixonase Aqua (c)		1	75	Repeat	
Prescription	1484922944	09/12/2001	Rhini-san (c)		3	8	Repeat	