

Standard Procedure Manual for CanReg5 Software

CanReg 5

Strategic Information & Management Unit
National Cancer Control Programme
Ministry of Health



Standard Procedure Manual for CanReg5 Software



National Cancer Control Programme

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Sri Lanka

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National Cancer Control Programme, Sri Lanka

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Message from Director National Cancer Control Programme



Surveillance of cancer which is conducted by National Cancer control program (NCCP) of Ministry of Health extending for more than 30 years in Sri Lanka. NCCP collects data on newly detected cancer through the cancer treatment centres, pathology laboratories, Oral and Maxillo-facial (OMF) surgery units in the county.

To strengthen this surveillance activities at the point of data generation to the point of data analysis Canreg-5 software, which is universally accepted technology, tremendously helps starting from data entry to data analysis.

NCCP believes introduction of Canreg-5 manual for government cancer treatment centres, pathology laboratories, Oral and Maxillo-facial (OMF) surgery units will enhance the timeliness of data. With the aim of nourishing the surveillance services the Strategic Information & Management unit of NCCP was able to develop an easy manual on Canreg-5 software.

I'd like to appreciate & thank the authors of and the commitment of those who contributed the task a success.

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Message from Strategic Information Management (SIM) Unit, NCCP

Acknowledgment

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Chapter 1

Introduction

CanReg 5 is an open-source software which is used to input, store, check and analyze cancer registry data. Four modules are available in CanReg5 for;

- Data entry
- Quality control
- Consistency checks
- Basic analysis of the data

CanReg5 splits a single data record in to three tables.

- Patient record – only one ID is available for a patient
- Tumour records – many tumours may be present in a single patient record
- Source records – many sources may be available for a single tumour record

It has the ability to store as many tumour records as we need for each patient as well as we can add many source records for each tumour. It allows us to do more work in the software. It is a user friendly software which is easy to navigate and is available in several languages.

Chapter 2

Software Installation

Overview

Three categories of software need to be installed for CanReg5 software to run.

1. Mandatory Software (Basic software)

- Java (JRE)

- CanReg 5 setup

2. Supporting Software (Software needed for analysis)

- R setup

 - R

 - R package

- SEER

 - SEER prep

 - SEER stat

- PS viewer

 - Ghost Script

 - Ghost viewer

3. Utility Software (Third party software)

- ZIP

- Notepad++

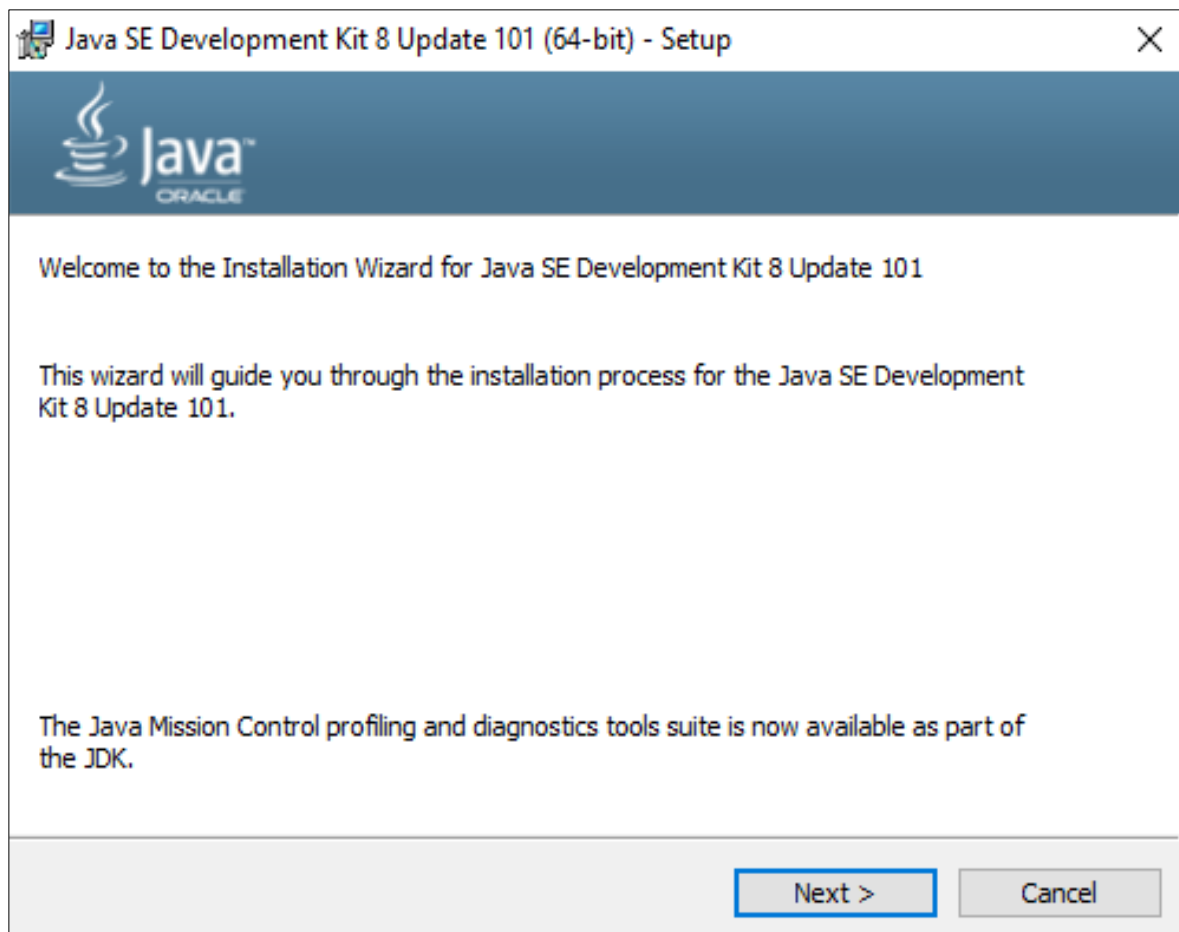
- PDF

1. Install Java

The latest Java 8 Runtime Environment has to be installed before installing and running CanReg5 for the first time.

(July 2017: Version 8 Update 144 can be downloaded from

<http://java.com/en/download/manual.jsp>)

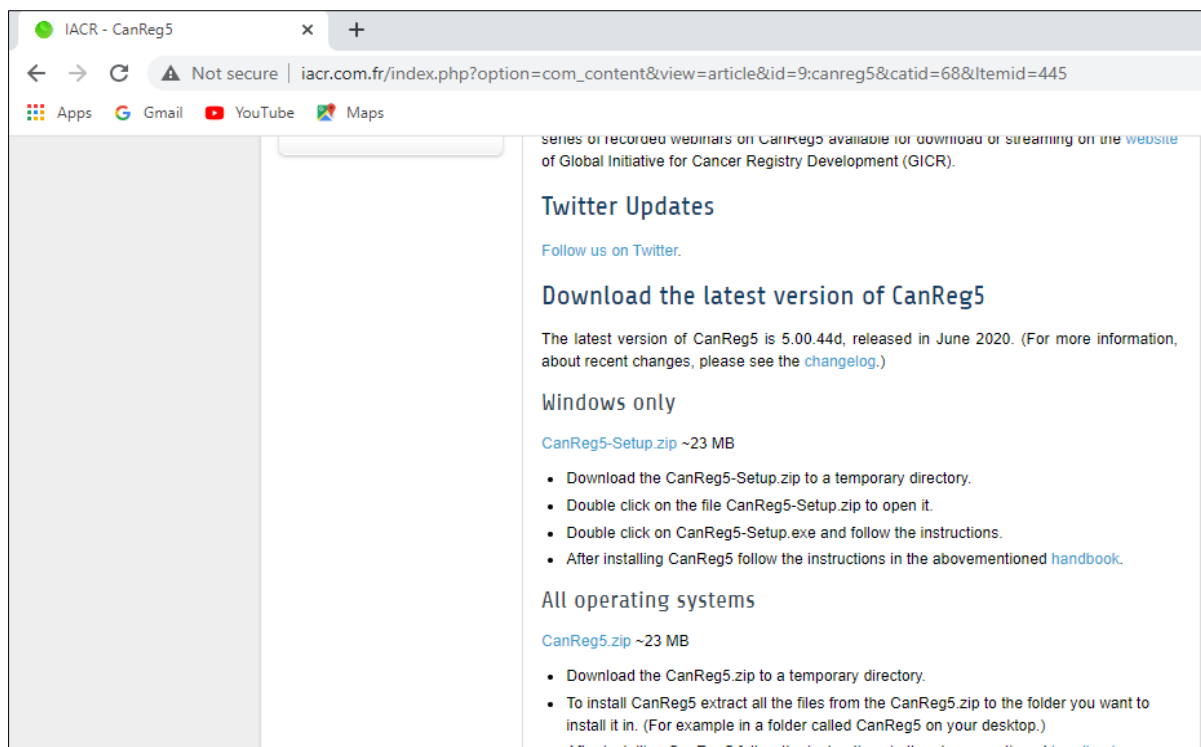


2. Install CanReg5

CanReg5 is compatible with most major operating systems and the default distribution of CanReg5 is simply a zip-archive.

Can be downloaded from:

http://www.iacr.com.fr/index.php?option=com_content&view=article&id=9:canreg5&catid=68&Itemid=445

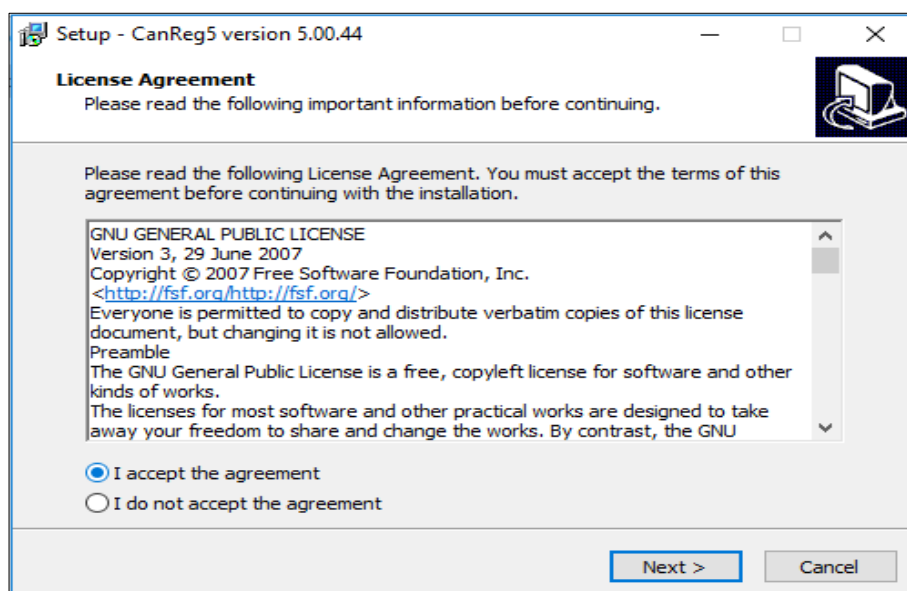


- **From CanReg5.zip**

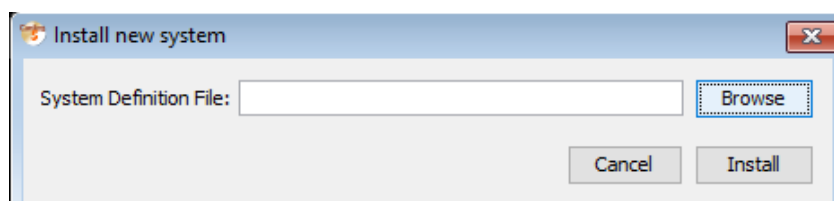
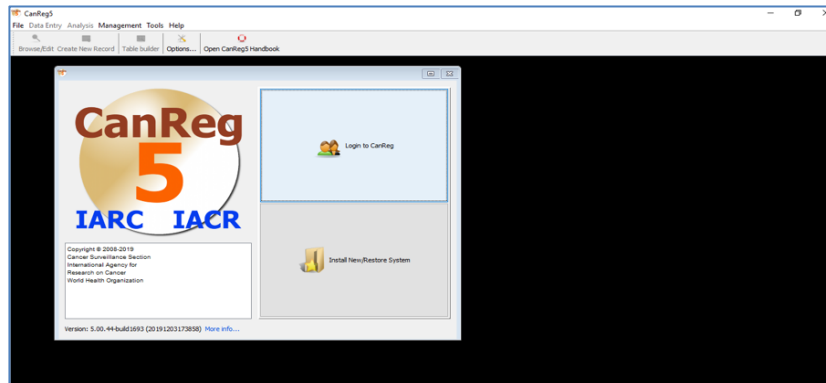
To install it, simply extract the content to a new folder, for example on your desktop. (It is important to keep the same directory structure as inside the zip-file.)

This is a standard windows installer that will install CanReg5 in to your “Program Files” folder (by default). It is just a matter of clicking “next”, “next”, “next” etc.

- After installation of CanReg 5, the following screen will appear.

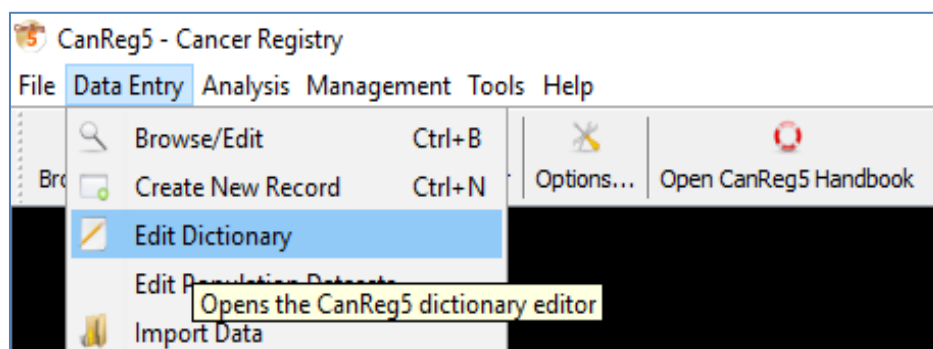


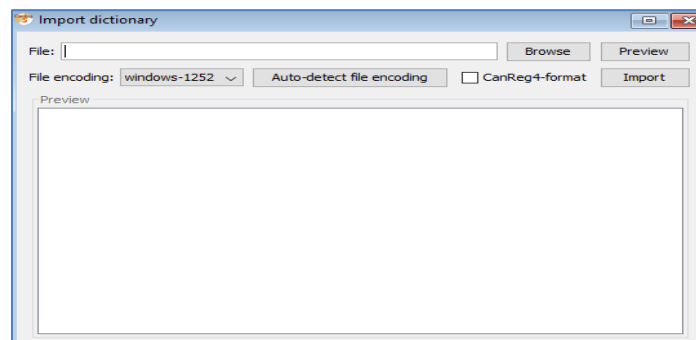
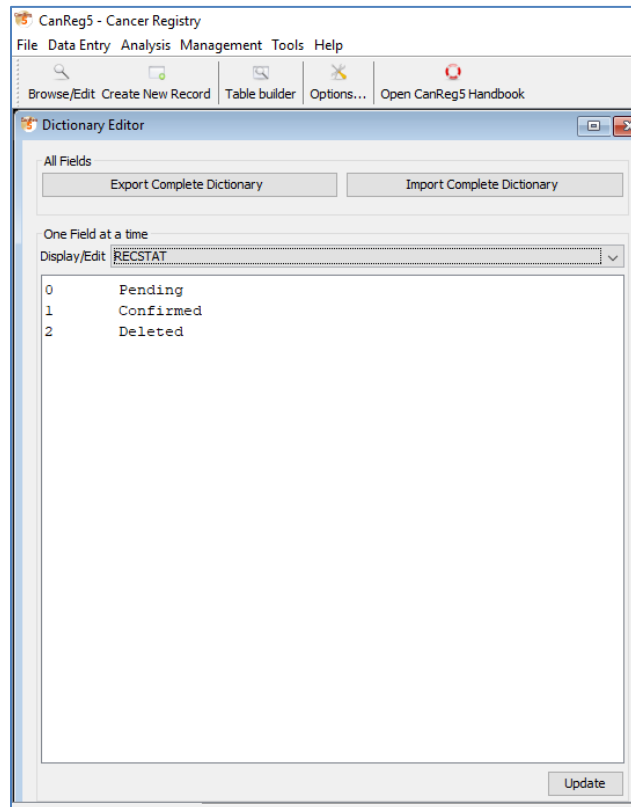
- Then click on “Install New / Restore System” tab and install the XML file.
Install New / Restore System=> Browse => Open => Install



- Installing the data dictionary**

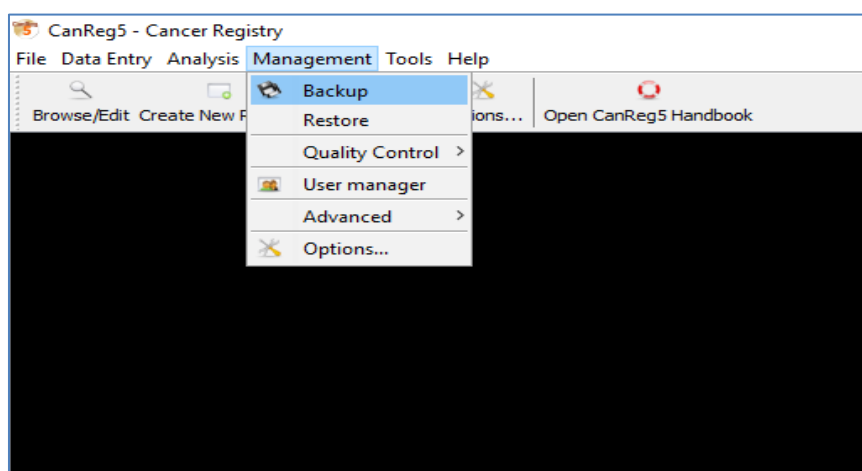
Data Entry => Edit Dictionary => Import Complete Dictionary => Browse => Import

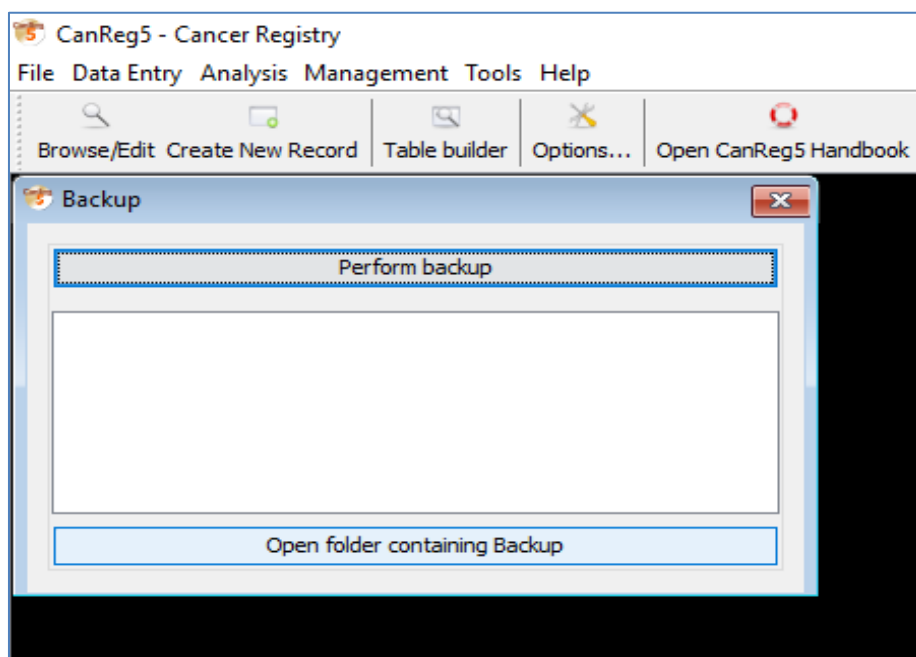




- **Creating a backup**

Management => Backup => Perform Backup

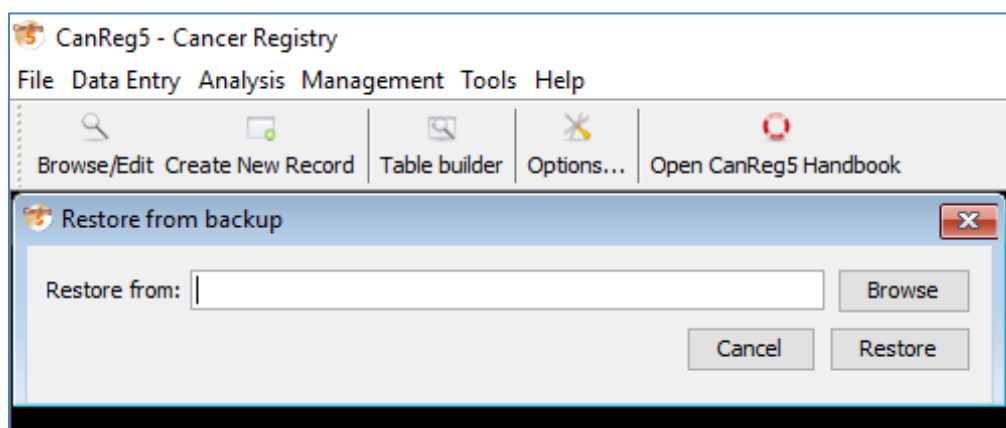
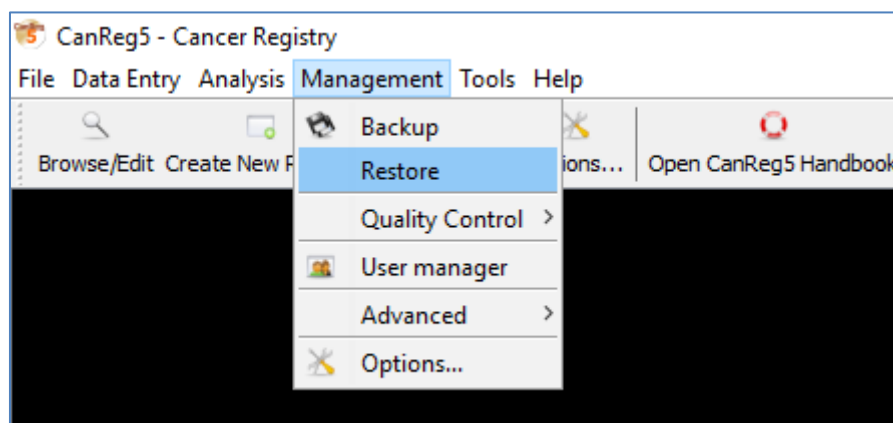


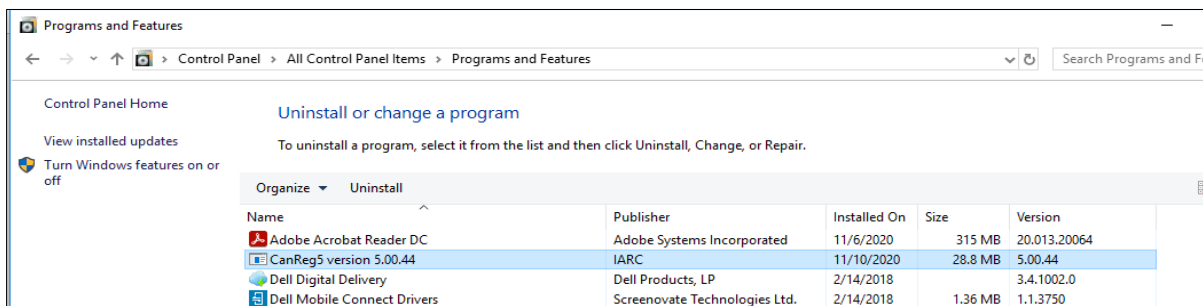
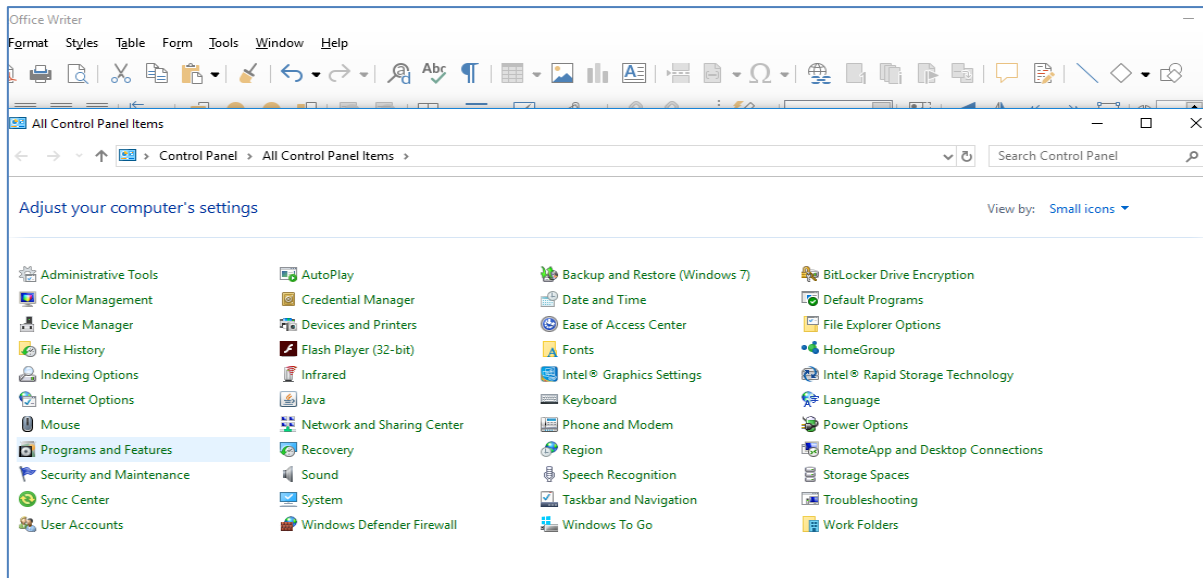


Then click on “open folder containing backup” tab and copy the backup folder named by the date in to a safe storage.

- **Restore from a Backup**

Management => Restore => Browse => Open => Restore





- Uninstall CanReg 5 from the PC

Before uninstalling CanReg5, perform a backup and save as mentioned above.

1. Control Panel => Programme and Features => CanReg5 version 5.00.44 => Uninstall

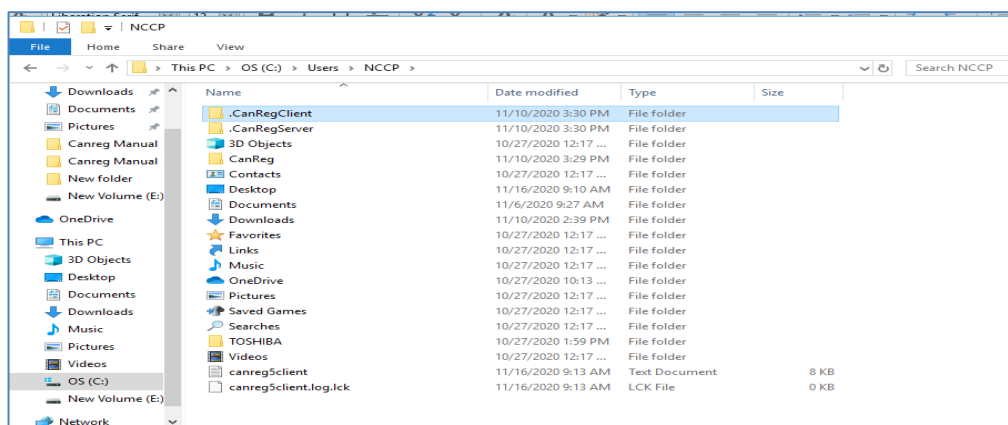
2. This PC => C Drive => Users => "computer name" => Delete Flowing Folders & Files

.CanRegClient

.CanRegServer

.CanReg

Other files starting with canreg5"



Chapter 3

Data Entry

Data entering is one of the essential components in a cancer registry because all the analysis, results generation and decision making based on the results depends on this entered raw data.

1. How to add a new record

When we start to enter patient details in CanReg5, first go to “Data Entry” section in the menu and click on “Create New Record” in the submenu. Then the blank page will open up where the patient’s details can be entered.

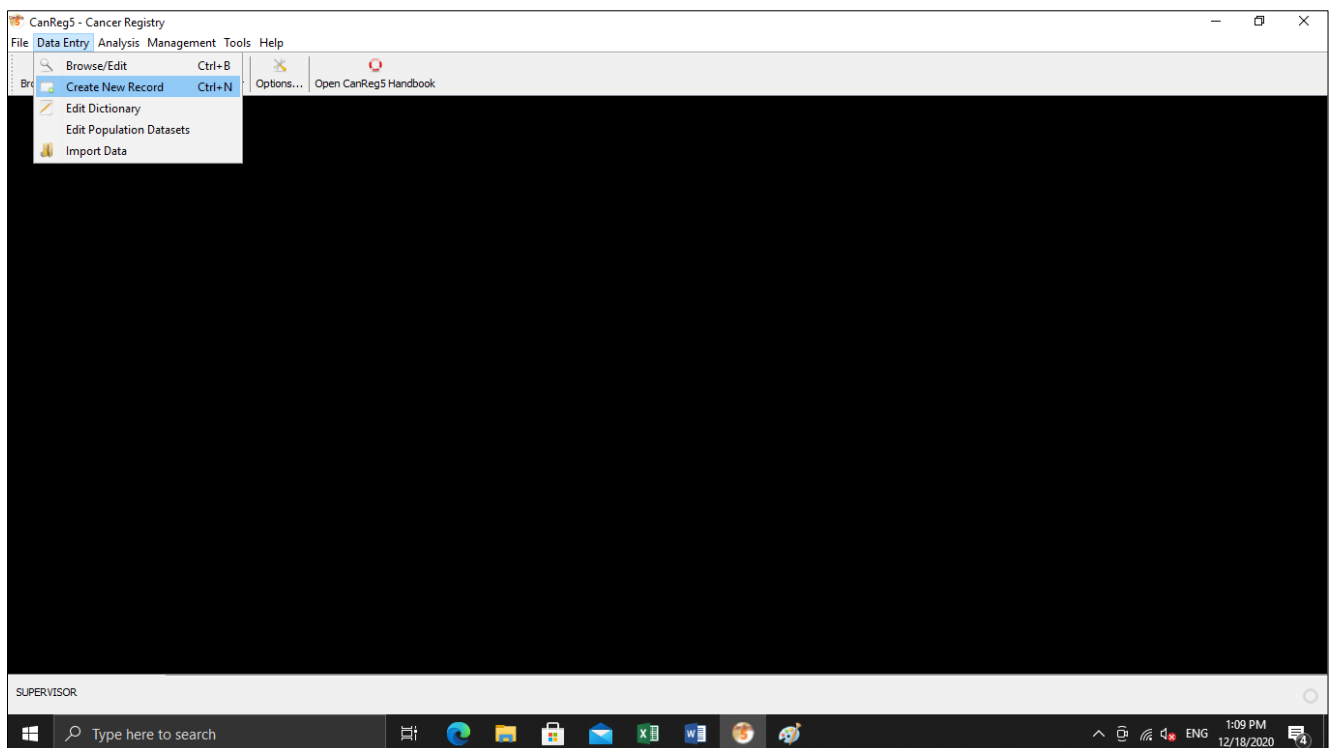
This form has three separate sections. 1st section which is the left half of the form comprised of ‘**Patient details**’. Right half divides into two sections which comprised of ‘**Tumour details**’ in the upper half and the ‘**Source details**’ in the lower half.

All rows need to be filled with the patient’s details, at least Mandatory fields.

Here, it is necessary to make special attention when entering data precisely especially in fields like surname, other name, age, sex, address,etc. because whole cancer registry generation process will depend on this raw data.

Eg: Chandani Kumari Seneviratne

Here the surname needs to be entered as “Seneviratne” and “Chandani Kumari” need to be entered under other names.



CanReg5 - Cancer Registry

File Data Entry Analysis Management Tools Help

Browse/Edit Create New Record Table builder Options... Open CanReg5 Handbook

Merge with other Patient ID ☐ Enable obsolete records **Save All**

Patient record: 1

Person Search Updated By: unknown

Exact Search

Patient

Surname: Panditharatna Arachchige

Other Names: Lasantha

Sex: 1 Male (1)

Birth date:

Ethnic Group: 1 Sinhala (1)

Full Address:

Religion: 1 Buddhist (1)

Marital Status: 1 Single (1)

National ID Card No:

Follow up

Date last contact:

Status:

Cause Of Death:

Tumour: record 1

Checks Not done

MP Search

Record Status: Pending (0)

Updated By: unknown

Sequence Number: Total:

Age: 36

District: 05 Colombo (05)

DS Division:

Incidence date: 20150101

Topography: 187 COLON (18)

Morphology: 8140 Adenocarcinoma, NOS (8140)

Source: 1

Pathology Lab:

Lab. Reference No:

Death Registrar:

ADD Source

PDF

Print

ADD tumour record

Menu

SUPERVISOR

Type here to search

2:00 PM 12/18/2020

2. How to add a new tumour record (A)

Using the “Add Tumour Record” button, we can add multiple tumour records for one patient.

3. How to add a new source record (B)

Using the “Add Source” button, we can add multiple source records for one tumour for a specific patient.

4. What is the purpose of “PDF” button (C)

Use “PDF” button to export current patient’s details in PDF format.

5. What is the purpose of “Print” button (D)

To print current patient’s details, use “Print” button.

6. What is the purpose of “Spinner” (E)

Patient, Tumour and Source details divide with these dotted lines in the record.

The screenshot displays the CanReg5 - Cancer Registry application window. The interface is divided into several sections for data entry:

- Patient record: 1**
 - Person Search, Exact Search, Updated By: unknown
 - Fields: Surname, Other Names, Sex, Birth date, Ethnic Group, Full Address, Religion, Marital Status, National ID Card No.
 - Follow up: Date last contact, Status, Cause Of Death
- Tumour: record 1**
 - Checks Not done (highlighted with a red box and labeled F)
 - MP Search, Record Status (Pending (0) and labeled G), Updated By: unknown, Sequence Number: Total:
 - Fields: Age, District, DS Division, Incidence date, Topography
- Source: 1**
 - Sources: Pathology Lab, Lab, Reference No, Death Registrar

The interface is separated by dotted lines, indicating the division of Patient, Tumour, and Source details. The bottom of the window shows the Windows taskbar with the time 2:40 PM on 12/18/2020.

7. What is the purpose of “Checks Not Done” button (F)

Once the patient, tumour and Source details have entered, click on “Checks Not Done” button. When this is done, all the validation checks (Eg: Mandatory fields) and wrong dictionary values are checked.

Then ICD – 10 code of patient record in the tumour details section is generated once everything is fulfilled.

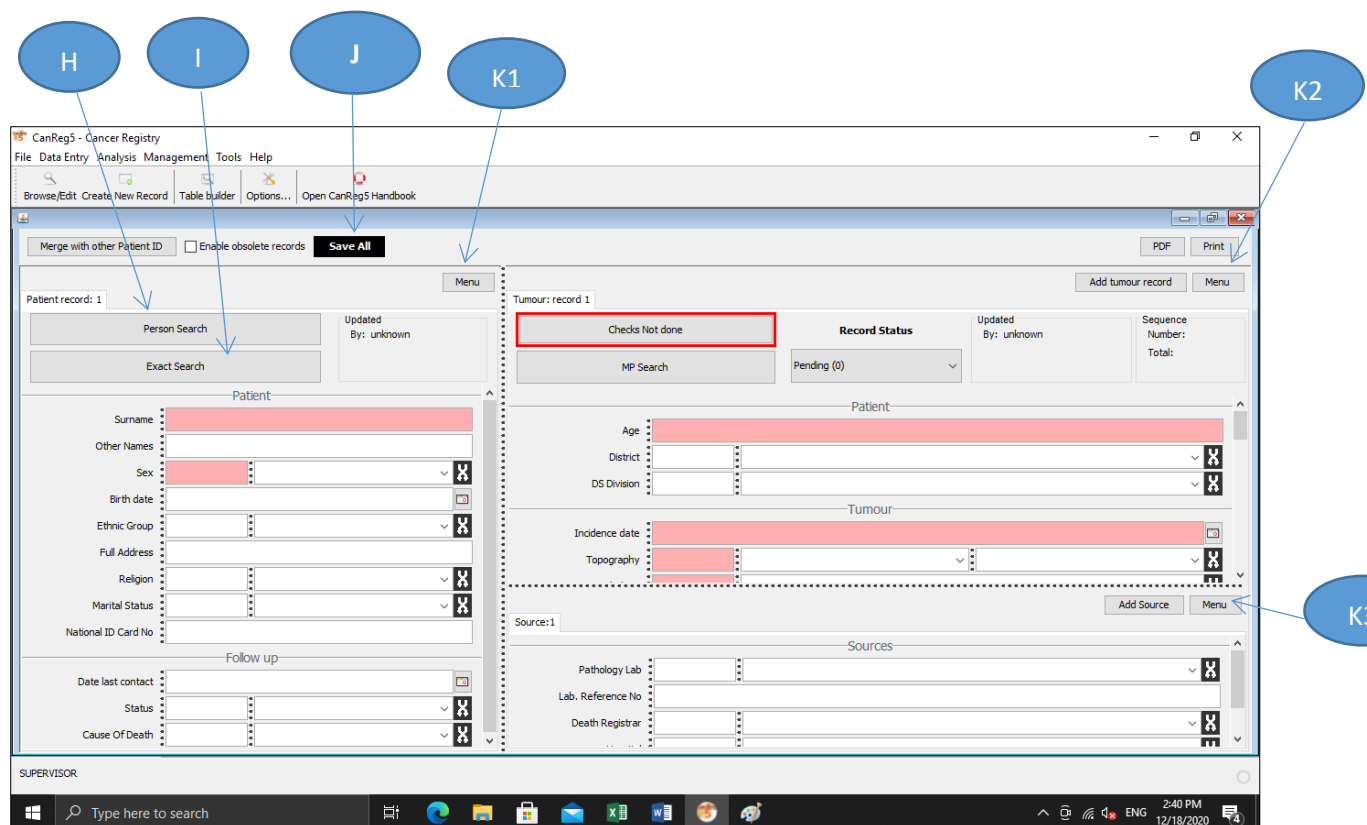
When this “Checks Not Done” clicked, Edit checks dialog box will appear. After selecting the “Ok” for that, need to finalize the “Record Status” from the drop down menu.

8. What is the purpose of “Record Status” button (G)

This drop down list has three options, i.e. “Confirmed”, “Pending” and “Deleted”. When the “Deleted” option is chosen, that record will be deleted and will not include in any analysis.

When the case need to be confirmed for the ICD code and its malignancy, it appears as a “Pending” case.

When the case is “Confirmed”, this will finalize the case and all its details, where the data is valid and its malignancy is confirmed.



9. What is the purpose of “Person Search” button (H)

This will show the matching cases in the whole database. This will be helpful in preventing duplicate entries.

10.What is the purpose of “Exact Search” button (I)

This will match the data with the specific fields we requested and it will prevent duplicate entries.

11.What is the purpose of “Menu” buttons (K)

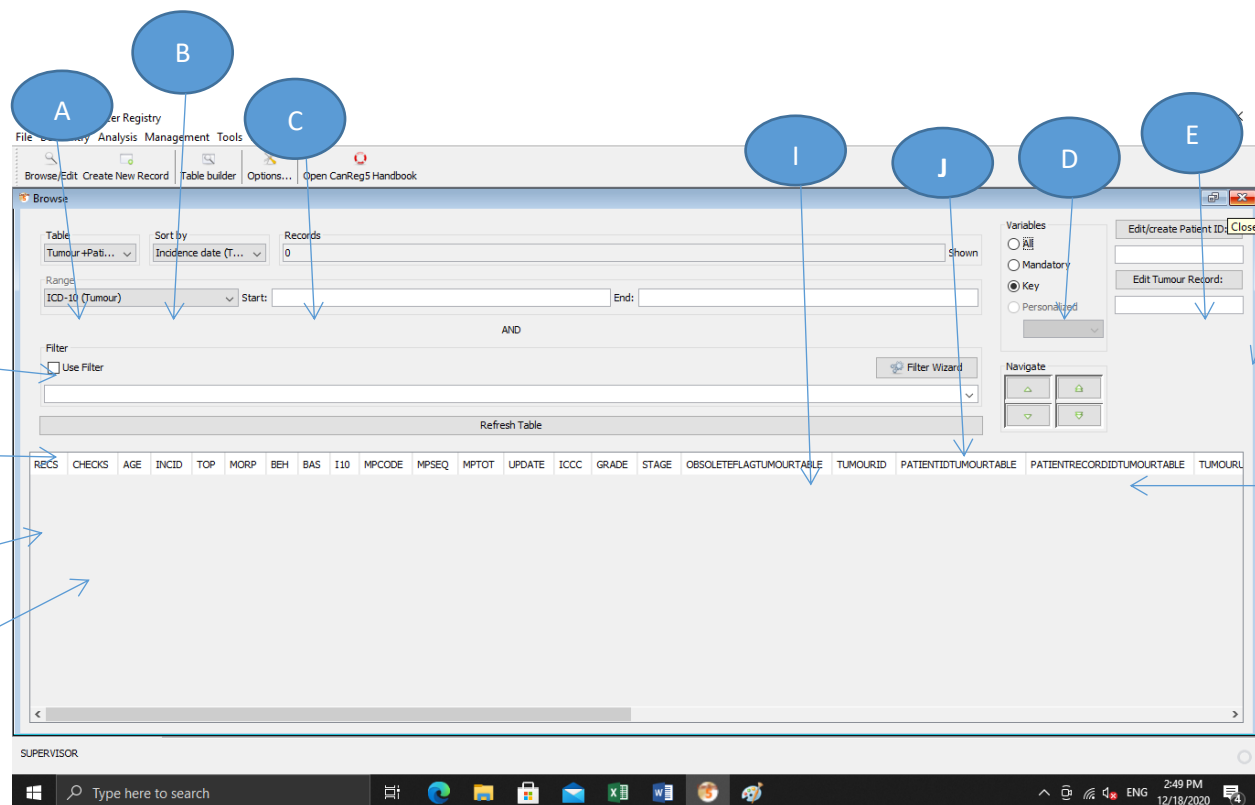
This button is located in each patient, tumour and source section. “Menu” in the patients (K1) and source (K2) section has “Delete Record” option and when it is selected, it will permanently delete the patient record and source record respectively. Whereas the “Menu” in the Tumour (K3) section has a drop down menu with Delete record, Obsolete and Change patient record and when it is selected, it will permanently delete the both the Tumour and Source sections.

12.What is the purpose of “Save All” button (J)

This button is used to save all the details of patient, tumour and source records.

Browse and Edit

When we want to search or edit entered data, need to choose “Browse/Edit” option in the main menu. Then the following dialog box will appear and it allows searching and editing the stored data as follows using the options mentioned below.



1. What is the purpose of “Table” option (A)

This has a drop down menu with 6 options.

When “Patient” is selected, all the details of the Patient’s records are shown.

When “Tumour” is selected, all the details of the Tumour records are shown.

When “Source” is selected, all the details of the Source records are shown.

When “Tumour + Patient” is selected, all the details of the Tumour + Patient’s records are shown.

When “Source + Tumour” is selected, all the details of the Source + Tumour records are shown.

When “Source + Tumour + Patient” is selected, all the details of the Source + Tumour + Patient’s records are shown.

2. What is the purpose of “Sort by” option (B)

This is used to select the necessary field of the database using the drop down menu.

3. What is the purpose of “Record” option (C)

This displays the number of records in the grid.

4. What is the purpose of “Variables” section (D)

There are 4 options in the variables section; ‘All’, “Mandatory”, “Key” and “Personalized”.

When “All” option is selected, all fields of the selected table are displayed in the grid.

When “Key” option is selected, only the key fields of the selected table are displayed in the grid.

When “Mandatory” option is selected, only the mandatory fields of the selected table are displayed in the grid.

When “Personalized” option is selected, only the selected fields of the selected table are displayed in the grid.

5. What is the purpose of “Edit/create Patient ID” option (E)

By entering the patient ID here, can search the case details based on Patient ID for editing.

6. What is the purpose of “Edit Tumour Record” option (F)

By entering the tumour ID here, can search the case details based on Tumour ID for editing.

7. What is the purpose of “Range” option (G)

This option specifies the range start and end values for the sequenced variable.

8. What is the purpose of “Use Filter” option (H)

When “Use Filter” checkbox is selected, then can sort the database according to the selected field mentioned in “Filter Drop down” box and displays the output in the grid.

9. What is the purpose of “Filter Drop Down” option (I)

This drop down menu sorts the data from the database according to the criteria or filter condition.

10.What is the purpose of “Filter Wizard” option (J)

This will open a dialog box where the required filtering criteria are configured. This will display an output matched to the given criteria in the grid.

11.What is the purpose of “Refresh Table” option (K)

This option refreshes the data in the grid according to the given commands.

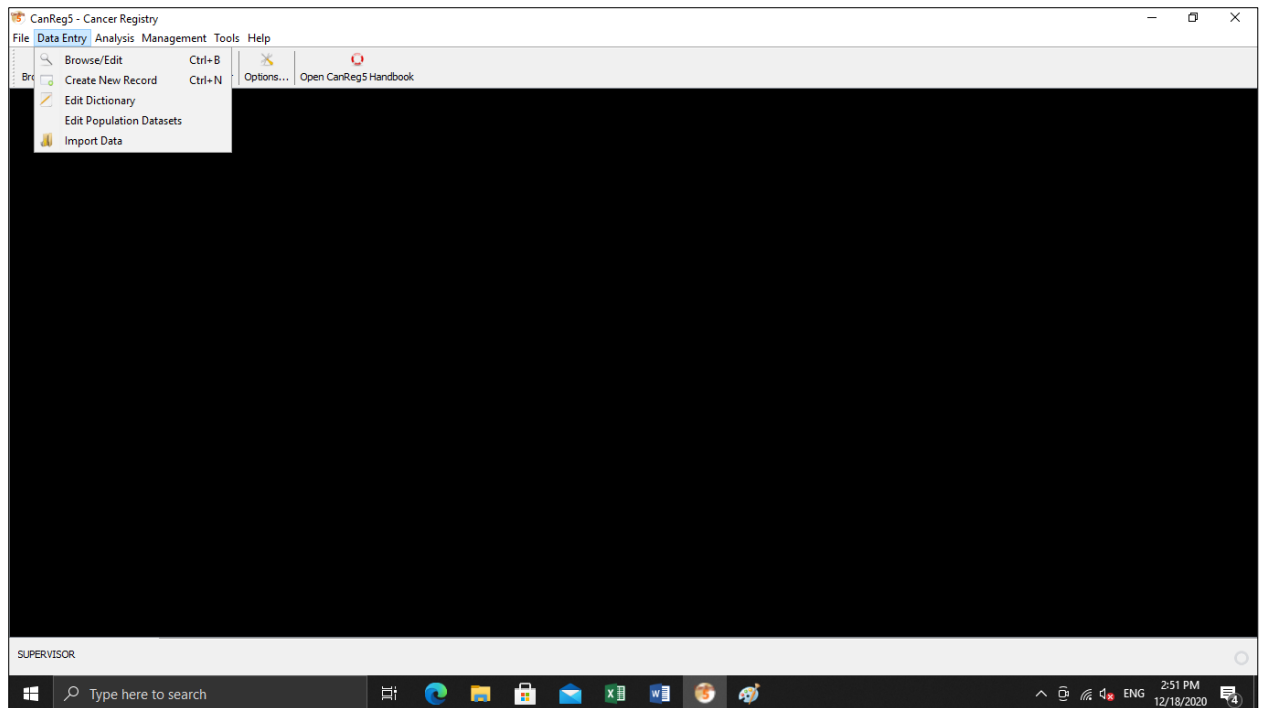
12.What is the purpose of “Navigate” option (L)

This is used for navigation through the data in the grid.

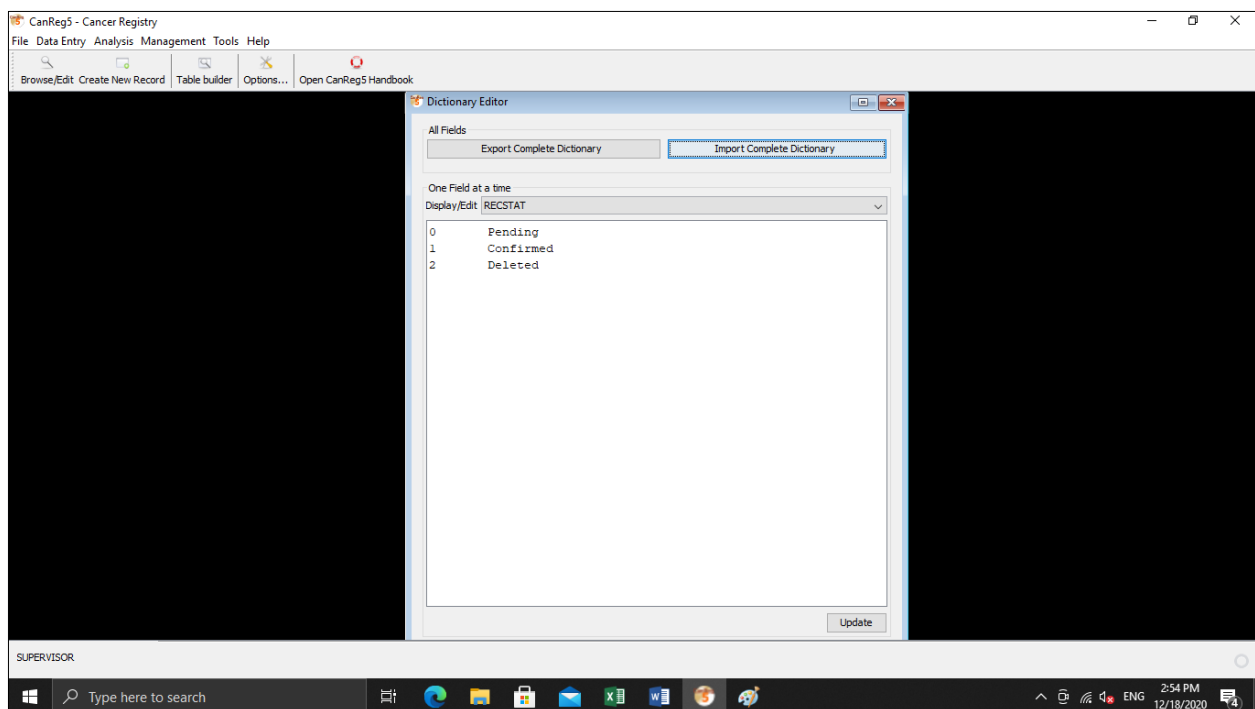
13.What is the purpose of “Data Grid” option (M)

This shows the data in the data base.

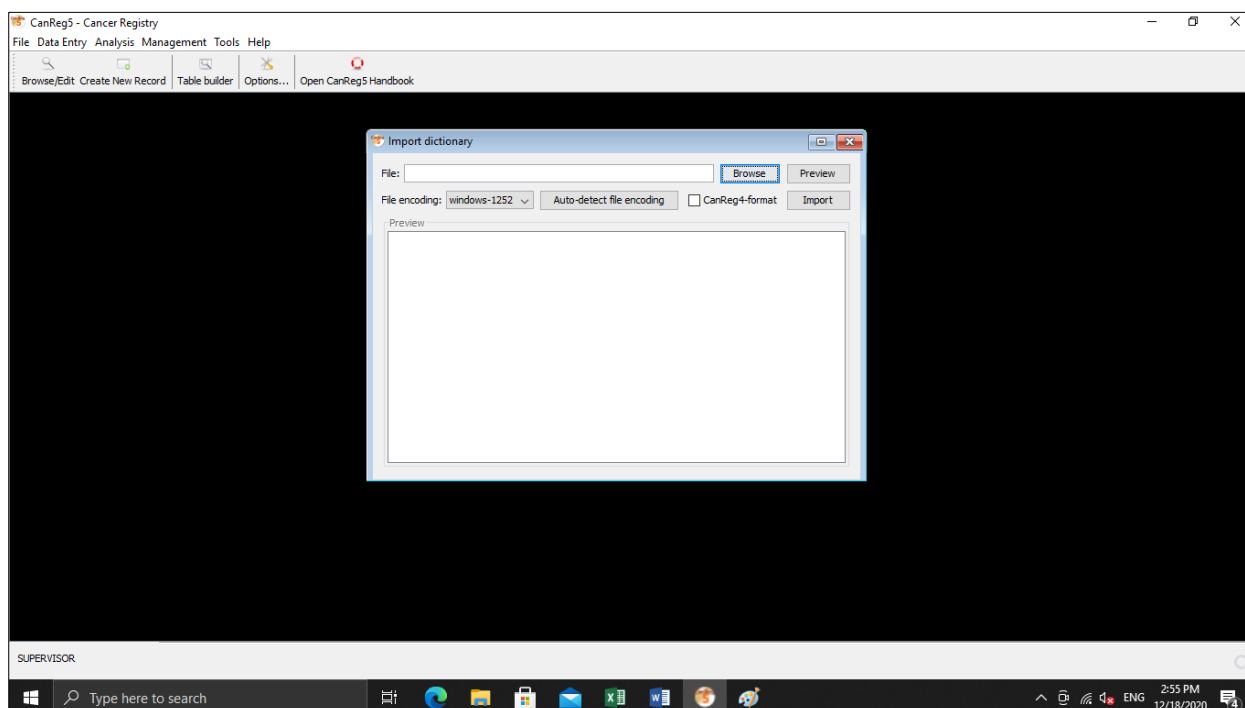
Edit Dictionary



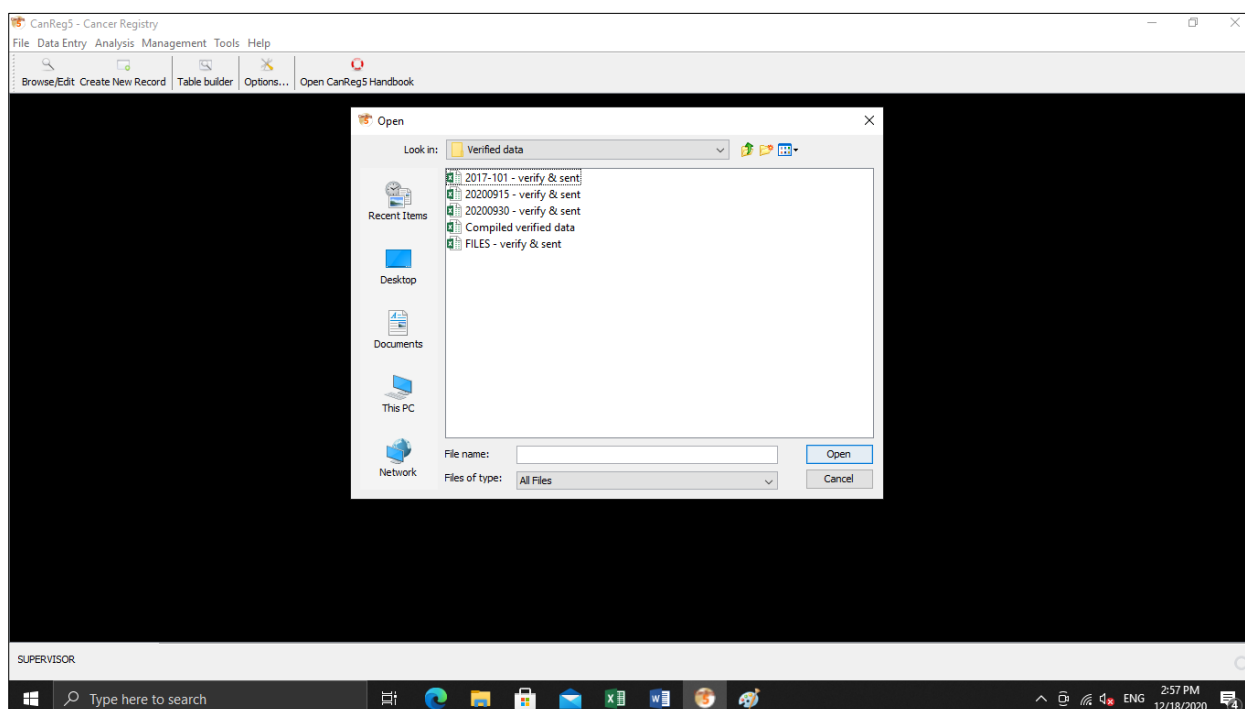
Click on “Data Entry” in the main menu and select the “Edit Dictionary” option from the sub menu.



Then select the “Import Complete Dictionary” on the dialog box.



Then “Browse” for the desired file from the “Import Dictionary” dialog box and “Open” the file.



Then select “Ok” for the “Dictionary Successfully Imported” dialog box to import the file.

Chapter 4

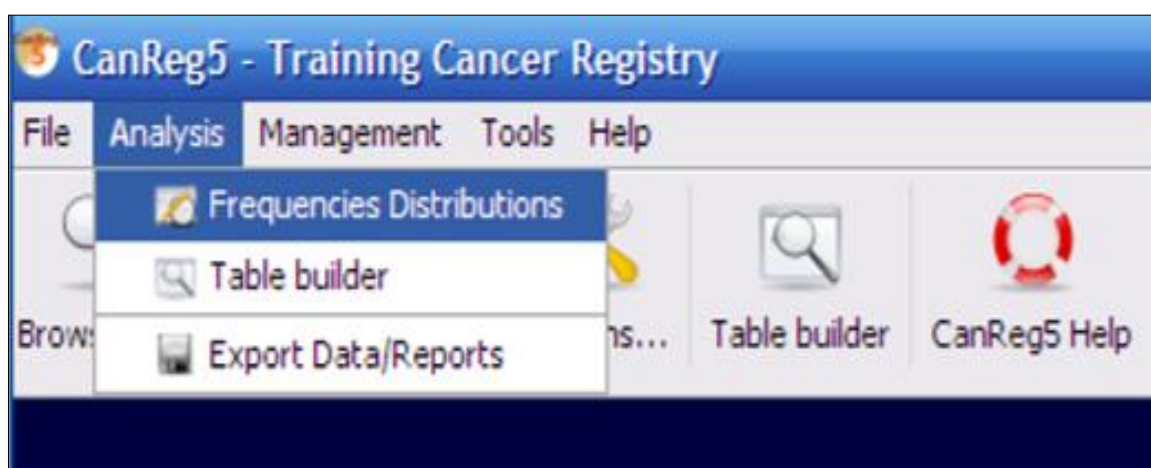
Data Analysis

Analysis

CanReg5 software has three main components under “Analysis” tab.

1. Frequencies distributions
2. Table builder
3. Export data/Reports

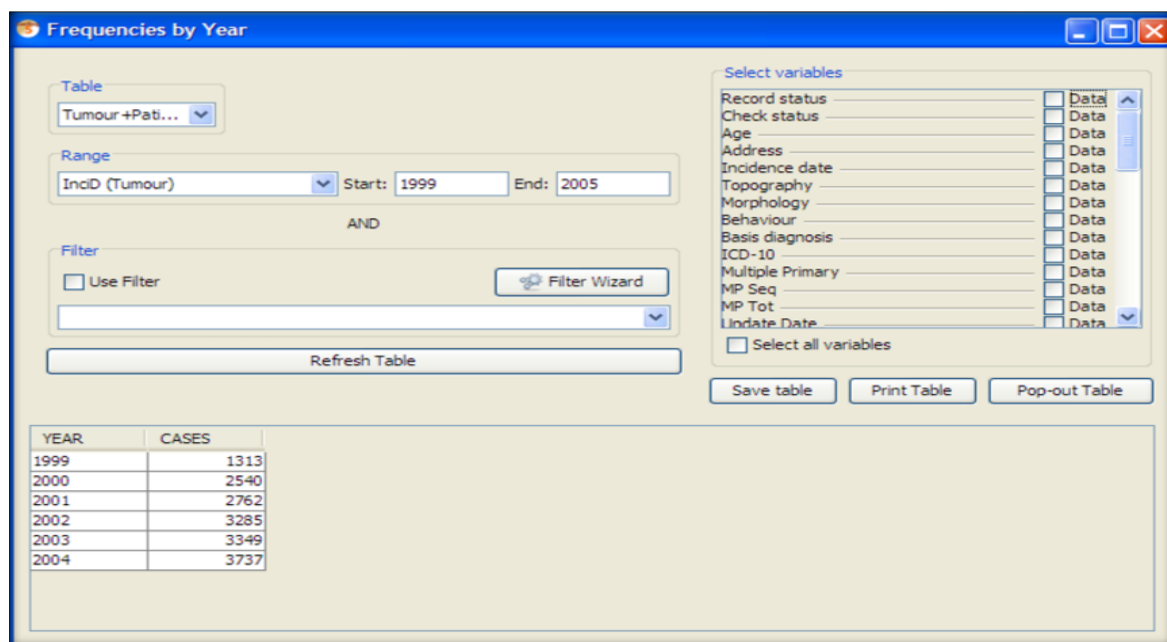
1. Frequencies distributions



Frequencies distributions allow you to express your data as number of cases per year. You can cross-tabulate them with multiple variables.

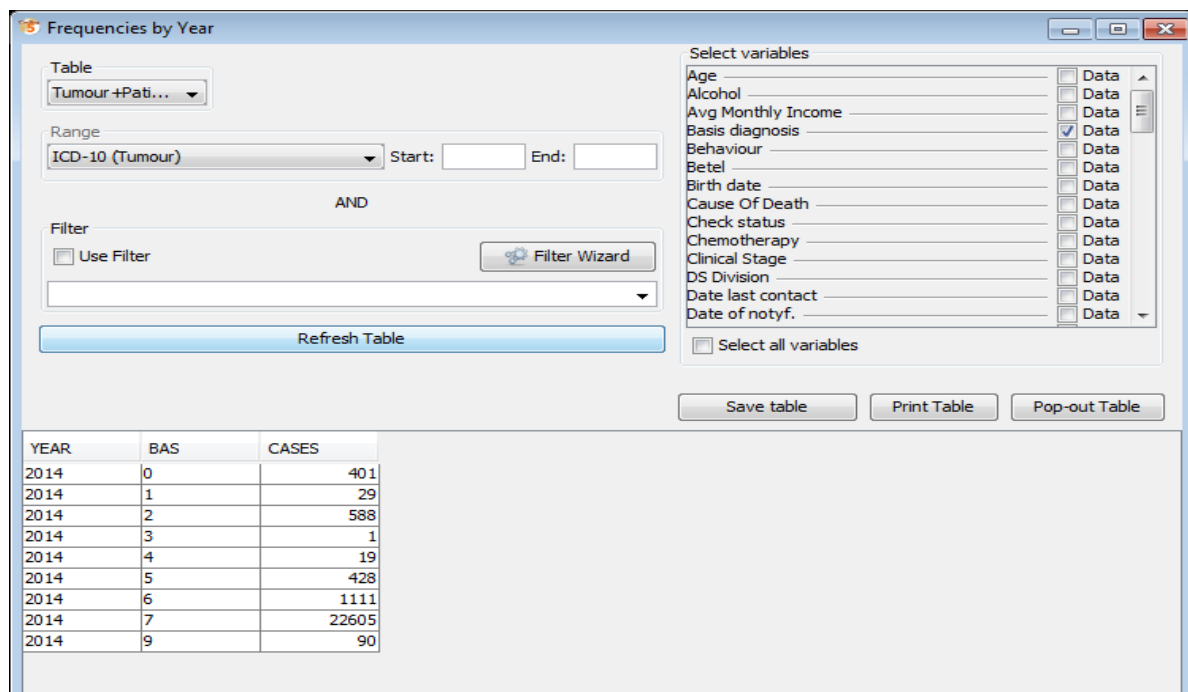
To start this module, go to **Analysis→ Frequencies Distributions**

1. If you click “Refresh table” with **no filter** and **no selected variables** you get a **table of cases per year**.



Another example of a frequency distribution is,

2. Number of cases with the **Basis of diagnosis**



- You can sort data based on any field by clicking its header. For example, by the number of cases;

YEAR	BAS	CASES
2014	3	1
2014	4	19
2014	1	29
2014	9	90
2014	0	401
2014	5	428
2014	2	588
2014	6	1111
2014	7	22605

Note:

Save the table in csv using “Save table” button

Or

Use “Ctrl+C” to copy a table and “Ctrl+V” to paste it.

- You can filter the result by adding a filter;
E.g. filter by incidence date.
- You can filter by adding as many variables as you want.
- With the “Save table” button you can write the table to a comma separated file (.CSV) which can be opened in most of other software (*Excel, Stata, R...*) for further analysis.
- The table can also be copied and pasted into other software like Excel. (There is no shortcut implemented to save using the “right-click” option yet, but you can select the lines you want and press Ctrl-C (on Windows and Linux) or Apple-C (on Mac) and paste it into other programs.

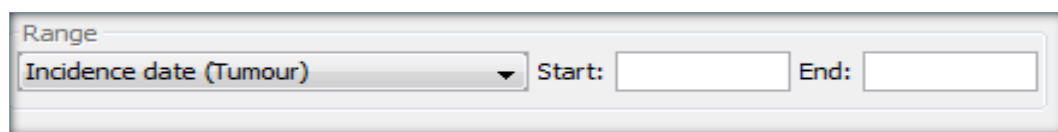
1.1 Filter/Filter wizard

Using filter option, we can analyse frequencies of different variables.

1.1.1 Range

You have to specify the starting and ending values for a "Range" as shown below.

- ❖ ^ Sort by Date of Incidence
 - ✓ ^ show records of year 2000 and 2001 only:
 - ✓ ^ Range = Incidence Date
 - ✓ ^ Range Start = 2000
 - ✓ ^ Range End = 20019999



1.1.2 Filter wizard

To select records. (Use "Range" as primary selection - it is quicker)

Operator	Description
=	Equal
<>	Not equal
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
BETWEEN	Between an inclusive range
LIKE	Search for a pattern (Use % as wildcard)
IN	If you know the exact value you want to return for at least one of the columns

Logical Operator	Description
AND	Match both criteria
OR	Match one of the criteria

E.g.

- sex = '1' (all males)
- age >= 60 (60 years and above)
- sex = '2' and age < 60 (females below 60 years)
- age BETWEEN 45 AND 60 (cases from 45 to 60 years including both extremities)
- age <15 OR age >60 (patients below 15 years OR above 60 years)
- name = 'Smith' (cases with the name Smith)
- name LIKE 'Sm%' (name begins with Sm)
- basis = '7' or Basis = '5' (Basis is 7 or 5)
- topog LIKE '50%' (for all breast related cases)

The filter wizard helps to build up filters. It is a fast method to specify filter, or selection criteria.

Frequencies by Year

Table: Tumour+Pati...

Range: ICD-10 (Tumour) Start: End:

AND

Filter: ☐ Use Filter **Filter Wizard**

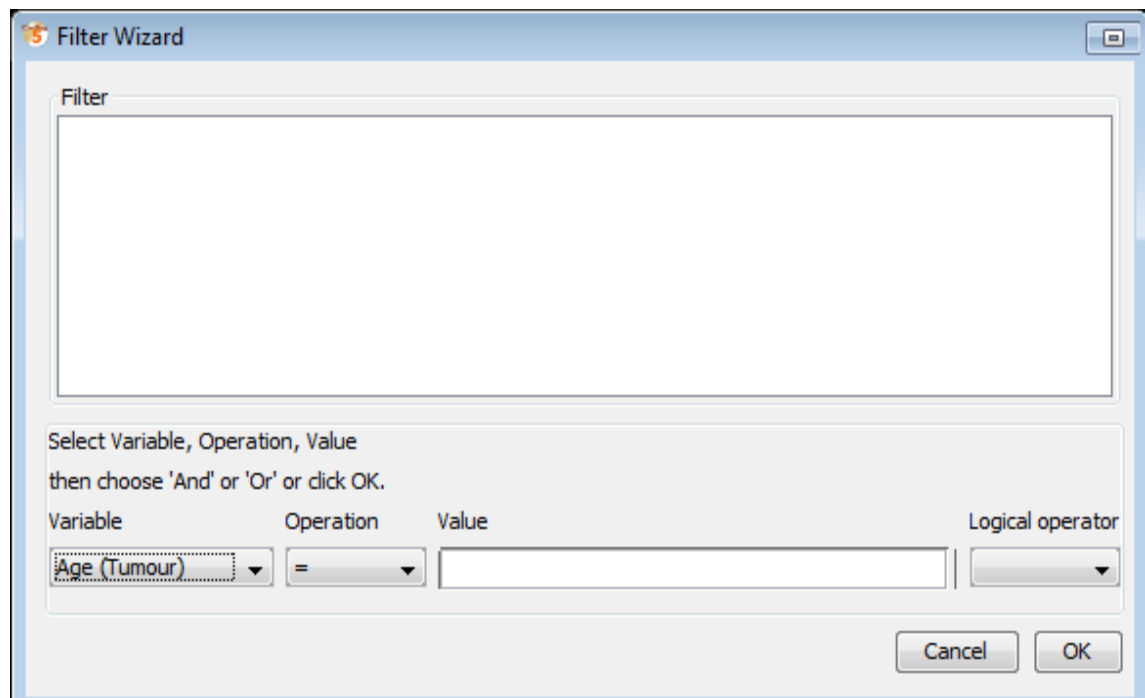
Refresh Table

Select variables:

- Age Data
- Alcohol Data
- Avg Monthly Income Data
- Basis diagnosis Data
- Behaviour Data
- Betel Data
- Birth date Data
- Cause Of Death Data
- Check status Data
- Chemotherapy Data
- Clinical Stage Data
- DS Division Data
- Date last contact Data
- Date of notyf. Data

☐ Select all variables

Save table Print Table Pop-out Table



E.g.

To select Females over 60 years old (Make sure you have selected Tumour + Patient table);
Launch Filter Wizard and click on...

- a. Variable - "Sex"
- b. Operator - "="
- c. Value - "Female" (from Dictionary)
- d. Logical Operator - "And"
- e. "Add"
- f. Variable - "Age"
- g. Operator - ">"
- h. Value - type "60"
- i. "Add"
- j. "OK"

For some combinations using "AND" and "OR" you may need to add brackets afterwards.

e.g.

Topog = `220' AND (Basis='1' OR Basis='2')

2. Table builder

Help to develop various type of tables, graphs and charts.

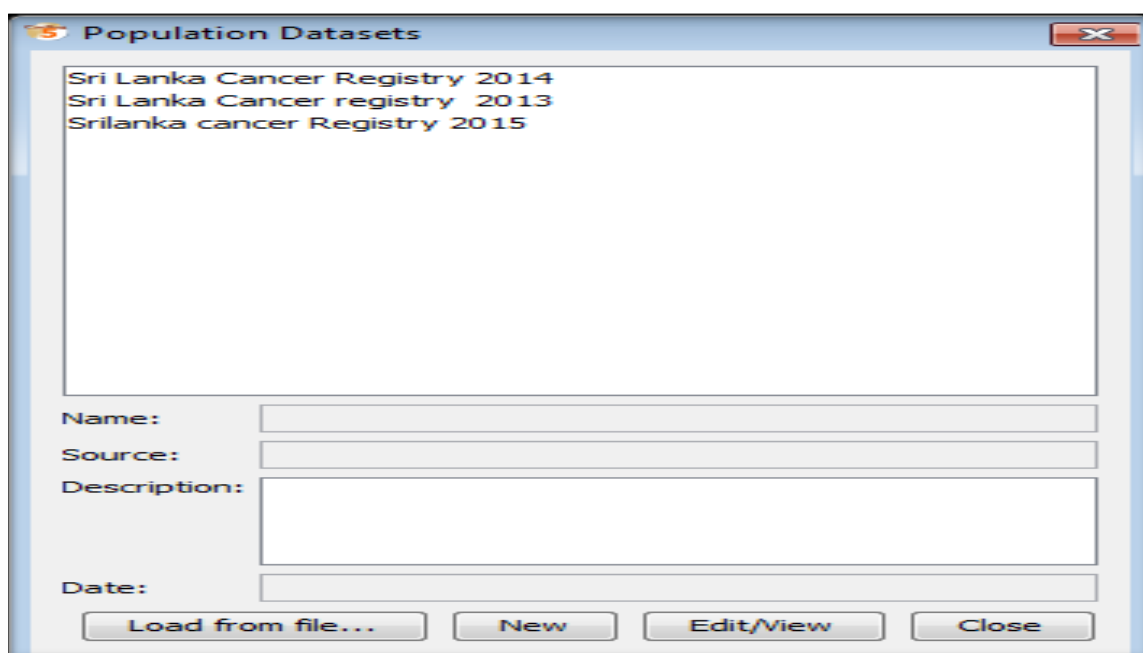
In order to create tables of incidence rates, we need to know the size of the population at risk. Therefore, a "Population Data Set" is needed to be uploaded to get Crude Incidence Rates and Age Standardised Rates by using **Table Builder**.

2.1 Population Dataset Editor

The Population Dataset editor helps to edit population data sets to be used in "Table builder". This is accessed as;

File → Data Entry Edit Population Dataset

When you open it, all population datasets will appear in the window.



Add a list by clicking "New". This opens the Population Dataset editor:

Population Data Set Editor

Details | Population Data Set | Pyramid

Name: Srilanka, 2021

Filter: Filter Wizard

Source: Department of Census and statistics

Description:

Age group structure: 0-4, 5-9, 10-14, 15-19, ..., 75+

Date: 20210107

Reference Population: World Standard Population

When the above window appears in the screen fill in the following details.

- A name for the dataset.
- "Filter" or selection criteria, so the program only selects records corresponding to that population (e.g. Address code ≥ 10 and Address code ≤ 19) [Basically, if it does not cover the entire area of your database].
- A source for this data set (e.g. whether Government Census, or Estimation).
- Some description (less than 255 characters).
- Choose the structure of the age group.
- Set the date when the population was at this amount.

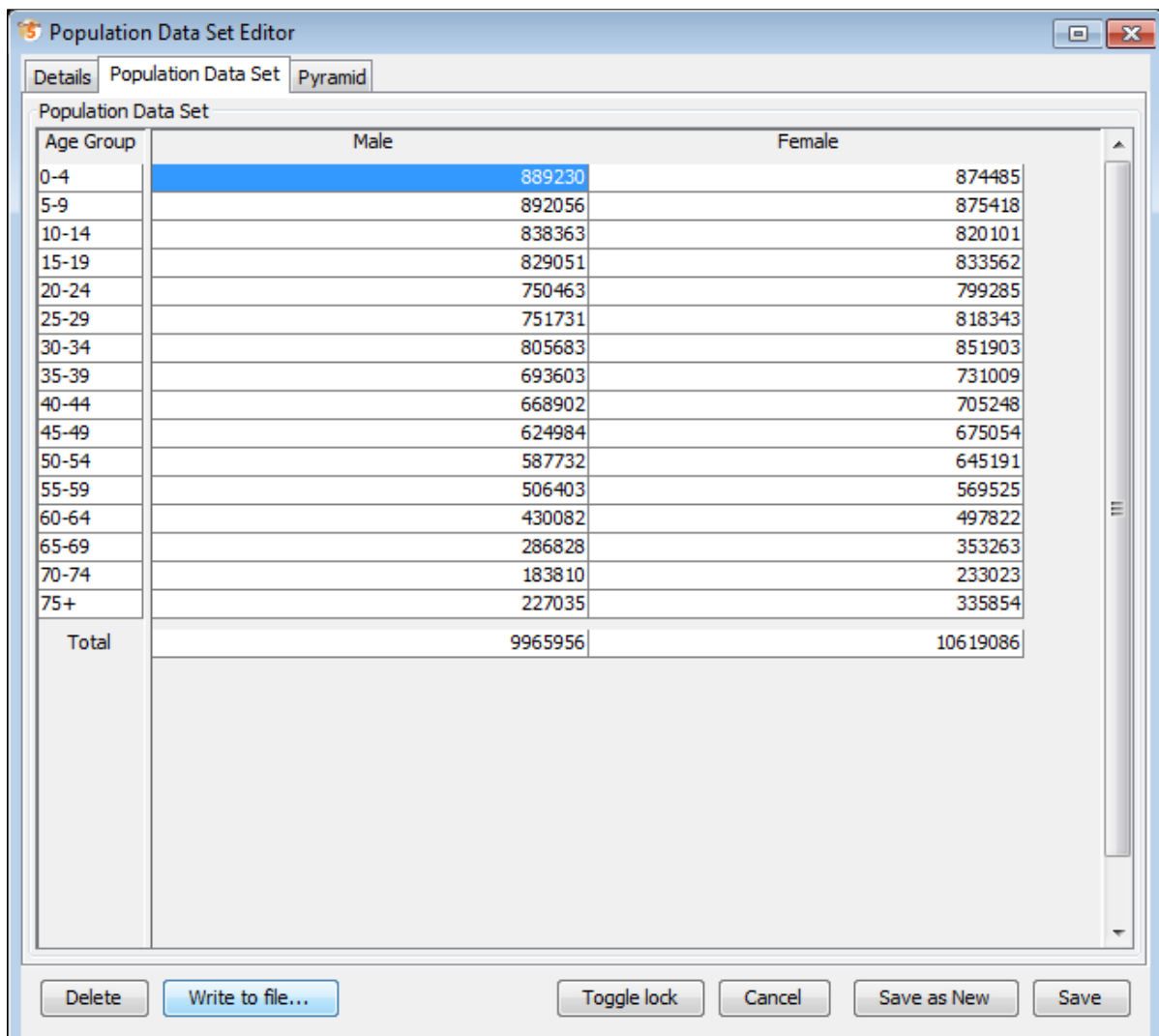
Set the date which corresponds to the population estimate selected.

- The Standard population used for ASRs when building tables with this data set.

The reference population used when calculating **Age Standardized Rates (ASR)** is selected as the "World standard population".

ASRs are calculated to compare rates between different countries which have different age profiles. Normally, the world standard population is included. (If you wish to change this,

choose another standard population or click on the reference population “Edit” button). Then the population dataset itself will appear.



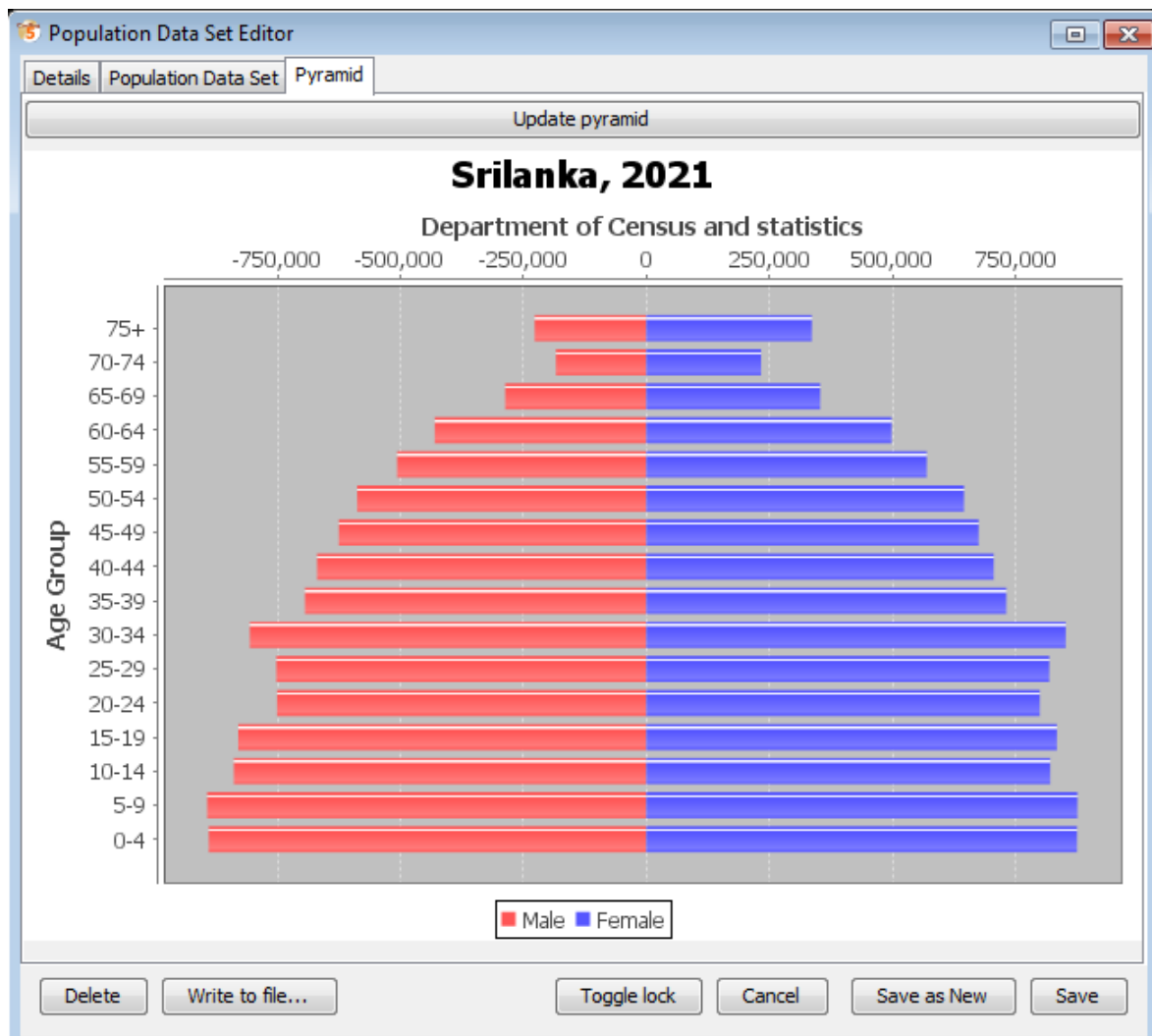
The screenshot shows a software window titled "Population Data Set Editor". It has three tabs: "Details", "Population Data Set" (which is selected), and "Pyramid". The main area displays a table with the following data:

Age Group	Male	Female
0-4	889230	874485
5-9	892056	875418
10-14	838363	820101
15-19	829051	833562
20-24	750463	799285
25-29	751731	818343
30-34	805683	851903
35-39	693603	731009
40-44	668902	705248
45-49	624984	675054
50-54	587732	645191
55-59	506403	569525
60-64	430082	497822
65-69	286828	353263
70-74	183810	233023
75+	227035	335854
Total	9965956	10619086

At the bottom of the window, there are five buttons: "Delete", "Write to file...", "Toggle lock", "Cancel", and "Save as New".

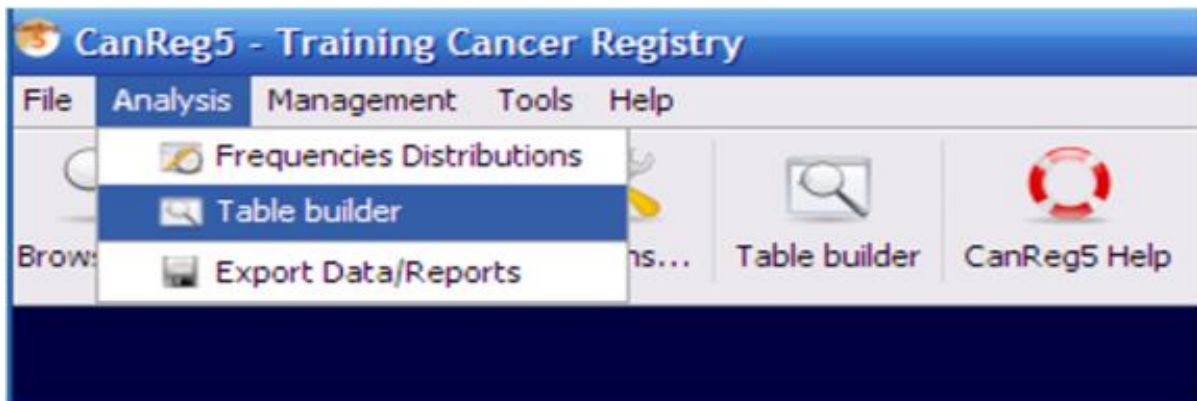
(Please note that you can copy and paste population datasets back and forth from general spreadsheets like Excel.)

- ✓ Click “save” to save your population dataset to the database.
- ✓ You can also visualize the population pyramid of the current population data set by selecting the “Pyramid” tab.



This can be saved to disk as an image by right-clicking on the image and choosing "Save as PNG..." and choosing a proper file name.

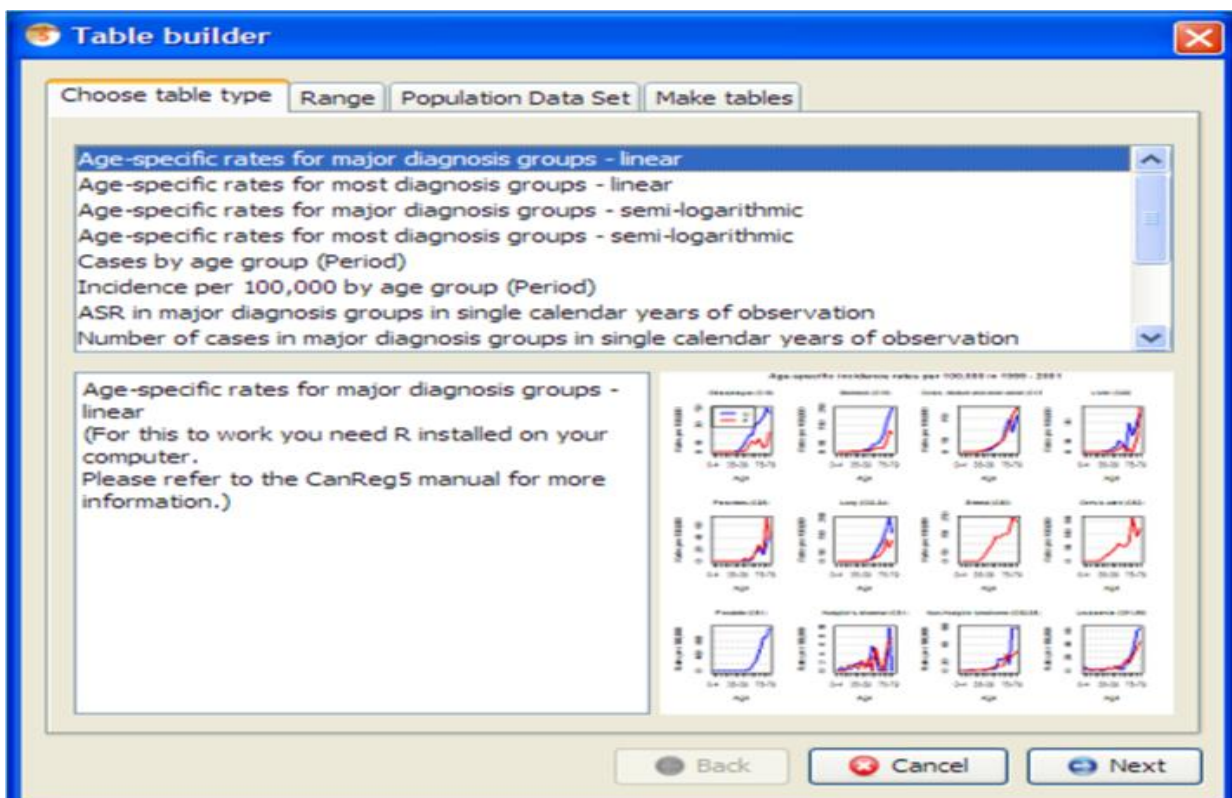
2.2 Table builder

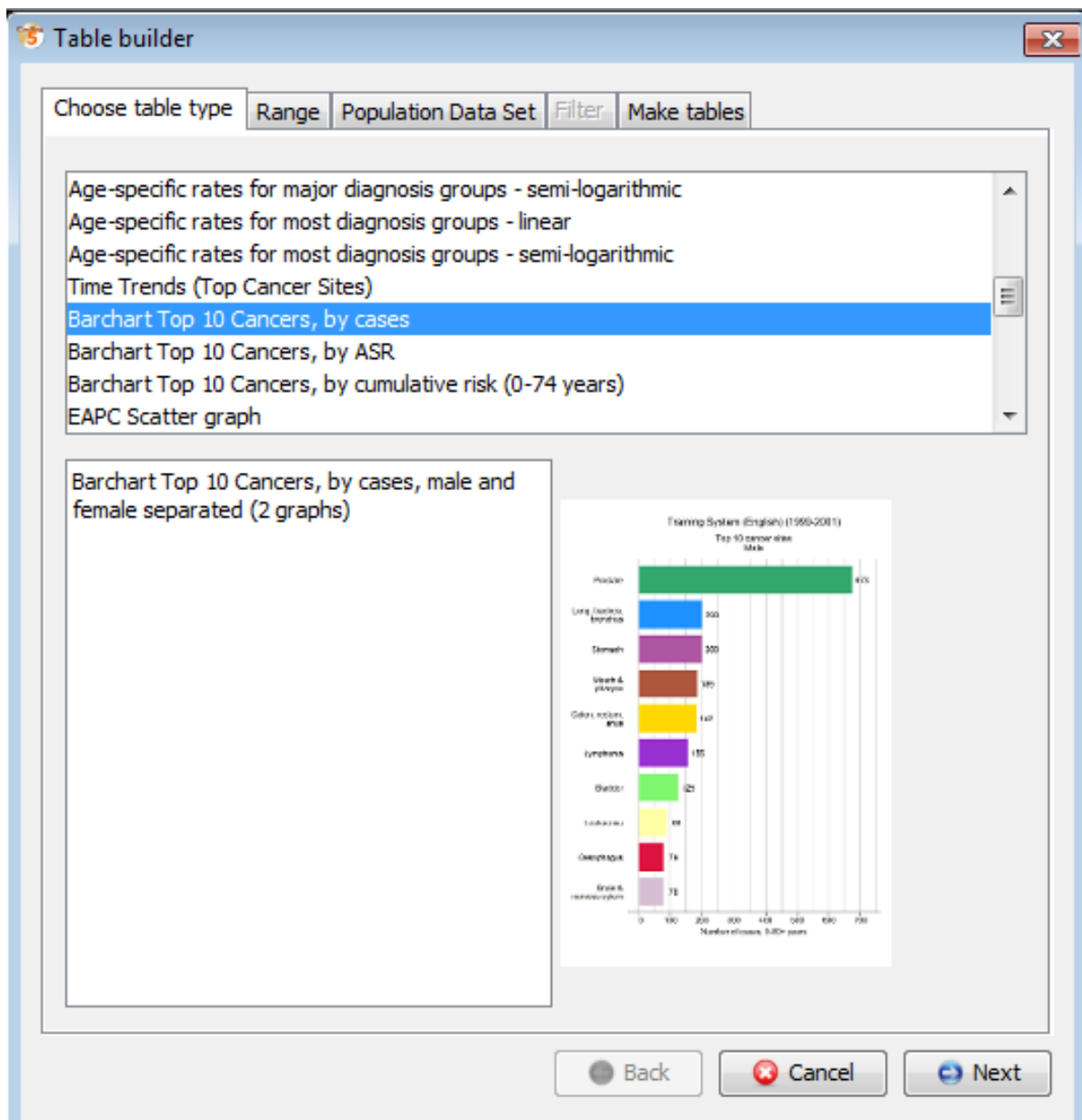


The Table builder lets you develop incidence tables etc. in CanReg. You can select it as, **Analysis -> table builder**

2.2.1 Example

When you open it, first select the type of table you want to develop. (Please note that all the tables in the list have not been implemented.)





The incidence rate is:

$$\frac{\text{Incidence cases per year}}{\text{Population at risk}} \times 100000$$

This gives an idea about the risk of getting each type of cancer - the tables consist of incidence rates by sex, age group and type of cancer (according to ICD10).

Click on "Range" option and to set it according to your requirements. Here we are going to see the "Sri Lanka cancer registry 2014".

Table builder

Choose table type | **Range** | Population Data Set | Filter | Make tables

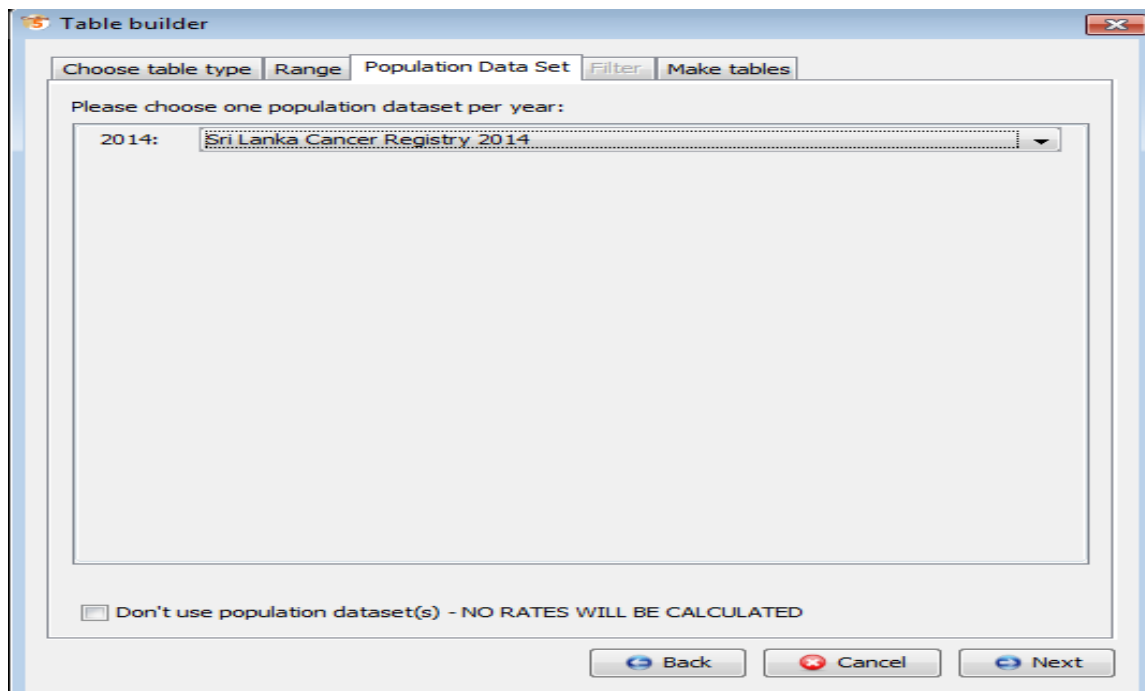
Start year: 2014

End year: 2014

Mid-year: 2014

Number of years: 1

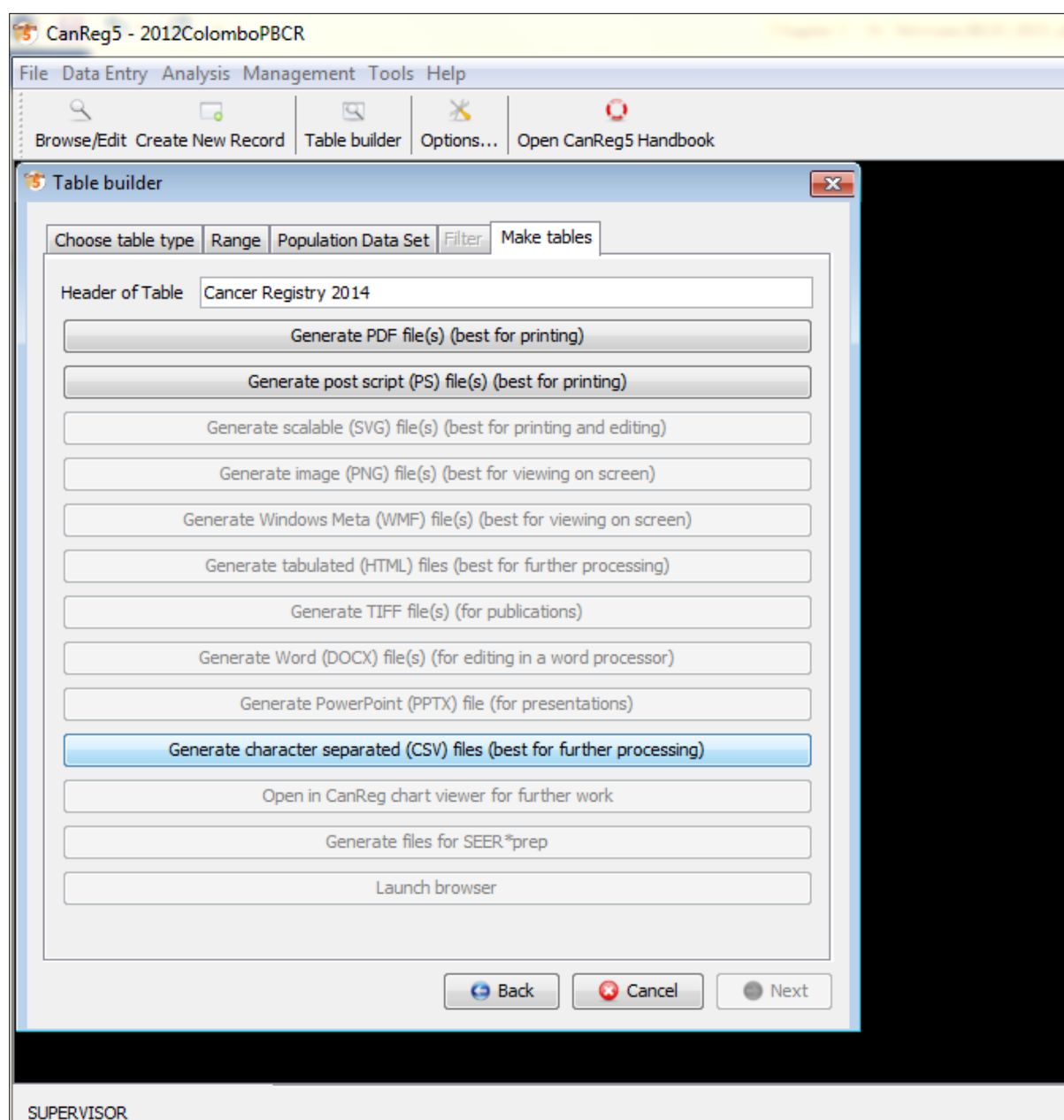
Back Cancel Next



- Then you can select “Make tables” tab to generate the actual tables.
There are three options and according to the requirement you can select one option.
E.g.
- Click “Generate post script (PS) files” and select a file name. (If the table generates more than one file.)
- You will get a message saying, “Tables built.”
- Click OK and if you have a program that can read PostScript files, the tables will be displayed after you press OK. (You might have to go to the Orientation menu in *GSView* and select “Portrait” to get the table in the proper orientation.)

2.3 File formats

Various tables can be generated in various file formats, depending on what they support.



E.g.

I. Cases of Cancer (Frequency)

2012ColomboPBCR (2014)																			
Sri Lanka Cancer Registry 2014																			
Cases by age group (Period) - Female																			
SITE	ALL AGE AGES UNK	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	(%)	ICD (10a)
Lip	14 0	-	-	-	-	-	-	1	4	5	1	1	3	5	1	-	3	0.1	C00
Tongue	138 0	-	-	-	-	-	1	4	5	5	11	21	16	21	16	13	25	1.1	C01.02
Mouth	377 0	-	-	-	2	2	2	3	4	14	23	39	48	46	68	57	69	2.9	C03.06
Salivary glands	58 0	1	-	-	-	2	2	5	3	5	5	7	7	8	5	5	3	0.4	C07.08
Tonsil	14 0	-	-	-	-	-	-	1	-	2	-	2	2	2	2	2	1	0.1	C09
Other oropharynx	16 0	-	-	-	-	-	-	-	-	-	1	2	2	1	3	6	1	0.1	C10
Nasopharynx	11 0	-	-	-	1	3	2	-	-	-	-	-	-	3	-	-	-	0.1	C11
Hypopharynx	72 0	-	-	-	-	-	-	-	-	1	4	7	8	18	15	10	9	0.6	C12.13
Pharynx unspecified	22 0	-	-	-	-	-	-	-	-	-	2	3	1	4	2	6	4	0.2	C14
Oesophagus	712 2	-	-	-	1	1	-	2	6	11	35	70	80	132	115	110	147	5.5	C15
Stomach	219 0	-	-	1	1	2	1	-	4	10	7	30	30	27	44	29	33	1.7	C16
Small intestine	40 0	-	-	1	-	4	0	1	5	1	4	13	5	5	5	1	4	0.3	C17
Colon	471 2	-	-	-	1	6	-	7	12	18	29	35	49	69	66	55	67	3.6	C18
Rectum	494 0	-	-	-	-	-	3	12	18	27	39	57	75	77	77	50	59	3.8	C19.20
Anus	39 0	-	-	-	-	-	-	-	-	-	1	6	6	6	9	8	6	0.3	C22
Liver	87 1	3	2	-	-	-	-	3	1	2	-	9	8	14	16	18	10	0.7	C22
Gallbladder etc.	91 0	-	-	-	-	-	-	1	5	3	5	18	11	17	10	14	7	0.7	C23.24
Pancreas	73 1	-	-	-	-	1	-	-	4	5	7	3	10	12	13	7	10	0.6	C25
Nose, sinuses etc.	31 0	1	-	-	-	-	-	2	2	3	3	4	9	-	-	3	2	0.2	C30.31
Larynx	51 0	-	1	-	-	-	-	-	2	1	1	7	7	11	13	6	2	0.4	C32
Trachea, bronchus and lung	325 1	1	-	-	-	3	3	4	16	16	26	35	46	64	39	38	33	2.5	C33.34
Other thoracic organs	20 0	1	-	-	-	-	1	-	-	2	4	1	4	4	1	-	2	0.2	C37.38
Bone	61 0	1	3	11	13	1	4	3	1	2	2	6	2	5	2	3	2	0.5	C40.41
Melanoma of skin	43 0	-	-	-	-	1	1	1	-	-	2	5	4	6	6	6	11	0.3	C43
Other skin	192 1	-	-	-	3	-	1	-	2	3	12	30	19	26	23	29	43	1.5	C44
Mesothelioma	3 0	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	0.0	C45
Kaposi sarcoma	0 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	C46
Connective and soft tissue	119 1	11	5	2	3	4	4	4	9	11	12	11	11	12	8	5	6	0.9	C47.C49
Breast	3289 6	-	-	-	-	10	28	83	183	325	443	506	494	444	343	225	199	25.2	C50
Vulva	44 0	-	-	-	-	-	2	2	-	2	1	3	8	4	4	2	16	0.3	C51
Vagina	62 0	1	-	-	1	-	-	-	-	2	4	6	7	8	9	6	18	0.5	C52
Cervix uteri	1090 0	-	-	-	-	-	4	8	35	66	128	168	165	170	134	98	114	8.3	C53
Corpus uteri	563 0	-	-	-	-	1	1	11	7	16	21	75	123	124	94	60	30	4.3	C54
Uterus unspecified	98 0	-	-	-	-	-	-	1	-	8	9	19	10	18	17	9	7	0.8	C55
Ovary	957 0	2	2	5	12	20	19	30	28	69	96	161	154	129	96	71	54	7.3	C56
Other female genital organs	30 1	-	-	-	-	-	-	-	2	5	9	5	3	2	2	1	-	0.2	C57
Placenta	9 0	-	-	-	-	-	2	3	1	1	1	-	-	-	-	-	-	0.1	C58
Kidney	78 0	12	2	-	1	-	-	1	2	6	4	8	10	8	7	10	7	0.6	C64
Renal pelvis	2 0	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	0.0	C65
Ureter	4 0	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	0.0	C66
Bladder	108 0	1	-	-	-	-	2	-	1	4	5	7	13	17	19	15	24	0.8	C67
Other urinary organs	0 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	C68
Eye	29 0	18	1	-	-	-	-	-	-	1	1	3	2	2	1	1	1	0.2	C69
Brain, nervous system	161 0	5	11	12	7	7	4	35	5	13	16	13	17	15	6	9	6	1.2	C70.72
Thyroid	1432 5	-	2	10	39	63	118	198	209	203	139	150	73	84	50	55	34	11.0	C73
Adrenal gland	15 0	9	-	-	-	-	-	-	-	-	2	1	1	1	1	-	1	0.1	C74
Other endocrine	3 0	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	0.0	C75
Hodgkin disease	74 0	-	-	2	8	13	10	4	6	3	4	5	5	5	3	1	5	0.6	C81
Non-Hodgkin lymphoma	331 0	6	2	3	10	7	17	4	12	16	39	27	20	52	44	39	33	2.5	C82-85.C86
Immunoproliferative diseases	2 0	-	-	-	-	-	-	-	-	1	4	12	29	27	36	26	22	0.0	C88
Multiple myeloma	183 0	-	-	-	-	-	-	-	-	-	4	12	29	27	36	26	22	1.4	C90
Lymphoid leukaemia	116 0	29	16	15	5	2	-	2	2	8	2	7	4	7	4	5	8	0.9	C91
Myeloid leukaemia	194 0	5	1	3	7	5	9	12	15	12	20	21	14	19	16	18	17	1.5	C92-94
Leukaemia unspecified	8 0	-	-	1	-	-	-	-	-	-	1	2	1	2	1	-	-	0.1	C95
Myeloproliferative disorders	6 0	-	-	-	-	-	-	-	1	-	-	2	-	2	-	-	1	0.0	M1D
Myelodysplastic syndromes	25 0	-	-	1	-	-	-	-	-	-	1	2	1	4	5	3	6	0.2	M2S
Other and unspecified	546 4	5	2	-	1	1	2	14	14	24	41	75	52	91	77	68	69	4.2	O&U
All sites	13248 25	113	51	67	122	149	250	451	625	936	1237	1723	1696	1854	1509	1209	1231	100.0	ALL
All sites but C44	13056 24	113	51	67	119	149	249	451	623	933	1225	1693	1677	1828	1486	1180	1188	100.0	ALLIC44

Table built Sat Jun 09 11:19:42 IST 2021 by CanReg5.

II. Cancer Incidence data

Cancer Registry 2014																								
Sri Lanka Cancer Registry 2014																								
Incidence per 100,000 by age group (Period) - Male																								
SITE	ALL AGE	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75+	CRUDE RATE	(%)	CUM 0-64	CUM 65-74	ASR	ICD (10th)	
Lip	70 1	-	-	-	-	-	-	0.3	0.9	0.6	2.2	1.8	2.5	2.8	4.9	3.1		0.7	0.6	0.04	0.08	0.6	C00	
Tongue	652 0	-	-	-	-	0.1	0.1	0.9	2.3	6.4	13.2	17.9	20.7	23.3	28.7	27.5	23.6	6.5	5.5	0.42	0.70	5.9	C01-C02	
Mouth	1201 1	-	0.1	0.1	-	-	-	0.4	1.1	1.7	8.6	14.9	24.3	36.8	44.0	63.9	77.1	11.9	10.2	0.66	1.37	11.0	C03-C06	
Salivary glands	108 1	-	-	0.8	0.2	0.3	0.1	1.0	1.0	1.3	0.8	2.2	2.2	1.8	4.1	4.9	5.7	1.1	0.9	0.06	0.10	1.0	C07-C08	
Tonsil	182 0	-	-	-	-	-	-	-	1.5	3.2	7.8	4.3	6.5	6.9	9.2	7.9		1.8	1.5	0.12	0.20	1.7	C09	
Other oropharynx	132 0	-	-	-	-	-	0.1	-	0.7	1.7	3.4	3.7	3.5	6.9	10.2	1.7		1.3	1.1	0.08	0.17	1.1	C10	
Nasopharynx	36 0	-	-	-	-	0.1	0.1	-	-	0.1	0.5	1.2	0.6	0.7	2.4	4.3	0.9	0.4	0.3	0.02	0.05	0.3	C11	
Hypopharynx	271 0	-	-	-	-	-	-	-	0.4	1.6	3.0	6.1	8.2	12.0	11.4	18.9	17.5	2.3	2.0	0.16	0.31	2.5	C12-C13	
Pharynx unspecified	78 0	-	-	-	-	-	-	-	0.4	1.1	1.7	3.7	2.3	2.8	3.8	6.1		0.8	0.7	0.05	0.08	0.7	C14	
Oesophagus	903 3	-	-	-	-	-	-	0.6	1.3	2.8	8.7	17.4	28.8	33.9	55.3	71.2	53.7	9.0	7.7	0.47	1.10	9.4	C15	
Stomach	385 2	-	-	-	-	0.1	-	0.1	0.9	0.9	3.2	8.8	12.9	14.5	23.5	33.4	16.6	3.8	3.3	0.21	0.49	3.6	C16	
Small intestine	40 0	-	-	-	-	-	-	-	0.3	-	0.5	0.8	0.8	2.5	2.1	1.6	2.6	0.4	0.3	0.02	0.04	0.4	C17	
Colon	356 0	-	-	0.1	0.4	0.1	0.5	1.1	1.4	2.4	4.0	6.6	7.8	13.8	18.3	27.0	19.6	3.5	3.0	0.19	0.42	3.3	C18	
Rectum	444 2	-	-	-	-	0.1	0.4	1.1	1.4	2.8	3.2	4.6	11.7	18.4	24.2	38.8	31.0	4.4	3.8	0.22	0.54	4.1	C19-C20	
Anus	60 0	-	-	-	-	-	-	-	0.1	0.3	0.2	1.2	1.0	1.8	3.5	7.0	5.7	0.6	0.5	0.02	0.08	0.6	C21	
Liver	247 4	0.8	0.1	-	0.1	-	-	0.4	0.3	0.1	1.9	4.0	5.3	10.1	15.2	24.3	14.0	2.5	2.1	0.12	0.32	2.4	C22	
Gallbladder etc.	76 0	-	-	-	-	-	0.1	0.2	0.1	0.1	1.4	1.9	2.5	2.8	4.1	4.9	2.2	0.8	0.6	0.05	0.09	0.7	C23-C24	
Pancreas	86 0	-	-	-	-	0.1	0.1	0.1	0.1	0.4	1.1	2.9	1.4	5.1	3.5	4.3	3.5	0.9	0.7	0.06	0.10	0.8	C25	
Nose, sinuses etc.	82 0	0.2	0.1	-	0.1	0.1	-	-	0.6	0.6	0.8	1.7	1.4	2.5	6.2	6.5	2.2	0.8	0.7	0.04	0.10	0.8	C30-C31	
Larynx	571 0	-	-	-	-	-	0.1	-	0.6	1.0	5.5	11.3	17.6	27.9	31.8	44.2	27.9	5.7	4.9	0.33	0.71	5.3	C32	
Trachea, bronchus and lung	1156 3	-	-	-	-	-	0.3	0.7	0.5	1.6	4.1	9.4	19.6	36.6	55.1	81.5	78.2	11.5	9.8	0.64	1.44	10.7	C33-C34	
Other thoracic organs	34 0	0.1	0.1	0.2	0.1	0.1	0.3	0.7	0.1	0.1	0.3	0.5	1.0	0.5	1.4	0.5	0.4	0.3	0.3	0.02	0.03	0.3	C37-C38	
Bone	85 0	0.2	0.4	2.1	1.4	1.2	0.4	0.9	0.1	0.4	0.6	0.5	0.6	1.4	1.4	1.1	1.7	0.8	0.7	0.05	0.06	0.8	C40-C41	
Melanoma of skin	54 0	-	-	0.1	0.1	-	-	0.2	0.4	-	1.1	0.5	1.2	2.1	2.8	2.7	3.9	0.5	0.5	0.03	0.06	0.5	C43	
Other skin	257 0	0.1	0.1	-	-	0.4	0.4	0.5	1.6	1.8	3.2	4.7	6.8	10.4	8.3	16.2	16.2	2.6	2.2	0.15	0.28	2.4	C44	
Mesothelioma	6 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.00	0.01	0.1	C45	
Kaposi sarcoma	1 0	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.0	0.0	0.00	0.00	0.0	C46	
Connective and soft tissue	117 0	0.2	0.3	0.4	0.6	0.5	0.5	1.4	0.7	1.3	1.6	2.4	2.3	2.3	2.1	5.9	3.5	1.2	1.0	0.07	0.11	1.1	C47-C49	
Breast	72 1	-	-	-	-	-	0.1	0.1	0.4	0.9	0.8	1.3	1.6	2.5	2.8	5.4	4.4	0.7	0.6	0.04	0.08	0.7	C50	
Benign	97 0	-	-	-	-	-	-	0.4	0.3	1.2	1.3	2.2	2.7	3.2	4.1	4.9	6.1	1.0	0.8	0.06	0.10	0.9	C80	
Prostate	791 2	-	-	-	-	-	-	0.1	0.3	0.1	0.6	3.4	11.0	26.0	57.4	94.9	109.1	7.9	6.7	0.21	0.97	7.5	C51	
Testis	54 0	0.9	0.2	-	0.2	0.5	1.3	0.9	0.6	0.7	0.2	0.3	0.4	1.2	0.3	-	0.4	0.5	0.5	0.04	0.04	0.5	C62	
Other male genital organs	11 0	-	-	-	-	-	-	-	-	-	0.2	0.2	0.2	0.5	0.7	1.6	0.4	0.1	0.1	0.00	0.02	0.1	C63	
Kidney	217 0	0.9	0.1	0.1	0.1	-	0.3	0.7	1.9	1.8	1.9	4.2	6.1	8.5	10.0	12.4	7.0	2.2	1.8	0.13	0.25	2.0	C64	
Renal pelvis	4 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.00	0.00	0.0	C65	
Ureter	1 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.00	0.00	0.0	C66	
Bladder	442 1	-	-	-	-	0.1	0.3	0.1	1.1	1.5	3.3	6.4	11.5	18.2	27.6	35.0	35.6	4.4	3.8	0.27	0.53	4.1	C67	
Other urinary organs	4 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.00	0.00	0.0	C68	
Eye	23 0	1.4	0.2	-	-	-	-	0.2	0.1	-	0.2	-	-	-	-	-	1.3	0.2	0.2	0.01	0.01	0.3	C69	
Brain, nervous system	217 1	1.0	1.8	0.9	0.5	0.7	0.7	2.3	2.0	3.6	2.4	4.2	3.3	5.3	4.5	6.5	3.1	2.2	1.8	0.14	0.20	2.0	C70-C72	
Thyroid	310 0	-	-	0.1	1.2	2.9	2.5	4.1	5.1	4.7	4.6	4.6	5.5	6.0	5.5	8.1	7.0	3.1	2.6	0.21	0.27	1.8	C73	
Adrenal gland	14 0	0.3	0.3	-	-	0.1	0.1	-	-	-	-	-	-	0.2	0.5	0.7	-	0.1	0.1	0.01	0.01	0.2	C74	
Other endocrine	4 0	-	-	0.1	0.1	-	-	-	-	-	-	-	-	-	0.2	-	-	0.0	0.0	0.00	0.00	0.0	C75	
Hodgkin disease	104 0	0.2	0.2	0.1	0.4	2.2	0.9	1.1	0.6	1.5	1.0	1.9	0.4	2.5	2.1	2.7	3.5	1.0	0.9	0.06	0.09	1.0	C81	
Non-Hodgkin lymphoma	479 2	1.3	1.0	1.1	1.3	1.7	1.3	1.5	2.4	3.1	5.7	7.6	8.8	17.5	21.1	23.7	24.4	4.8	4.1	0.27	0.50	4.5	C82-C85, C96	
Immunoproliferative diseases	3 0	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	0.0	0.0	0.00	0.00	0.0	C86	
Multiple myeloma	208 0	-	-	-	0.1	-	-	0.2	0.1	2.2	4.2	6.3	8.3	13.8	16.2	11.3		2.1	1.8	0.11	0.26	1.9	C90	
Lymphoid leukaemia	206 0	4.1	4.6	1.7	2.4	0.9	0.9	1.6	0.6	1.5	1.1	1.0	1.6	1.6	4.5	1.6	3.9	2.0	1.8	0.12	0.15	2.2	C91	
Myeloid leukaemia	243 0	0.8	0.6	0.6	1.3	1.6	1.3	1.5	2.0	2.1	4.0	3.0	4.3	5.8	9.3	6.5	10.5	2.4	2.1	0.14	0.22	1.3	C92-C94	
Leukaemia unspecified	16 0	-	-	0.1	0.2	0.1	0.1	0.5	-	-	-	-	-	0.2	1.7	-	-	0.2	0.1	0.01	0.02	0.2	C95	
Myeloproliferative disorders	4 0	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.5	-	0.5	-	-	0.00	0.00	0.01	0.0	M9D
Myelodysplastic syndromes	17 0	0.1	-	-	-	-	-	-	-	-	-	-	-	0.2	1.2	0.3	2.2	0.2	0.1	0.01	0.02	0.2	M1S	
Other and unspecified	793 5	0.2	0.4	0.1	0.5	0.3	1.2	1.0	1.1	4.6	9.4	16.4	20.2	29.0	46.3	52.8	44.5	7.9	6.7	0.42	0.92	7.4	C96-U	
All sites	12024 29	13.0	10.8	9.0	11.5	15.3	15.6	27.9	37.6	68.9	124.8	217.3	308.1	441.4	629.8	803.3	672.2	119.5	100.0	6.37	13.43	109.7	ALL	
All sites but C44	11767 29	12.9	10.7	9.0	11.5	14.9	15.2	27.4	36.0	67.1	121.6	212.6	301.3	431.1	620.5	787.1	656.0	117.0	100.0	6.37	13.43	109.7	ALL-CH	

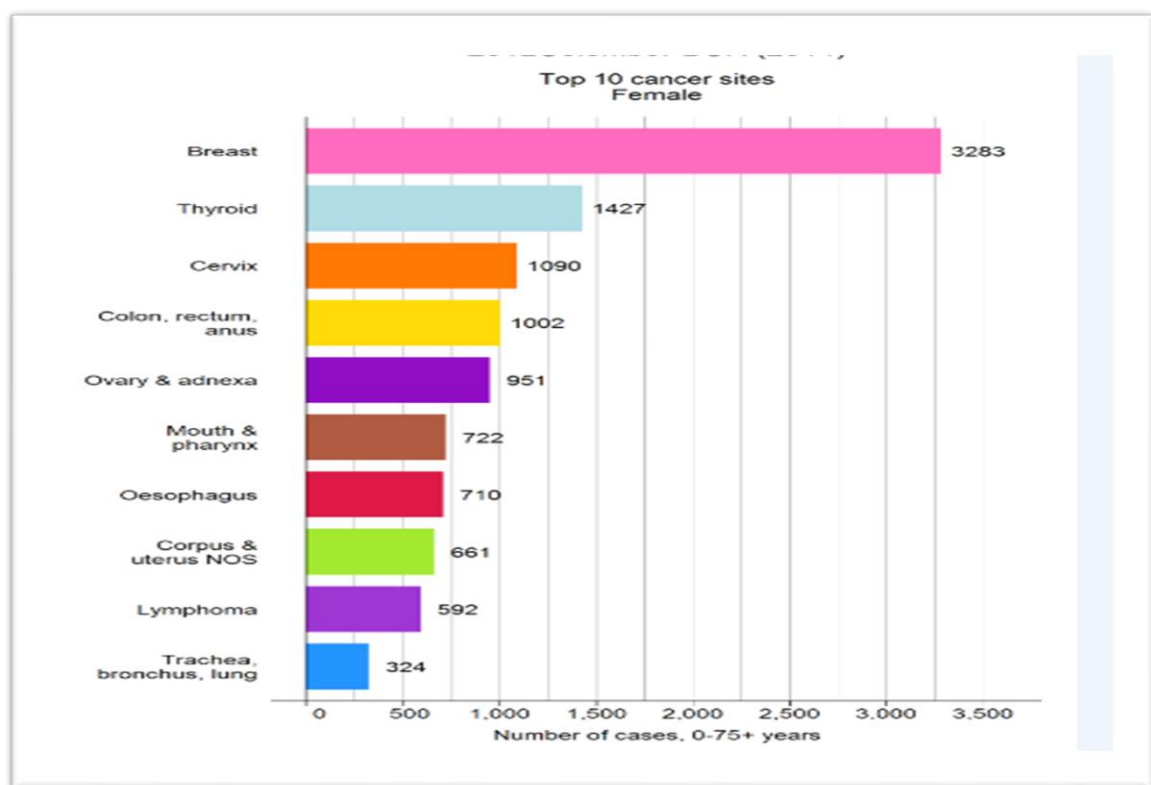
Reference population: World Standard Population

Table built Sat Jan 09 10:36:33 IST 2021 by CanReg5.

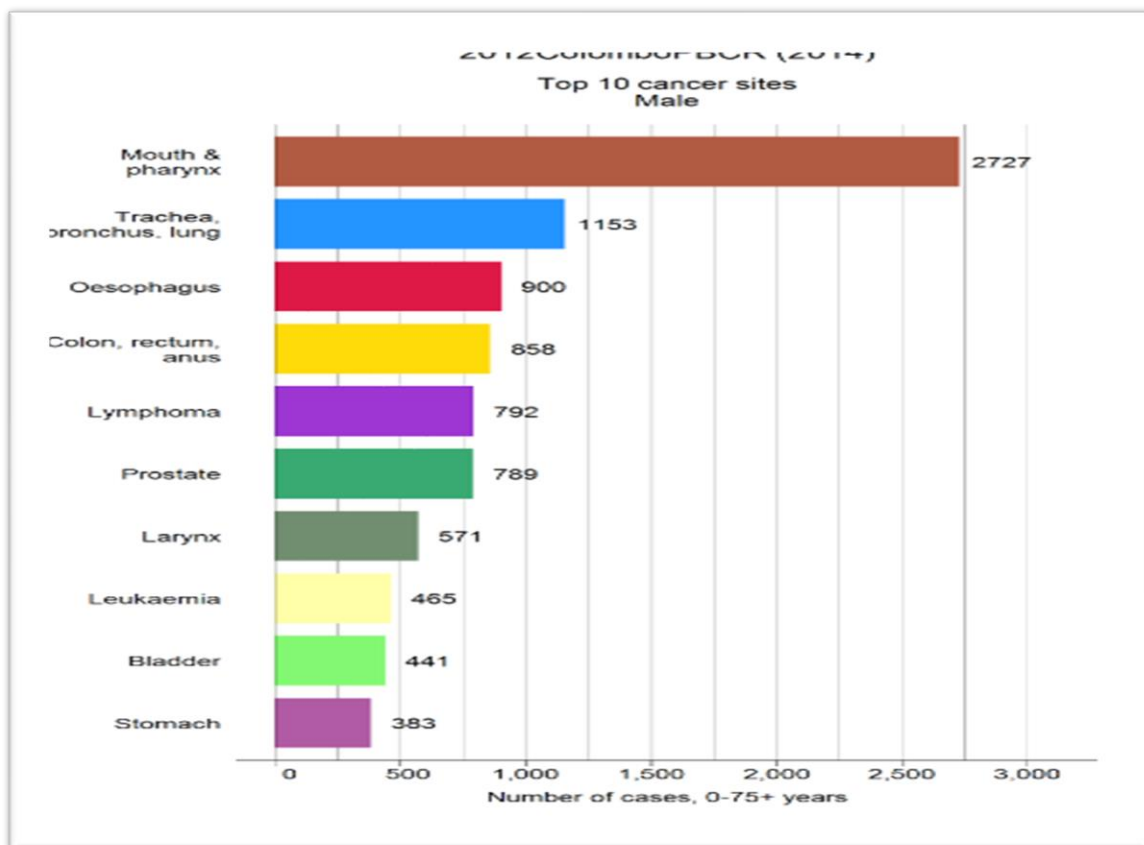
, Reference population: World Standard Population

Table built Sat Jan 09 10:36:33 IST 2021 by CanReg5.

III. Top 10 cancer sites: female and male



3. Export data



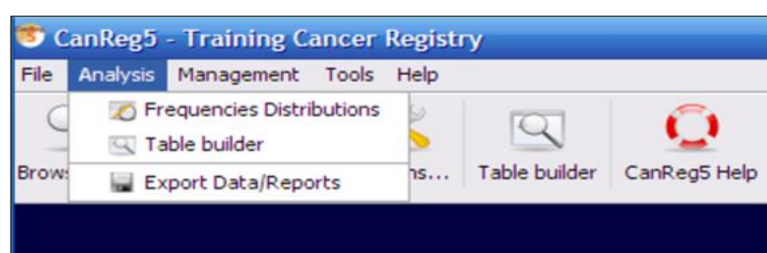
CanReg5 software has the facility to export data or reports to external text /csv file. This can be as a complete data set or a partial data set.

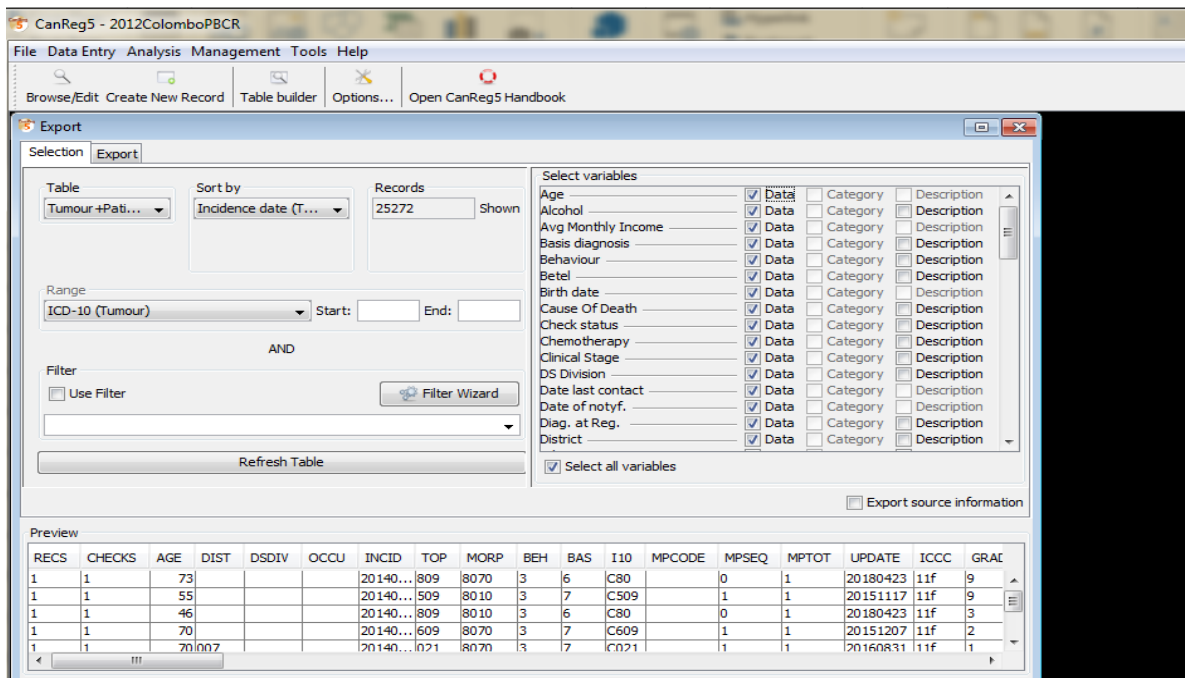
There are two main uses of exporting data:

- ✓ To import the file into another program (e.g. *Stata*, *SPSS*, a general spreadsheet like *Excel* or *Calc* or *Access*) for further analysis.
- ✓ To produce a report, or case listings that could be read into Word and printed out.

To export a data set, go to **Analysis -> Export Data/Reports:**

The following screen will appear.





Use following steps to export CanReg data;

- Specify the records you want to select using “Filter” & “Range” options, and the order using the “Sort” option
- Select the variables to display.
- Choose the variable headers to include.
- Choose the suitable File format and the date format depending on your requirements
- Then go to → **“Export”**

3.1 Variables

Select variables

Record status	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Check status	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Age	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Address	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Incidence date	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Topography	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Morphology	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Behaviour	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Basis diagnosis	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
ICD-10	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
Multiple Primary	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
MP Seq	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate
MP Tot	<input type="checkbox"/>	Data	<input type="checkbox"/>	Cate

☐ Select all variables

- Select the variables you need to export.
- Tick the boxes next to the variable name to select (or deselect). They will appear in the data grid after you click “refresh table” option. (Note: Even though you select to export the category names or descriptions, they only show up as codes in the preview window.)
- You can drag the grid columns to change the order of the variables.
- Click on "All variables" to select all of them.

3.2 Options

Options

☐ Titles (Heading)

Short Variable names

File format: Tab Separated Values

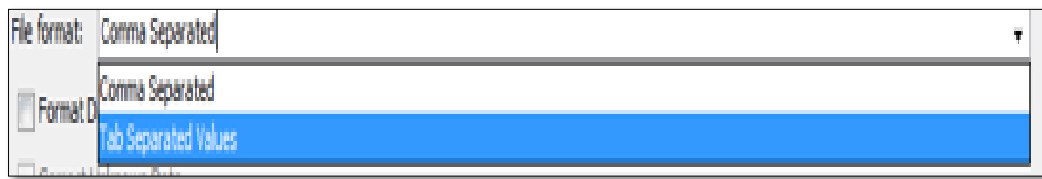
☒ Format Date

☒ Correct Unknown

Export setup: Load Save

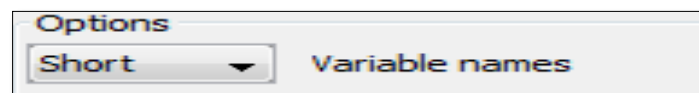
Export: Write File

3.3 Export file format



- ✓ All file formats produce text files, with one case per line (a new line at the end of each case). All of them have default extension “.TXT” except in "Comma Separated Variable", which has “.CSV.”
- ✓ "Tab Delimited" writes each variable separated by the TAB character.
- ✓ "Comma Separated Values" encloses each variable in quotes, and separates by a comma.
- ✓ If you export data to a “Tab Separated” or a “Comma Separated” file you can open this in general spreadsheets (e.g. *Excel*).

3.4 Titles, variable names



3.4.1 Short variable name

Put the abbreviated names of the variables at the top of each column. (If this file is imported into, *Access* or *R* then these would automatically become the names of the variables.)

3.4.2 Long Variable name

Write the full name of the variable at the top of each column.

3.5 Date Format

☒ Format Date

☒ Correct Unknown

- ✓ Tick "Format Date", to export "21/04/2001" instead of numeric form "20010421". (The date format can be "YYYYMMDD" [the default], "DD/MM/YYYY", or "MM.DD.YYYY").
 - ✓ Tick "Correct Unknown" so that unknown day will be written as "01" and unknown month as "07". This is necessary if you wish to import the data into *Excel*, or any other software as invalid dates will be rejected. (Please note that you lose information on what dates are unknown and what dates are really mid-year.)
- (Please note that you will lose information on certain dates and mid-year data when you insert "01" and "07").
- ✓ Then refresh the export button and save it.

The screenshot shows the 'CanReg5 - 2012ColomboPBCR' application window. The 'Export' dialog box is open, showing options for file format (Comma Separated), date format (dd/mm/yyyy), and a checkbox for 'Correct Unknown Date'. Below the dialog, a 'Preview' section displays a table of data.

RECS	CHECKS	AGE	DIST	DSDIV	OCCU	INCID	TOP	MORP	BEH	BAS	I10	MPCODE	MPSEQ	MPTOT	UPDATE	ICCC	GRADE	LAT	M	N	T	ST
1	1	73				20140...	809	8070	3	6	C80		0	1	20180423	11f	9	9				99
1	1	55				20140...	509	8010	3	7	C509		1	1	20151117	11f	9	2				99
1	1	46				20140...	809	8010	3	6	C80		0	1	20180423	11f	3	9				99
1	1	70				20140...	609	8070	3	7	C609		1	1	20151207	11f	2	9				99
1	1	20/007				20140...	071	8070	3	7	C071		1	1	20160831	11f	1	3				99

- ❖ Purpose of "Exporting Data" to external text/csv files is to perform advanced analysis using other statistical packages depending on the requirement.

E.g. Each of the cancer treatment centres, pathology labs and OMF units can analysis their own data depending on their requirements.

Chapter 5

Management

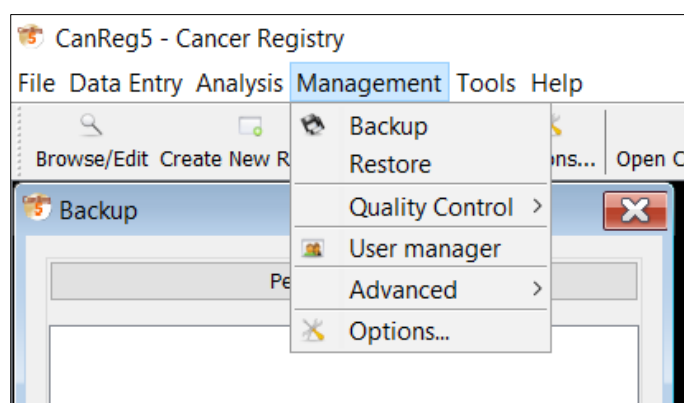
Data backup

The meaning of the data backup is to develop a copy of your data that has been entered into the CanReg5 system (or CanReg system) to safeguard it from data loss. Therefore, data backup is important in the following circumstances.

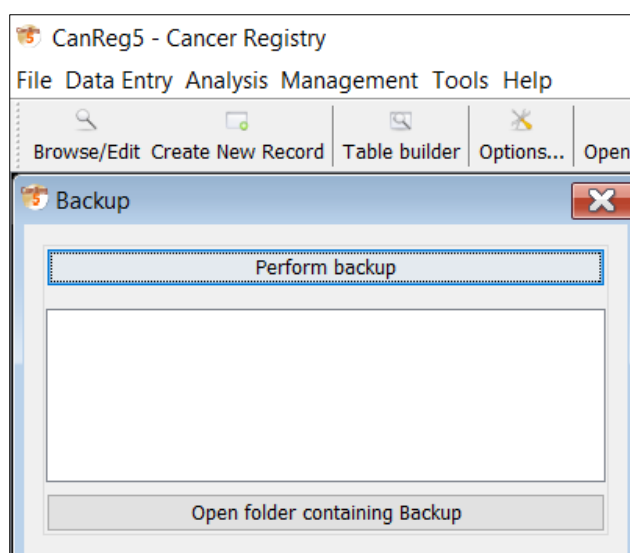
- a. After first installation of the CanReg system and you want to add data (or records) that were in another CanReg system, in to this new system.
- b. After re-installing the CanReg system in your computer and want to add data again to this system.
- c. When your computer malfunctions and you need to format your operating system. The software that you have already installed will be permanently lost in this situation.

Perform backup

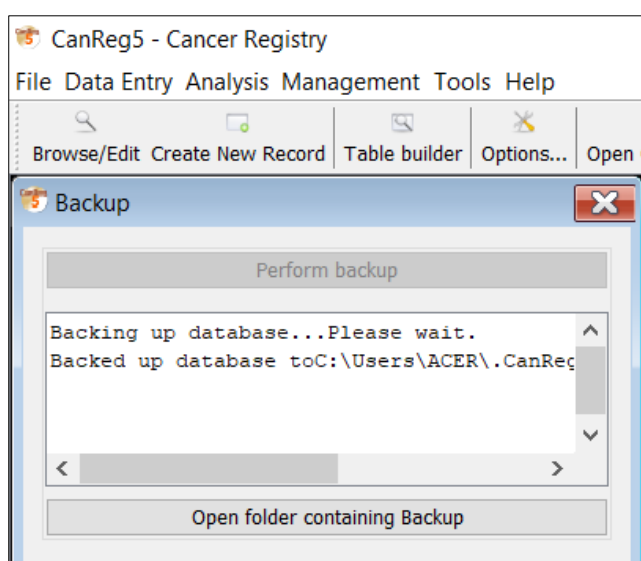
Click 'Management' and then 'Backup'



The backup window will open. Click 'Perform backup' button. It will start the backup process.



This function creates the backup on the server machine. Server machine is a folder which was created when you install the CanReg system. You can see the path of that folder in the '*backup*' window.



The path of the server machine is,

C:\Users\.....\.CanRegServer\Backup\NCCPSL\2021-05-28.

You can open the backup folder by clicking '*Open folder containing Backup*' button as shown in the above image.

****IMPORTANT****

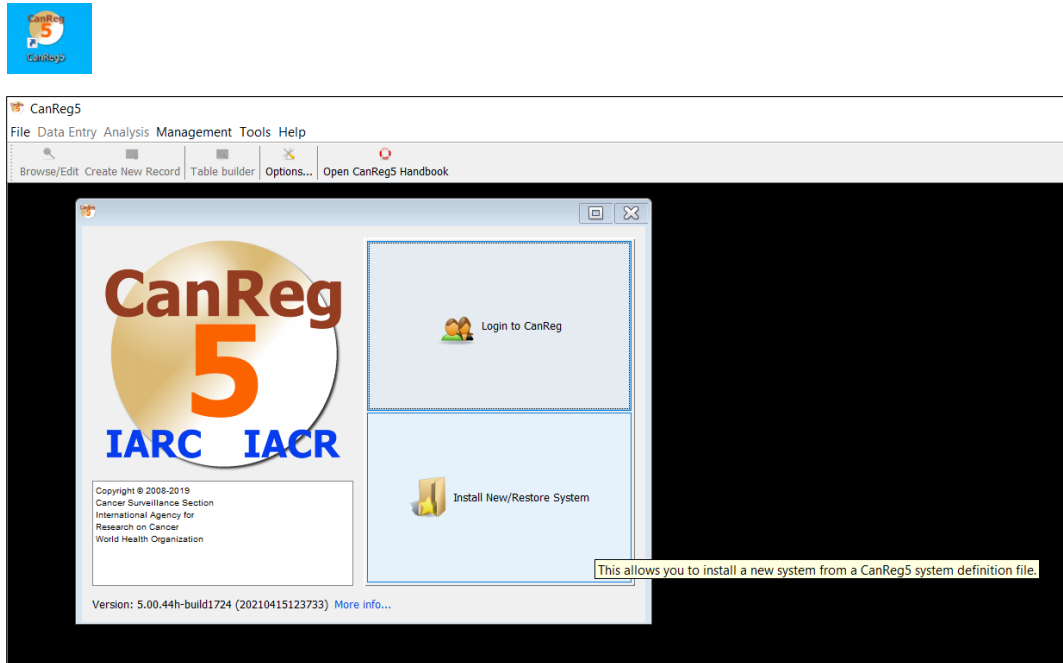
It is critical to keep your backup in a secure place (on an external hard drive, on a flash pen, or on a DVD or CD). This is because there is no way to restore your backup if your operating system (OS) or computer crashes.

Restore from backup

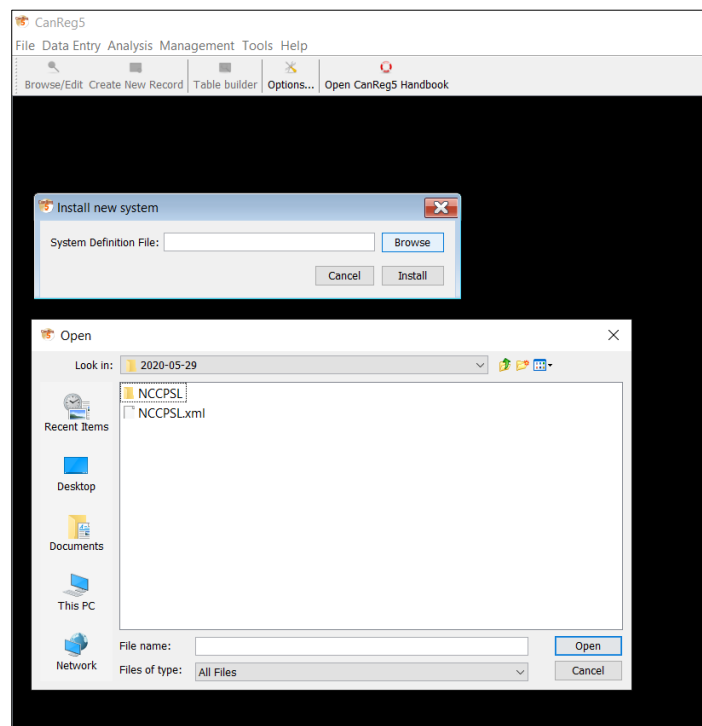
If you need to get your data from backup to your CanReg system, there are two ways to do this.

1. Restore from backup after clean installation of CanReg system.

Click CanReg icon on the screen to open the system and then click '*Install New/Restore System*'

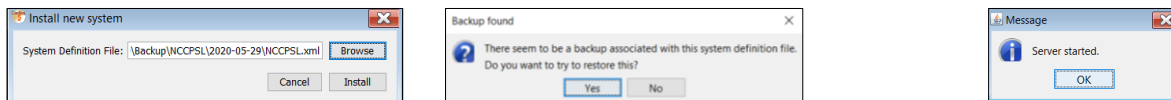


Find the backup folder and click on it. There you will find the XML file.

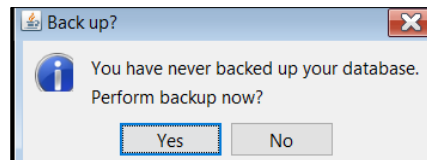


Click on the xml file, then click '*Open*', then '*Install*'. A message will be displayed. Click '*Yes*' button

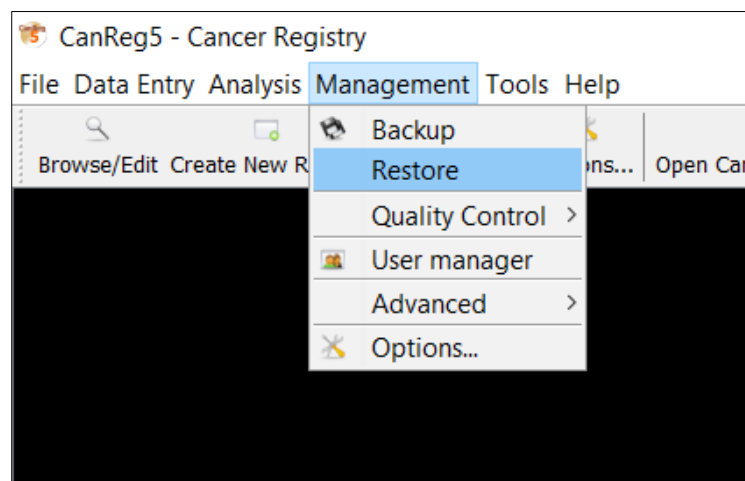
in that message box and click 'OK' in the following message box to start the server.



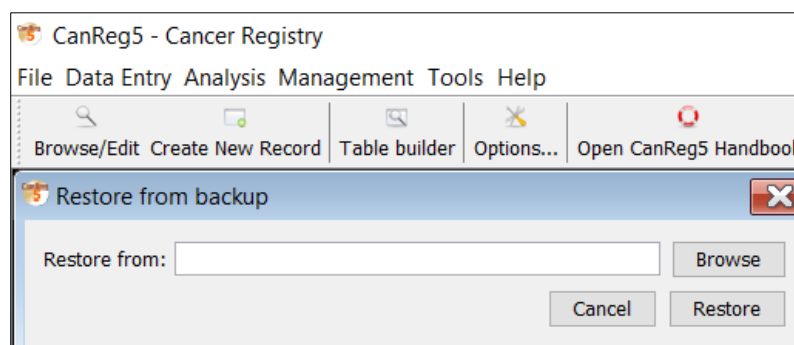
You close and reopen the application. The system will prompt you to back up your data when you enter the username (Morten) and password (ervik). 'Yes' should be selected if you want to backup.



2. If you have already opened the CanReg system, then you can use 'Restore' button under the 'Management' menu.



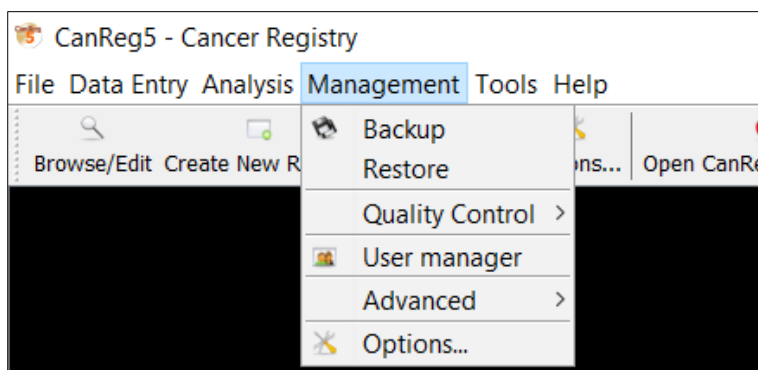
You then click 'Browse' button and find the backup folder. Start the restore process by clicking 'Restore' button.



Data Security

One of the most important responsibilities you have is to keep your data safe from unauthorized access. For that, the CanReg system has developed a number of data security features built-in.

You can access these features by clicking '*Management*' and then '*User Manager*'.

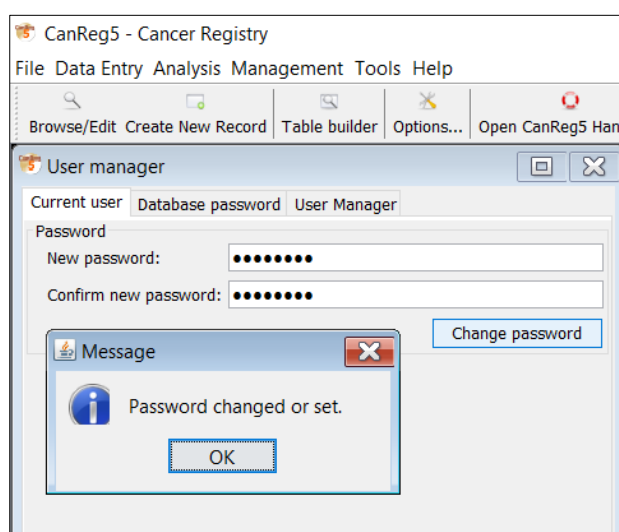


There are three built-in data security features available.

1. Username and password for current user.
2. Username and password for CanReg5 database.
3. Username and password based on the privileges given to each user.

Username and password for current user.

The default username and the password for the CanReg system is 'morten' and 'ervik'. You can change that password but not the username.



Username and password for CanReg5 database.

You can set a username and password for the CanReg5 database for data encryption (hiding or encoding) in addition to the aforementioned username and password for the current user.

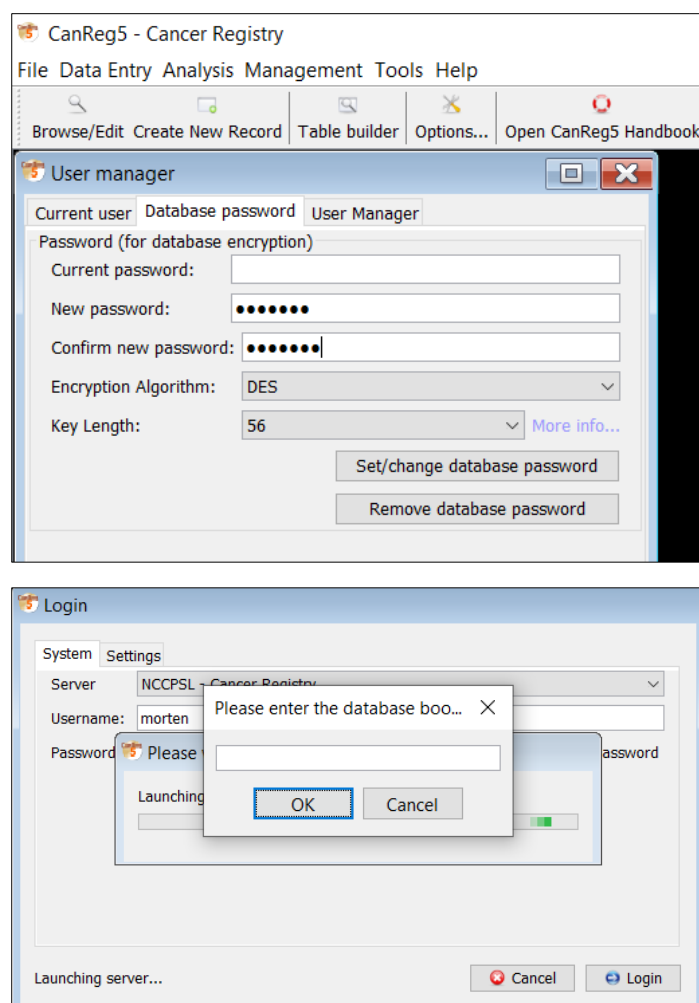
Because no password has been created yet, the text box '*Current password*' should be left blank

the first time. After you've entered and confirmed your password, click the '*Set/change database password*' button.

*****IMPORTANT*****

The password should be at least 8 characters long and contain both numbers and letters. When you log into the CanReg system, you must enter your password each time. You also can remove the password by clicking '*Remove database password*'

IF YOU LOOSE THE PASSWORD, THERE IS NO WAY TO ACCESS DATA IN THE CanReg SYSTEM.



In the CanReg5 system, there are two types of data encryption mechanisms available. AES (Advanced Encryption Standard) and DES (Data Encryption Standard) are the two encryption standards. These are algorithms for encrypting sensitive data.

The AES standard is available for users who has supervisor privilege (See below) and you need additional piece of software (Java Cryptographic Extension) to be installed before using this standard.

Username and password based on the privileges given to each user.

There are three levels of user access to the database.

- a. Supervisor
- b. Registrar
- c. Analyst

A supervisor can access the all the privileges of *Data entry, Analysis, Management, Tools* etc.

CanReg5 - Cancer Registry

File Data Entry Analysis Management Tools Help

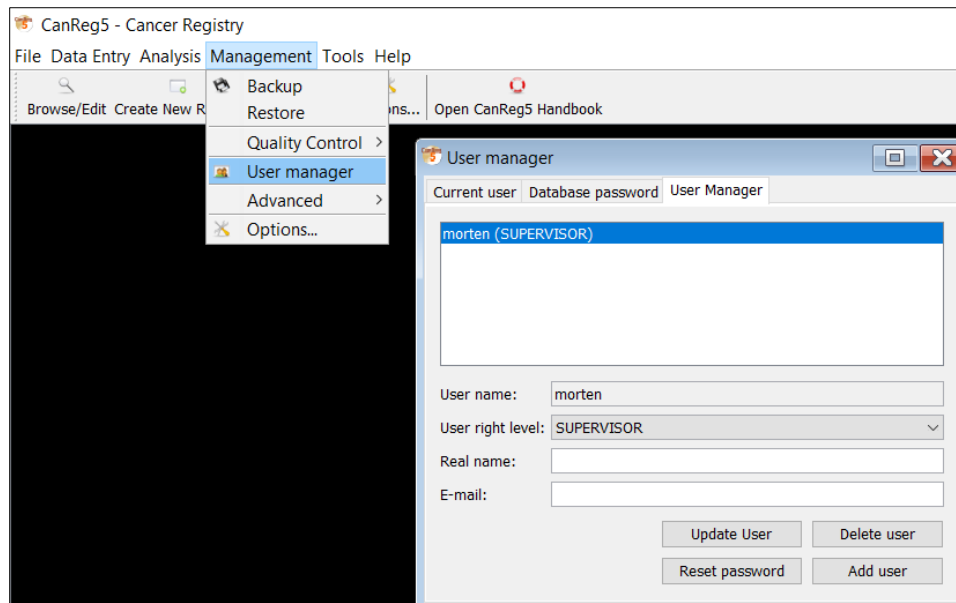
A registrar is not allowed to edit data dictionary and import data under the '*Data Entry*' Menu.

He may access all the privileges of '*Analysis*'. Under the Management menu he can access all the options except '*Quality Control*' and '*Advance*' options. In the '*tools*' menu he cannot access '*Population Datasets*'.

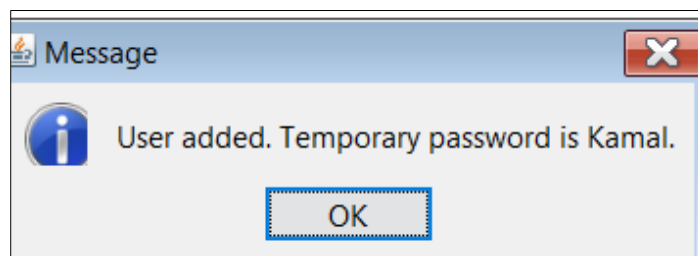
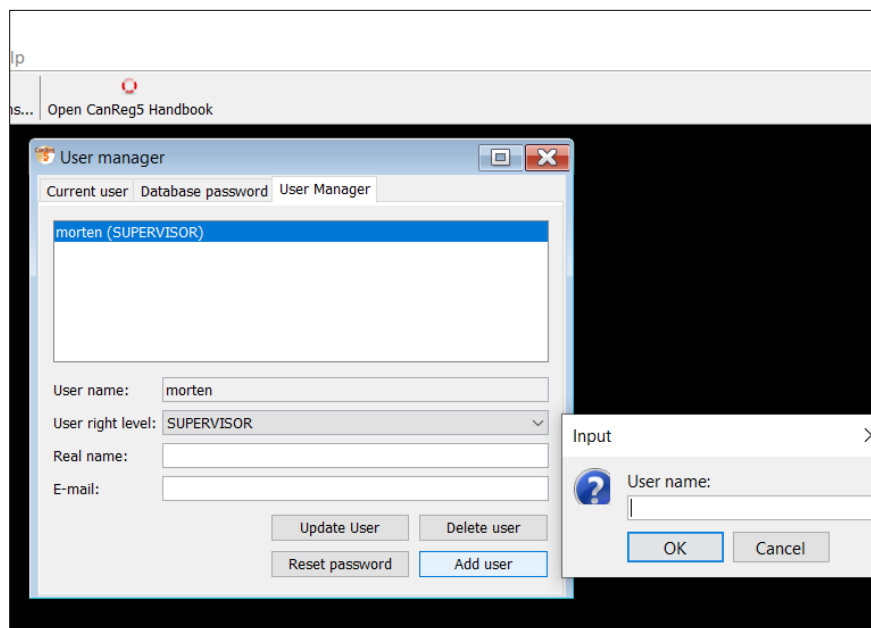
Under the '*Analysis*' menu, an Analyst can access all analysis options. He may access backup, restore, and all other options under the '*Management*' menu. However, he is only permitted to change his password. Under the '*Tools*' menu he cannot access '*Population Datasets*'.

Adding a supervisor to the database

Click '*User manager*' under the '*Management menu*'. Click '*User Manager*' tab on the '*User Manager*' dialog box.

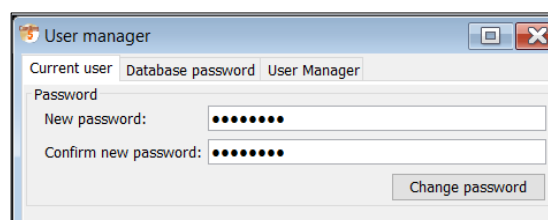
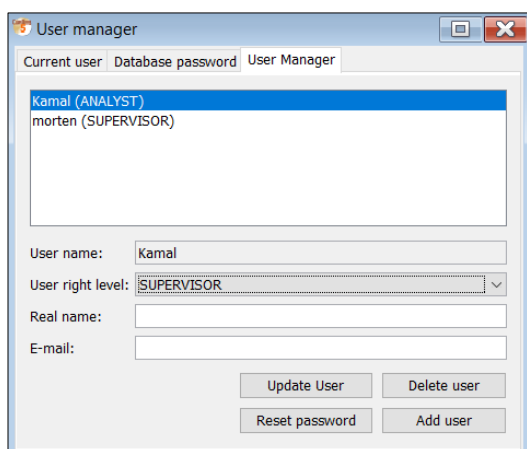


Click 'Add user' button. It will open another dialog box called 'Input'. You should enter a username and click 'OK'. **REMEMBER** that the password is also the same.



The rest of the settings are purely optional. Restart CanReg5 and log in using the same username and password. Then, in the 'User manager', update your password under the 'Current user'

section. Registrars and Analysts are added in the same way as supervisors are. Supervisor 'Morten' can be removed from the database because he is no longer a valid user.



Quality Control

Data quality is a measure that assesses the state of data based on factors such as accuracy, completeness, consistency, reliability, and timeliness. As a consequence, quality control is a critical component of a database in order to meet the aforementioned goals.

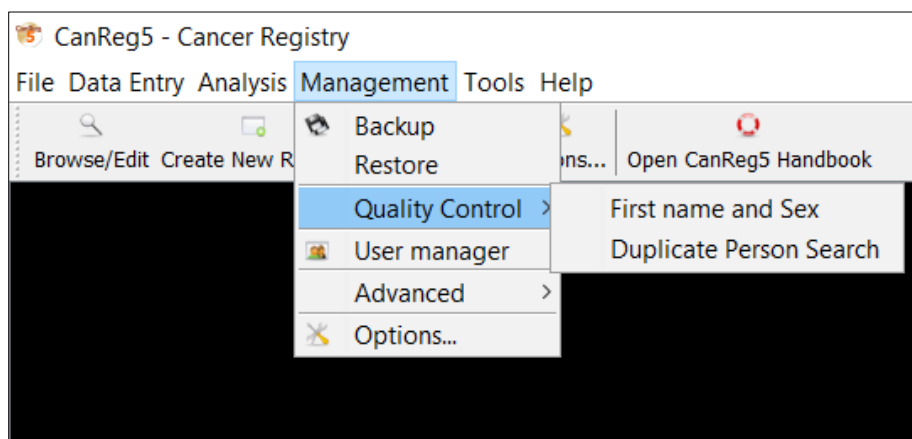
When it comes to quality control, the CanReg5 system has two options built in. *'First name and sex'* and *'Duplicate person search'* are the two options.

Duplicate person search is explained here.

Duplicate person search

To get the Duplicate person search dialog box,

Click *'Management' → 'Quality Control' → 'Duplicate Person Search'*



The screenshot shows the 'Duplicate Person Search' window with the 'Search' tab selected. It features a 'Registration number range' section with 'Start' and 'End' input fields. Below this is a 'Results' section with three output fields: 'Records in Range', 'Records tested', and 'Matches found'. At the bottom are 'Interrupt' and 'Perform' buttons.

To improve the accuracy of the duplicates, you can change the weight of the variables that you would like to include. To do so, go to the 'Advanced' tab. Below are the default weights and variables.

The screenshot shows the 'Duplicate Person Search' window with the 'Advanced' tab selected. It displays a list of variables with their respective algorithms and weights:

Variable	Algorithm	Weight	Action
Surname (Patient)	alpha	25.0	Remove
Other Names (Patient)	alpha	30.0	Remove
Registry Number (Patient)	number	5.0	Remove
Religion (Patient)	code	1.0	Remove

At the bottom, there is a 'Minimum match' field set to 75.0%, and buttons for 'Lock settings' and 'Add variable'.

By clicking 'Lock settings', you first unlock the settings. After that, you can adjust the weight of each variable. you also can add or change variables.

You can begin the search process by clicking the 'perform' button. You can also specify a registration number range to find duplicates specifically within that range.

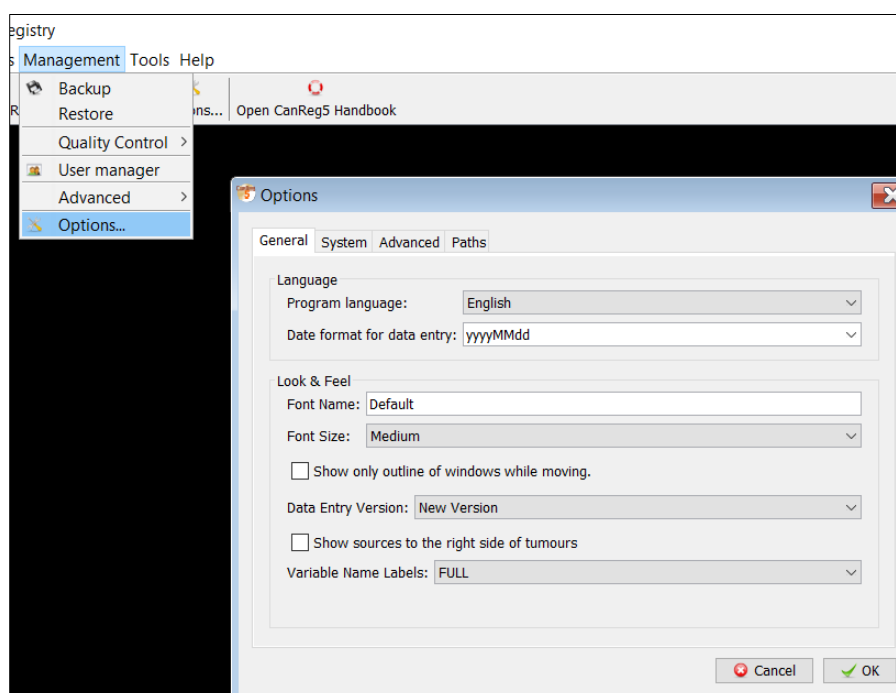
The results are shown on the 'Results' page. To see the results, click 'Results' tab. To save the results click 'Save Result As...' button.

The screenshot shows a window titled 'Duplicate Person Search' with three tabs: 'Search', 'Advanced', and 'Results'. The 'Results' tab is active, displaying a table with three columns: 'Patient A ID', 'Patient B ID', and 'Match %'. The table contains 25 rows of data. At the bottom right of the table area is a button labeled 'Save Results As...'.

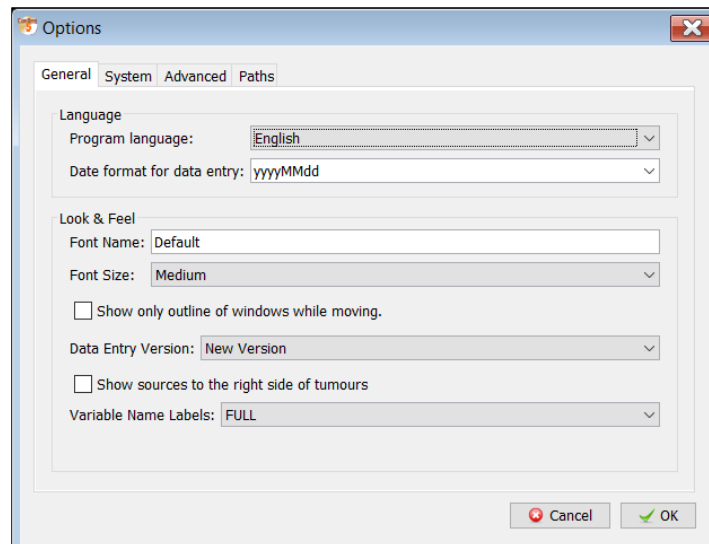
Patient A ID	Patient B ID	Match %
7694191	7694192	77.377
7694191	7694203	87.705
7694191	7694219	77.377
7694191	7694373	79.672
7694191	7696393	76.721
7694191	7699216	80.82
7694191	7701312	78.361
7694191	7701330	83.279
7694191	7702097	75.41
7694191	7703543	81.311
7694191	7703778	94.098
7694191	7703908	77.377
7694191	7706955	81.311
7694191	7707416	81.311
7694191	7707693	75.41
7694191	7707726	100
7694191	7708495	100
7694191	7709882	83.77
7694191	7711128	79.344
7694191	7714699	75.902
7694191	7714715	77.377
7694191	7714986	86.23
7694191	7715069	79.344
7694191	7715129	75.902
7694191	7715594	97.049

Options

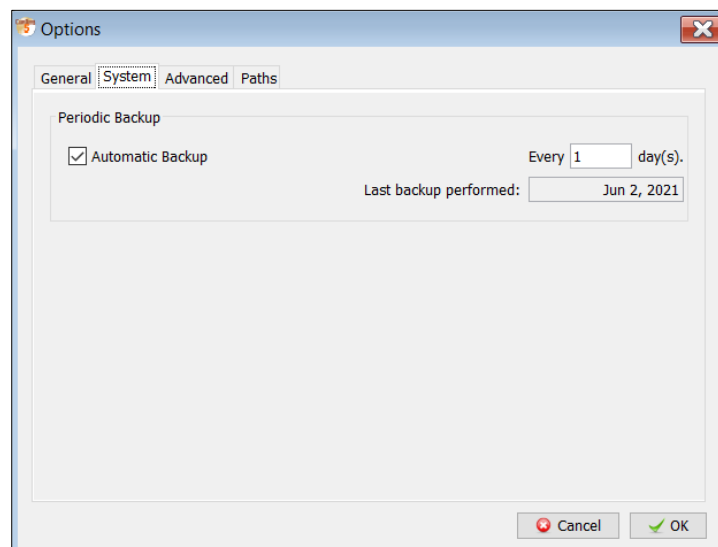
Optional functions are those that are not mandatory but are nonetheless beneficial. To find the options click '*Management*' and then '*options*'



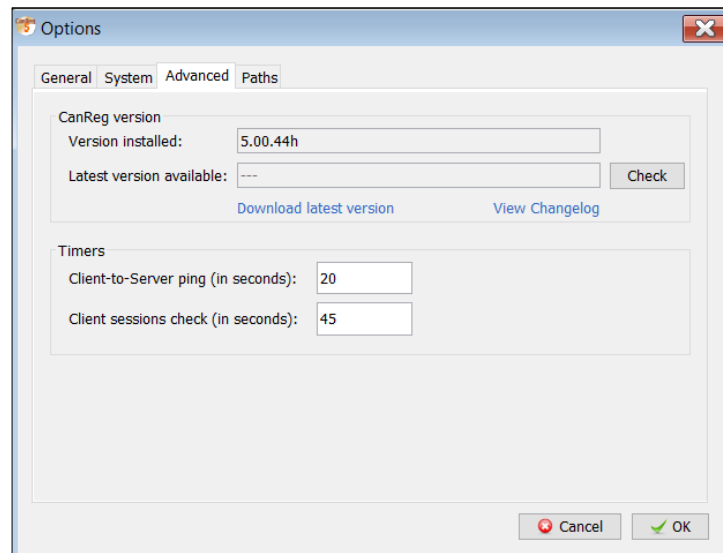
On the '*General*' page, there are many options. You can choose them as you like.



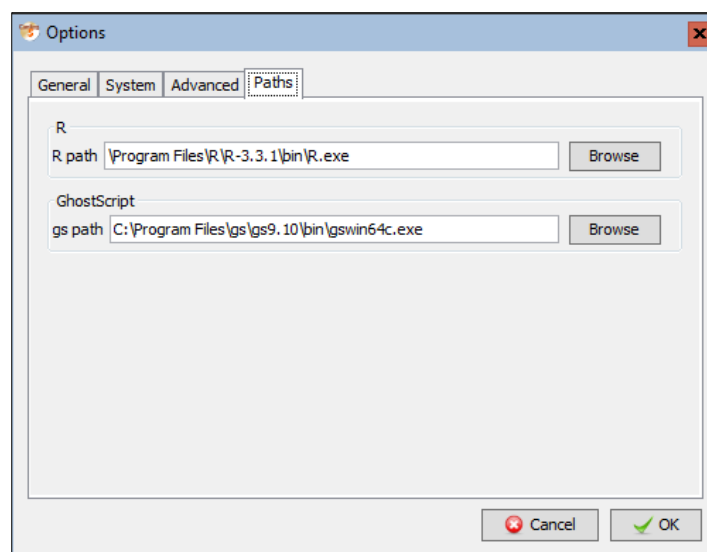
On the 'System' page, you can set the periodic backup options.



On the 'Advanced' page you can check the CanReg5 version that has been installed, and link to download the latest version or click 'View Changelog' to see what is new in CanReg.



The '*Paths*' page is reserved for third party software. You should establish connections between these software and the CanReg system before using them by the CanReg system. For that, click '*Browse*' button on each software to find .exe file.



Chapter 6

Maintaining Data Security and Confidentiality

Maintaining data security and confidentiality means, physical measures taken to prevent unauthorized access to the registry data and avoiding disclosure of sensitive and identifiable information about individual to another party. Cancer registries have always observed and been concerned about the preservation of the confidentiality of the data on cancer patients entrusted to them.

During the procedure of data collection:

- Information regarding the data collection is displayed as a poster at the collection centers. Patients and guardians have to read the content to give the implied consent before giving the personal data.
- Reporting of cancer incidence data is mandatory.
- Identifiable data is provided to a clinician for use in the treatment of cancer patients, but only the data necessary for the stated purpose is released. Identifiable data which is provided to clinician is transferred to National Cancer Control Programme for National Cancer Registry. Data collected are; name, age, ethnicity, address, information about the diagnosis and treatment. All information is kept confidential.
- Personal data- Collection of identifiable information is necessary to ensure the quality of data.
- Purpose of data collection – Collected data will be transferred to the central authority (National Cancer Control Programme), it will be used for analysis purposes, in researches, for purposes related to public health surveillance and for further development of the treatment modalities.

During handling of the data:

- Identifiable data will not be transmitted by any means (post, telephone, electronic) without explicit authority from the Director or a staff member to whom such authority has been delegated. Transmission by telephone in general is avoided.
- Data might be transmitted to a doctor/ researcher after filling the declaration form.
- Workstations used for data access is placed in a separate room(s), access to which is restricted.
- Director of the Cancer Registry is responsible for data security. Suitable control of access to the registry, both physical and electronic, and a list of persons authorized to enter the registry, are maintained by the Director. The Director should maintain a list of staff members indicating the nature and extent of their access to registry data.

- Staff of the registry sign a confidentiality agreement that they will not release confidential information to unauthorized persons. This declaration will be renewed annually and will remain in after cessation of employment.
- Up-to-date list of staff members and 'third parties' should be maintained indicating the type of data to which each of them has access.
- Electronic measures should be taken to protect data from unauthorized access or corruption during years of storage.
- Back-up copies of the database are made frequently and regularly as a precaution to avoid loss of the database, and stored in a physically separate, safe location.
- Unauthorized access to computer system is avoided.

Disposal of physical records

- This is performed within the premises of the registry.
- Usually, it is done after 5 years.

Release of data

- Only the data required for a specific purpose is released.
- The Director should ensure that relevant legal and professional guidance is followed, and that confidentiality is preserved when identifiable data are released.



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National Cancer Control Programme

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Your No.

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Date

CONFIDENTIALY AGREEMENT

I, agree with the following statements.

I have read and understood National Cancer Control Programs' Privacy Policy.

I understand that I may come in contact with confidential information during my time at National Cancer Registry Sri Lanka. As part of the condition of my work with National Cancer Registry I hereby undertake to keep in strict confidence any information regarding any patient (alive or dead), client, employee or any other organization that comes to my attention while at National Cancer Registry. I will do this in accordance with the National Cancer Registry' s privacy policy and applicable laws, including those require mandatory reporting.

I also agree to never remove any confidential material of any kind of from the premises of National Cancer Registry unless authorized as part of my duties, or with the express permission or direction to do so from Director, National Cancer Control Programme.

Name of the Staff Member:

Signature of the Staff Member:

Signature of the witness;

Dated thisday of, 2.....

Reference

1. International Agency for Research on Cancer (2020). Handbook of Canreg-5 available from <http://www.iacr.com.fr/CanReg5/CanReg5-Instructions.pdf>
2. Regional hub
3. Webinar series



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