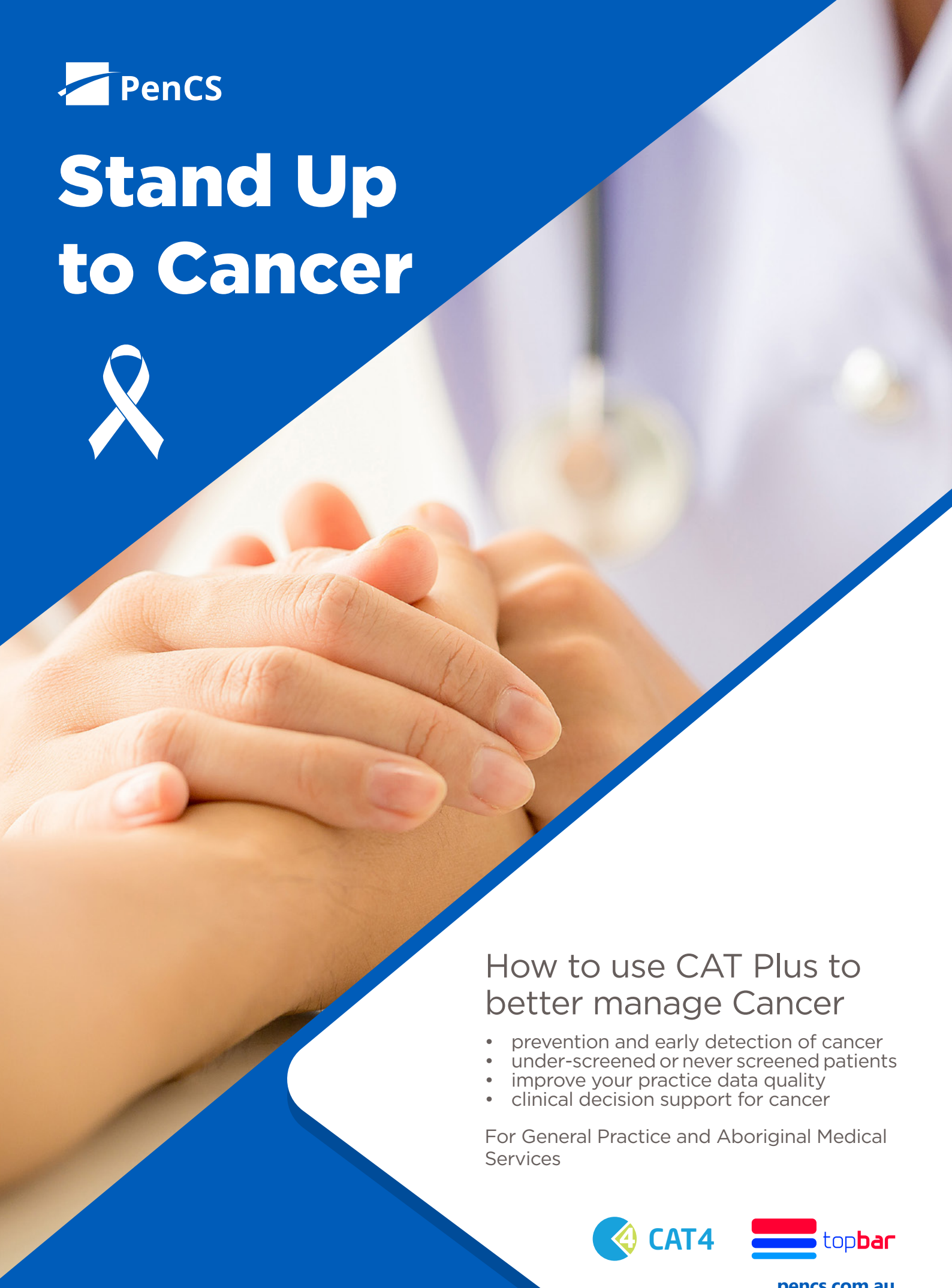
PenCS

Stand Up to Cancer



How to use CAT Plus to better manage Cancer

- prevention and early detection of cancer
- under-screened or never screened patients
- improve your practice data quality
- clinical decision support for cancer

For General Practice and Aboriginal Medical Services

CAT4 topbar

pencs.com.au

Contents

Introduction 3
About Pen CS 3
Navigating CAT4 4
Navigating Topbar 4

Section 1: Database management for Patient Records

Preparing your Data 5
Duplicate Patients Records 5
Inactive Patients 6
Quality of Coding 7
Coding and Cancer Reports 7

Section 2: Cancer Reports and Recipes

Cancer Reports/Filters in CAT4 8
Cancer Screening Recipes 10
Optional Steps – using your software more efficiently 10
Breast Cancer Participation Rate 11
Cervical Cancer Participation Rate 13
Bowel Cancer Screening Participation Rate 15
Patients who have never been screened or are overdue to screen for more than one screening program 17
Patients due to return to all three screening programs in the next three months 21
Patients turning 50 in the next three months eligible for bowel and/or breast screen 25
Patients who turned 25 in the last three months eligible for cervical screening 28
Using Topbar Prompts in Recipes 30
Combining Screening Searches with MBS item eligibility 32
Using SMS and Voice Messaging to recall patients based on CAT4 search results 33
Collaborations 35

© Pen CS 2019

Introduction

People with cancer and their loved ones want to do everything they can to combat the disease, manage its symptoms, and cope with the side effects of treatment. Preventive services, diagnostic screening and timely treatment for cancer are the first steps in helping fight this disease.

This guide, designed for General Practice and Aboriginal Medical Services, demonstrates how to better manage cancer using Pen CS' CAT Plus software currently provided by your PHN and available in your clinic. As healthcare providers, you are at the frontline of primary care in Australia and can play a significant role in assessing cancer (and other) risks due to lifestyle factors, and the early detection of cancer by identifying 'under screened' or 'never screened' patients.

Data-driven improvement in healthcare starts with correctly coded and up-to-date patient records, so this guide demonstrates how to improve the data quality of your patient records and then focuses on cancer specific activities.

Learning Outcomes

- Prevention and early detection of cancer
- Detection of under-screened or never screened patients
- Improving your practice data quality
- Clinical decision support for cancer screening

Guide Overview

This guide consists of the following sections:

Section 1: Database Management for Patient Records

This is an important first step for accurate data, prior to producing your cancer reports. To improve the quality of your patient records you will need to learn how to 'clean up' your database.

Section 2: Cancer Reports and Recipes

- Cancer Screening Reports include Cervical Screening, Pap Smear, Mammograms and FOBT screening.
- The Cancer Conditions report shows the number of patients diagnosed with a range of cancer conditions including Leukemia, Lymphoma, Multiple Myeloma, Breast Cancer, Bowel Cancer, Pancreatic Cancer, Cervical Cancer, Ovarian Cancer, Prostate Cancer, Uterine Cancer, Melanoma and Lung Cancer.
- Create custom reports using Cancer Screening Recipes, as demonstrated in this guide.

CAT Plus - Advanced Users

- Create notifications for Doctors and Nurses (using Topbar prompts in recipes)
- Recall patients who are also eligible for MBS items related to chronic disease care or prevention
- Recall patients using SMS text and voice messaging

CAT Plus - Beginners

If you are new to CAT Plus, join a free Pen CS 'Cancer' webinar or contact your PHN to discuss training options. Visit https://www.pencs.com.au/gp-resources-portal/ for additional information.

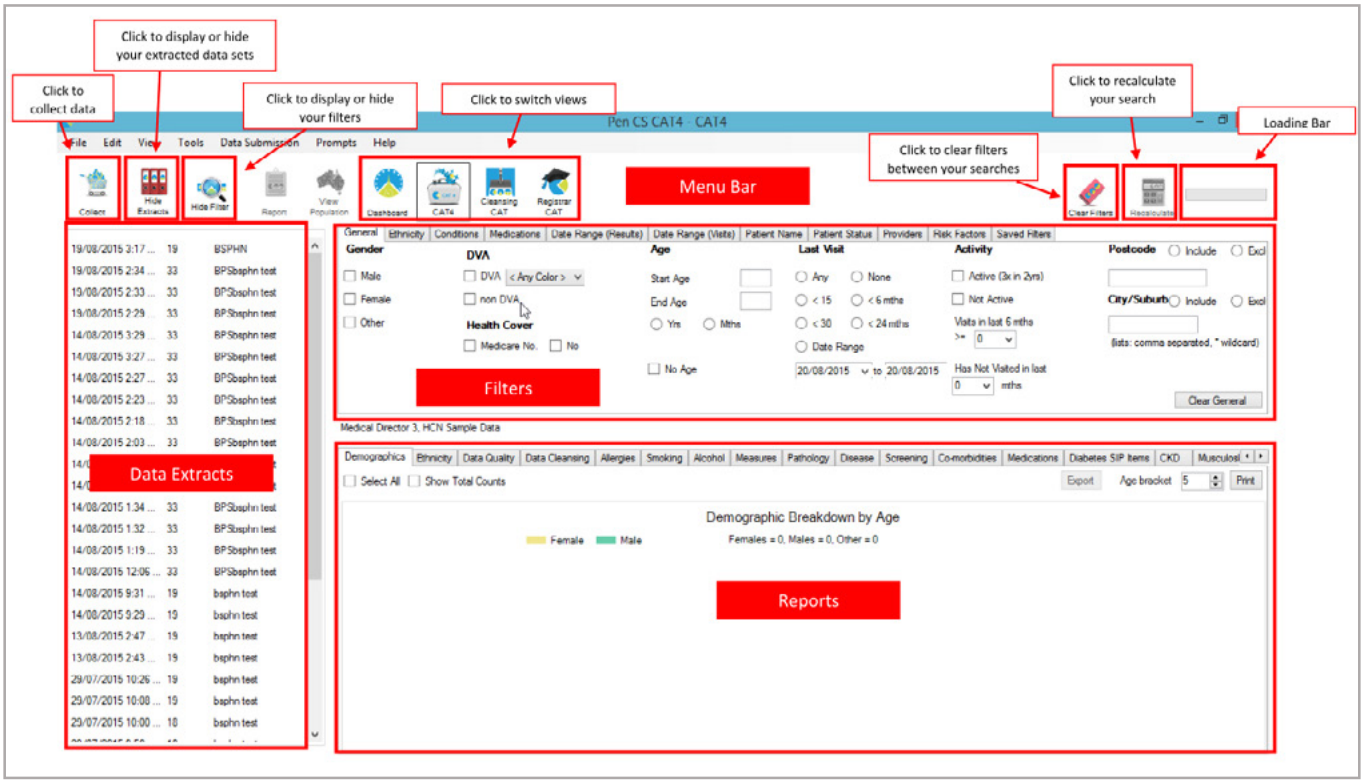
© Pen CS 2019

Navigating CAT4

CAT4 provides reports on data quality and identifies patient groups of interest.

CAT4 uses a read-only snapshot of the data in your clinical system. Once the data is uploaded into CAT4, you may filter for patients of interest and analyse your data using CAT4 reports.

Here is a quick overview of the main screen in CAT4. Please refer to our user guides at https://help.pencs.com.au/display/CG for full details.



Navigating Topbar

Topbar, clinical decision support, assists the clinician in the consult room and works together with CAT4 to flag patients at risk or of interest for intervention by the Doctor.

Topbar will flag patients of interest without any user intervention. As a decision support tool, it provides relevant information and notifications related to patients currently in your waiting room and in the consult room. Most Topbar apps are tailored to save time for clinicians while assisting with accreditation, PIP QI and efficient patient care.

Full details for all Topbar apps can be found here:

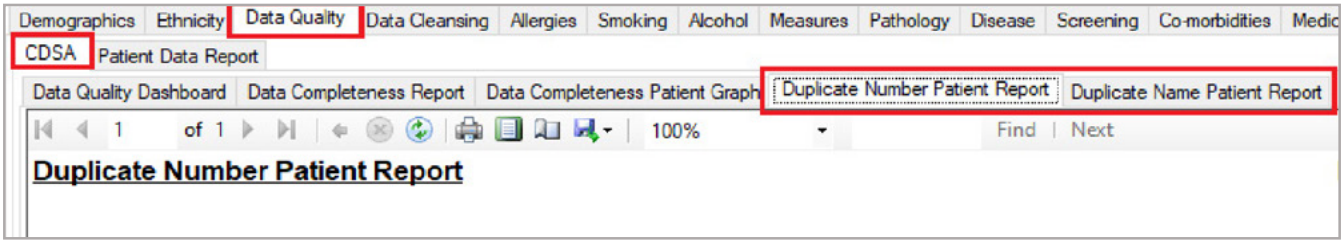
https://help.pencs.com.au/display/TUG/Topbar+Apps+in+Detail

© Pen CS 2019

Duplicate Patient Records

Duplicate patients are problematic for many reasons and should be regularly checked. If found, records should be merged following the instructions for your clinical system.

CAT4 provides two different reports under the Data Quality report to find duplicate records:



1. Duplicate Patient Identification using Medicare, Healthcare Card, or DVA Number:

Duplicate Number Patient Report **Report Date: 01/10/2018 3:04 AM**

Practice Name: Deidentified Practice

Match on ANY of: Medicare number, HCC number or DVA number

Number Matches [patient count = 10324]

Surname	First Name	Sex	D.O.B.	Age	Address	City	Postcode	Medicare	HCC No	DVA No	ID
Surname	Firstname 0	M	01/08/2012	6	12 Jogger St	Suburb Town	5992	123412341234			9886
Surname	Firstname 1	F	01/10/1983	35	12 John St	Suburb Town	5708	123412341234			1032
Surname	Firstname 10	M	01/10/1951	67	12 Jogger St	Suburb Town	5930	123412341234			7711

2. Duplicate Patient Identification using Surname, first name initial, gender and DOB:

Duplicate Name Patient Report **Report Date: 01/10/2018 3:04 AM**

Practice Name: Deidentified Practice

Match on ALL of: surname, first name initial, gender and DoB

Name Matches [patient count = 10278]

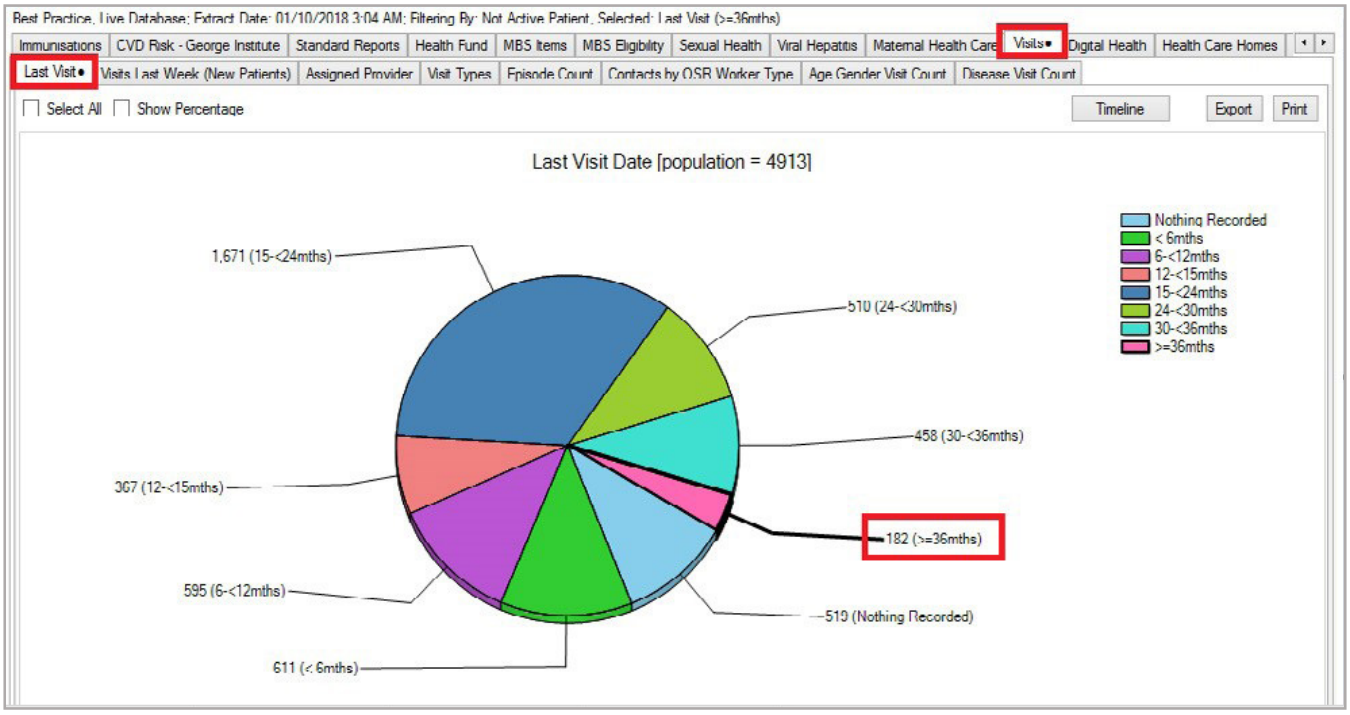
Surname	First Name	Sex	D.O.B.	Age	Address	City	Postcode	Medicare	HCC No	DVA No	ID
Surname	Firstname 0	M	01/08/2012	6	12 Jogger St	Suburb Town	5992	123412341234			9886
Surname	Firstname 1	F	01/10/1983	35	12 John St	Suburb Town	5708	123412341234			1032
Surname	Firstname 10	M	01/10/1951	67	12 Jogger St	Suburb Town	5930	123412341234			7711
Surname	Firstname 100	M	01/10/1971	47	12 Jogger St	Suburb Town	4292	123412341234			5231
Surname	Firstname 1000	F	01/10/1974	44	12 John St	Suburb Town	3434	123412341234			3238

Note: Due to the search criteria, the duplicate name report can show twins as possible duplicates. The provided list of names should always be seen as an indication of duplicates only and will need to be reviewed by someone familiar with the patients.

© Pen CS 2019

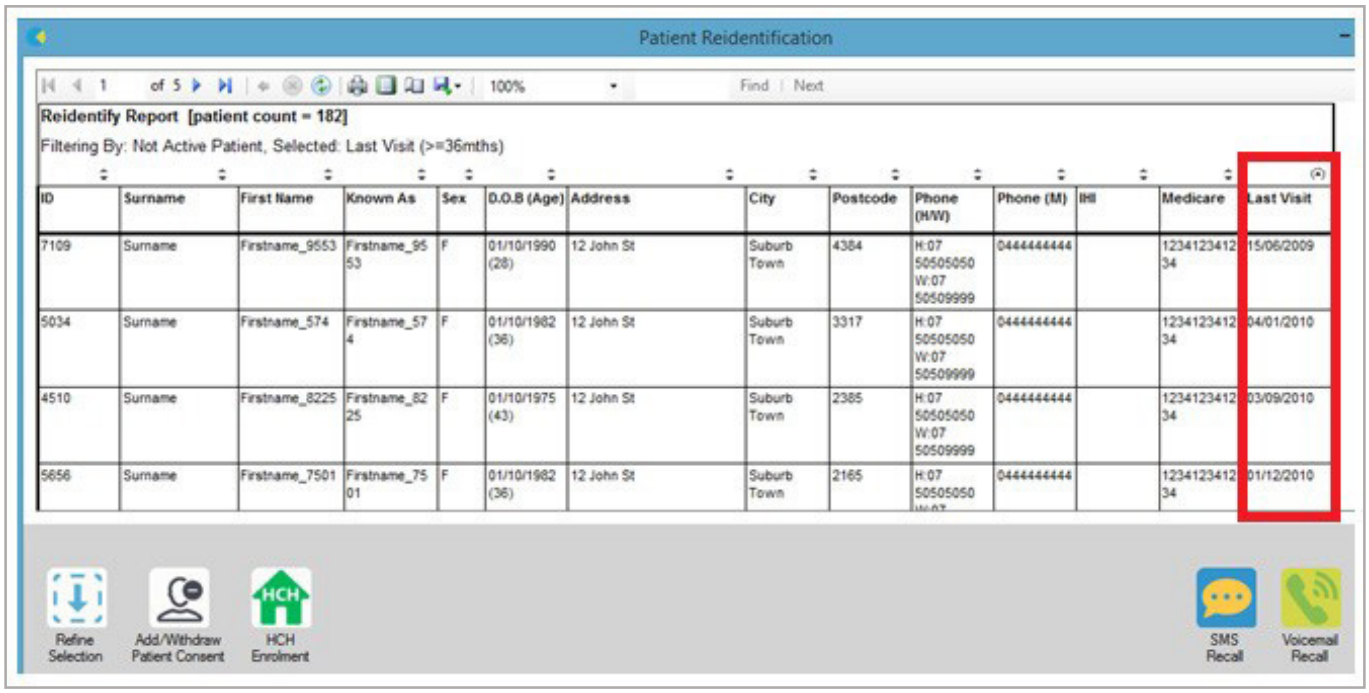
Inactive Patients

CAT4 produces a report that shows the last visit of a patient. The report can be accessed as shown below:



The report can be sorted by patients with the longest time since their last visit by clicking on the sorting icon on top of the 'Last Visit' column. The practice can then either inactivate/archive the patients one by one in their clinical system or, preferably, use the built in bulk update functionality of the clinical system to find and inactivate patients.

It is recommended that the practice develop a policy to routinely inactivate/archive patients who have not visited the practice in a set period. Contact your clinical system vendor for the steps to do this.



© Pen CS 2019

Quality of Coding

Any information entered in a coded format will be stored in the patient record using the codes chosen by the clinical system vendor. This means the data is clearly defined, reportable and can be used to trigger internal and external notifications. This functionality is not available when free text diagnosis is entered, as the information is not standardised.

A free text diagnosis means that the clinical system is not aware of the diagnosis entered and thus all drug warnings and searches or built in registers will not be applied to the patient with a free text diagnosis.

The Royal Australian College of General Practitioners (RACGP), in their fifth edition of the Standards for general practices[1] specify under criterion C7.1 that consistent coding should be used when available. Linking clinical guidelines with conditions can only be achieved if conditions are coded in a consistent way. Under criterion QI1.3A one indicator for improving quality of care is:

Our practice team uses a nationally recognised medical vocabulary for coding

Sharing data through the My Health Record portal requires information to be coded and standardised. The Digital Health Agency[2] refers to the practice incentive program which states:

Practices must ensure that where clinically relevant, they are working towards recording the majority of diagnoses for active patients electronically using a medical vocabulary that can be mapped against a nationally recognised disease classification or terminology system. Practices must provide a written policy to this effect to all GPs within the practice.

To address free text in your patient records, Medical Director Clinical and Best Practice provide utilities to map free text entries to a coded diagnosis. These utilities are easy to use and, once set up, will also address future free text entries, provided the spelling is the same. Pen CS has created a brief guide on how to use these utilities:

- For Best Practice users[3]
- For Medical Director Clinical users[4]

Coding and Cancer Reports

Cancer screening reports in particular rely on CAT4 picking up the correct pathology test names and we provide extensive mapping as test names vary greatly between pathology providers. For details on test names and exclusions, please check our online guide as this list is updated frequently:

https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

Most states are now providing test results electronically and provided the test name is in the list above, we will be able to report the details of patients who have been screened.

> Cancer Screening reports in CAT4 do not report the outcome of the screening; the reports only show who has been screened and when the screening took place.

If you are receiving paper-based results, you will have to manually enter the details of the screening in the results/investigations section or the cervical screening section of your clinical software. If manually entering a test, the subject/test name has to match one of the names on the list provided in the link above.

Cancer Condition reports are grouped in categories and mapped based on the coded diagnosis entered in the patient record. The details of the mapping can be found here:

- Best Practice: BP cancer diagnosis mapping[5]
- Medical Director: MD cancer diagnosis mapping[6]
- Zedmed: Zedmed cancer diagnosis mapping[7]

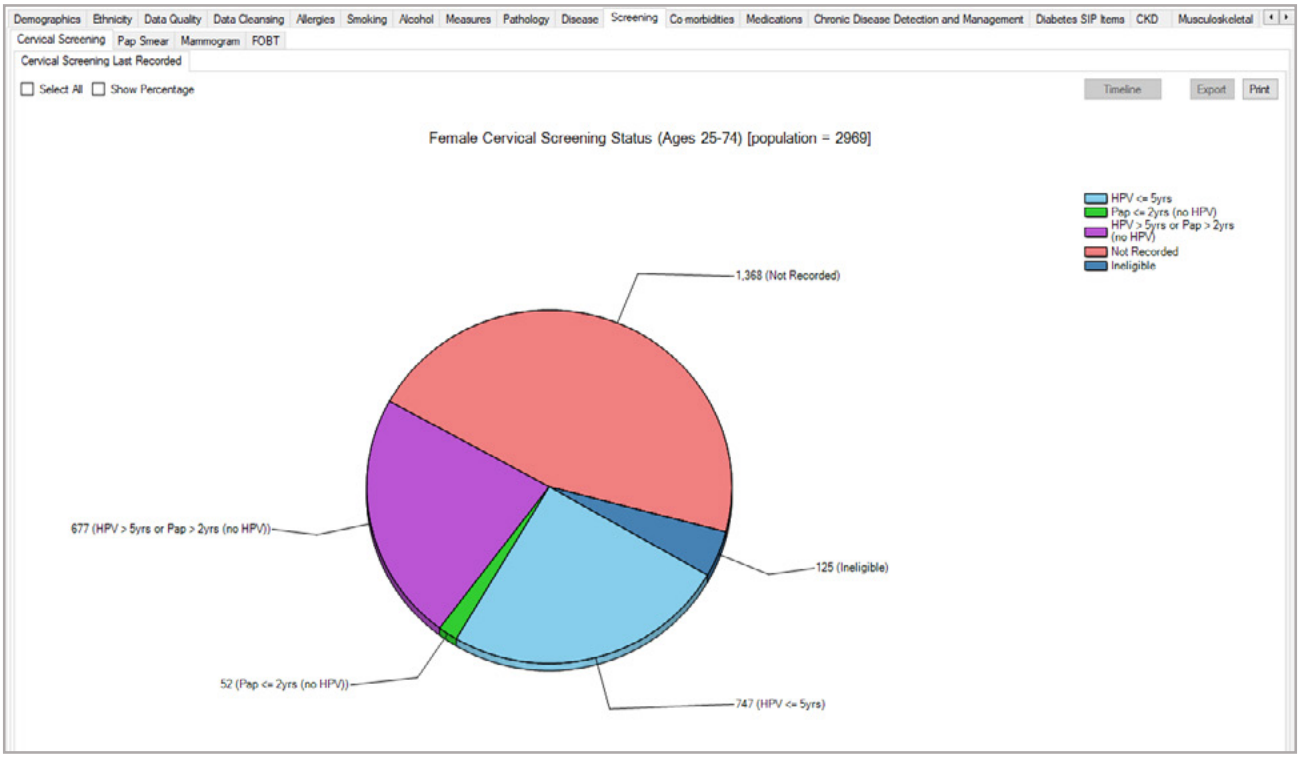
1- https://www.racgp.org.au/running-a-practice/practice-standards/standards-5th-edition
2- https://www.myhealthrecord.gov.au/data-cleansing-and-clinical-coding
3- https://help.pencs.com.au/display/CR/Bulk+clean+up+of+free+text+diagnosis+-+BP+users
4- https://help.pencs.com.au/display/CR/Bulk+clean+up+of+free+text+diagnosis+-+MD3+users
5- http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+BP#ConditionsDataCategoryMappingsBP-cancerBP
6- http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mapping+MD3#ConditionsDataCategoryMappingMD3-cancerMD
7- http://help.pencs.com.au/display/ADM/ICPC-2+PLUS+GROUPERS+ZEDMED#ICPC-2PLUSGROUPERSZEDMED-cancerZedmed

© Pen CS 2019

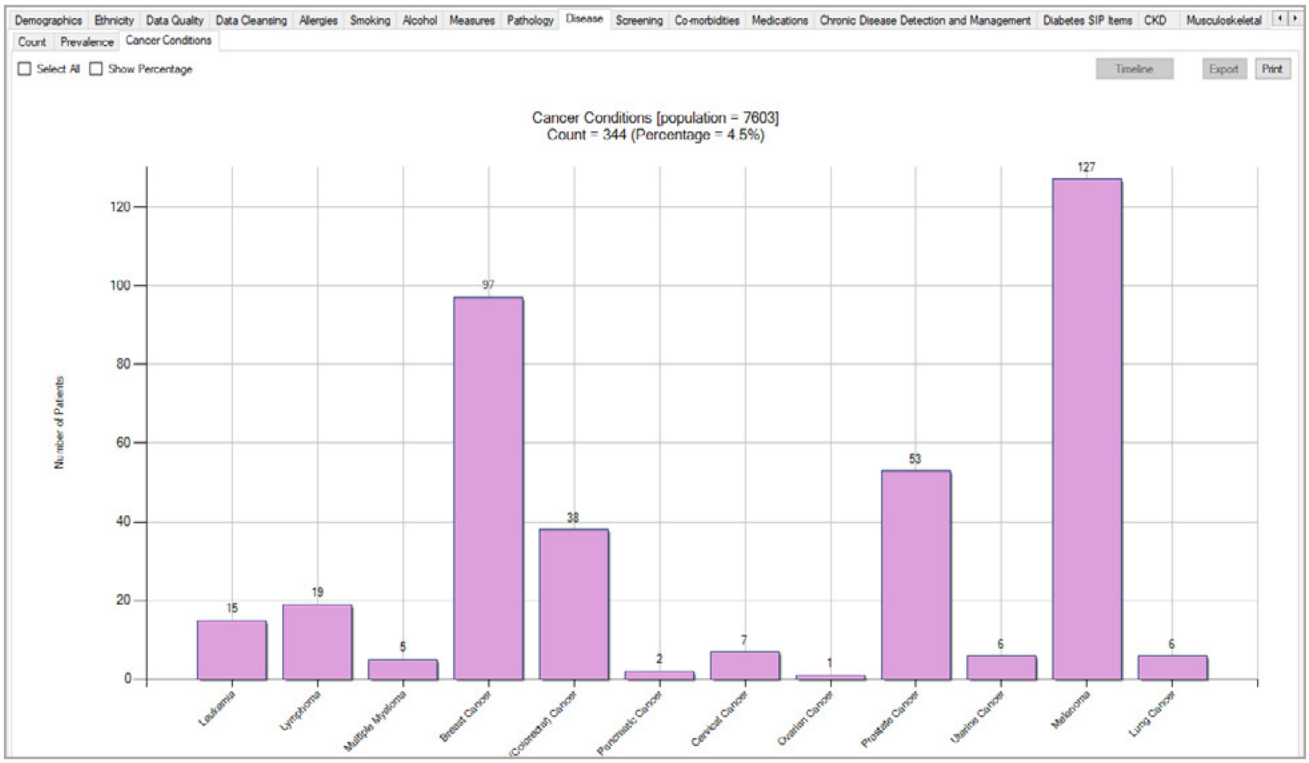
Cancer Reports/Filters in CAT4

CAT4 provides a number of cancer related graphs and reports. The cancer screening related reports cover cervical screening, mammograms and FOBT. A more recent report, the 'Cancer Conditions' report, covers a range of cancer diagnoses. Full details are provided here for cancer screening[8] and here for the cancer conditions report[9].

Under the 'Screening' tab, CAT4 shows all available cancer screening reports:



Under the 'Disease/Cancer Conditions' tab, CAT4 shows the available cancer categories for patients who have been diagnosed with cancer:



8- https://help.pencs.com.au/display/CG/Screening
9- https://help.pencs.com.au/display/CG/Cancer+Conditions+Report

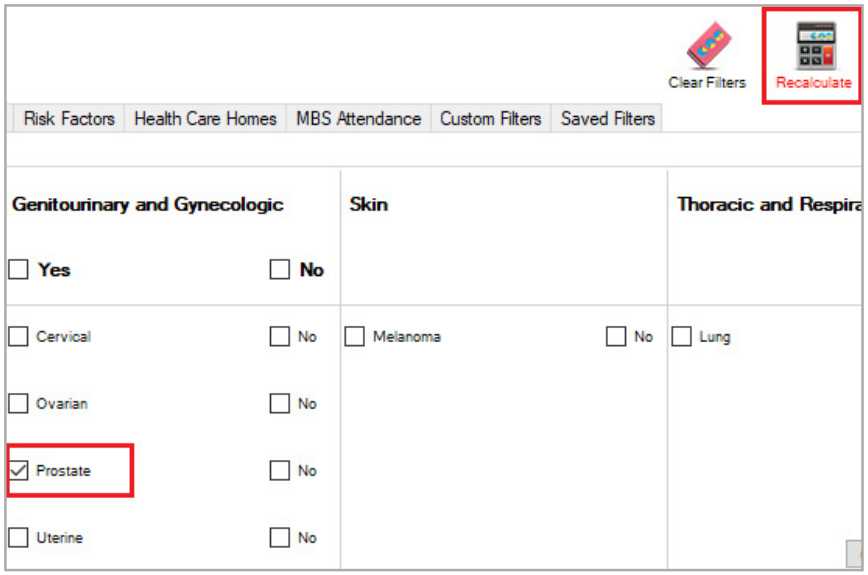
© Pen CS 2019

Cancer Reports/Filters in CAT4

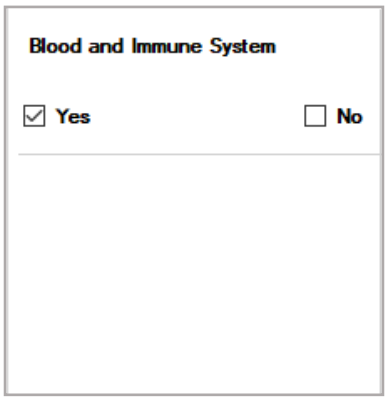
To find patients who have been diagnosed with cancer, CAT4 provides a filter on the 'Conditions/Cancer' tab:

The filter shows 'categories of cancer'. You can find patients with a particular cancer type or any type of cancer in one of the provided categories.

To find all patients with a diagnosis of prostate cancer, click on the box next to 'Prostate' in the 'Genitourinary and Gynecologic' category and then click on 'Recalculate':



To find all patients with any 'Blood and Immune System' cancer diagnosis, click the 'Yes' on top of that category:



This will hide the individual entries in that category and CAT4 will apply an 'OR' search for any of the listed conditions.

> Remember that selecting a single cancer diagnosis on the filter will find patients with multiple coded entries as CAT4 will apply the mapping as detailed in the section on Coding and Cancer[10].

10- Page 7

© Pen CS 2019

Cancer Screening Recipes

'Recipes' are filters that help you find a list of patients, which meet certain criteria. All CAT Plus recipes can be found in our online user guide at:

https://help.pencs.com.au/display/CR/CAT+RECIPES

The following recipes below have been selected as they are specific to cancer but are only a small selection of the available resources. Feel free to browse the whole library of recipes to see the step-by-step guides covering many areas of general practice work.

All patient lists created by following the recipes can be exported to Microsoft Excel, by following these steps:

1. Click on the 'Export' Icon at the top of the Patient Reidentification window.
2. Click on 'Excel'
3. Choose a file name and a location to save to (e.g. Create a folder C:/ClinicalAudit/CAT Patient FollowUp)
4. Click 'Save'

The steps above will produce a list of patients with contact details in MS Excel which can then be used to:

1. Produce a mail merge or bulk SMS to remind patients to attend cancer screening.
2. Phone patients to update their record or to remind them to attend cancer screening.
3. Go back through the individual patient records in the GP Clinical Desktop System (CDS) and update known records

Optional Steps – using your software more efficiently

There are a number of optional steps you can add to the recipes in this guide. In the interest of keeping this document short, the optional steps are available separately in this document, as shown below. You can combine all the following recipes with the optional steps depending on your target group of patients. The optional steps can be found here:

- Using Topbar Prompts in Recipes - create reminders for your clinicians based on the recipe searches[11]
- Combine Screening Searches with MBS item eligibility - recall patients who are also eligible for MBS items related to chronic disease care or prevention[12]
- Using SMS and Voice Messaging to recall patients based on CAT4 queries[13]

11- Page 30
12- Page 32
13- Page 33

© Pen CS 2019

Breast Cancer Participation Rate

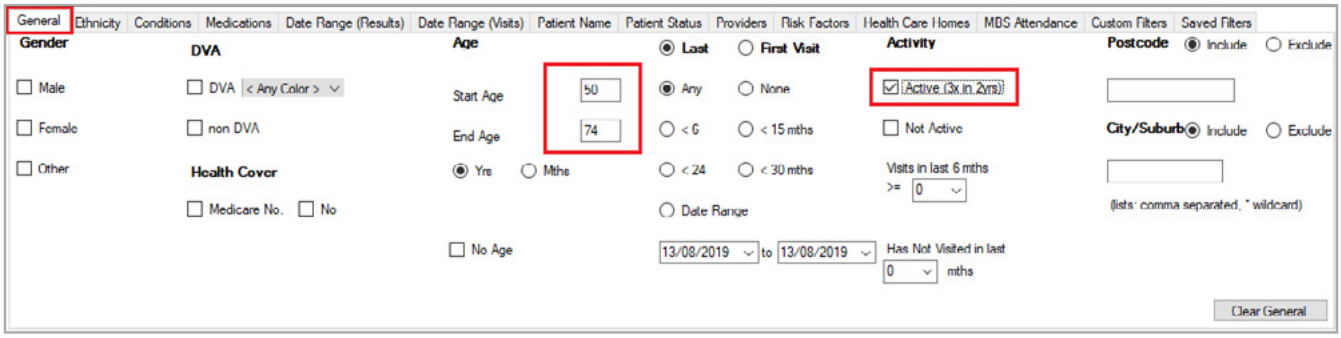
Rationale:	The 'breast cancer participation rate' recipe will support practices who are participating in cancer screening quality improvement to establish and monitor the breast cancer screening participation rate in their practice. • Breast cancer is the most common cancer affecting Australian women[14] • For women diagnosed with breast cancer, the risk of death is 42% lower for women who were diagnosed through BreastScreen than for those women who had never screened[14] Establishing and monitoring their breast cancer screening participation rates allows primary care providers to: • assess the need within their service for undertaking activities to improve patient participation in breast cancer screening • monitor the impact of cancer screening quality improvement activities on their breast cancer screening participation rates Note: for practices who have in the past received paper based screening results from BreastScreen and who have not retrospectively cleaned up their breast screening data, **this recipe will not provide an accurate breast cancer participation rate until two years after the practice has begun receiving electronic BreastScreen results. However, it is recommended that practices still use this recipe to establish and monitor their breast cancer participation rate because changes over time will show if there is a positive trend in breast screening participation within their practice.**
Target:	The proportion of active female patients, aged 50-74, who have had a bilateral breast screen mammogram within the previous two years. Numerator: The number of active female patients, aged 50-74, who have had a bilateral breast screen mammogram within the previous two years. Denominator: The number of active female patients aged 50-74 years eligible for a screening mammogram.
Recipe Limitation	1: CAT4 cannot recognise paper based results that are scanned to a patient file. For practices who have received paper based screening results from BreastScreen and who have not retrospectively cleaned up their breast screening data, **this recipe will not provide an accurate breast cancer participation rate until two years after the practice has begun receiving electronic BreastScreen results.** However, it is recommended that practices still use this recipe to establish and monitor their breast cancer participation rate because the recipe will show if there is a positive trend in breast screening participation over time. 2: This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[15] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane 'Hidden' • Filter Pane open and under the 'General' tab 'Active Patients' (3x <2 years) selected

14- http://www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/about-breast-cancer
15- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

© Pen CS 2019

Filter Steps:

1. In the 'General' Tab, click the 'Active' box and enter Start Age = 50 and End Age = 74



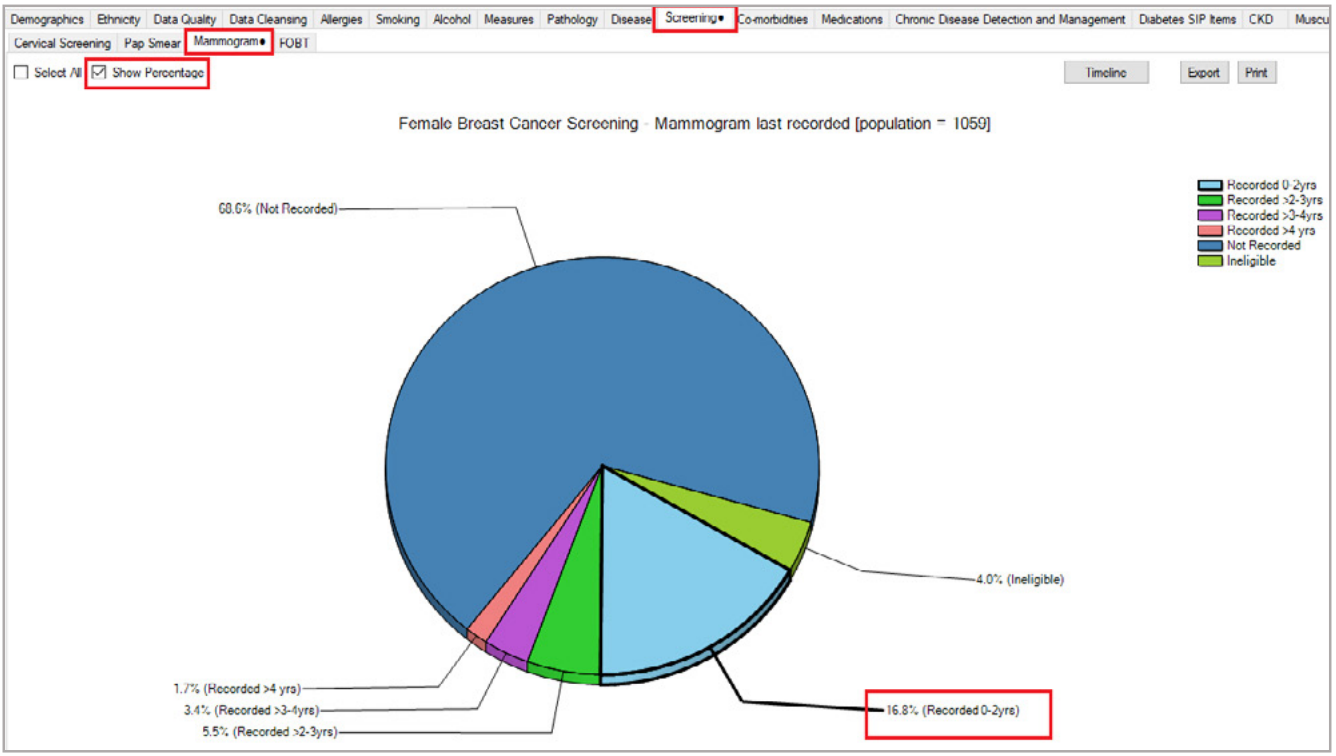
- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.
- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process.

2. Click 'Recalculate'
3. Click 'Hide Filters'

Report Steps:

1. Select the 'Screening/Mammogram' tab
2. Tick the 'Show Percentage' box on the top left
3. Select the 'Recorded 0-2yrs' slice of the graph

This report will show the selected patients and the proportion of patients with a mammogram recorded.



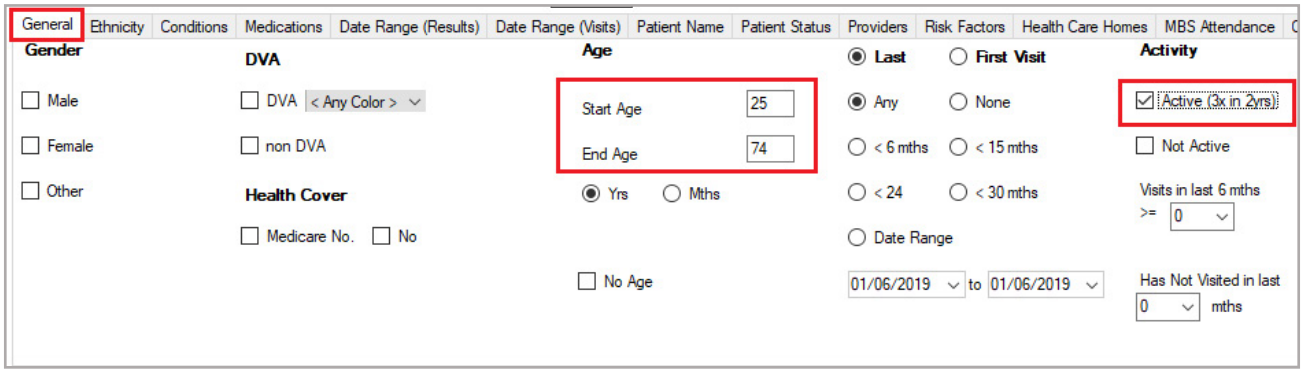
© Pen CS 2019

Cervical Cancer Participation Rate

Rationale:	The 'cervical cancer participation rate' recipe will support practices who are participating in cervical cancer screening quality improvement to establish and monitor the cervical cancer screening participation rate in their practice. • Cervical cancer is one of the most preventable cancers • Almost 80% of cervical cancers occur in women who have never been screened or are not up-to-date with their cervical screening[16] Establishing and monitoring their cervical cancer screening participation rates allows primary care providers to: • assess the need within their service for undertaking activities to improve patient participation in cervical cancer screening • monitor the impact of cancer screening quality improvement activities on their cervical cancer screening participation rates
Target:	The proportion of active female patients aged between 25 and 74 years of age who have had a Pap test in the previous 2 years OR a Cervical Screening Test in the previous 5 years. Numerator: The number of active female patients aged between 25 and 74 years of age who have had a Pap test in the previous 2 years OR a Cervical Screening Test in the previous 5 years. Denominator: The number of active female patients aged between 25 and 74 years of age who are eligible for the National Cervical Screening Program.
Recipe Limitations:	This report excludes patients with a number of conditions, including hysterectomy, under the 'ineligible' category. Practices should be aware of the diagnosis codes[17] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane "Hidden" • Filter Pane open and under the 'General' tab 'Active Patients' (3x <2 years) selected

Filters Steps:

1. In the 'General' Tab, click the 'Active' box and enter Start Age = 25 and End Age = 74



16- Cancer Institute NSW: About cervical screening, 11/18 update. https://www.cancer.nsw.gov.au/cervical-screening-nsw/about-cervical-screening (cited: Jan 2019)
17- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

© Pen CS 2019

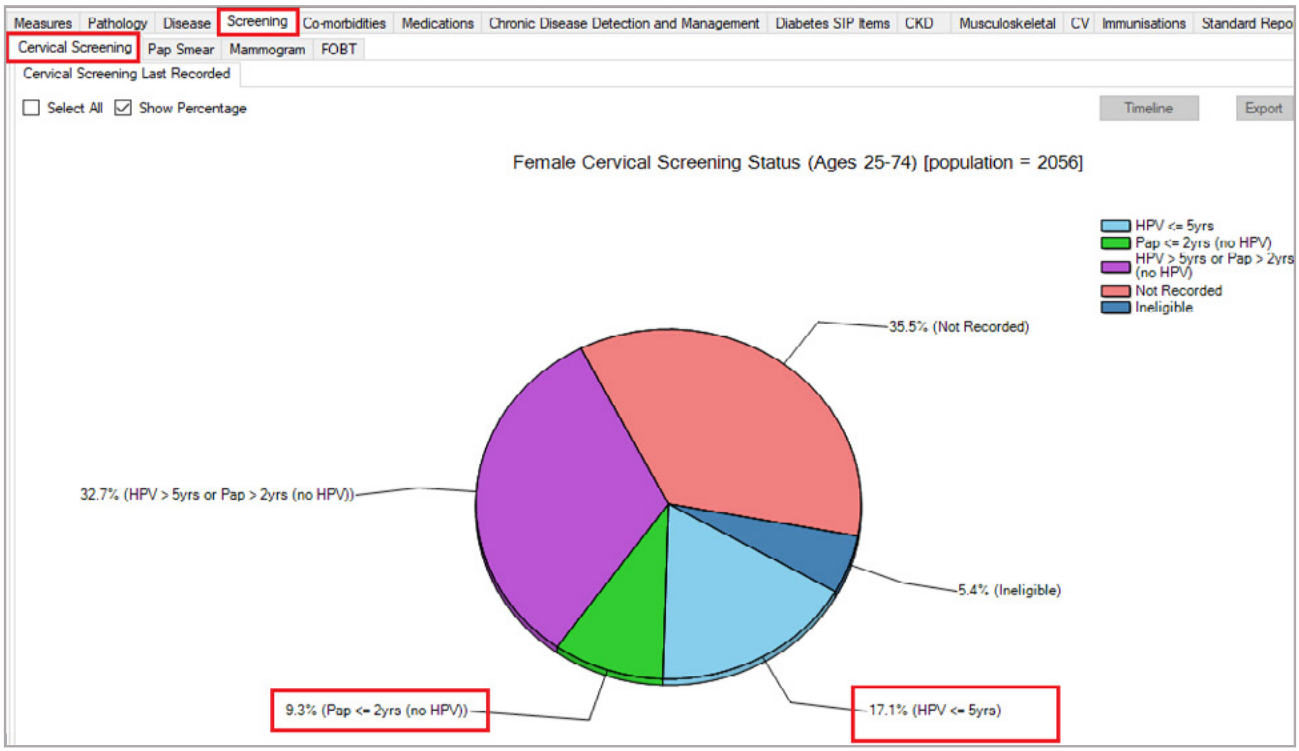
- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.
- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process.

2. Click 'Recalculate'
3. Click 'Hide Filters'

Report Steps:

1. Select the 'Screening/Cervical Screening' tab
2. Tick the 'Show Percentage' box on the top left

This report will show the selected patients and the proportion of patients with a CST or Pap Smear recorded.



Using the report to establish your cervical cancer screening participation rate:

Your cancer screening participation rate is the proportion of patients in the (HPV >5yrs or Pap >2yrs (no HPV) category.

Using the example pie graph above, the cervical cancer screening participation rate for this practice is 32.7%.

Updating your patient records through the National Cancer Screening Register:

Women sometimes prefer to go to someone other than their usual healthcare provider for their cervical screening test, and because practices may not know the cervical screening history of new patients, patients can appear overdue for screening when they are not.

This report can be exported to be sent to the National Cancer Screening Register (NCSR) for review, they will advise which patients have attended screening. They will require the patient's Medicare number which is included in the patient report. Follow the prior steps to export the patient list to Excel.

Call the NCSR on 1800 627 701 for more information.

© Pen CS 2019

Bowel Cancer Screening Participation Rate

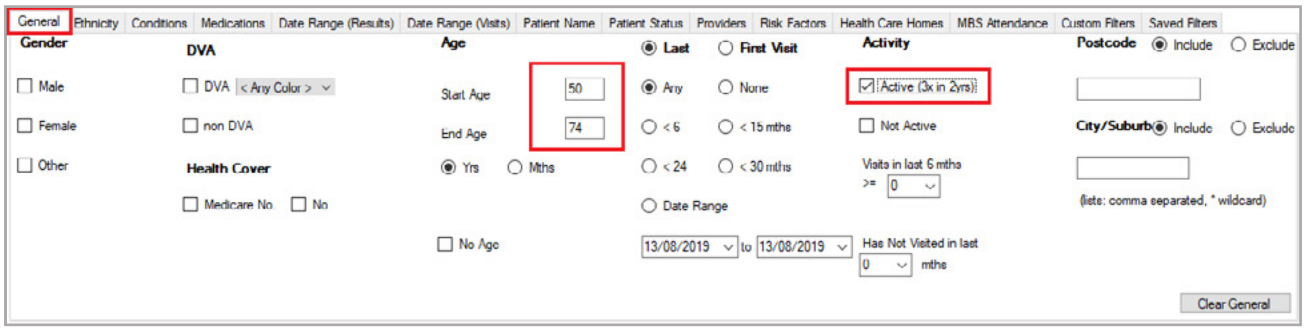
Rationale:	The 'bowel cancer participation rate' recipe will support practices who are participating in cancer screening quality improvement to establish and monitor the bowel cancer screening participation rate in their practice. • If detected early, bowel cancer can be successfully treated in more than 90% of cases[18] • If bowel screening participation rates in the National Bowel Cancer Screening Program increased to 60% across Australia, up to 90,000 lives could be saved from bowel cancer over the next 40 years[19] Establishing and monitoring their bowel cancer screening participation rates allows primary care providers to: • assess the need within their service for undertaking activities to improve patient participation in bowel cancer screening • monitor the impact of cancer screening quality improvement activities on their bowel cancer screening participation rates
Target:	The proportion of active patients, aged 50-74 years, who have completed an FOBT in the previous 2 years. Numerator: the number of active patients, aged 50-74 years, who have completed an iFOBT in the previous 2 years. Denominator: the number of active patients aged 50-74 years eligible for the National Bowel Cancer Screening Program.
Recipe Limitations:	This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[20] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane 'Hidden' • Filter Pane open and under the 'General' tab 'Active Patients' (3x <2 years) selected

18- https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/bowel-cancer
19- https://www.cancer.nsw.gov.au/bowel-screening
20- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

© Pen CS 2019

Filter Steps:

1. In the 'General' Tab, click the 'Active' box and enter Start Age = 50 and End Age = 74

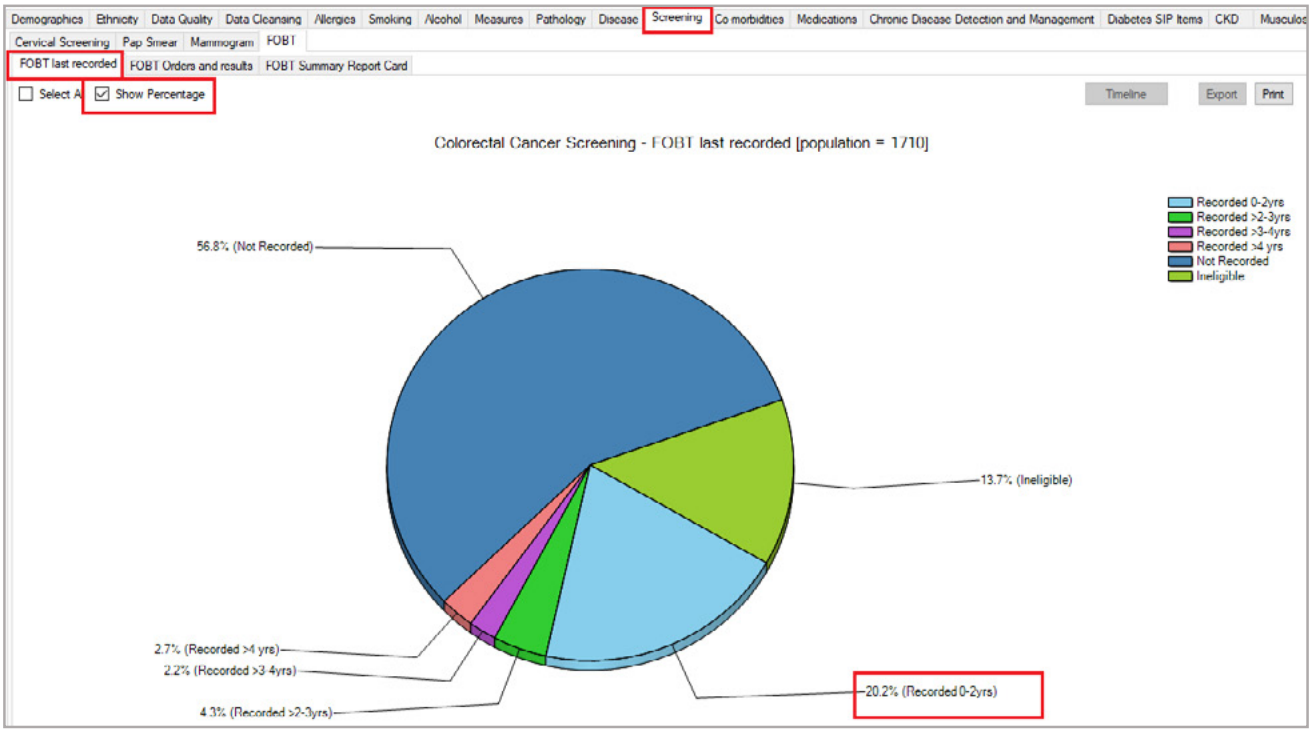


2. Click 'Recalculate'
3. Click 'Hide Filters'

Report Steps:

1. Select the 'Screening/FOBT/FOBT Last Recorded' tab
2. Tick the 'Show Percentage' box on the top left
3. Select the 'Recorded 0-2yrs' slice of the graph

This report will show the selected patients and the proportion of patients with a FOBT recorded in the last two years.



© Pen CS 2019

Patients who have never been screened or are overdue to screen for more than one screening program

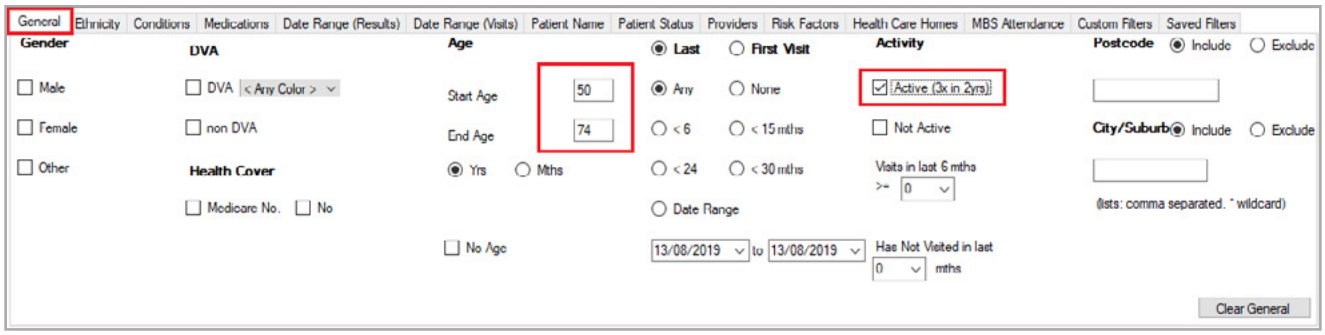
Rationale:	This recipe supports identification of women who are non-screeners across multiple screening programs. Primary care providers are well positioned to provide women who may have complex reasons for non-participation in cancer screening with the support they need to engage with cancer screening. A high proportion (69%) of women who have screened participate in all the cancer screening programs they are eligible for[21]. This may mean that if the barriers to screening for non-screeners can be broken down in at least one program, it might improve participation in other screening programs as well, leading to more cancers detected through screening and reduced risk of death. Practices may wish to consider contacting patients who are overdue for more than one screening program by phone and inviting them to make an appointment to speak to a clinician about screening.
Target:	Female patients aged 50 and older never screened or overdue for CST, mammogram and FOBT screening.
Recipe Limitations:	This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[22] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane "Hidden" • Filter Pane open • OPTIONAL: under the 'General' tab 'Active Patients' (3x <2 years) selected

21- Australian Institute of Health and Welfare 2018. Analysis of cancer outcomes and screening behaviour for national cancer screening programs in Australia. Cancer series no. 111. Cat. no. CAN 115. Canberra: AIHW
22- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

© Pen CS 2019

Filter Steps:

1. In the 'General' Tab, enter Start Age = 50 and End Age = 74. Practices should decide if they want to send screening reminders to active patients only. Population based screening programs target asymptomatic patients and you may have patients who consider your practice their medical home but do not fit the criteria for being an 'active' patient. **Recall of 'Active' patients only depends on your priorities and is optional!**



- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.

- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process.

2. Click 'Recalculate'

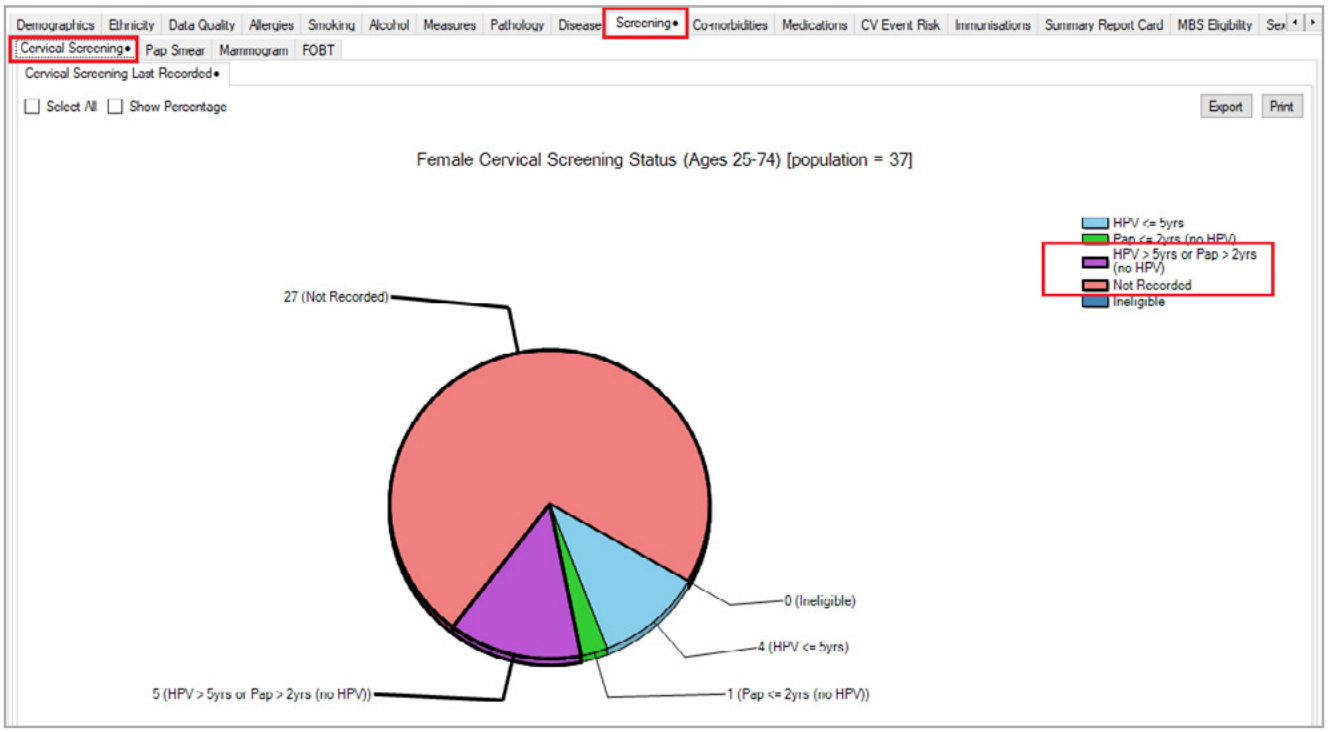
3. Click 'Hide Filters'

Report Steps:

1. Select the 'Screening/Cervical Screening' tab

This reports shows the cervical screening results for the selected patients. Select the following categories from the graph:

- HPV>5yrs / Pap>2yrs (no HPV) - No HPV test in more than 5 years/ no Pap test in more than 2 years,
- Not Recorded

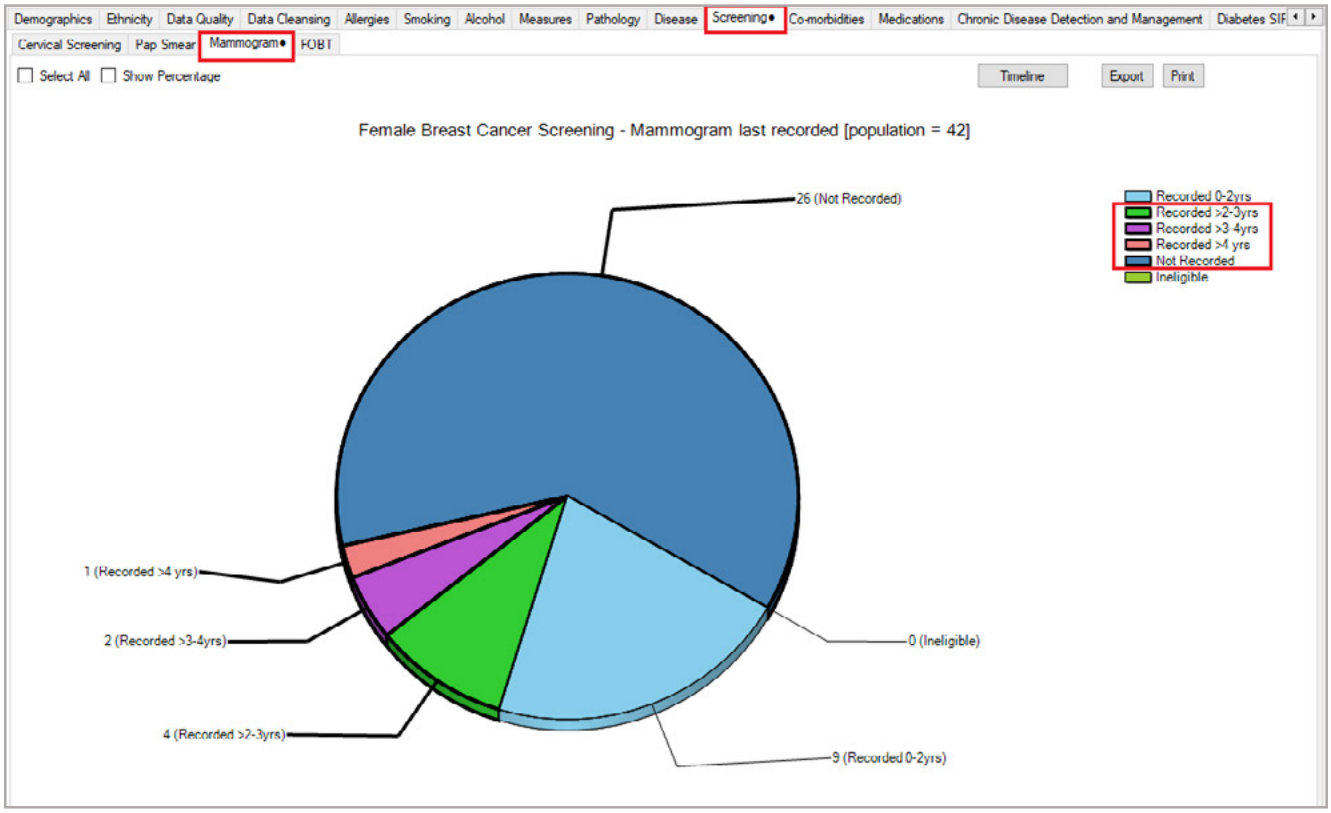


© Pen CS 2019

2. Select the 'Screening/Mammogram' tab

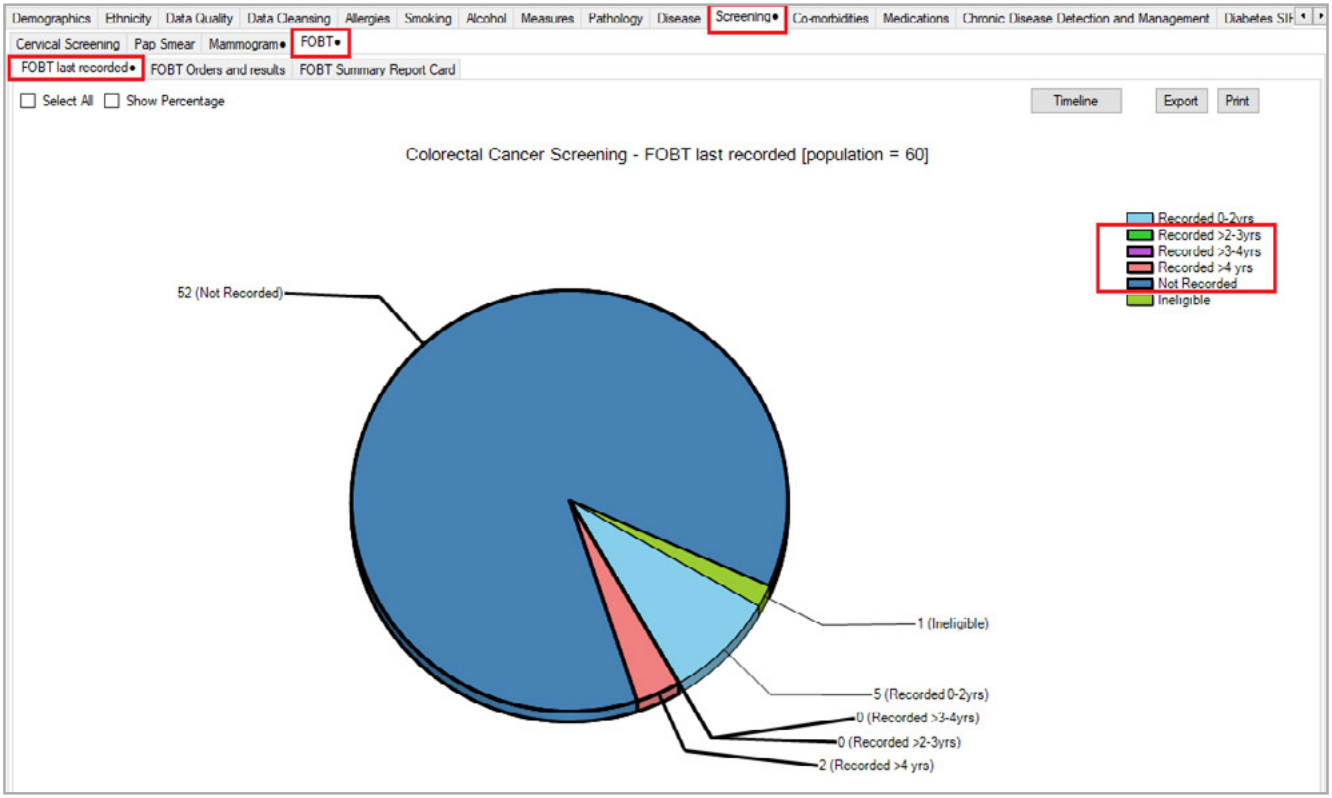
This report will show the selected patients and the proportion of patients with a mammogram recorded. To find patients with no Mammogram recorded or no Mammogram recorded in the last 28 months, select the following slices of the graph:

- >2-3 years,
- >3-4 years,
- > 4 years,
- No Mammogram recorded

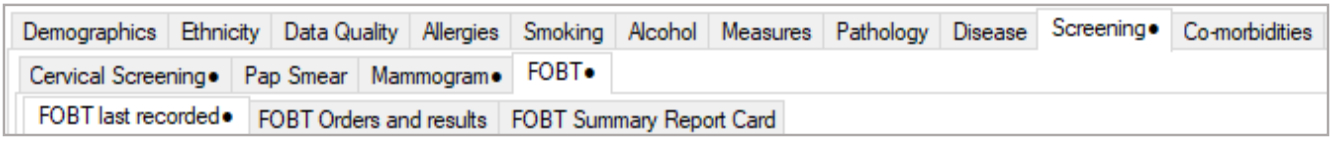


3. Select the 'Screening/FOBT' tab. To find patients with no FOBT recorded or no FOBT recorded in the last 28 months, select the following slices of the graph:
   - >2-3 years,
   - >3-4 years,
   - > 4 years,
   - No FOBT Recorded

© Pen CS 2019

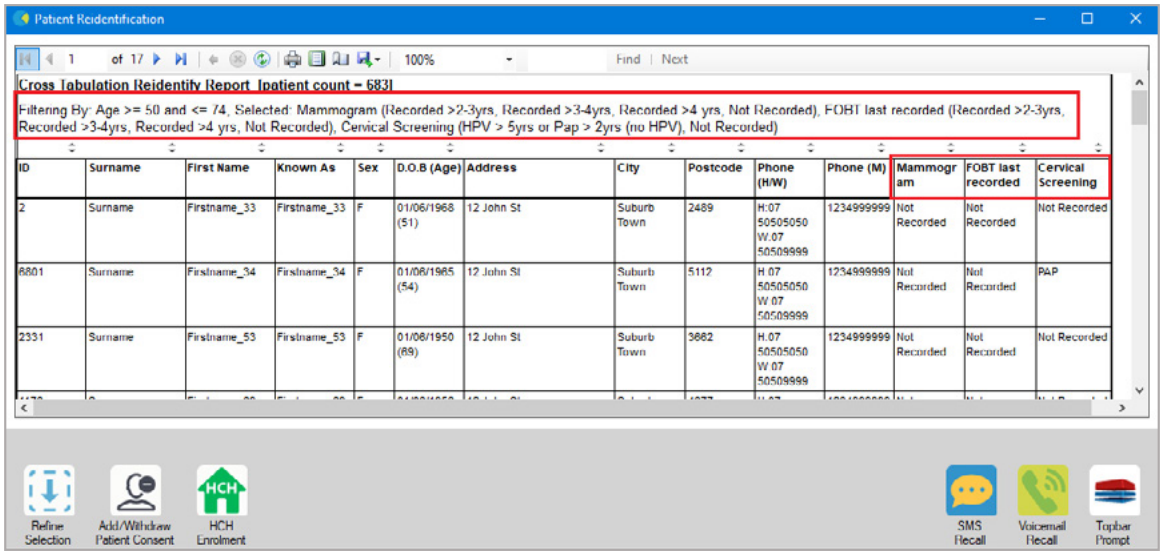


To find patients that are eligible for all screening tests you can do a cross-tabulation[23]. Leave the relevant parts of each pie chart selected as shown above and you should see a dot next to each report:



Then click on the 'Report' icon on top of your screen:

This will show a list of all patients meeting the selected categories on **all three** reports:



23- https://help.pencs.com.au/display/CG/Cross+Tabulation+Report

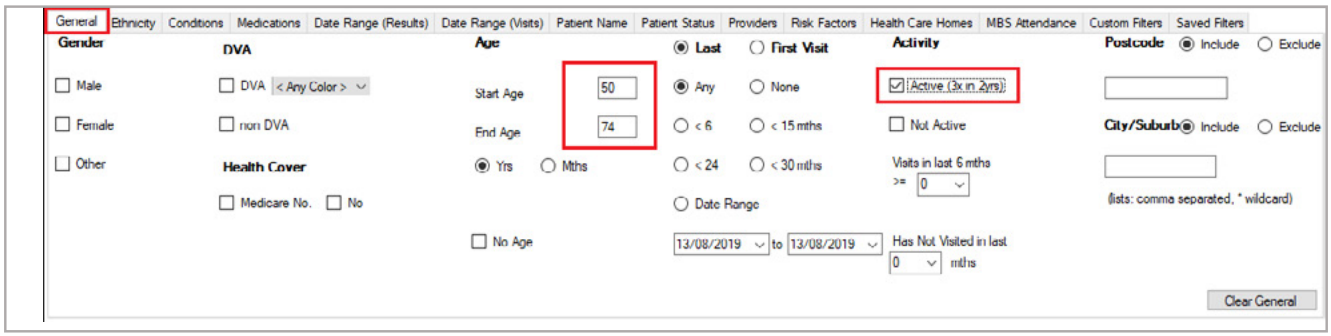
© Pen CS 2019

Patients due to return to all three screening programs in the next three months

Rationale:	This recipe identifies patients who have screened and will be due to re-attend screening soon. General practice plays an important role in encouraging patients to continue to screen, practices can use this recipe to remind patients to continue to screen.
Target:	Female patients aged 50 and over and overdue for CST, mammogram and FOBT screening who were previously screened for all three.
Recipe Limitations:	This recipe does not identify women who, following a Cervical Screening Test (HPV and LBC), are required to repeat a HPV test in 12 months (as per the screening pathway[24]). These women should be recalled as per your practice recall policy. This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[25] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane 'Hidden' • Filter Pane open • OPTIONAL: under the 'General' tab 'Active Patients' (3x <2 years) selected

Filter Steps:

1. In the 'General' Tab, enter Start Age = 50 and End Age = 74. Practices should decide if they want to send screening reminders to active patients only. Population based screening programs target asymptomatic patients and you may have patients who consider your practice their medical home but do not fit the criteria for being an 'active' patient. **Recall of 'Active' patients only depends on your priorities and is optional!**



- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.
- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process.

2. Click 'Recalculate'
3. Click 'Hide Filters'

24- http://www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/healthcare-providers#5
25- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

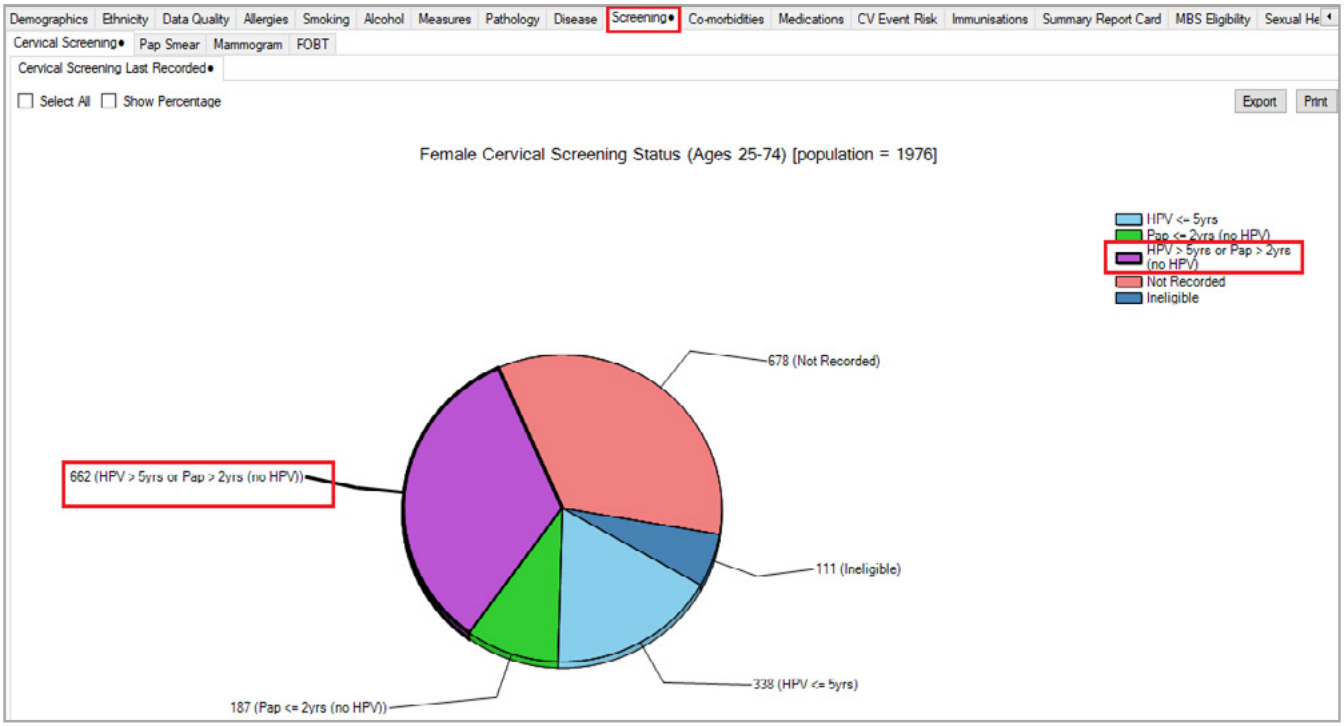
© Pen CS 2019

Report Steps:

1. Select the 'Screening/Cervical Screening' tab

This reports shows the cervical screening results for the selected patients. Select the following categories from the graph:

- HPV>5yrs / Pap>2yrs (no HPV) - No HPV test in more than 5 years/ no Pap test in more than 2 years

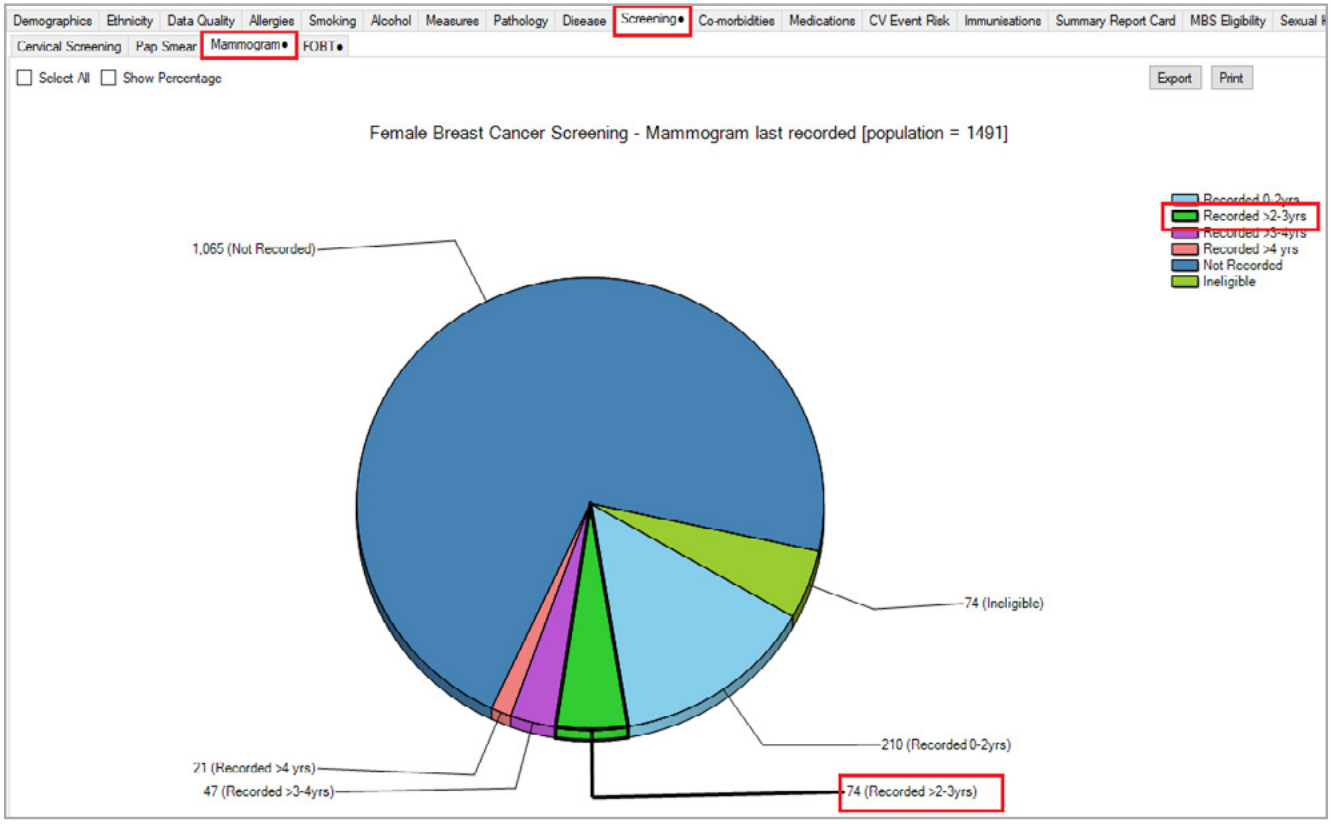


2. Select the 'Screening/Mammogram' tab

This report will show the selected patients and the proportion of patients with a mammogram recorded. To find patients with no Mammogram recorded or no Mammogram recorded in the last 28 months, select the following slices of the graph:

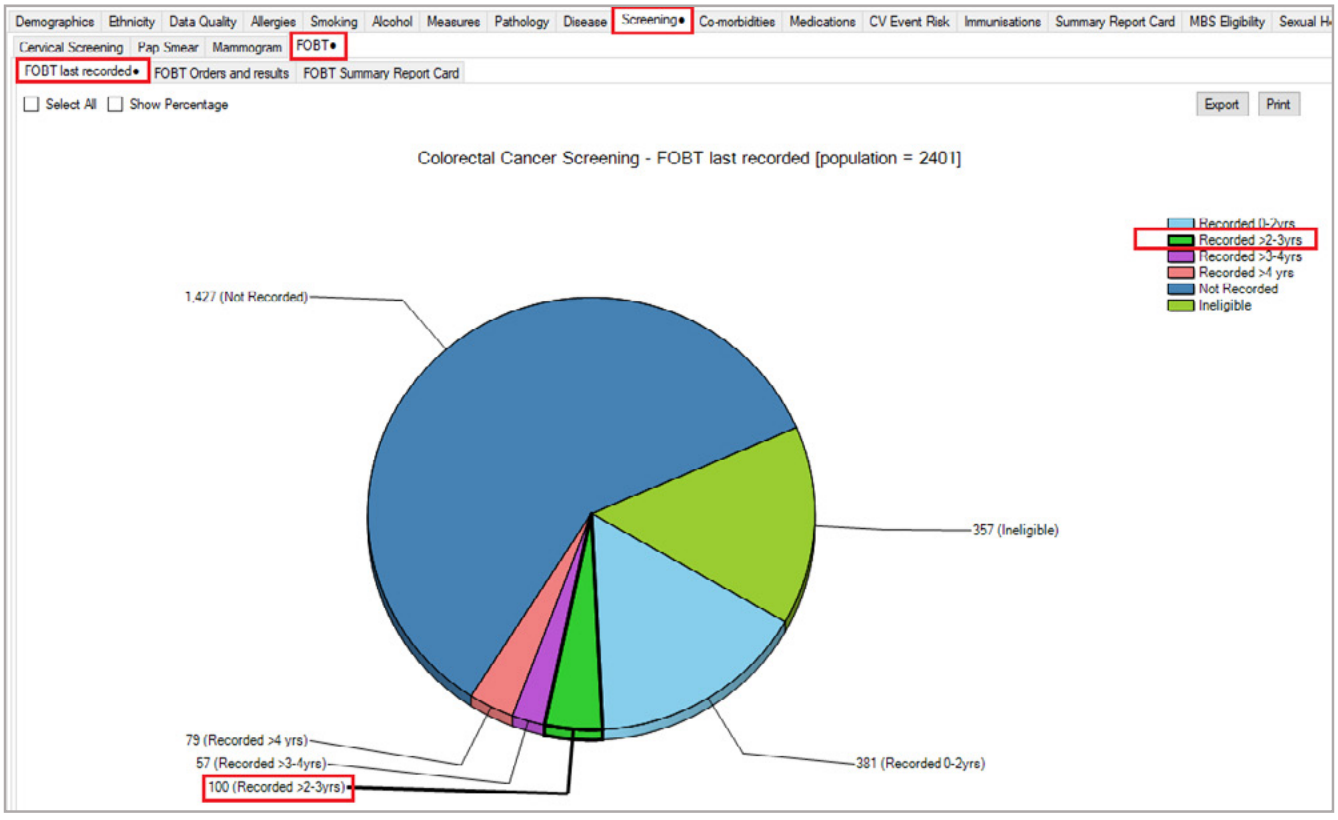
- >2-3 years

© Pen CS 2019



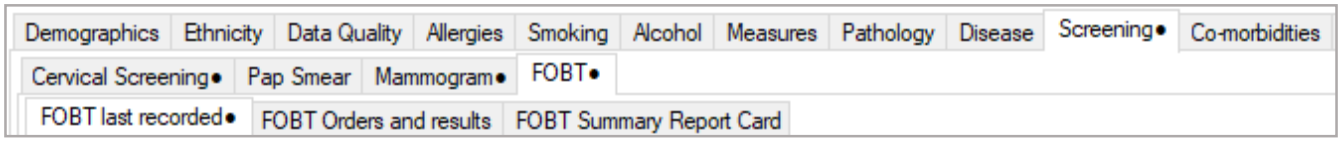
3. Select the 'Screening/FOBT' tab. To find patients with a FOBT recorded in the last 28 months, select the following slices of the graph:

- >2-3 years



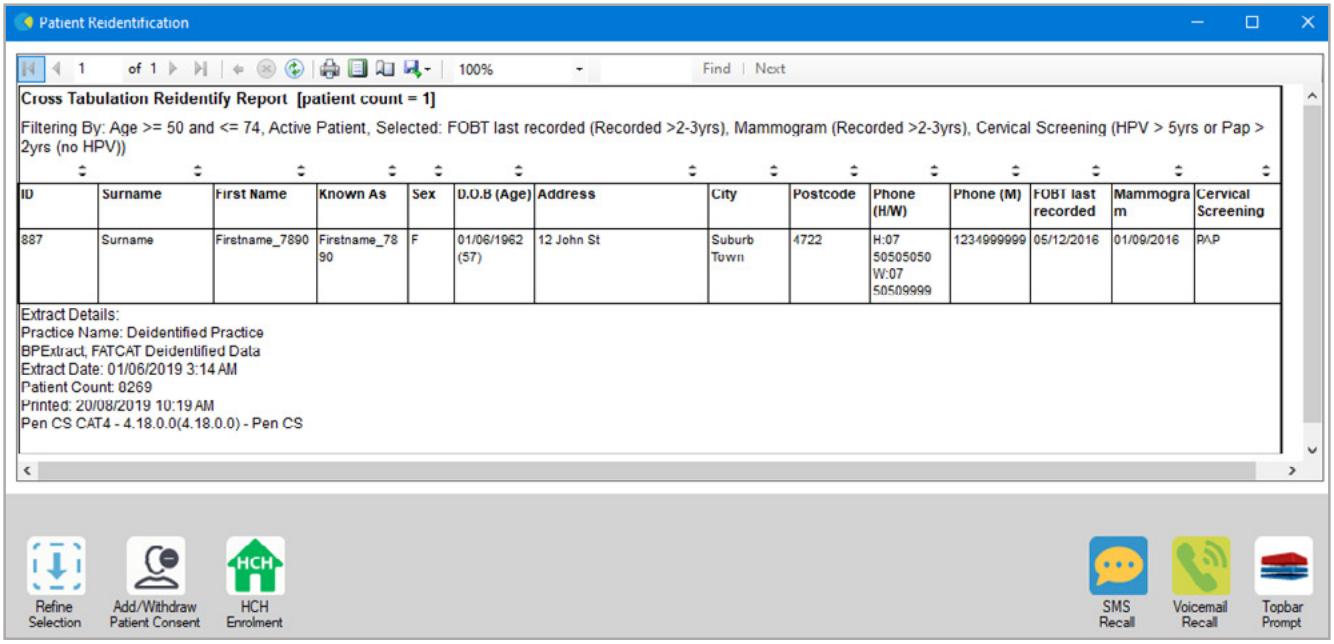
© Pen CS 2019

4. To find patients that are eligible for all screening tests you can do a cross-tabulation[26]. Leave the relevant parts of each pie chart selected as shown above and you should see a dot next to each report:



5. Click on the 'Report' icon on top of your screen:

This will show a list of all patient meeting the selected categories on **all three** reports:



26- https://help.pencs.com.au/display/CG/Cross+Tabulation+Report

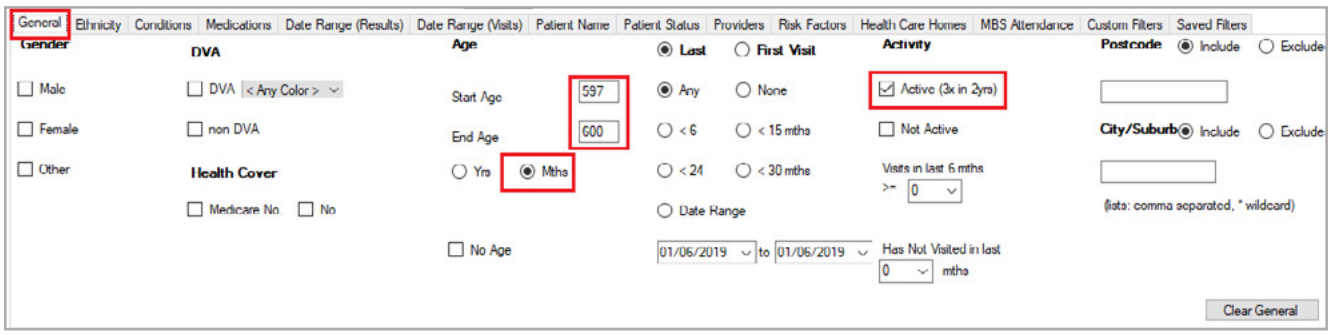
© Pen CS 2019

Patients turning 50 in the next three months eligible for bowel and/or breast screen

Rationale:	People can be less likely to respond to their first screening invitation than to subsequent invitations[27]. GPs play an important role in encouraging people turning 50 to respond to their first invitation to BreastScreen NSW and the National Bowel Cancer Screening Program. This recipe supports practices to identify patients who will be sent an invitation letter from the National Bowel Cancer Screening Program and/or BreastScreen in the next three months **so that the practice can reinforce to the patient the importance of responding to this invitation/s.**
Target:	The number of active patients turning 50 in the next three months who are eligible for bowel and/or breast screening.
Recipe Limitations:	This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[28] that Pen CS uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane 'Hidden' • Filter Pane open • OPTIONAL: under the 'General' tab 'Active Patients' (3x <2 years) selected

Filter Steps:

1. In the 'General' Tab, select the 'Mths' button and enter Start Age = 597 and End Age = 600 months. **If required, select 'Active' to search for your active patients only.**



- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.
- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process.

2. Click 'Recalculate'
3. Click 'Hide Filters'

27- Australian Institute of Health and Welfare (AIHW): National Bowel Cancer Screening Program Monitoring Report 2019. Canberra: AIHW, 2019.
28- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

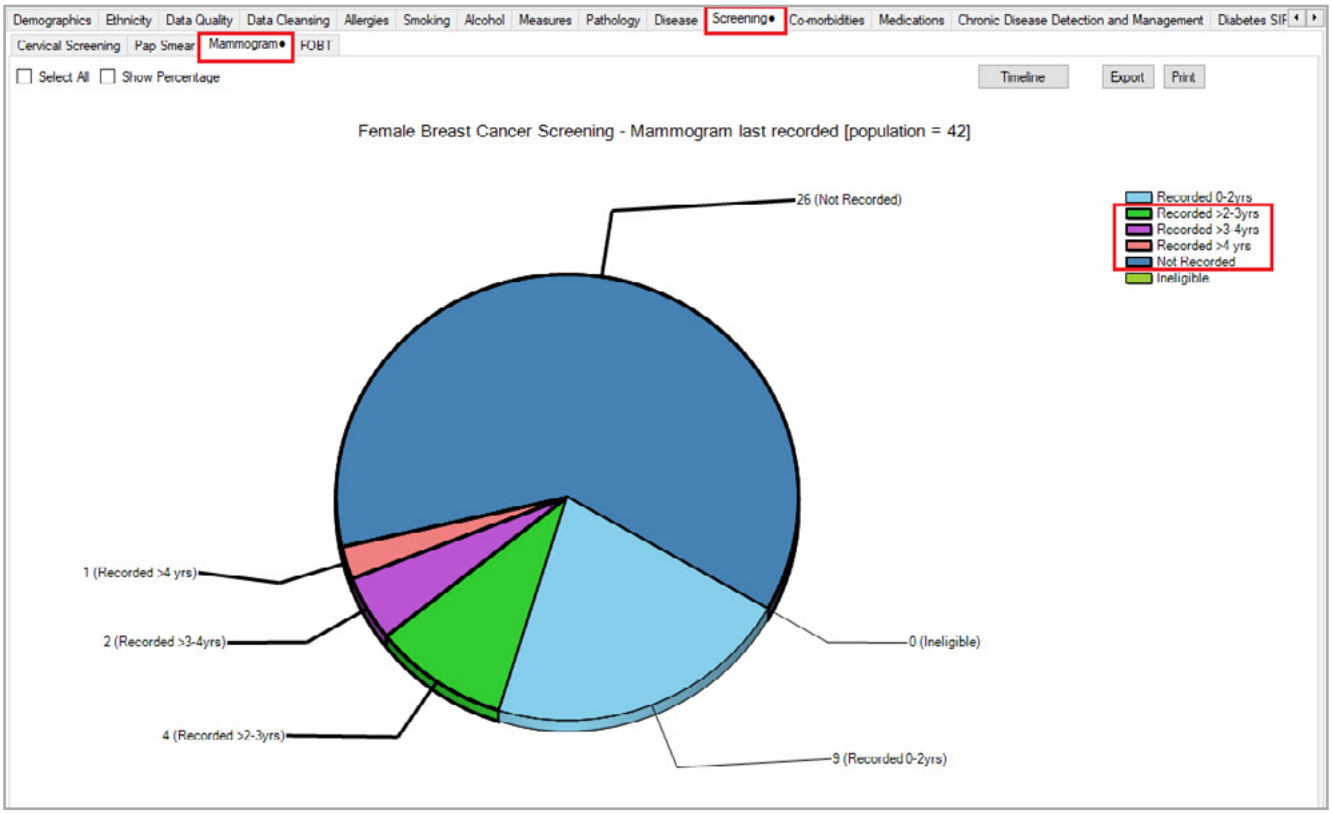
© Pen CS 2019

Report Steps:

Breast Screening Only

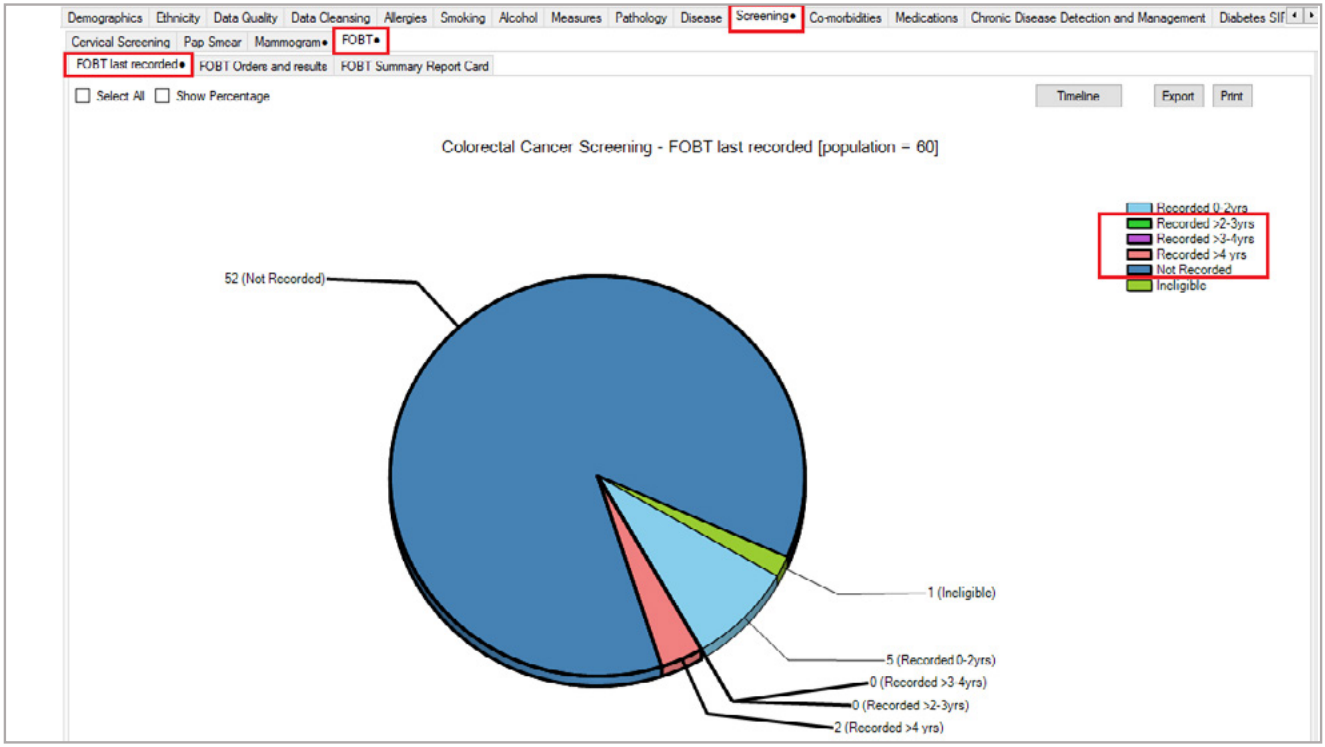
1. Select the 'Screening/Mammogram' tab

This report will show the selected patients and the proportion of patients without a mammogram recorded. To find patients eligible for breast screening select all patients without a mammogram as well as those with a mammogram older than two years:



Bowel Cancer Screening Only

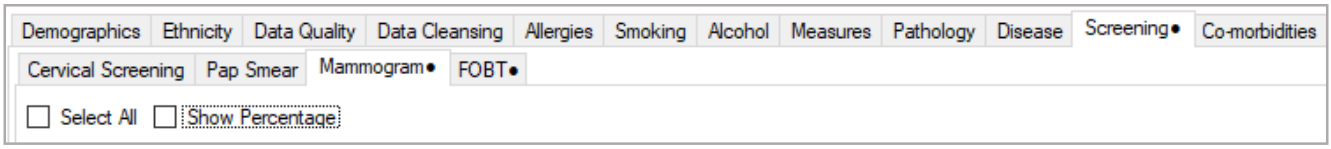
1. To find patients eligible for bowel cancer screening, go to the 'Screening/FOBT' tab
2. Select all patients without a FOBT as well as those with a FOBT older than two years:



© Pen CS 2019

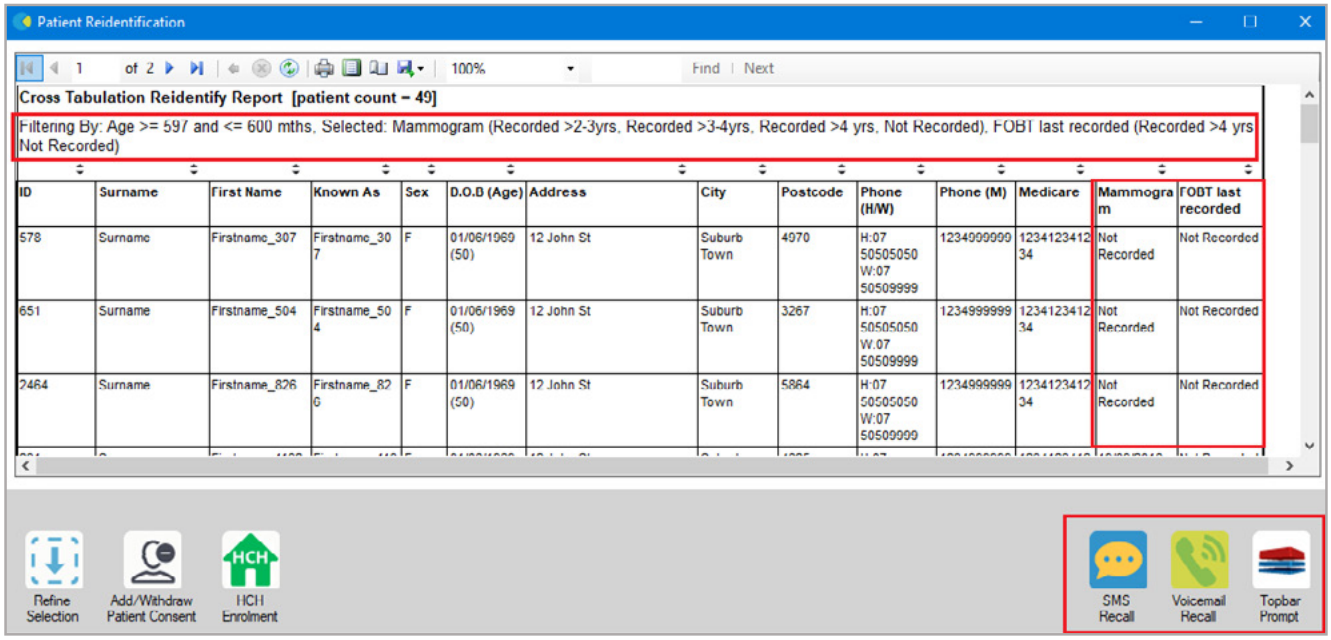
Patient eligible for both Breast AND Bowel Cancer Screening

1. To find patients that are eligible for both FOBT and mammogram you can do a cross-tabulation[29]. Leave the relevant parts of each pie chart selected as shown above and you should see a dot next to each report:



2. Click on the 'Report' icon on top of your screen:

This will show a list of all patients meeting the selected categories on **both** reports:



29- https://help.pencs.com.au/display/CG/Cross+Tabulation+Report

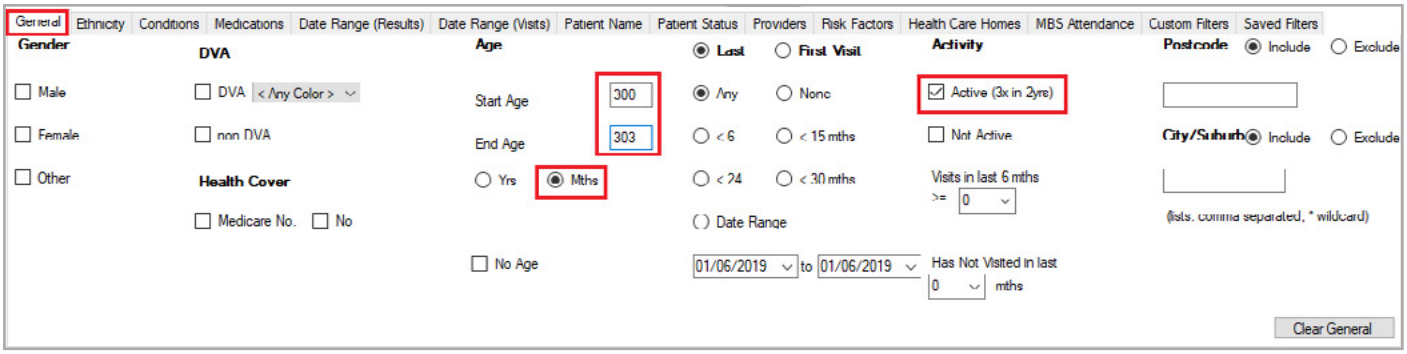
© Pen CS 2019

Patients who turned 25 in the last three months eligible for cervical screening

Rationale:	People can be less likely to respond to their first screening invitation than to subsequent invitations[30]. GPs play an important role in encouraging people turning 25 to respond to their first invitation to the National Cervical Screening Program. The 'Patients who turned 25 in the last three months eligible for cervical screening' recipe support practices to identify patients who should have been sent an invitation letter from the National Cervical Screening Program in the last three months **so that the practice can reinforce to the patient the importance of responding to the invitation.**
Target:	The number of female patients who have turned 25 in the past three months eligible for a cervical screening test.
Recipe Limitations:	This report excludes patients with a number of conditions under the 'ineligible' category. Practices should be aware of the diagnosis codes[31] that CAT4 uses to assign patients to 'ineligible'. Practices should undertake periodic clinical review of patients in the 'ineligible' category to assess if any of these patients should return to screening. Your practice may have patients that you consider clinically ineligible for screening that are not captured by these diagnosis codes. These patients should be manually opted out of screening.
CAT Starting Point:	1. CAT Open - CAT4 view (all reports) loaded 2. Population Extract Loaded and Extract Pane 'Hidden' • Filter Pane open • OPTIONAL: under the 'General' tab 'Active Patients' (3x <2 years) selected

Filter Steps:

1. In the 'General' Tab, select the 'Mths' button and enter Start Age = 300 and End Age = 303 months. Practices should decide if they want to send screening reminders to active patients only. Population based screening programs target asymptomatic patients and you may have patients who consider your practice their medical home but do not fit the criteria for being an 'active' patient. **Recall of 'Active' patients only depends on your priorities and is optional!**



- You can select the Gender/Female but the report will automatically show female patients as well as patients with no gender entered. This is the preferred approach, as it will include all patients potentially at risk including those without gender information entered.
- Practices should review those patients for whom no gender is entered to ensure they are only sent appropriate cancer screening reminders. Consideration should be given to keeping a register of transgender, gender diverse and intersex patients to support this process

2. Click 'Recalculate'
3. Click 'Hide Filters'

30- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2965320/
31- https://help.pencs.com.au/display/CG/Diagnosis+Codes+Screening+Tests

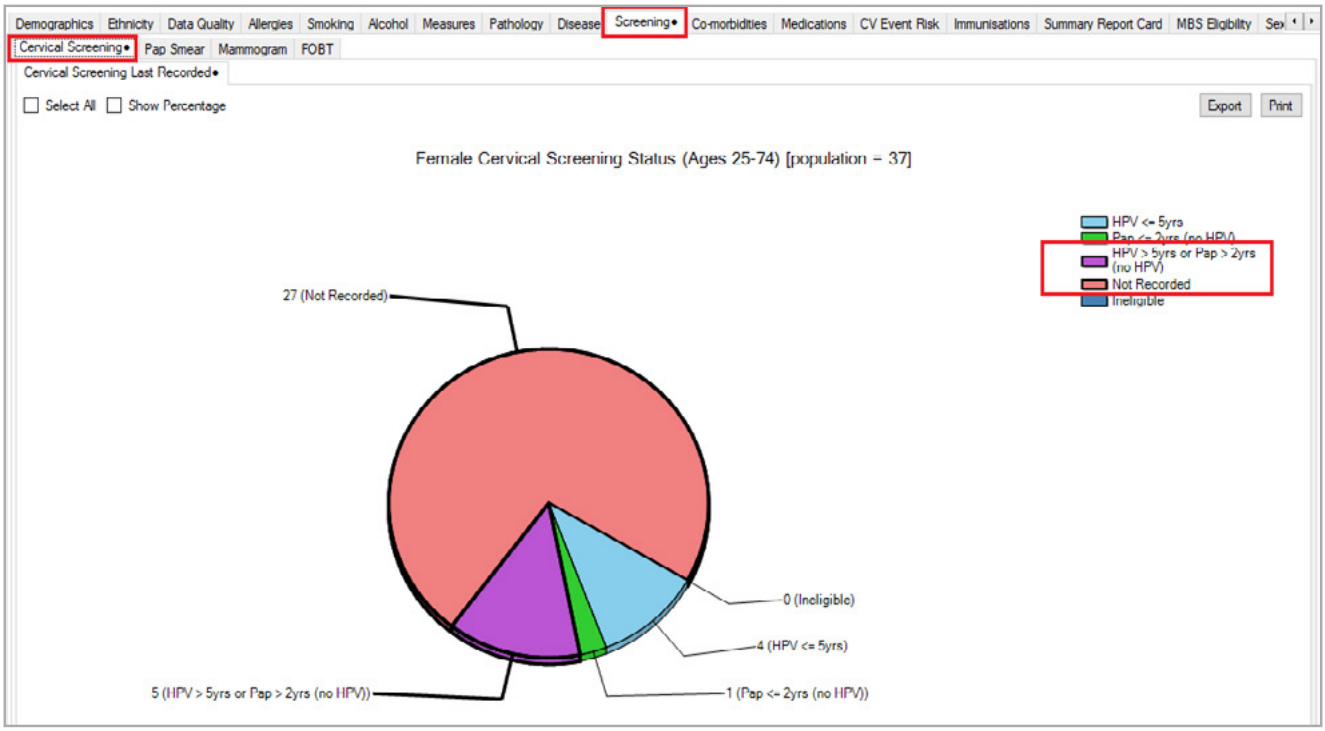
© Pen CS 2019

Report Steps:

1. Select the 'Screening/Cervical Screening' tab

This report will show the selected patients and the patients without a CST or Pap Smear recorded. While the title of the report still shows (Ages 25 - 74) the age filter we applied will ensure that only patients who have turned 25 in the last three months are listed in the report. Select the following categories from the graph:

- HPV>5yrs / Pap>2yrs (no HPV) - No HPV test in more than 5 years/ no Pap test in more than 2 years,
- Not Recorded



2. To see the list of eligible patients, click the 'Export' button.

> The report can also be exported to be sent to the National Cancer Register for bulk enquiries on patients' cervical screening status.

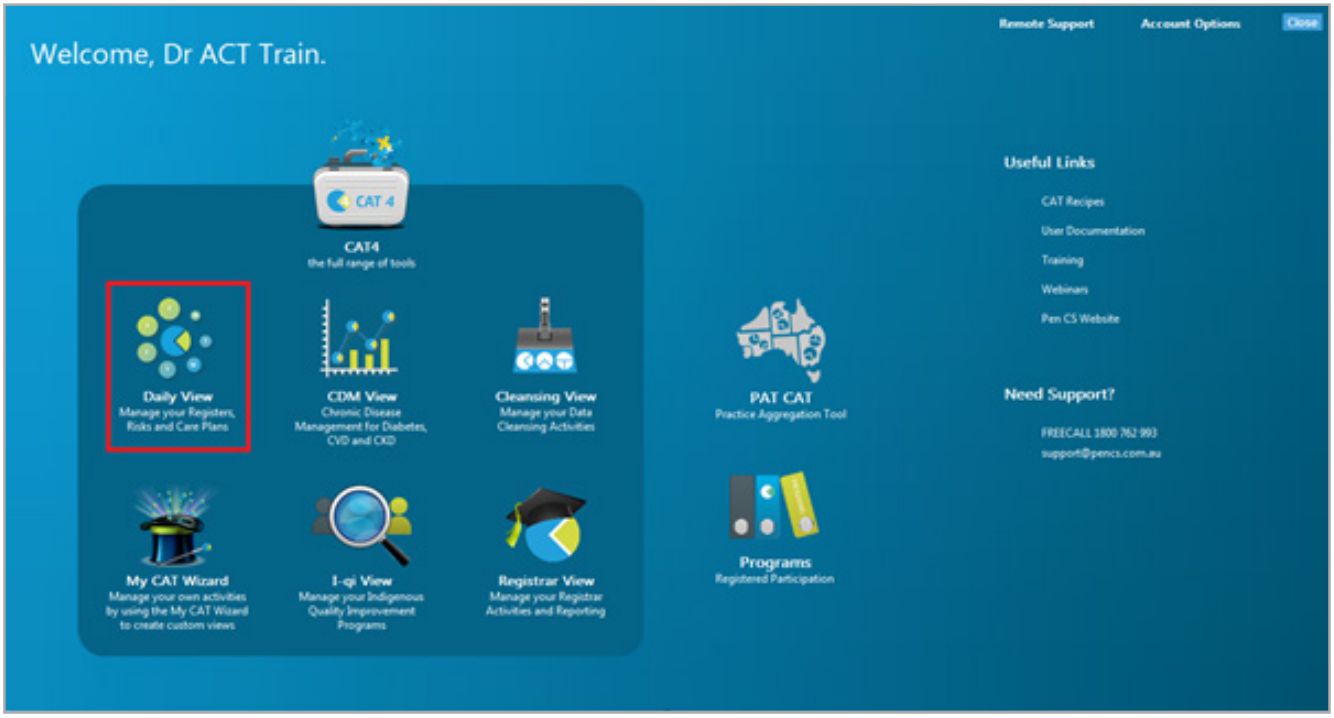
© Pen CS 2019

Using Topbar Prompts in Recipes

Remember that you need to be in the CAT4 Daily View to be able to create prompts. Other pre-requisites are:

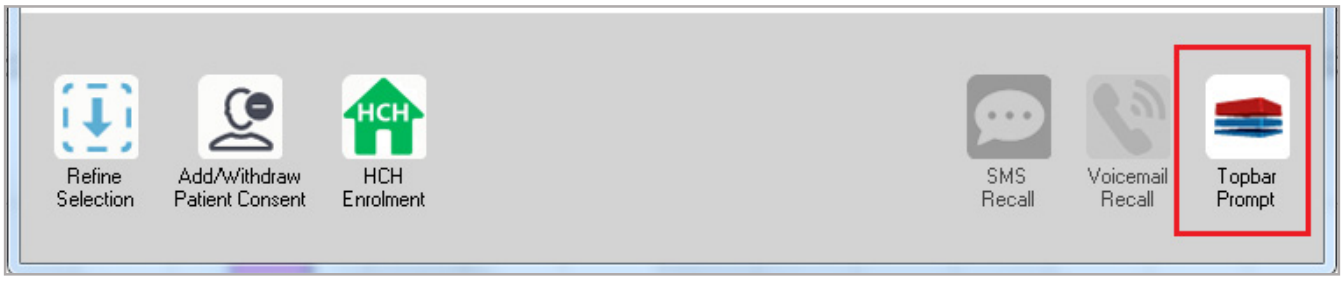
- Topbar is installed
- CAT4 is linked to Topbar via Edit/Preferences/Topbar - check Linking CAT4 to Topbar[32] for more details

To start CAT4 in the Daily View, click on the 'Daily View' icon in the dashboard:



Once you have applied the filter(s) and displayed the patients of interest as described above, you can create a prompt that will be shown to all clinicians using Topbar if a patient meeting the prompt criteria is opened in their clinical system. The full guide is available at CAT Plus Prompts[33] and a short guide on how to create prompts in CAT4 can be found at Creating a Prompt in CAT4[34].

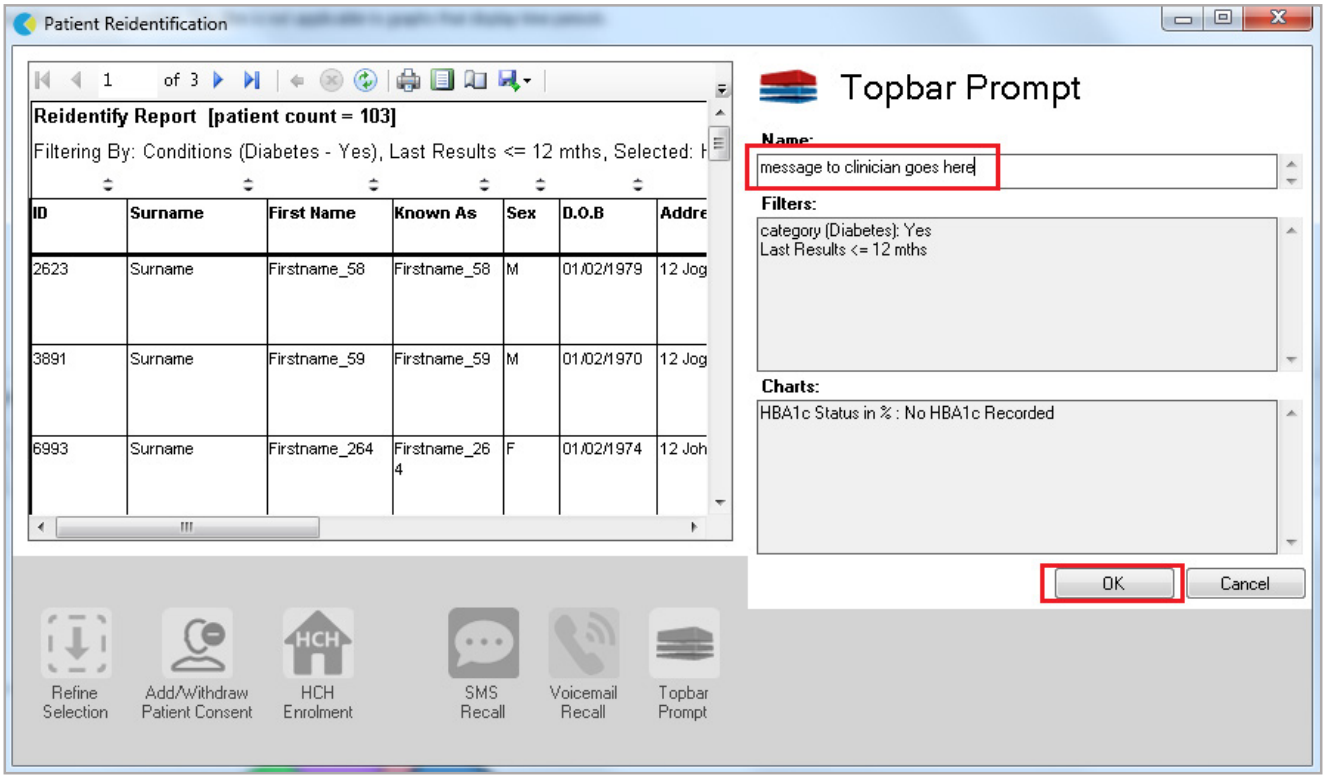
To start, use the drop-down menu at the bottom of the patient details report and select 'Prompt at Consult - Topbar' then click on 'Go' to give the new prompt a name.



32- https://help.pencs.com.au/display/CG/Linking+CAT4+to+Topbar
33- https://help.pencs.com.au/display/CP/CAT+PLUS+PROMPTS
34- https://help.pencs.com.au/display/CG/Creating+a+Prompt+in+CAT4

© Pen CS 2019

The name you enter is the prompt text displayed in Topbar. Choose a simple but clear name that tells the clinician seeing the prompt what should be done.



© Pen CS 2019

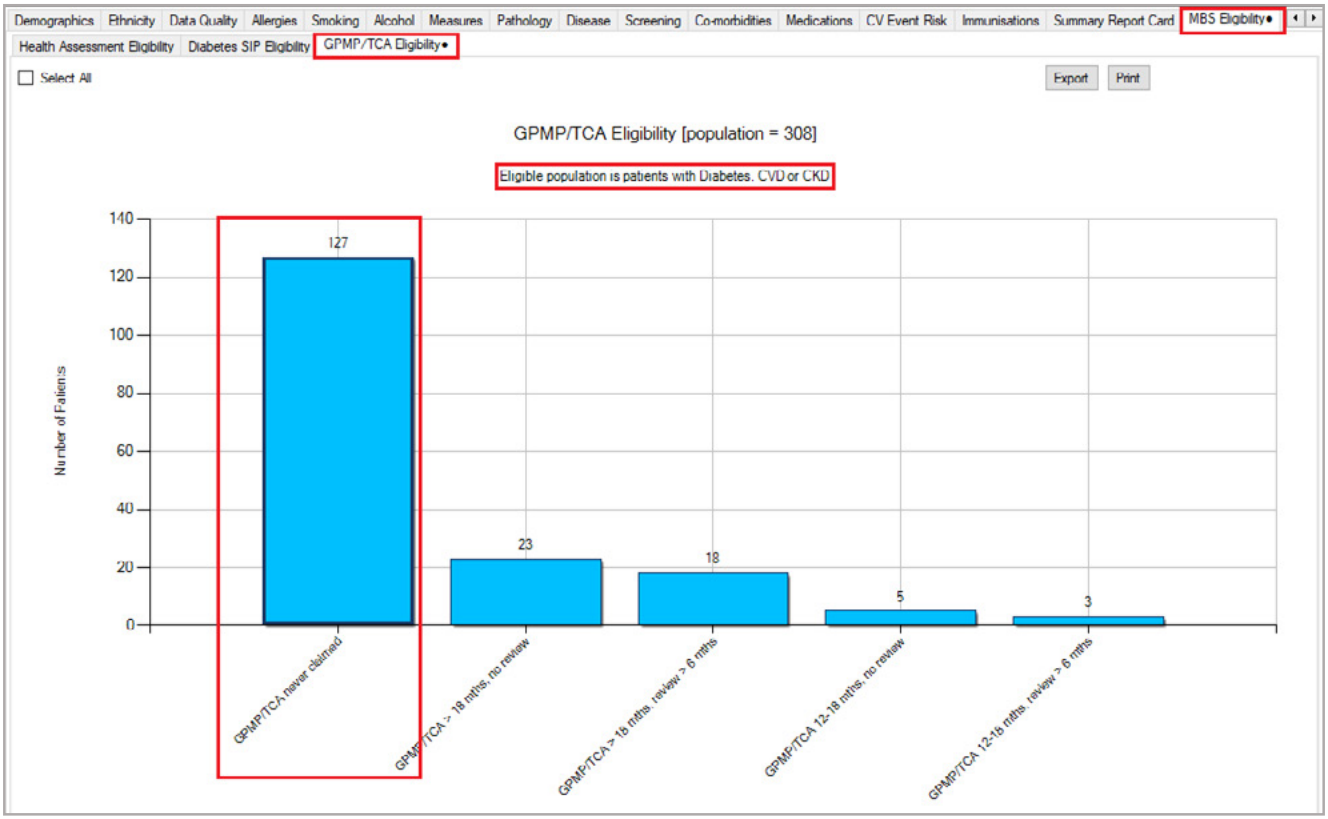
Combining Screening Searches with MBS item eligibility

If a patient is eligible for cancer screening CAT4 can combine this eligibility with other recall, such as GPMP/TCA or related reviews. This optional step can help you to make your recall more efficient and avoid multiple recalls for the same patient by combining eligibility criteria in the search. The example below shows how to add the MBS item related criteria to the search, you can also look at recipes for MBS items and combine with the steps above. A number of recipes can be found here: MBS related recipes[35]

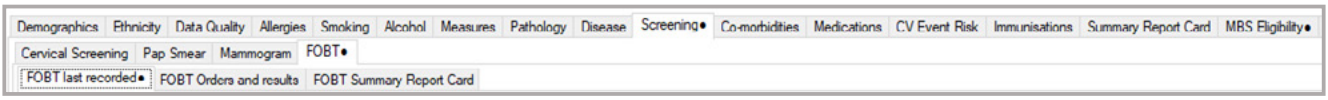
Report steps:

1. Go to any of the 'MBS Eligibility' report tabs. In this example, the 'MBS Eligibility/GPMP/TCA Eligibility' tab is used. The report will list patients with at least one chronic condition from the diabetes, CVD or CKD categories and their GPMP/TCA status.

2. Select the categories of the report you want to combine with the cancer screening search above.



To find patients that are eligible for all cancer screening as well as a GPMP you can do a cross-tabulation[36]. Leave the relevant parts of each pie chart selected, as shown above, and you should see a dot next to each report where some or all of the graph has been selected:



Then click on the 'Report' icon on top of your screen:

This will show a list of all patients meeting the selected categories on **all reports**. In this example, it will combine eligibility for cancer screening and will only show those patients who are also eligible for a GPMP/TCA and never had the MBS item claimed at your practice.

35- https://help.pencs.com.au/display/CR/Maximise+Business+Potential
36- https://help.pencs.com.au/display/CG/Cross+Tabulation+Report

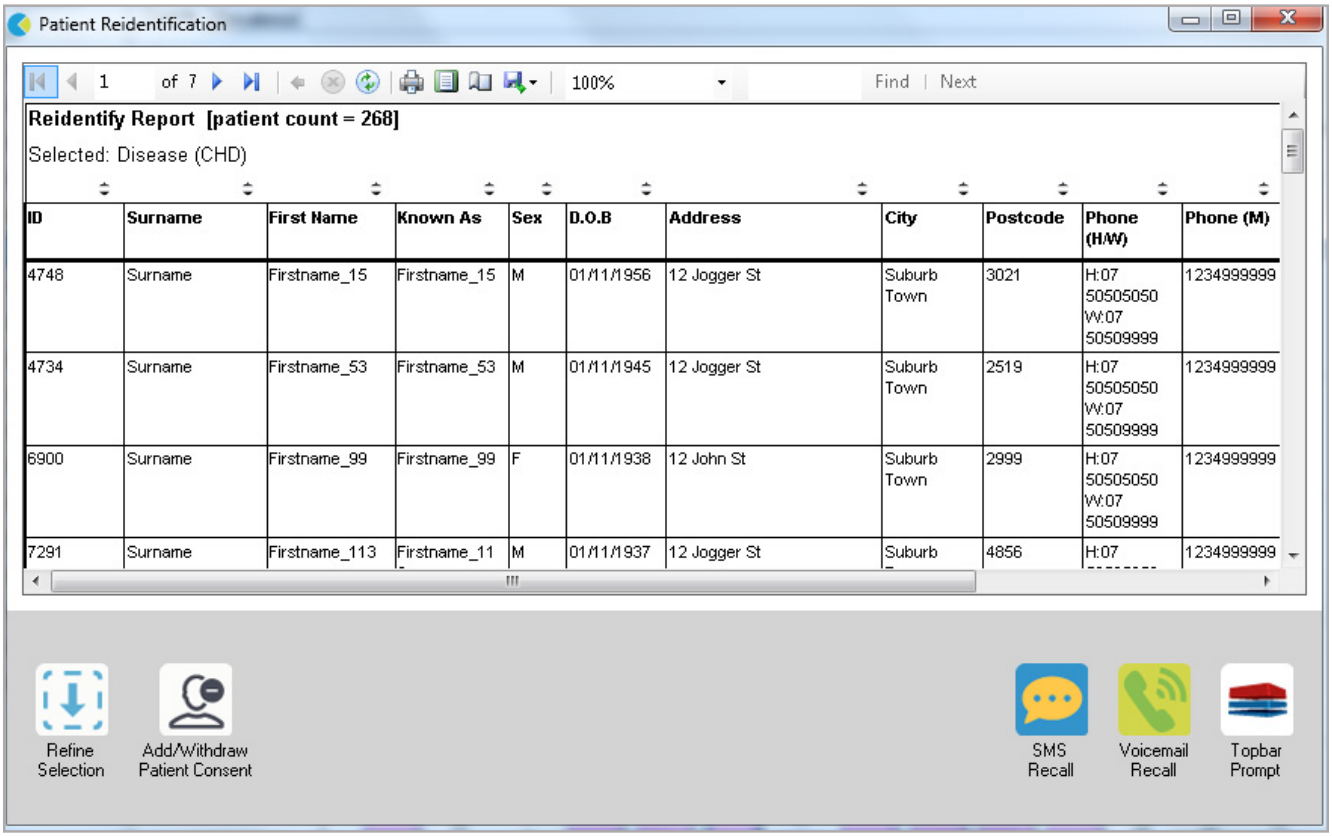
© Pen CS 2019

Using SMS and Voice Messaging to recall patients based on CAT4 search results

After you have applied one or more filters and/or cross tabulations and have selected the group of patients of interest, you will see the choices for SMS Recall and other options at the bottom of the patient re-identification report. This can be applied to all of our CAT Recipes or any custom search you want to perform.

To use Recall CAT your practice needs to be registered for this functionality and you will have to purchase credits to send messages. Full details are available on our help site[37].

To send text or voice messages start at the Patient Reidentification window which displays your list of patients:



If required, you can further refine the selection manually by clicking the 'Refine Selection' button.

If you click on 'SMS Recall', the 'SMS Recall' window will be displayed with the name of your clinic. Enter a message that relates to the purpose of the notification. There are a number of options under the inclusion criteria:

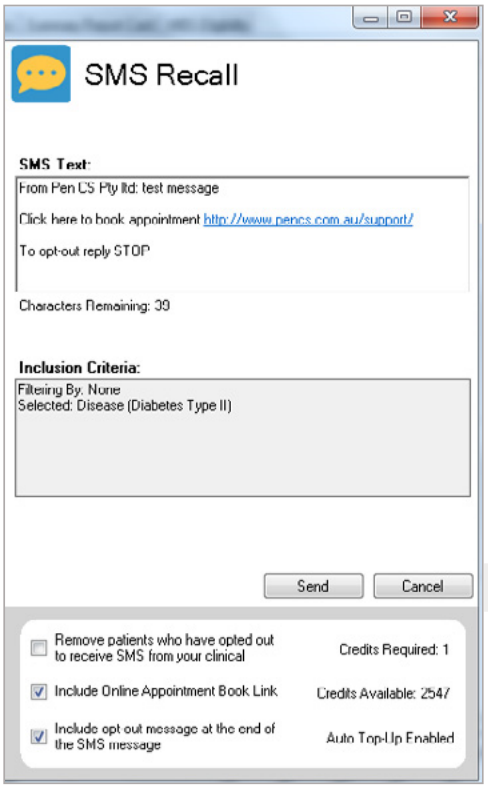
- Patients who have opted out of receiving SMS from your clinic are removed by default
- Linking your online booking system to the SMS recall
- Include the opt-out message in the SMS for patient to 'STOP' receiving SMS notifications sent through CAT4

37- https://help.pencs.com.au/display/CG/Recall+CAT+-+SMS+and+Voice+Messaging+for+CAT4

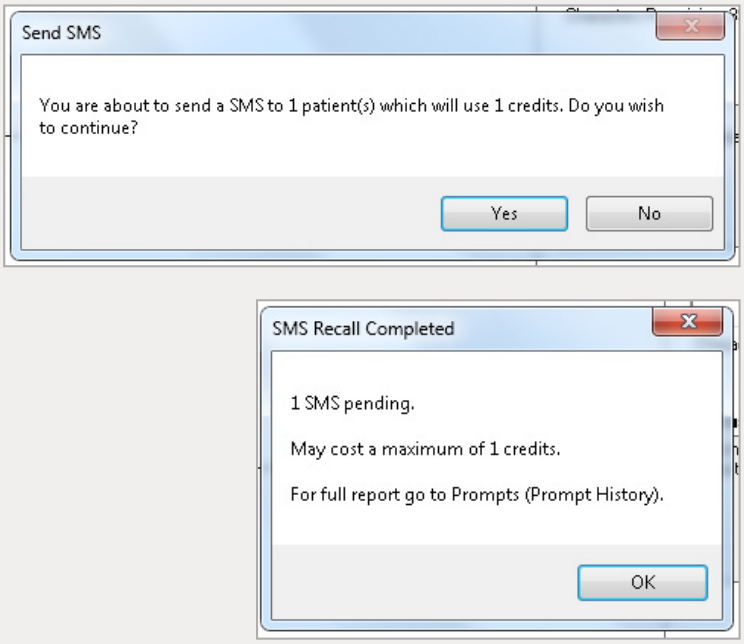
© Pen CS 2019

These options can be configured following the steps detailed here:
https://help.pencs.com.au/display/CG/Recall+CAT+-+Setting+up+your+Account

Clicking on 'Send' will send the message to all patients with a valid mobile phone number in their record. A confirmation message will prompt you with the number of messages to be sent and the required credits. Click yes to send the SMS recall.



After sending a SMS or Voice Message you will see a message like this one (for SMS):



For full details on the prompt history, click on 'Prompts' and select 'SMS and Voicemail'.

This is a short summary of this functionality; please see our Recall CAT page[38] for full details.

38- https://help.pencs.com.au/display/CG/Recall+CAT+-+SMS+and+Voice+Messaging+for+CAT4

© Pen CS 2019

Collaborations

- Cancer Institute NSW – created recipes to use in conjunction with the recently released Toolkit September 2019[39]
- WAPHA – PDSA around cancer screening March 2018
- Victoria – PAT Program created for cancer management and screening, currently in beta release September 2019
- Cancer screening toolkit at Hunter PHN[40]
- The women's cancer screening collaborative at North Coast PHN[41]

About Pen CS

Founded in 1993, Pen CS is Australia's leading Quality Improvement and Population Health Management software eco system. An Australian-owned company, Pen CS' vision is to build a healthy Australia by supporting data-driven, outcome-oriented, patient-centred care.

This platform is currently in use in more than 5,900 General Practices and Health Services across Australia with over 45,000 active medical practitioners Australia-wide.

eHealth innovation is embedded in our platform and partnerships as a key way of caring for patients and helping those who care for them. This is evidenced by the variety of applications available for General Practices from team-based care planning, to billing efficiency, accreditation, education and condition-specific QI apps e.g. Cancer Screening.

Pen CS has a long history of collaborating with research organisations and government to identify and address rising risks to help reduce healthcare costs, improve patient outcomes and increase provider satisfaction at local, state and national levels.

39- https://www.cancer.nsw.gov.au/screening-toolkit
40- https://www.hneccphn.com.au/media/14971/hneccphn-cancer-screening-handbook-2019-2.pdf
41- https://ncphn.org.au/wcsc/

© Pen CS 2019

Pen CS Pty Ltd

ABN 75 606 033 112
pencs.com.au

Sydney

Level 1, 35 Moore St.
Leichhardt, NSW, 2040
02 9506 3200

Melbourne

Level 6, 3 Bowen Cres.
Melbourne, VIC, 3000
03 9866 8477

Support

support@pencs.com.au
1800 762 993