# Appendix 8: Guide to Data, Data Cleaning and Measurement

In this section we'll discuss how to ensure that your data are collected and stored correctly in the clinical software and how to use Pen CAT to support work outlined in this toolkit.

If you have not already done so, please contact your pathology providers and ensure that they are sending results to you electronically and in the correct format (HL7). Some pathology providers will have preferences set for your Health Service and it's essential that these are set correctly. If you are receiving pathology results electronically in the right format your software will process these results into the collect location and no human intervention is needed.

For Pen CAT to extract, report and visualise cancer screening data, data must be recorded in the clinical information software properly. Pen CAT will only recognise cancer screening data when it is entered in the correct format and in the expected location. The location(s) and format(s) vary slightly across clinical information software (and sometimes between software versions). In some cases, you may need to enter data manually, before doing this please check they meet Pen CAT requirements (location and terminology). Pen CAT has a detailed user guide available online that shows how to manually record cancer screening data for clinical information software (in the mapping sections). The following pages provide links to the inclusions and test names that Pen CAT will extract for bowel, breast and cervical cancer screening for the common clinical software programs.

The Pen CAT user guide can be access via the following link: http://help.pencs.com.au/display/CG

## Clinical software recording of cancer screening data

**Best Practice** 

## **Bowel Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP

Exclusions http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+BP

## **Breast Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP

Exclusions http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+BP

## **Cervical Cancer Screening**

## Pathology Data Mapping

http://help.pencs.com.au/display/ADM/Pathology+Data+Mapping+BP

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP

## Exclusions

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+BP http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+BP

## **Medical Director**

## **Bowel Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+MD3

#### General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+MD3

Exclusions http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mapping+MD3

## **Breast Cancer Screening**

#### Pathology Data Mapping

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+MD3

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+MD3

## **Cervical Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/Pathology+Data+Mappings+All+Systems

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Category+Mappings+MD3

#### Exclusions

http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mapping+MD3

## MedTech

## **Bowel Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/Mapping+Medtech+Appendix+-+Details

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/Mapping+Medtech+Appendix+-+Details

## **Breast Cancer Screening**

#### Pathology Data Mapping http://help.pencs.com.au/display/ADM/Medtech+Data+Mapping?preview=/1477037/5636107/CAT4%20 Data%20Mapping%20Medtech.pdf

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/Mapping+Medtech+Appendix+-+Details

Exclusions None

## **Cervical Cancer Screening**

## Pathology Data Mapping

http://help.pencs.com.au/display/ADM/Medtech+Data+Mapping?preview=/1477037/5636107/CAT4%20 Data%20Mapping%20Medtech.pdf

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/Mapping+Medtech+Appendix+-+Details

## ZedMed

## **Bowel Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/General+Data+Mapping+Zedmed

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Mapping+Zedmed

## Exclusions

http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+ZEDMED

## **Breast Cancer Screening**

#### Pathology Data Mapping http://help.pencs.com.au/display/ADM/General+Data+Mapping+Zedmed

#### General Data Category Mappings http://help.pencs.com.au/display/ADM/General+Data+Mapping+Zedmed

## Exclusions http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+ZEDMED

## **Cervical Cancer Screening**

Pathology Data Mapping http://help.pencs.com.au/display/ADM/Pathology+Data+Mapping+Zedmed

## General Data Category Mappings

http://help.pencs.com.au/display/ADM/General+Data+Mapping+Zedmed

## Exclusions

http://help.pencs.com.au/display/ADM/Conditions+Data+Category+Mappings+ZEDMED



## Pen CAT Cancer Screening Reports

Pen CAT provides bowel, breast and cervical screening reports and these can be found under the "Screening" tab.

In the first instance, please set and save each report for your Health Service Population as discussed in the "Measuring Your Progress Through Data". Make sure you "Clear Filters" in the top right and then set filters as appropriate, such as post codes you may want to include or exclude. Once you have set the appropriate filter(s), click on "Recalculate" in the top left and then save your search by clicking on "Saved Filters" On the top menu bar and then "Save New Filter". Enter a name for your search and click "OK".

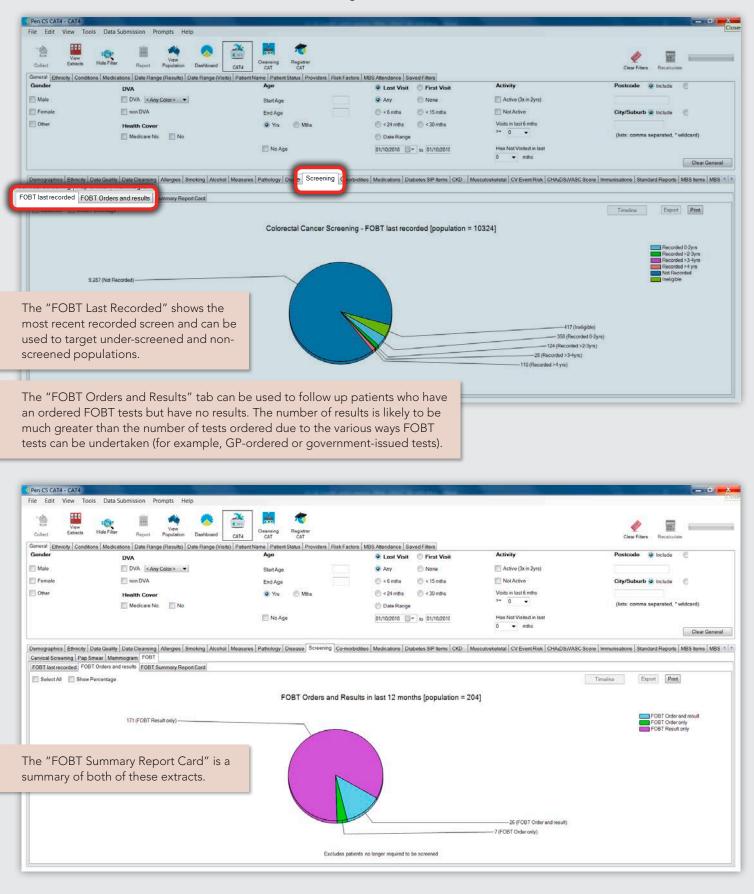
Once you've saved a search for bowel, breast and cervical cancer screening, you will be able to use these searches over time to monitor your progress in each area.

Data can be further filtered, if required, to target specific patient groups to support measurement you may want to use in MFI and/or PDSA work.

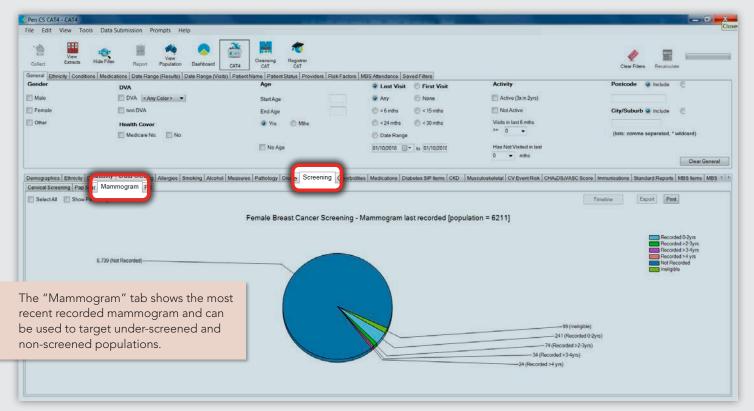
The general data for each of the screening types are shown next.

## **Bowel Cancer**

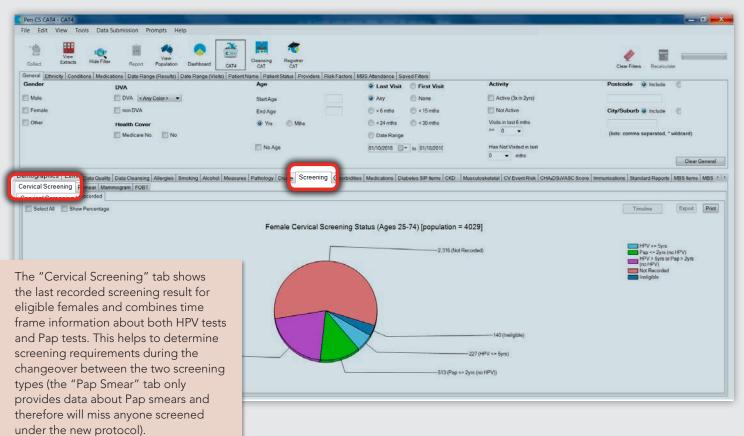
Three different extracts are available for bowel screening.



## **Breast Cancer**



## **Cervical Cancer**



86

## Pen CAT Cancer Screening Searches

Pen CAT provides detailed instructions on how to identify patients who are eligible for cancer screening but have no results recorded. Please use the links below to access these instructions.

## **Bowel Cancer**

http://help.pencs.com.au/display/CR/Find+patients+who+do+not+have+an+FOBT+recorded

## **Breast Cancer**

http://help.pencs.com.au/display/CR/Find+patients+who+have+not+had+a+mammogram+recorded

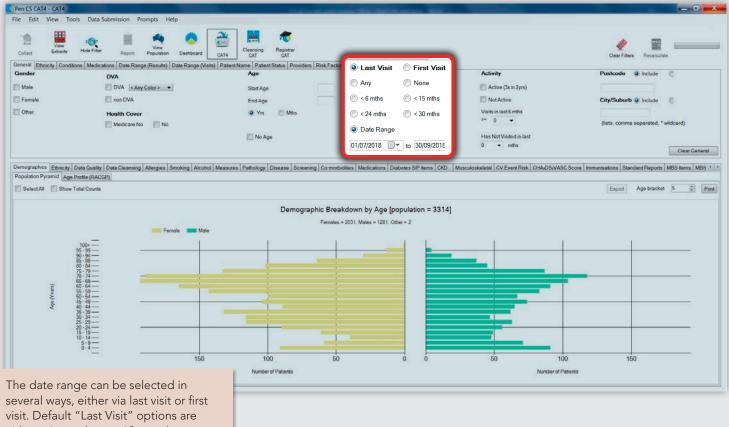
## Cervical Cancer

http://help.pencs.com.au/display/CR/Find+patients+eligible+for+cervical+screening

# **Data Filtering**

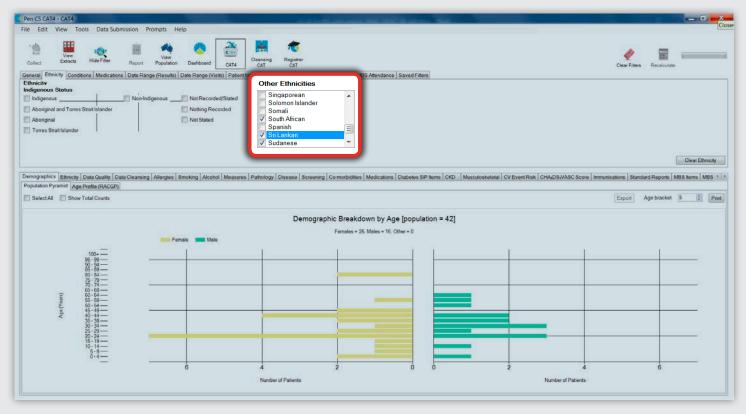
Pen CAT reports can be filtered by the timing of the patient's visit (first or most recent visit). Filtering can also target high-risk or under-screened populations based on variables such as ethnicity or age.

## Date Range



several ways, either via last visit or first visit. Default "Last Visit" options are either <6 months or <12 months, or a specific date range. The date range can also be selected when filtering for the first visit.

# Ethnicity

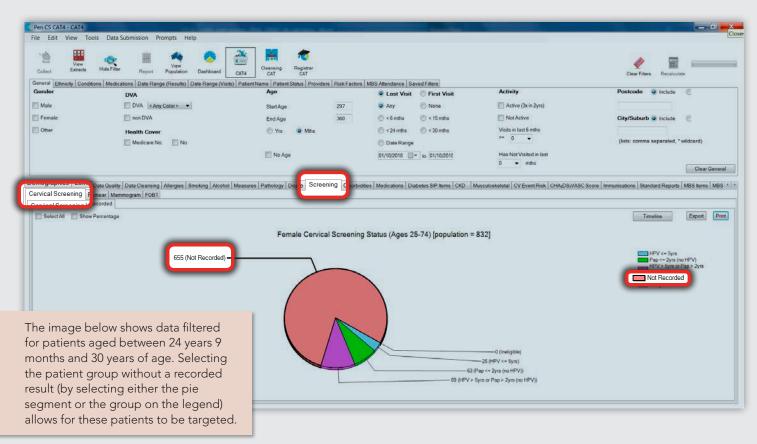


Apart from the standardised four ethnicity options (Non-Indigenous, Aboriginal, Torres Strait Islander, Aboriginal and Torres Strait Islander), other ethnicity options will be available depending on the clinical information software used. Multiple selections are possible, if needed. The ethnicity filtering is limited by the list of ethnicities used in your clinical information software system and the data quality. There may also be mismatching of data when converting from one clinical information software system to another.

Where available, you will be able to use this filter to identify vulnerable populations.

## Age

Filtering via age can also be used to target specific populations. Entering the age in months rather than years can help when allowing for a lead time prior to the patient reaching the target age (for example, using 297 months allows an alert to be sent to a patient for an HPV test 3 months before their 25th birthday).



# Data Cleaning

Prior to undertaking any data cleansing procedures, it is important to have processes and procedures in place to prevent the same data issues from reoccurring. All staff need to be made aware of any changes to procedures, and regular monitoring of the data can help address issues early.

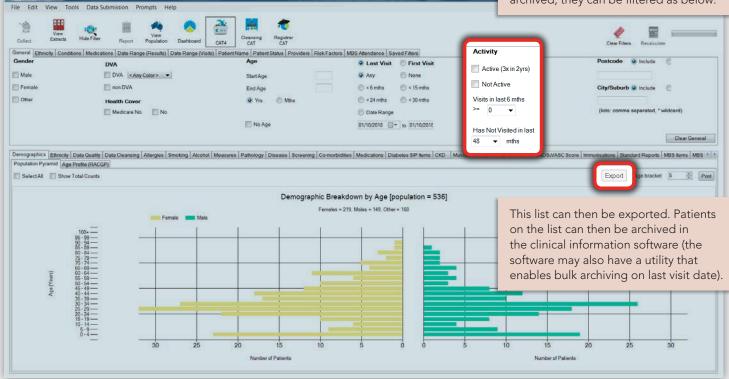
Time can be saved during data cleansing when processes are completed in an efficient order. This reduces the time spent on cleaning, or trying to clean, records that are then archived. For this reason, archiving inactive records should be the first activity undertaken.

## Archiving

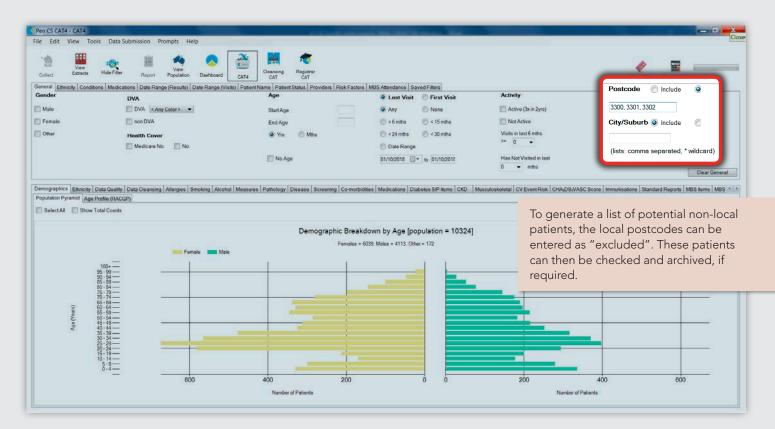
Pen CS CAT4 - CAT4

The approach used to archive will be decided by your Health Service and is generally based on the time lapsed since the patient has last visited the Health Service. You can then use Pen CAT to find patients that need to be archived.

For example, if no visit in the past 48 months is the level at which patients are archived, they can be filtered as below:



Depending on need, patients may also be excluded and archived due to postcode. This is most likely in areas with high levels of tourism, for example coastal towns. Patients may only have a single visit and, therefore, are more likely to have missing information. These patients can also skew rates of conditions and management and should be removed to improve data quality.



Archiving can create problems with the creation of duplicate patients if staff are not aware to check archived patients when a patient isn't initially found in the system. This is one of the most common causes of ongoing data issues. Potential duplicate patients can be identified using Pen CAT under the "Data Quality" tab. As these lists are generated using an algorithm, many may not be duplicates (for example, twins will have multiple duplicate demographics and therefore will appear on the list), however they are a very useful place to start when undertaking initial data cleaning activities.

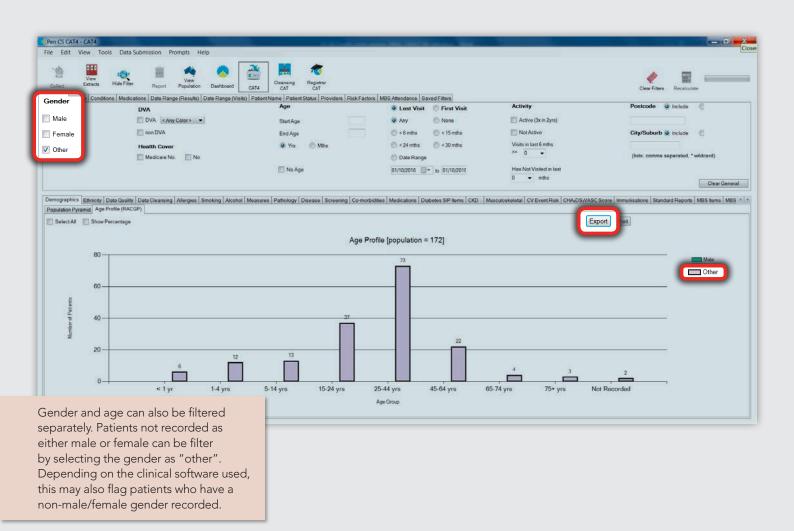
Pen CS CAT4	4 - CAT4						-						×
File Edit V	View Tools	Data	a Submission	Pron	npts Help								
Collect	1.0000000000000000000000000000000000000	ide Filte	неро		New Dashboard Cr Results) Date Range (Visits) F	NUMBER OF STREET	Registrar CAT	national I	IDC ANALASA CON	us of Eliterate			Clear Fibers Recalculate
Gender	inerty   continuous	medic	DVA	conge	Results)   Date Range (visits)   P	Age	Granes   FIGHIDA	ers   cush r decors   n	<ul> <li>Lost Visit</li> </ul>	First Visit	A	ctivity	Postcode 🧕 Include
						StartAge			Any	None	E	Active (3x in 2yrs)	
he "Du	uplicate	e N	lumbei	r Pa	atient Report"	End Age			< 6 mths	(c) < 15 mths	E	Not Active	City/Suburb include
					of any of a	() Yrs	C Mbs		(24 mths)	(1) < 30 mths	v	sits in last 6 mths	
					2				🕑 Date Range		در	0 🗸	(lists: comma separated, * wildcard)
Medicar	ie, ncc	0		- ni	imper.	🔲 No Age			01/10/2018	to 01/10/2018	н	as Not Visited in last	
	_	_	_	-		1.2					0	<ul> <li>mths</li> </ul>	Clear General
D	of 265 ¥	N • Patie	ent Report		ta Completeness Patien 1 Dup	olicate Number Pa	atient Report	C the Name Patien	Report		2018 3:04 AM		
CDSA Tom y D Duplicate	Dashboard Data of 265 ¥ Ne Number F	N Patier	ent Report		ta Completeness Patien 1 Dup	olicate Number Pa	atient Report	( vo Name Patien	Report				
CDSA Tom y D Duplicate	Dashboard Data of 265 ¥ te Number F	Patie	pleteness Report ent Report er, HCC nu 10324]	mber	or DVA number			te Name Patien	Report		tified Practice		
CDSA 1 Duplicate	Dashboard Data of 265 • 0 ee Number F f: Medicare n tohes [patient co c	Patien umbe	ent Report	mber	ta Completeness Patien 1 Dup			L te Name Patien	Report				
CDSA Junior VD VD Duplicate	Dashboard Data of 265 F 1 e Number F f: Medicare n f: Medicare n tches [palent co \$ \$ First Name Firstname	Patie Patie umbe	er, HCC nu	mber	or DVA number	:  :			Report Practice Na	ame: Deident	tified Practice		
CDSA Junior VD VD Duplicate	Dashboard   Data of 265 }   te Number F f: Medicare n tches [patent co c) c First Name	Patien umbe	er, HCC nu 10324]	mber	a Completeness Patern Dur I 100% or DVA number Address	: City	Postcode	÷ Medicare	Report Practice Na	ame: Deident	tified Practice		
CDSA I on y D y Duplicate h on ANY of: Number Mate Surname	Dashboard Data of 265 F Re Number F f: Medicare n tohes (patient co First Name Firstname Firstname Firstname Firstname	Patien number sumt = 1 Sex 1 M 0 F 0	pleteness Report ent Report er, HCC nu 10324] 0.0.8. 01/08/2012	mber Age 6 35	a Completeness Patern Dur I - 100% or DVA number Address 12 Jogger St	City Suburb Town	Postcode 5992	Medicare 123412341234	Report Practice Na	ame: Deident	tified Practice		
CDSA Jenn Duplicate th on ANY of: Surname Surname	Dashboard Date of 265 • e Number F f: Medicare n tches [patent co • • • • First Name Firstname  Firstname  Firstname  Firstname  	Patier umber sunt = 1 Sex 1 M ( F ( M (	ploteness Report ent Report er, HCC nu 10324] D.O.B. 01/08/2012 01/10/1983		a Completeness Paten Dur I 100% or DVA number Address 12 Jogger St 12 John St	City Suburb Town Suburb Town	<ul> <li>Postcode</li> <li>5992</li> <li>5708</li> </ul>	Medicare 123412341234 123412341234	Report Practice Na	ame: Deident			
CDSA I an T I Duplicate th on ANY of: Surname Surname Surname	Daskboard Data of 265 * e Number F f: Medicare n f: Medicare n f: Medicare n f: first Name first Name first Name first Name first Name first Name	Patien Patien sumber sex 1 M ( F ( M ( M ( M (	Pleteness Report er, HCC nu 10324] 0.0.8. 01/08/2012 01/10/1983 01/10/1951	Age     6     35     67     47	a Completeness Patien Dup I - 100% or DVA number Address 12 Jogger St 12 Jogger St 12 Jogger St	City Suburb Town Suburb Town Suburb Town	<ul> <li>Postcode</li> <li>5992</li> <li>5708</li> <li>5930</li> </ul>	Medicare 123412341234 123412341234 123412341234	Report Practice Na	ame: Deident			
CDSA I an T D Duplicate Ch on ANY of: Surname Surname Surname Surname	Daskboard Date of 265 k ) e Number F f: Medicare n f: Medicare n f: firstName f: firstName	Patien umber ount = 1 Sex 1 M ( F ( M ( F (	Pleteness Report er, HCC nu 10324] 0.0.8. 01/08/2012 01/10/1983 01/10/1951 01/10/1971	2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	a Completeness Patien Dup I - 100% or DVA number Address 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St	City City Suburb Town Suburb Town Suburb Town Suburb Town	<ul> <li>Control Control C</li></ul>	2           Medicare           123412341234           123412341234           123412341234           123412341234           123412341234	Report Practice Na	ame: Deident			
CDSA I an TD Duplicate Ch on ANY of: Number Mate Surname Surname Surname Surname Surname Surname	Daskboard Date of 265 k e Number F f. Medicare n f. Medicare n f. Medicare n f. Status first Name f. Status f. Statu	Patien Patien umber sount = 1 M F M F M F M F I F I F I	Pleteness Report ent Report er, HCC nu 10324] D.o.8. 01/08/2012 01/10/1983 01/10/1951 01/10/1971 01/10/1974	2 a mber Age 6 355 67 47 44 41	a Completeness Patien Dup I - 100% or DVA number Address 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St 12 John St	City Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	<ul> <li>Postcode</li> <li>5992</li> <li>5708</li> <li>5930</li> <li>4292</li> <li>3434</li> </ul>	Decision         Decision           Medicare         123412341234           123412341234         123412341234           123412341234         123412341234           123412341234         123412341234	Report Practice Na	ame: Deident	ID         9886           1032         7711           5231         3236		

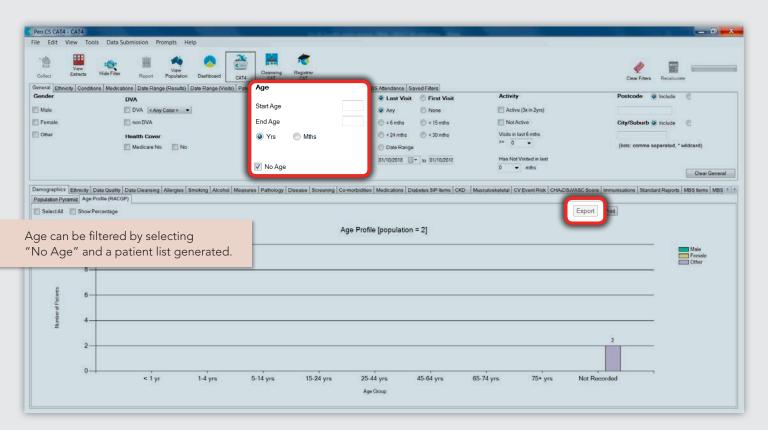
A CONTRACTOR -	- CAT4												
le Edit V	view Tools	Data	Submission	Pron	npts Help								
Collect		ide Filte	Repor		View Dashboard CAT	Cleansing 4 CAT	Registrar CAT			100000 100000 etting			Clear Filters Recalculate
eneral Ethnici	city Conditions	Medic	cations Date P	Range	Results) Date Range (Visits) Pa	Age	Status Provide	ars Risk Factors N	and a subscription of the		Ac	tivity	Postcode 🗿 Include
	unlicato	~ NI	ama P	-+i	ent Report"	1.03			a supposed and the second	First Visit		a Barrana an	Postcore C microse
						Start Age			Any	None None		Active (3x in 2yrs)	
b chec	cks for	dup	plicatio	on (	of all of the	End Age			< 6 mths	(c) < 15 mths	1.55	Not Active	City/Suburb 💿 Include
rname	e. first r	nam	ne initi	al.	gender and	Yrs	C Mitts			💮 < 30 mths		its in last 6 mths	
ate of b				,	9				⑦ Date Range				(lists: comma separated, * wildcard)
ite or i	onth.					No Age			01/10/2018	to 01/10/2018	Ha	s Not Visited in last	
	-		-	-		_					0		Clear General
N 4 1 Duplicate	of 264 ¥ Name Pat	N +	e e le l Report	12	<b>↓</b> • 100%	icate Number Pa	tient Report	ate Name Patien	Report	Date: 01/10/20 me: Deidentifi			
on ALL of:	of 264 <b>Name Pa</b> surname, f	M + tient	e e e e e e e e e e e e e e e e e e e	12	<b>↓</b> • 100%	icate Number Pa	tient Report	ate Name Patien	Report				
Duplicate	of 264 >	H + tient first na mt = 10	e C e a l Report ame initial, 1278]	gend	<b>↓</b> • 100%	icate Number Pa	tient Report	ate Name Patien	Report				
on ALL of:	of 264 <b>Name Pa</b> surname, f	H + tient first na mt = 10	ame initial,	gend	er and DoB		tient Report	ste Name Patien	Report				
on ALL of:	ashboard Date of 264 • • Name Pal • surname, f	itient first na mt = 100	ame initial,	gend	er and DoB				Report Practice Na	nme: Deidentifi	ed Practice		
arme Matche	of 264 of 264 Name Pal surname, f es [patient cours First Name	first na nt = 10 Sex 1 M	ame initial,	gend	er and DoB	City ÷	Postcode	© Medicare	Report Practice Na	nme: Deidentifi	ed Practice		
Duplicate	es (patient course) First Name First Name First Name First Name First Name First Name First Name First Name First Name	First na	Report           ame initial,           1278j           0.0.8.           01/08/2012	gend Age 6 35	er and DoB	€ City Suburb Town	Postcode 5992	• Medicare 123412341234	Report Practice Na	nme: Deidentifi	ed Practice		
And	ashboard Dati of 264 # • Name Pal • surname, f • surname, f • surname, f • surname, f • surname, f • first Name • firstname • firstname • firstname • firstname • firstname	Image: state	Report     Ame initial,      Ame initial,      Co.8.      O1/08/2012      O1/10/1983	gend Age 6 35 67	er and DoB	City Suburb Town Suburb Town	© Postcode 5992 5708	© Medicare 123412341234 123412341234	Report Practice Na	nme: Deidentifi	ed Practice		
A Duplicate	ashboard Dati of 264 * Name Pal surname, f surname, f isstname firstname firstname firstname firstname firstname	Image: state	Report ame initial, 278] 01/08/2012 01/10/1983 01/10/1951	gend 2 Age 6 35 67 47	er and DoB Address 12 Jogger St 12 John St 12 Jogger St	City Suburb Town Suburb Town Suburb Town	© Postcode 5992 5708 5930	* Medicare 123412341234 123412341234 123412341234	Report Practice Na	nme: Deidentifi	ed Practice 10 9886 1032 7711		
A 4 1 Duplicate on ALL of: Aame Matche Surname Surname Surname Surname Surname Surname Surname	ashboard Dati of 264 * * Name Par surname, f surname, f first Name first Name	tient first na int = 100 Sex I M I M I F I M	Comparison of the second	gend Age 6 35 67 47 44	er and DoB Address 12 Jogger St 12 John St 12 Jogger St 12 Jogger St 12 Jogger St	City Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	<ul> <li>₽ostcode</li> <li>5992</li> <li>5708</li> <li>5930</li> <li>4292</li> </ul>	* Medicare 123412341234 123412341234 123412341234 123412341234	Report Practice Na	nme: Deidentifi	ed Practice 10 9886 1032 7711 5231		
Duplicate	astboard Dati of 264 # Amme Par Sumarne, f sumarne, f First Name First Name First Name First Name 10 First Name 10 First Name 10 First Name	First name	Comparison of the second	gend \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	er and DoB Address 12 Jogger St 12 John St 12 Jogger St	City Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	<ul> <li>Postcode</li> <li>5992</li> <li>5708</li> <li>5930</li> <li>4292</li> <li>3434</li> </ul>	* Medicare 123412341234 123412341234 123412341234 123412341234 123412341234	Report Practice Na	nme: Deidentifi	ed Practice 10 9886 1032 7711 5231 3238		

# **Missing Demographics**

As cancer screening is dependent on age, and, for cervical and breast cancer, gender, it is important to complete this missing demographic data. This can be done either via the "Data Cleansing" tab or separately via gender and age.

File	Edit View	Tools Data	Submission I	Prompts Hel	p											
Col	lect Extra	icts Hide Filter	Report	View Population	Dashboard	CAT4 C	ansing Regi AT CA								Clear Filters Rec	alculate
iene Sen	der	onditions Medica	And the state of the	nge (Results)   D	ate Range (Visits		Patient Status	Providers Risk	Vertaintensi teoretikoon	Lost Visit	AND	Activity	0		Postcode	de /®
	ini.		DVA				15 1				10 1 COLO 11 COLO		2002-0			
	ale		DVA <a< td=""><td>ny Color &gt; 💌</td><td></td><td>S</td><td>tart Age</td><td></td><td></td><td>Any</td><td>None</td><td></td><td>(3x in 2yrs)</td><td></td><td></td><td></td></a<>	ny Color > 💌		S	tart Age			Any	None		(3x in 2yrs)			
P.	emale		non DVA			E	ind Age		0	) < 6 mths	(c) < 15 mths	Not Ac	tive		City/Suburb 💿 Inclu	de 🕑
0	ther		Health Cove	ir:		3	Yrs 🕑	Mths		) < 24 mths	💮 < 30 mths	Visits in la	ast 6 mths			
			Medicare N	lo. No					6	Date Range		>= 0	•		(lists: comma separal	ed, * wildcard)
			I measure .													
							No Age		6	11/10/2018	to 01/10/2018	Has Not V	Visited in last mths			
			_	-									1115			Clear Gener
	oot Ligt p ble-click a patient	tto open it in your o	unt = 172] clinical system (A	AD,BP,Zedmed)	Pa	age No. 1	Go	Show)Hide C		Export aut Page		1	The "D	ata Clea	nsing" tab	will list all
	ole-click a patient	t to open it in your o First	clinical system (A	12	THOODS	Decide		Prev 8	Page Ni	ad Page Mobile	Assigned	_			insing" tab issing demo	
	ole-click a patient	tto open it in your o First name	clinical system (A Date of Birth	AD,BP,Zedmed) Sex	Address	Suburb	Postcode	Prev S Home Phone	Vork Phone	Mobile Phone	Assigned Provider	_	patient	s with m	issing dem	ographics,
	ole-click a patient Surname Surname	tto open it in your o First name Firstname_10.	Clinical system (A Date of Birth 01/10/1983	12	Address 12 Jogger St	Suburb Suburb Town	Postcode 5932	Prev S Home Phone 07 50505050	Vork Phone 07 50509999	Mobile Phone 044444444		-	patient	s with m	-	ographics,
	Surname Surname	First name Firstame_10. Firstname_10.	Date of Birth 01/10/1983 01/06/2015	12	Address 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town	Postcode 5932 4164	Prev 5 Prev 5 Prev 5 Prov 5 Pr	Vork Phone 07 50509999 07 50509999	Mobile Phone 044444444		-	patient just ger	s with m nder and	issing demo d/or date of	ographics, birth. Any
	Surname Surname Surname Surname Surname	First name Firstame_10. Firstname_10. Firstname_10.	Date of Birth 01/10/1983 01/06/2015 01/10/1972	12	Address 12 Jogger St 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834	Prev 8 Phone 07 50505050 07 50505050 07 50505050	Vork Phone 07 50509999 07 50509999 07 50509999	Mobile Phone 044444444 044444444 044444444		-	patient just ger missing	s with m nder and g data wi	issing demo d/or date of II be repres	ographics, birth. Any ented by a
	Surname Surname	First name Firstame_10. Firstname_10.	Clinic al system (N Date of Birth 01/10/1983 01/06/2015 01/10/1972 01/10/1985	12	Address 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164	Prev 5 Prev 5 Prev 5 Prov 5 Pr	Vork Phone 07 50509999 07 50509999	Mobile Phone 044444444		-	patient just ger missing	s with m nder and g data wi	issing demo d/or date of	ographics, birth. Any ented by a
	Surname Surname Surname Surname Surname Surname	First name Firstame_10. Firstname_10. Firstname_10. Firstname_10.	Clinical system (N Birth 01/10/1983 01/06/2015 01/10/1972 01/10/1985 01/10/1996	12	Address 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275	Prev 5 Prev 5 Prev 5 Prev 5 Prov 6 Phone 07 50505050 07 505050 07 505050 07 505050 07 505050 07 505050 07 505050 07 505050 07 505050 07 505050 07 5050 07 5050 07 5050 07 5050 07 5050 07 50 07	Vage New York Phane 07 50509999 07 50509999 07 50509999 07 50509999 07 50509999 07 50509999 07 50509999	Mobile Phone 044444444 044444444 044444444		-	patient just ger missing red box	s with m nder and g data wi k. If Pen	issing demo d/or date of II be repres CAT has be	ographics, birth. Any ented by a en set-up
	Surname Surname Surname Surname Surname Surname Surname	First name Firstame_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10.	Clinical system (N Birth 01/10/1983 01/06/2015 01/10/1972 01/10/1985 01/10/1996 01/10/1993	12	Address 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595	Prev 5 Prev 5 Proce Proc	<sup>2</sup> age N Work Phone 07 50509999 07 50509999 07 50509999 07 50509999 07 50509999	Mobile Phone 044444444 044444444 044444444 044444444		-	patient just ger missing red boy do so, o	s with m nder and data wi k. If Pen double-d	issing demo d/or date of II be repres CAT has be clicking on a	ographics, birth. Any ented by a en set-up a patient in
	Surname Surname Surname Surname Surname Surname Surname Surname	First name Firstame_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10.	Date of Birth 01/10/1983 01/06/2015 01/10/1972 01/10/1985 01/10/1985 01/10/1993 01/10/1989	12	Address 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4884	Prev 1 Prev 1 Prove Phone 07 50505050 07 505050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 505 07 50 07 07 50 07 07 07 07 07 07 07 07 07 07 07 07 07	Work         N           975050999         0750509999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999	Mobile Phone 044444444 044444444 044444444 044444444		_	patient just ger missing red boy do so, o	s with m nder and data wi k. If Pen double-d	issing demo d/or date of II be repres CAT has be clicking on a	ographics, birth. Any ented by a en set-up a patient ir
	Surname Surname Surname Surname Surname Surname Surname Surname Surname	First name Firshame_10. Firshame_10. Firshame_10. Firshame_10. Firshame_10. Firshame_10. Firshame_10. Firshame_10.	Date of Birth 01/10/1983 01/06/2015 01/10/1985 01/10/1995 01/10/1996 01/10/1999 01/10/1989 01/10/1984	12	Address 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4884 5199	Prev 1 Prev 1 Prove Phone Phone 07 50505050 07 505050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 5050 07 505 07 50 07 07 07 07 07 07 07 07 07 07 07 07 07	Work         N           97505         975050999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999           0750509999         0750509999	Mobile Phone 04444444 04444444 04444444 04444444 0444444		_	patient just ger missing red box do so, o the list	s with m nder and data wi data wi double-d will ope	issing demo d/or date of II be repres CAT has be clicking on a n that patie	ographics, birth. Any ented by a en set-up a patient in nt within t
	Surname Surname Surname Surname Surname Surname Surname Surname Surname	First name Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10.	Date of Birth 01/10/1983 01/06/2015 01/10/1985 01/10/1995 01/10/1993 01/10/1989 01/10/1989 01/10/1989	12	Address 12 Jogger St 12 Jogger St	Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 22595 4864 5199 4583	Prev 5 Prove	Work         Ne           Phane         07 5050999           07 50509999         07 50509999           07 50509999         07 50509999           07 50509999         07 50509999           07 50509999         07 50509999           07 50509999         07 50509999           07 50509999         07 50509999           07 50509999         07 50509999	Mobile Phone 044444444 044444444 044444444 044444444		-	patient just ger missing red box do so, o the list	s with m nder and data wi data wi double-d will ope	issing demo d/or date of II be repres CAT has be clicking on a	ographics, birth. Any ented by a en set-up a patient in nt within t
	Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname	First name Firstame_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10. Firstname_10.	Date of Birth 01/10/1983 01/06/2015 01/10/1985 01/10/1985 01/10/1985 01/10/1985 01/10/1989 01/10/1984 01/10/1984 01/10/1992	12	Address 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4884 5199 4583 2576	Prev 1 Prev 1 Prev 1 Prev 1 Prone Phone 07 50505050 07 5050505 07 5050505 07 505050 07 5050 07 505 07 50 0	Work         Ne           97 50:0999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999           07 50:09999         07 50:09999	Mobile Phone 044444444 044444444 044444444 044444444		-	patient just ger missing red box do so, d the list clinical	s with m nder and g data wi c. If Pen double-c will ope software	issing demo d/or date of II be repres CAT has be clicking on a n that patie a allowing fo	ographics, birth. Any ented by a en set-up a patient ir nt within t or immedia
	Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname	Tirst momentary our of the open it in your of the open it in your of the open it is the open it	Einical system (N Date of Birth 01/10/1983 01/06/2015 01/10/1992 01/10/1993 01/10/1993 01/10/1994 01/10/1994 01/10/1992 01/00/1992	12	Address 12 Jogger St 12 Jogger St	Suburb Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town Suburb Town	Postcode 5932 4164 3834 5255 2595 4884 5199 4583 2576 4583 2576 4117 3338 2254	Prev 8 Proce 07 50505050 07 50505050	Раде Как Work 97 5050999 07 50509999 07 5050999 07 505099 07 505099 07 505099 07 505099 07 50509 07 50509 00 50009 00 50009 00 50000000000000000000000000000000000	Mobile Phone 044444444 044444444 044444444 044444444		_	patient just ger missing red box do so, d the list clinical	s with m nder and g data wi c. If Pen double-c will ope software	issing demo d/or date of II be repres CAT has be clicking on a n that patie	ographics, birth. Any ented by a en set-up a patient in nt within t or immedi
	Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname Surname	to open kin your of First mame 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 11. Firstmane, 13. Firstmane, 13.	Einical system (1 Birth 01/10/1983 01/06/2015 01/10/1985 01/10/1986 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1984	12	Address 12 Jogger St 12 Jogg	Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4884 5199 4583 2576 4117 3338 2576 4117 3338 2254 2254 2254	Prev 6 Prov 6 Pr	Work         Ne           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 55509999         07 5550999	Mobile Phone O44444444 O44444444 O44444444 O44444444			patient just ger missing red box do so, d the list clinical	s with m nder and g data wi c. If Pen double-c will ope software	issing demo d/or date of II be repres CAT has be clicking on a n that patie a allowing fo	ographics, birth. Any ented by a en set-up a patient in nt within t or immedi
	Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname	to open kin your of Firstame 10. Firstame 1	Cinical system (N Date of Birth 01/10/1983 01/06/2015 01/10/1986 01/10/1986 01/10/1989 01/10/1989 01/10/1989 01/10/1992 01/10/1992 01/10/1999	12	Address 12 Joger St 12 Joger	Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4684 5199 4533 2576 4117 3338 2254 2230 3812	Prev 8 Prev 8 07 5050500 07 505000000000000000000000000000000000	Wark         Ne           97500         075000999         07500999           07500999         075009999         075009999         075009999           075009999         0750009999         075000999         075000999         075000999         075000999         075000999         0750009999         0750009999         0750	Mobile Phone Ottestatti Ottestatt			patient just ger missing red box do so, d the list clinical	s with m nder and g data wi c. If Pen double-c will ope software	issing demo d/or date of II be repres CAT has be clicking on a n that patie a allowing fo	ographics, birth. Any ented by a en set-up a patient ir nt within t or immedia
	Surname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname Suname	to open kin your of First mame 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 10. Firstmane, 11. Firstmane, 13. Firstmane, 13.	Clinical system (1 Date of Birth 01/10/1983 01/10/1983 01/10/1985 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989 01/10/1989	12	Address 12 Jogger St 12 Jogg	Suburb Town Suburb Town	Postcode 5932 4164 3834 5275 2595 4884 5199 4583 2576 4117 3338 2576 4117 3338 2254 2254 2254	Prev 6 Prov 6 Pr	Work         Ne           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 5550999         07 5550999           07 55509999         07 5550999	Mobile Phone O44444444 O44444444 O44444444 O44444444			patient just ger missing red box do so, d the list clinical	s with m nder and g data wi c. If Pen double-c will ope software	issing demo d/or date of II be repres CAT has be clicking on a n that patie a allowing fo	bgraphics, birth. Any ented by en set-up a patient i nt within t pr immedi







# Diagnoses in free text form

Diagnoses that are not entered correctly, particularly due to free text entries, greatly reduce the functionality of your clinical information software and the ability for Pen CAT to report and visualise data accurately. Although there are methods for mapping these entries to specific diagnoses within the clinical information software, it is time-consuming and may be less accurate when mapped. This is one area where time spent cleaning the data can be wasted if a Health Service wide procedure is not implemented and recording diagnosis in free text is allowed to continue, as data will need frequent cleansing.

Pen CAT has recipes available for bulk cleaning of free text diagnoses for both Best Practice and Medical Director. Other clinical software may also have systems for bulk cleaning - check with your software provider.

#### **Best Practice**

http://help.pencs.com.au/display/CR/Bulk+clean+up+of+free+text+diagnosis+-+BP+users

#### **Medical Director**

http://help.pencs.com.au/display/CR/Bulk+clean+up+of+free+text+diagnosis+-+MD3+users

#### Zedmed

Diagnoses mapping from free text to ICPC coding is also available in Zedmed. It can be found in: Clinical Records > Utilities-Clinical > ICPC Problem Mapper

## **Tips for Clean Data**

- Keep staff informed and involved
- Decide on changes to processes with input from those who perform the task (there may be unseen issues that can be picked up before a procedure is changed)
- Check your patient registration sheet and ensure it captures all the required information and matches the clinical software options
- Always check archived patients prior to creating a new patient
- Use data management tools, such as TopBar, for alerts for missing data at the time of patient presentation
- Decide on the coding to be used for diagnoses, screening, etc.
- Develop cheat sheets and make them easily accessible (for example, data entry/checking archived patients at the front desk, or coding in the consultation rooms)
- Set up regular archiving and data monitoring processes (check for duplicates, free text diagnoses, etc.)
- If recurring problems are noted, confirm processes with staff (does a procedure need to be changed?)