

CHRONIC KIDNEY DISEASE

QUALITY IMPROVEMENT

DEBORAH WALGANSKI, RN RM,
PCIO,

CKD SUBJECT MATTER EXPERT

WE ACKNOWLEDGE THE TRADITIONAL OWNERS &
CUSTODIANS OF THE
LAND THAT WE LIVE & WORK ON AS THE FIRST
PEOPLE OF THIS COUNTRY.



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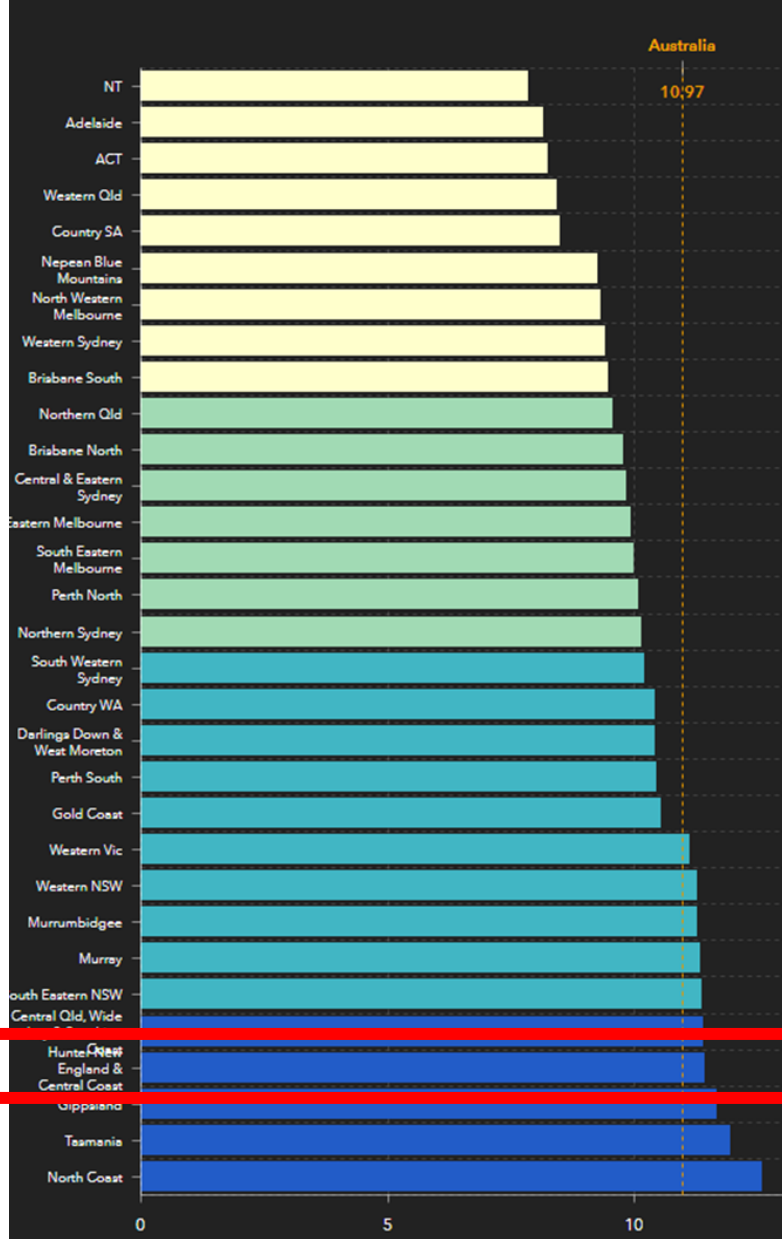
1. Compelling Statistics
2. Quality Improvement
 1. Dashboard
 2. Activities
 3. Model for Improvement
3. Risk Factors
4. Kidney Health Check
5. Diagnosis
6. Staging
7. Clinical Action Plans
8. Monitoring and Management



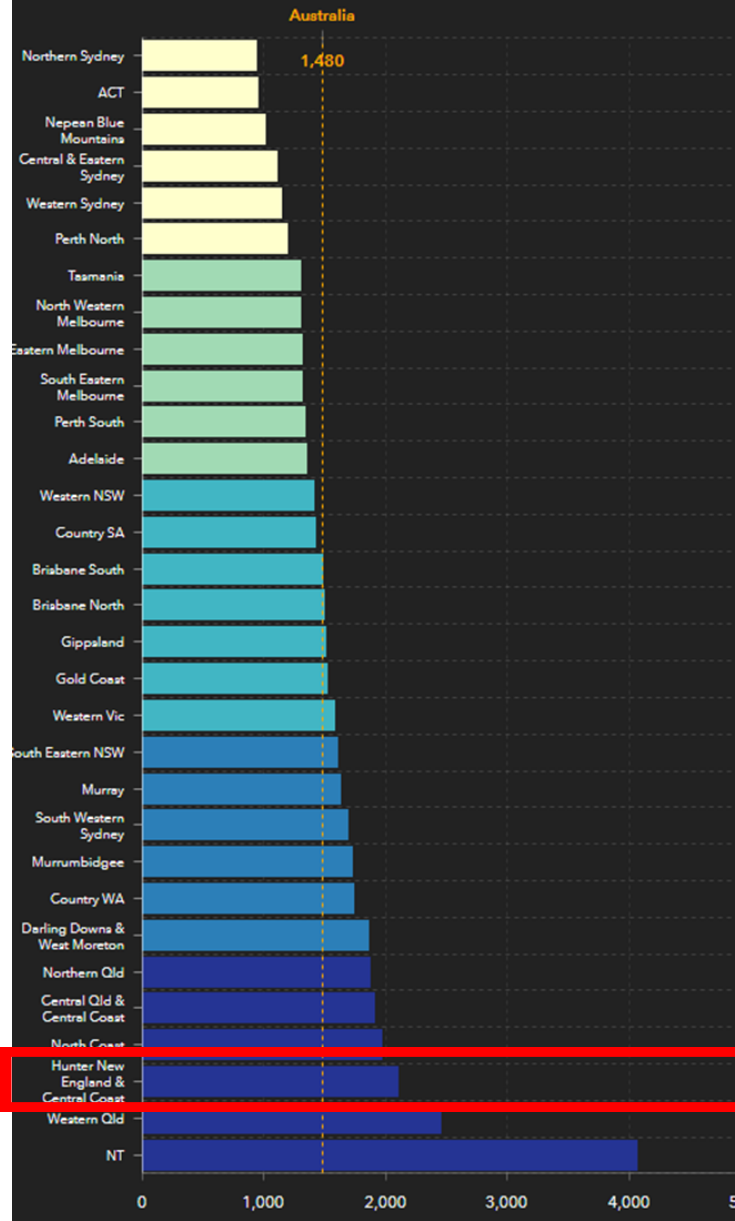
Comparison by PHN Boundary

[Geographical variation in disease: diabetes, cardiovascular and chronic kidney disease, Chronic kidney disease dashboards - Australian Institute of Health and Welfare \(aihw.gov.au\) 2013-2017](http://www.aihw.gov.au)

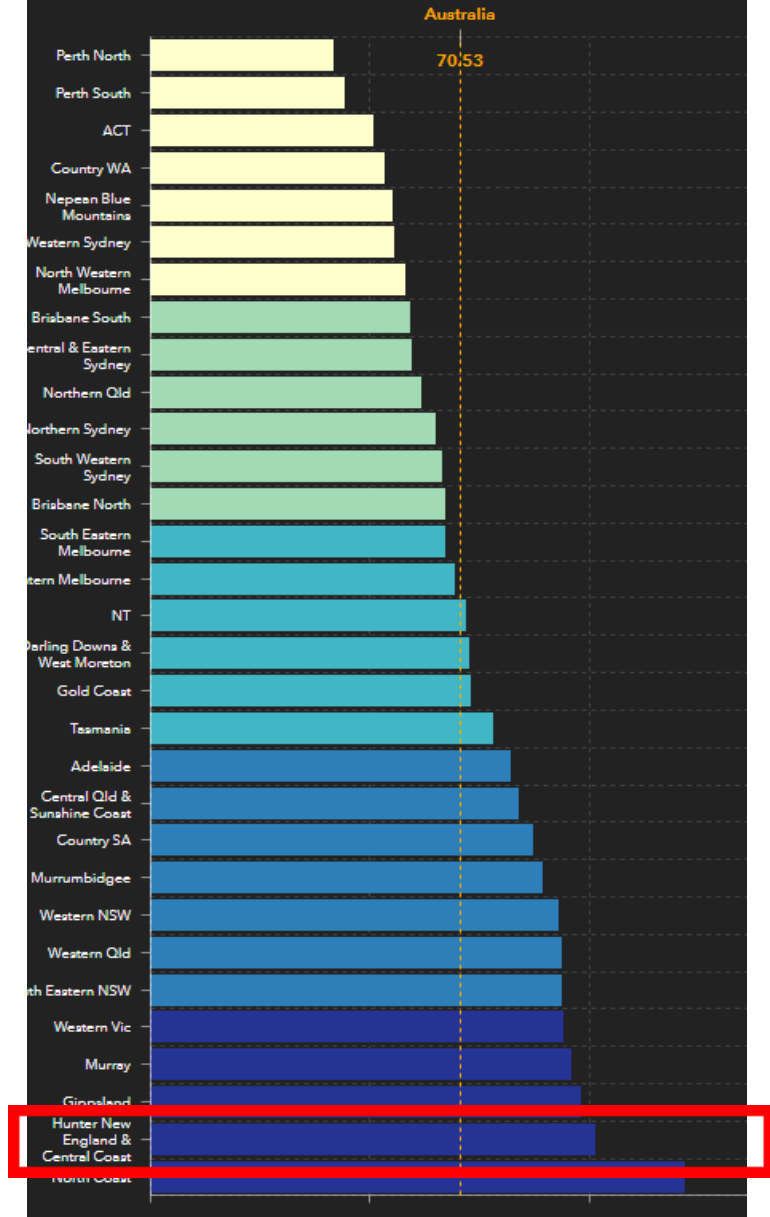
Adults with CKD by PHN—crude rate (%)



CKD crude hospitalisation rate by PHN (per 100,000)



CKD crude death rate by PHN (per 100,000)



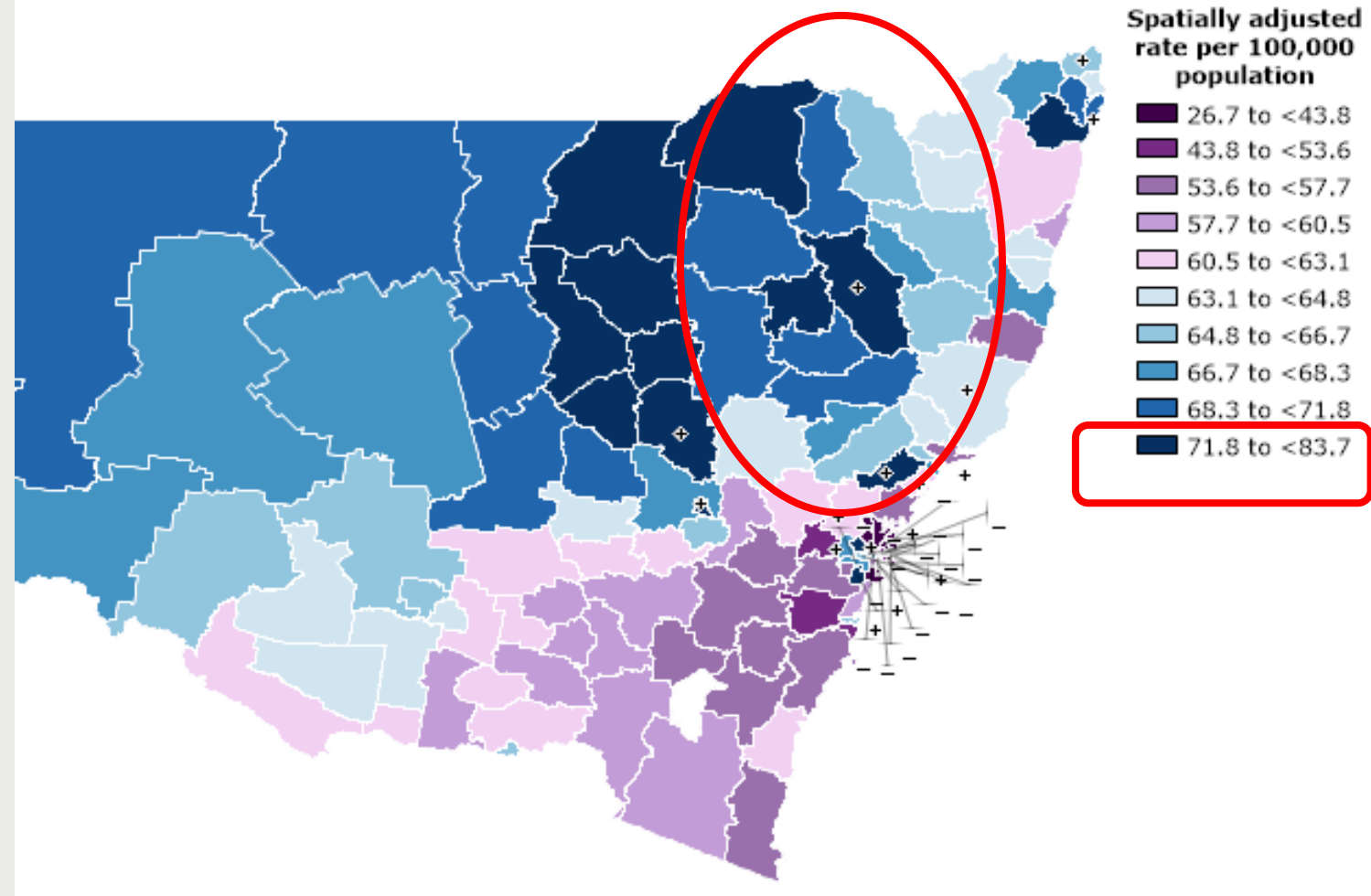
CKD DEATHS - COMPELLING REASON

Worst 10 LGAs for CKD Death spatially-adjusted rate per 100,000 population 2016-2018:

Western Plains Regional	81.7
Orange	76.0
Cessnock	76.5
Gunnedah	74.0
Moree Plains	73.2
Tamworth	73.1
Richmond Valley	74.6
Gilgandra	73.5
Narromine	73.0
Walgett	72.7
ALL NSW LGAs	56.5

HealthStats NSW 2016-2018, NSW Government

Chronic kidney disease deaths by Local Government Area, NSW
2016 to 2018



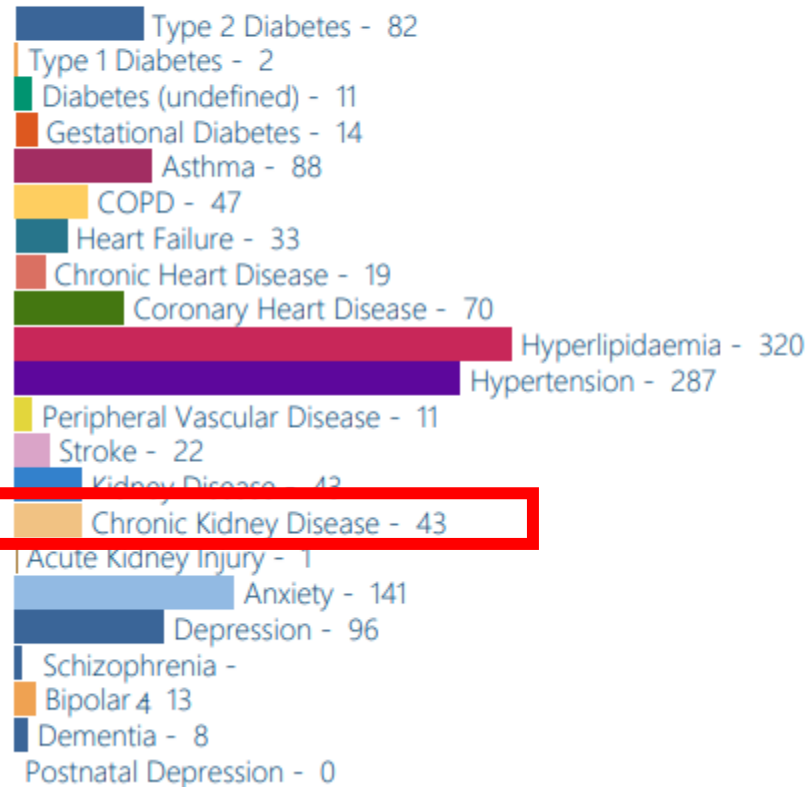
PRACTICE DASHBOARD - DIAGNOSIS



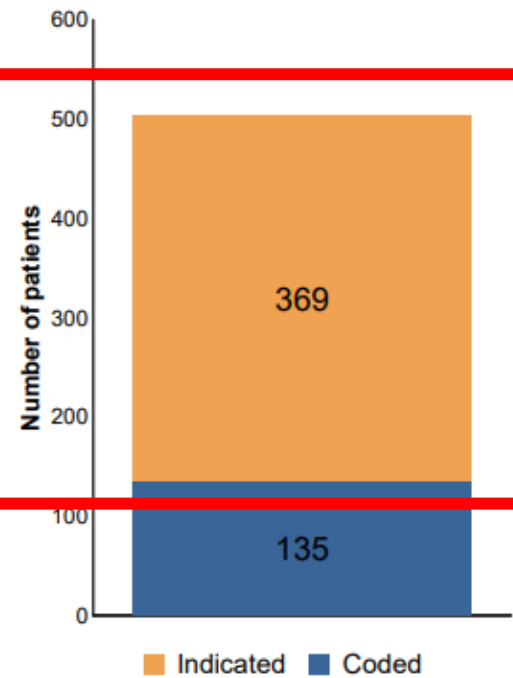
General Practice Summary

DISEASE PREVALENCE

Chart indicates numbers of patients at your practice coded with each



CHRONIC KIDNEY DISEASE



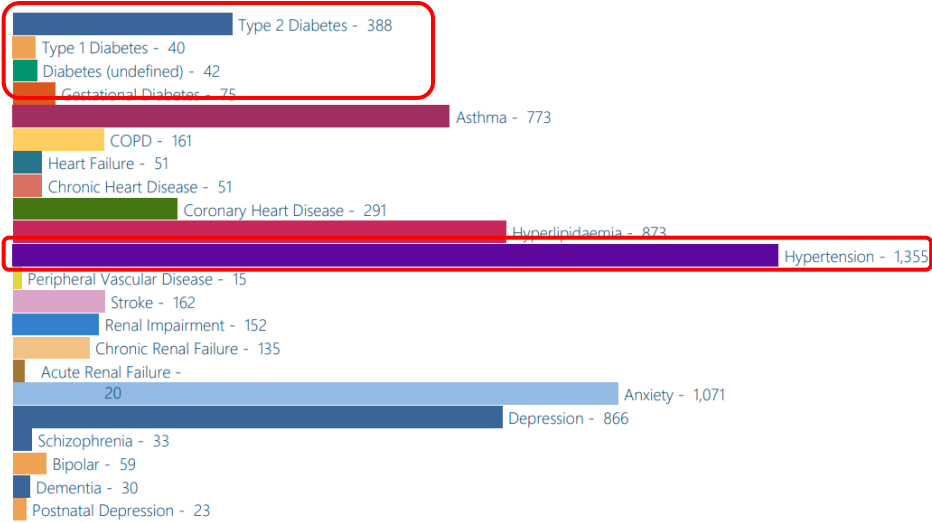
Indicated CKD with no diagnosis

The "Indicated" group includes patients where the staging of CKD, as determined by the combined results of kidney function (eGFR) and kidney damage (the level of albuminuria using ACR), indicates the possibility of CKD.

DASHBOARD - RISKS FOR CHRONIC KIDNEY DISEASE

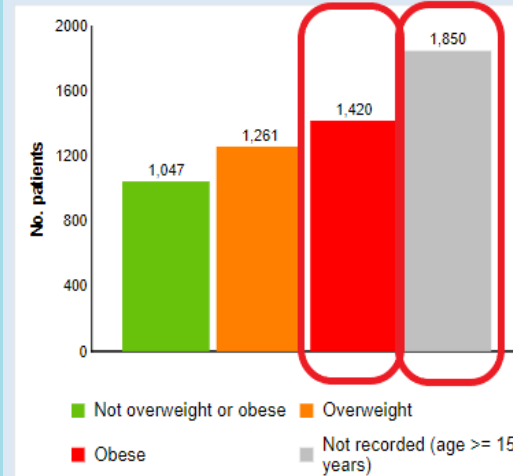
DISEASE PREVALENCE

Chart indicates numbers of patients at your practice coded with each diagnoses

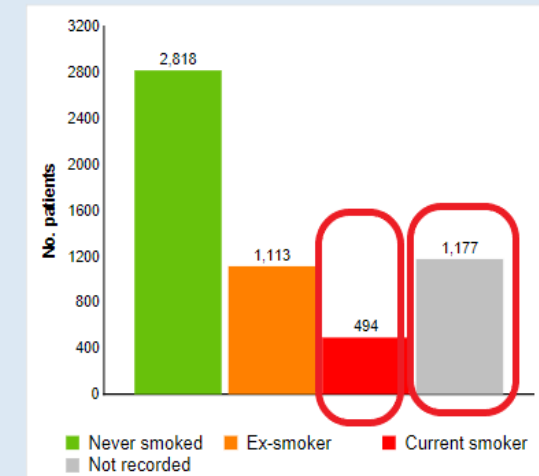


LIFESTYLE RISKS

WEIGHT (BMI)



SMOKING



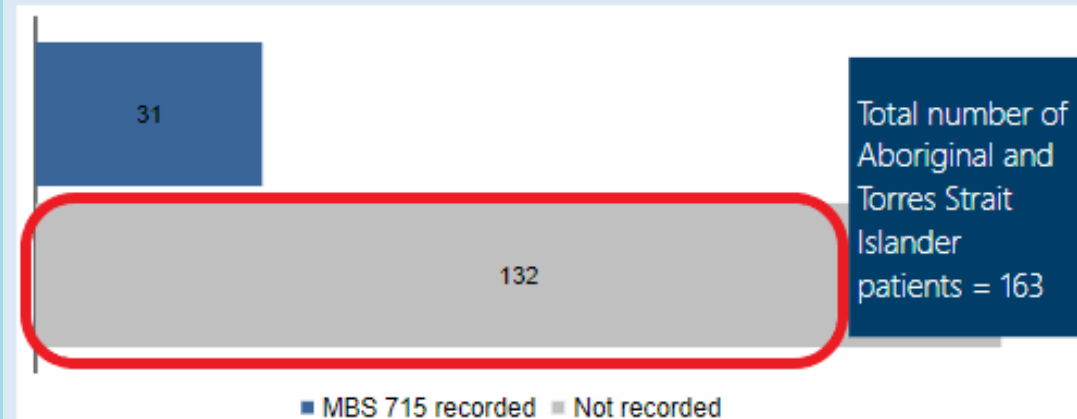
ETHNICITY

Ethnicity	Total patients	% of group
Indigenous	163	3.6 % **
Aboriginal	149	(91.4 %) *
Torres Strait Islander	4	(2.5 %) *
Aboriginal and Torres Strait Islander	10	(6.1 %) *
Non-indigenous	6455	94.1 % **
Ethnicity not recorded	157	2.3 % **

* % of active Aboriginal and Torres Strait Islander patients at this practice

** % of total active patients at this practice (excludes patients aged 100 years and over)

ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES HEALTH ASSESSMENT (MBS item 715)

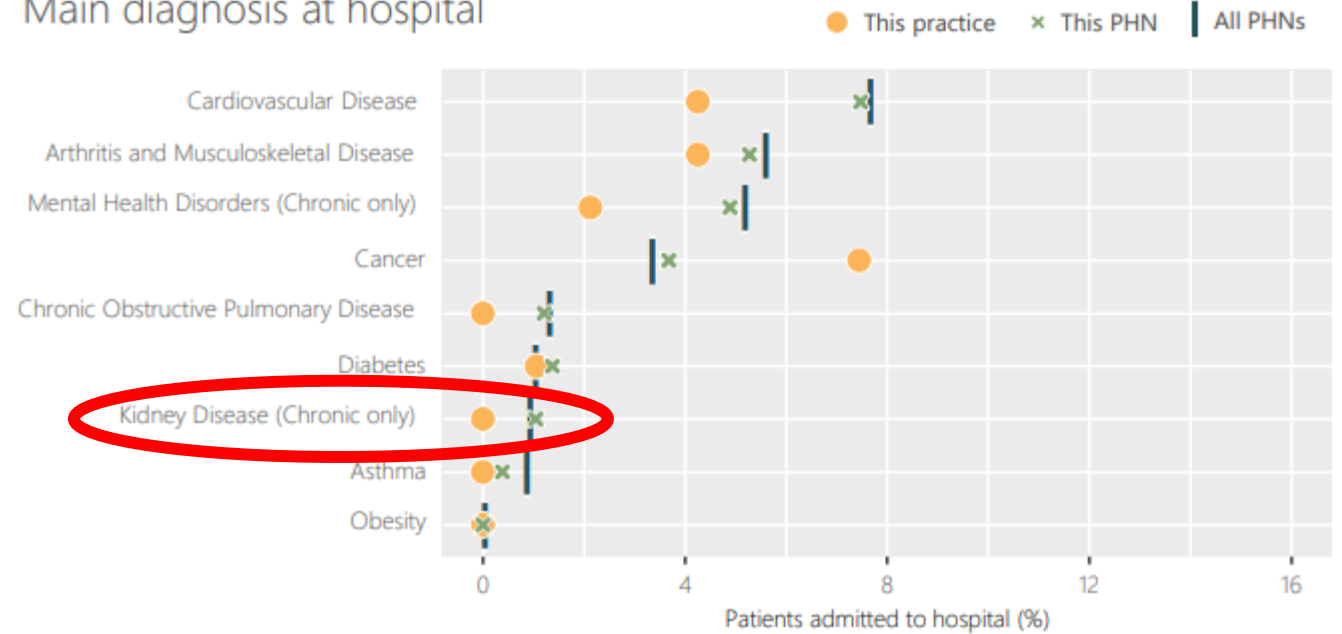


LUMOS NSW HEALTH AND PHNS PROGRAM

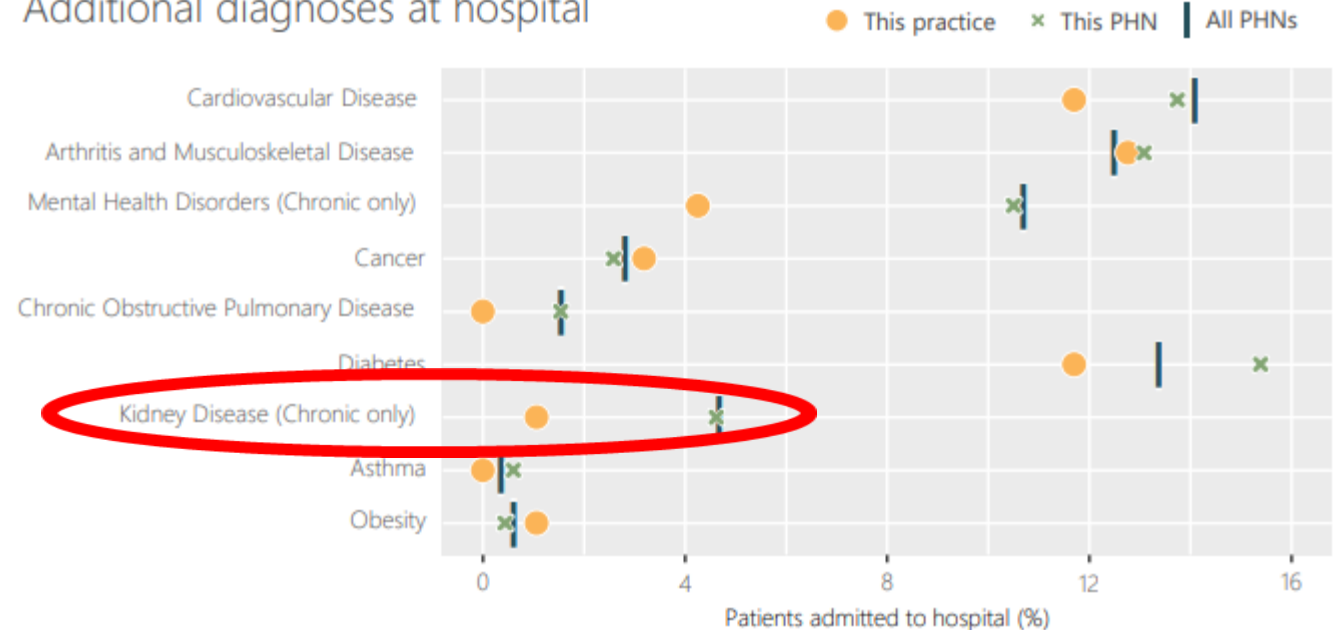
MAIN DIAGNOSIS AT ADMISSION TO HOSPITAL

ADDITIONAL DIAGNOSIS AT ADMISSION TO HOSPITAL

Main diagnosis at hospital



Additional diagnoses at hospital



QUALITY IMPROVEMENT ACTIVITIES X 4 QI PIP QUARTERS



PRIMARY CARE IMPROVEMENT

Quality Improvement Scenario 1: Patients at Risk of CKD

Patients are at risk of Chronic Kidney Disease if they have risk factors, including Smoking, Diabetes, Hypertension, Obesity, CVD Diagnosis or Indigenous aged >30, Obesity, undiagnosed Diabetes and/or Hypertension, are aged 60 and older, have a history of acute kidney injury or a family history of kidney failure, and/or hypertensive disorders in pregnancy including pre-eclampsia (may increase the risk of hypertension and CKD later in life). *Kidney Health Australia, Chronic Kidney Disease Management in Primary Care, 4th ed. 2020*

Who is at risk of CKD?

PRIMARY CARE IMPROVEMENT

Quality Improvement Scenario 2: Patients Indicated Chronic Kidney Disease (CKD) with No Coded Diagnosis

A Practice's Data Dashboard provided by HNECCPHN (based on PenCS CAT4 data) indicates that 369 patients are indicated to have Chronic Kidney Disease, but do not have a coded diagnosis. This is risky as Patients who have Chronic Kidney Disease may not appear in lists, be searchable, nor be communicated in health summaries. Opportunities for patient care and practice sustainability may be missed.

Requirement:

eHealth PIP Requirement 3 is:
"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"

Practice's CAT4 Dashboard CKD Indicator

The "indicated" group includes patients where the staging of CKD, as determined by the combined results of kidney function (eGFR) and kidney damage (the level of albuminuria using ACR), indicates the possibility of CKD.

PRIMARY CARE IMPROVEMENT

Quality Improvement Scenario 4: CKD Clinical Action Plans

Evidence-based care guidelines state that CKD Clinical Action Plans should be completed in a timely fashion.
[CKD-Management-in-Primary-Care handbook 2020.1.pdf \(kidney.org.au\)](#)

Patients diagnosed with Chronic Kidney Disease must have selected clinical items reviewed as per appropriate timing in Clinical Action Plans to follow-up on missing clinical items or address clinical items not at treatment targets.

Yellow clinical action plan

12 months

Orange clinical action plan

6 months

Red clinical action plan

3 months

PRIMARY CARE IMPROVEMENT

Quality Improvement Scenario 3: Chronic Disease Management

Using **Chronic Disease Management** enables practice health professionals to provide appropriate care to patients with Chronic Kidney Disease. **Medical Benefit Schedule (MBS)** items such as GP Management Plan (GPMP), Team Care Arrangement (TCA), Reviews of both, Allied Health Consultations and Nurse Monitoring & Support are beneficial to the management of a patient's Chronic Kidney Disease.




PenCS CAT4 Report "Identify Patients with Chronic Kidney Disease who never had a GP Management Plan (721) claimed" will determine the number of patients with Chronic Kidney Disease who are eligible for a GPMP or TCA. [Identify patients with CKD who never had a GPMP/TCA claimed - CAT Recipes - PenCS Help](#)







PLAN DO STUDY ACT IMPROVEMENT CYCLE

Plan Do Study Act (PDSA)

The Thinking Part

Goal 	What is the identified issue?
	What is the SMARTA Goal? Specific: Measurable: Achievable: Realistic: Timely: Agreed:
Measure 	How will improvement be measured?
	Numerator defined: Denominator defined: Baseline date: Re-measure date:
Idea 	What ideas could assist to achieving the goal?
	1-
	2-
	3-
	4-
	5-

The Doing Part

PLAN 	What is the specific action plan idea?
	What?
	Why?
	Who?
	When?
	Where? Prediction?
DO 	Was the plan executed? Any unexpected events or problems?
STUDY 	Compare and analyse baseline, prediction and result.
ACT 	What will be taken forward, removed, or added to the next action plan?

QUALITY IMPROVEMENT ACTIVITIES- OVER 1 YEAR



**PRIMARY CARE
IMPROVEMENT**



**PRIMARY
HEALTH
NETWORK**

12 Month | Quality Improvement Record

GOAL SETTING

NOTE: This document can be used for **ONE** "Practice Incentive Payment Quality Improvement (PIP QI)" Quarter or is suitable for a **12-month** strategic approach

This record can also be used to assist with preparation for RACGP Accreditation

Practice name:

PIP QI Quarter/s:

Record completed by:

Date:

Focus Area & Aim | What are you trying to achieve? | What is your goal?

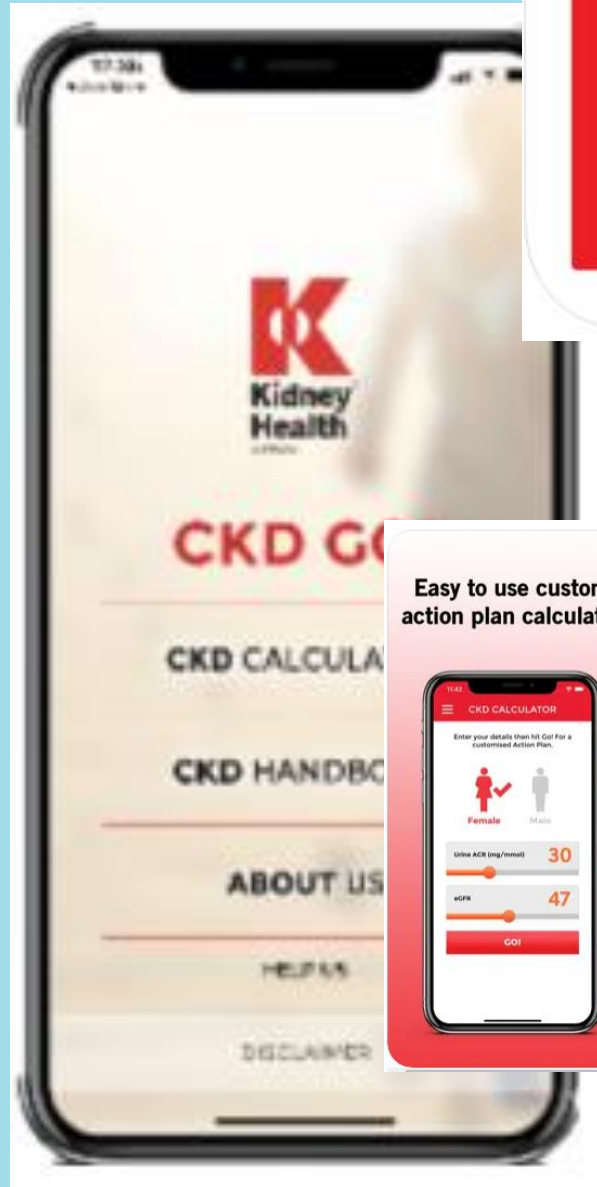
KIDNEY HEALTH AUSTRALIA



Chronic Kidney Disease (CKD) Management in Primary Care

Guidance and clinical tips to help detect, manage and refer patients in your practice with CKD

4th Edition 2020



CKD - Go! 17+

All CKD related content.

Digital Noir Pty Ltd

Designed for iPhone

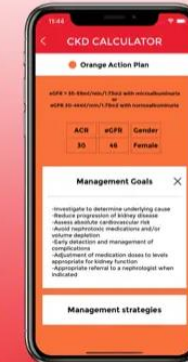
★★★★★ 4.8 • 6 Ratings

Free

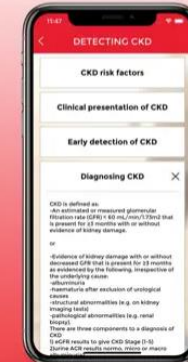
Easy to use custom action plan calculator



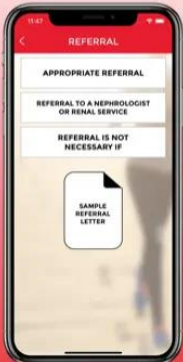
View customised action plans



View easy to read CKD information



For patient and professional use

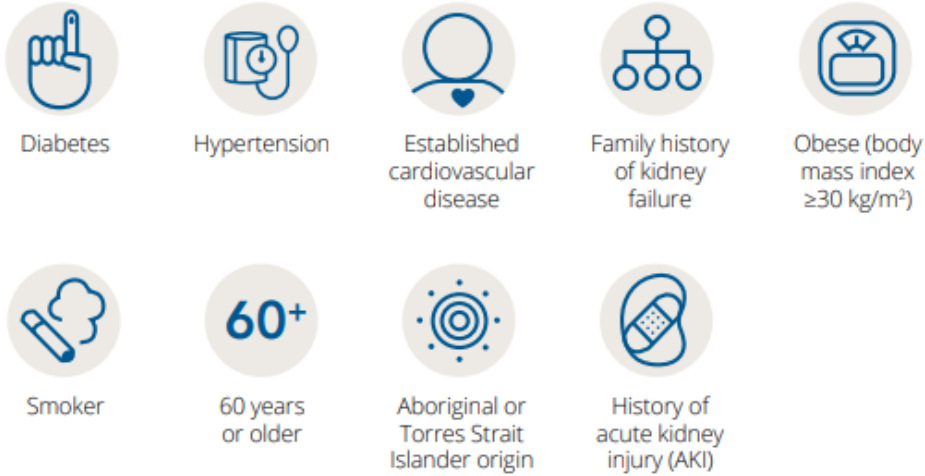


Risk Factors for CKD

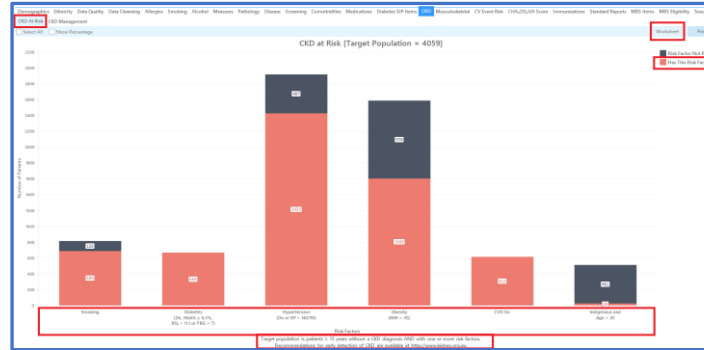
KHA Handbook

Who is at risk of CKD?

Adult Australians are at increased risk of developing CKD if they have any of the following risk factors:



CAT4 - CKD At Risk Report



Quality Improvement Activities



Quality Improvement Scenario 1: Patients at Risk of CKD

Patients are at risk of Chronic Kidney Disease if they have risk factors, including Smoking, Diabetes, Hypertension, Obesity, CVD Diagnosis or Indigenous aged >30, Obesity, undiagnosed Diabetes and/or Hypertension, are aged 60 and older, have a history of acute kidney injury or a family history of kidney failure, and/or hypertensive disorders in pregnancy including pre-eclampsia (may increase the risk of hypertension and CKD later in life). Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*. Kidney Health Australia, Melbourne, 2020. [CKD Management handbook | Kidney Health Australia](#)

Who is at risk of CKD?

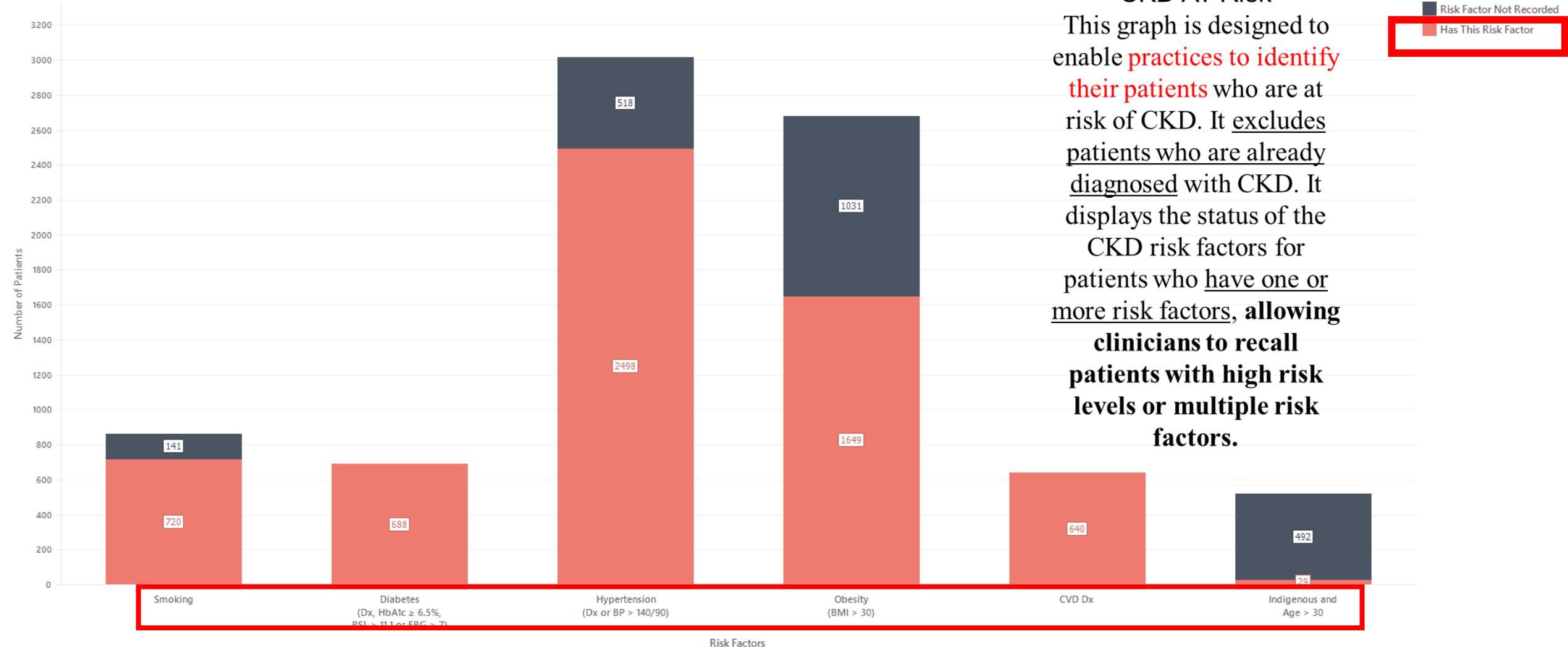
Adult Australians are at increased risk of developing CKD if they have any of the following risk factors:



Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*. Kidney Health Australia, Melbourne, 2020.

PenCS CAT4 Reports - CKD Tab - CKD At Risk Report

CKD at Risk [Target Population = 4183]



CKD AT Risk

This graph is designed to enable **practices to identify their patients** who are at risk of CKD. It excludes patients who are already diagnosed with CKD. It displays the status of the CKD risk factors for patients who have one or more risk factors, **allowing clinicians to recall patients with high risk levels or multiple risk factors.**

Target population is patients ≥ 15 years without a CKD diagnosis AND with one or more risk factors. Recommendations for early detection of CKD are available at <http://www.kidney.org.au>.

Worksheet – Reidentifying Patient Names Report

Reidentify Report [Patient Count = 21] - CKD AT RISK WORKSHEET

Selected: CKD at Risk (Smoking: Has This Risk Factor, Hypertension: Risk Factor Not Recorded, Obesity: Risk Factor Not Recorded, Indigenous and Age>30: Risk Factor Not Recorded, Hypertension: Has This Risk Factor, Indigenous and Age>30: Has This Risk Factor, Obesity: Has This Risk Factor, Diabetes: Has This Risk Factor, Smoking: Risk Factor Not Recorded, CVD: Has This Risk Factor)

ID	Surname	First Name	Sex	D.O.B(Age)	Smoking	Diabetes	HbA1c %	BSL	FBG	Hypertension	BP	BMI	CVD	ATSI
2	Abbott	Alan	M	30/06/1945 (76)		Y	6.7	8.7			130/90	34.0		
4	Abbott	Madeline	F	14/02/1978 (44)		Y	6.3	7.5			125/80	40.1		
43	Ackerman	Ashley	M	10/07/1980 (41)	Smoker									
5	Adams	Felix	M	30/12/1928 (93)		Y	5.7				120/80			
6	Aldridge	Alfred Charles	M	24/01/1908 (114)						Y	185/100			
33	Alfreds	David Charles	M	19/03/1930 (92)		Y	6.8				120/80			
32	Alfreds	Gwenda	F	16/02/1933 (89)	Never Smoked			8.8	9.1	Y	110/70	39.8		
7	Allen	David	M	06/10/1960 (61)				2.0			140/95			

Kidney Health Check

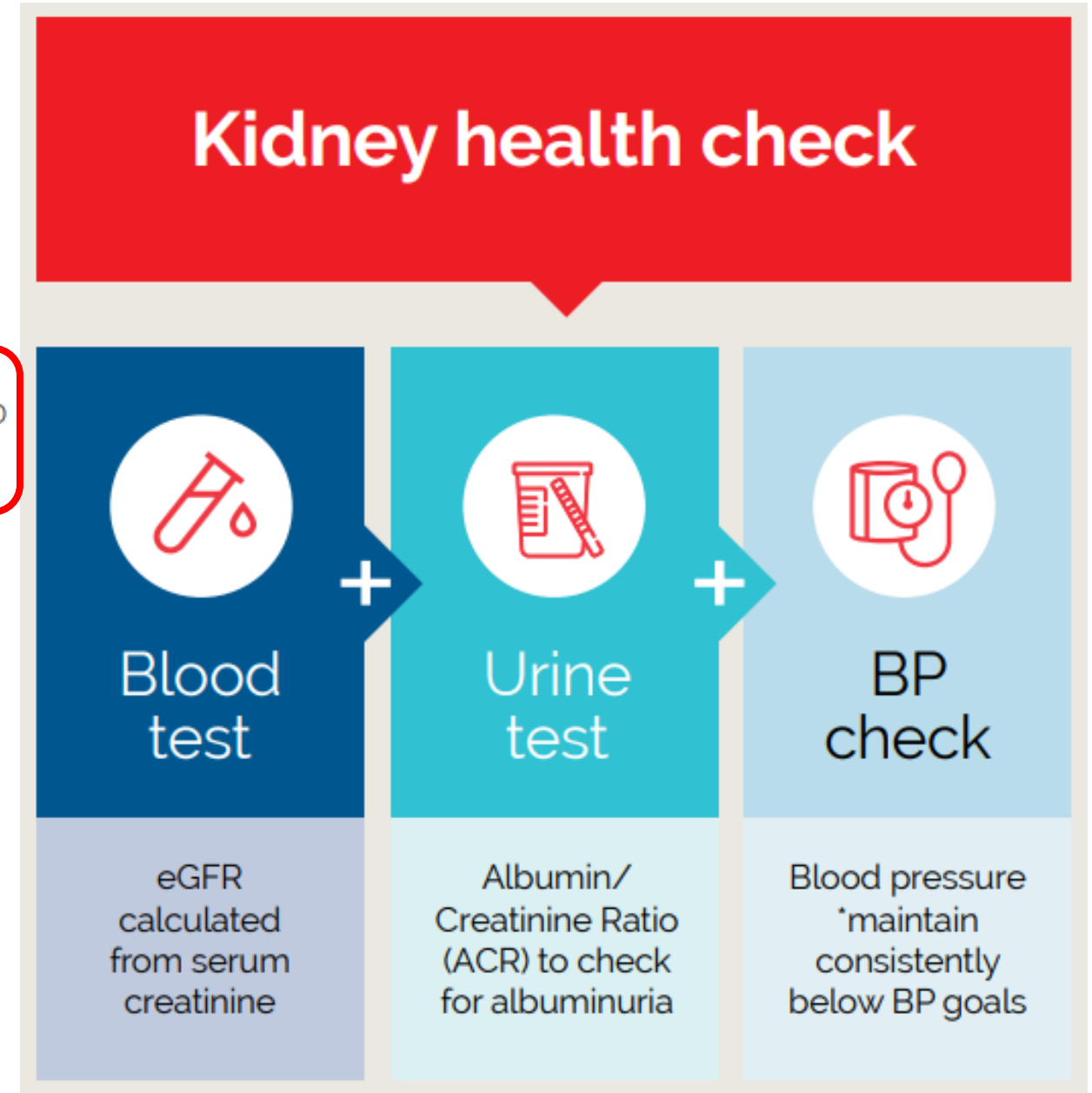
Clinical presentation of CKD

CKD is generally asymptomatic

Up to 90% of kidney function may be lost before symptoms are present, so annual checking of those at risk is essential.

- People with CKD may not notice any symptoms until they reach Stage 5 CKD (see Staging Table on page 9).

Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
Kidney Health Australia, Melbourne, 2020.



Kidney Health Check – Indications and Frequency

KHA Handbook

Early detection of CKD using Kidney Health Check^{14, 15}

Indications for assessment*	Recommended assessment	Frequency
Diabetes	Urine ACR, eGFR, blood pressure.	Every 1-2 years [†]
Hypertension	If urine ACR positive repeat twice over 3 months (preferably first morning void). If eGFR <60mL/min/1.73m² repeat within 7 days.	
Established cardiovascular disease**		
Family history of kidney failure		
Obesity (BMI ≥30 kg/m ²)		
Smoker		
Aboriginal or Torres Strait Islander origin aged ≥30 years [†]		
History of acute kidney injury	See recommendations on page 53	

* Whilst being aged 60 years of age or over is considered to be a risk factor for CKD, in the absence of other risk factors it is not necessary to routinely assess these individuals for kidney disease.

** Established cardiovascular disease is defined as a previous diagnosis of coronary heart disease, cerebrovascular disease or peripheral vascular disease

[†] Annually for individuals with diabetes or hypertension.

[†] See page 23 for more detail regarding recommendations for testing in Aboriginal and Torres Strait Islander peoples.

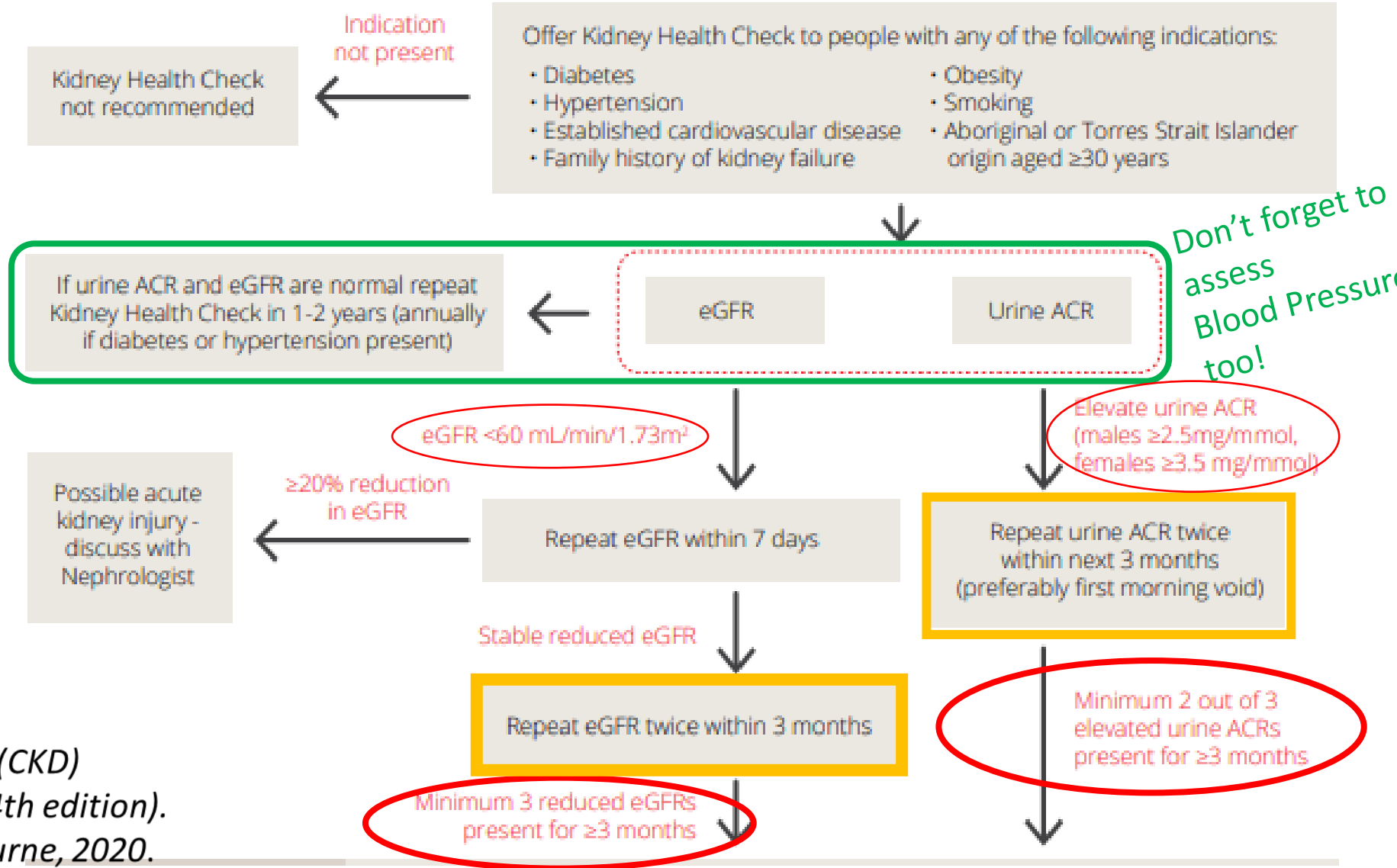
Recommendations for CKD detection in Aboriginal and Torres Strait Islander peoples¹⁷

Indications for assessment	Recommended assessments	Frequency
People aged 18-29 years without any CKD risk factors.	Screen for CKD risk factors (see page 19 for list of CKD risk factors).	As part of annual health assessment.
All people ≥30 years and People 18-29 years with one or more CKD risk factors.	Urine ACR, eGFR, blood pressure. If urine ACR positive repeat twice over 3 months (preferably first morning void). If eGFR <60mL/min/1.73m² repeat within 7 days.	Every two years (or more frequently if CVD risk is elevated).

For further detailed information refer to the National Guide to a Preventive Health Assessment for Aboriginal and Torres Strait Islander People (www.naccho.org.au).

Detection – Kidney Health Check

Algorithm for initial detection of CKD

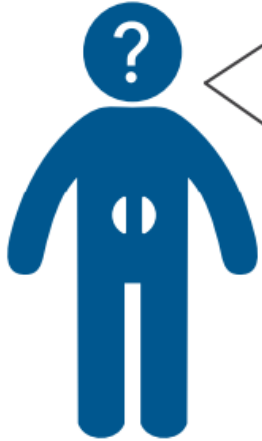


Source: Chronic Kidney Disease (CKD) Management in Primary Care (4th edition). Kidney Health Australia, Melbourne, 2020.

Diagnosing CKD

KHA Handbook

CKD is defined as:



An estimated or measured glomerular filtration rate (GFR) <60 mL/min/1.73m² that is present for ≥3 months with or without evidence of kidney damage.

Or

Evidence of kidney damage with or without decreased GFR that is present for >3 months as evidenced by the following, irrespective of the underlying cause:

- Albuminuria
- Haematuria after exclusion of urological causes
- Structural abnormalities (e.g. on kidney imaging tests)
- Pathological abnormalities (e.g. renal biopsy)

CAT4 - Indicated CKD Report

Data Cleaning

Missing Demographics Missing Clinical/Accreditation Items Indicated CKD with no diagnosis Indicated Diabetes with no diagnosis

Indicated Reviewed

Patient List page 1 of 2 [count = 35] Save & Remove

Double-click a patient to open it in your clinical system (MD.BP.Zedmed) Page No. 1 Go Prev Page

Clinical Action Plan: 1-3mths 3-6mths 12mths Note: CKD Stage is calculated using only the last eGFR and ACR.

	Surname	Firstname	DOB	Indication Date	Sex	eGFR	ACR	CKD
▶	Surname	Firstname_1043	12/02/1951	23/01/2015	F	51.0	0.3	Stage 3a
	Surname	Firstname_1122	12/02/1952	09/02/2015	F	77.0	8.2	Stage 2
	Surname	Firstname_1224	12/02/1953	02/01/2015	M	49.0	0.3	Stage 3a
	Surname	Firstname_1312	12/02/1954	27/01/2015	M	80.0	2.7	Stage 2
	Surname	Firstname_1339	12/02/1954	06/01/2015	M	87.0	2.5	Stage 2
	Surname	Firstname_14	12/02/1921	08/04/2014	M	37.0	2.4	Stage 3b
	Surname	Firstname_1611	12/02/1957	20/11/2014	F	0.0	1.1	Stage 5

Quality Improvement Activities



PRIMARY CARE
IMPROVEMENT



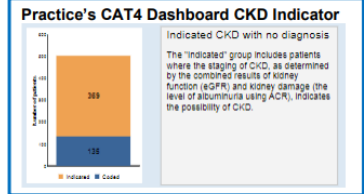
phn
HUNTER NEW ENGLAND
AND CENTRAL COAST
An Australian Government Initiative

Quality Improvement Scenario 2: Patients Indicated Chronic Kidney Disease (CKD) with No Coded Diagnosis

A Practice's Data Dashboard provided by HNECCPHN (based on PenCS CAT4 data) indicates that 369 patients are indicated to have Chronic Kidney Disease, but do not have a coded diagnosis. This is risky as Patients who have Chronic Kidney Disease may not appear in lists, be searchable, nor be communicated in health summaries. Opportunities for patient care and practice sustainability may be missed.

Requirement:

eHealth PIP Requirement 3 is:
"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" Practice Incentives Program -



CKD DIAGNOSIS

CKD diagnosed due to **decreased kidney function**,

and/or CKD diagnosed due to **kidney damage**,

evidenced by **albuminuria or haematuria, structural or pathological abnormalities**

Kidney Function Stage	GFR (mL/min/1.73m ²)	Albuminuria Stage		
		Normal (urine ACR mg/mmol) Male: <2.5 Female: <3.5	Microalbuminuria (urine ACR mg/mmol) Male: 2.5-25 Female: 3.5-35	Macroalbuminuria (urine ACR mg/mmol) Male: >25 Female: >35
1	≥90	Not CKD unless haematuria, structural or pathological abnormalities present	Yellow	Red
2	60-89		Yellow	Red
3a	45-59	Orange	Red	Red
3b	30-44	Orange	Red	Red
4	15-29	Red	Red	Red
5	<15 or on dialysis	Red	Red	Red

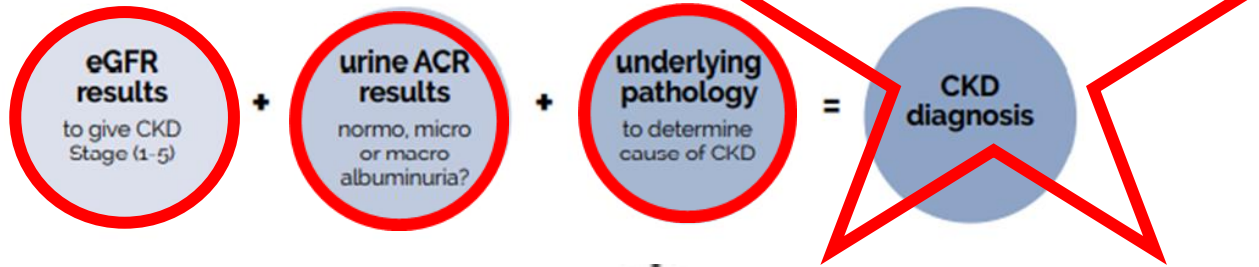
Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
Kidney Health Australia, Melbourne, 2020.

Fully specify CKD Diagnosis

Clinical tip

CKD in itself is not a primary diagnosis. Attempts should be made to identify the underlying cause of CKD.

There are three components to a diagnosis of CKD



Investigations to determine underlying diagnosis

Combine eGFR stage (1-5), albuminuria stage and underlying diagnosis to fully specify CKD (e.g., stage 2 CKD with microalbuminuria due to diabetic kidney disease).

Refer to colour-coded action plans on page 31 for management strategies

Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
Kidney Health Australia, Melbourne, 2020.

CODED DIAGNOSIS IN NATIONAL VOCABULARY

Requirement:

RACGP 5th Standards for General Practice Indicator QI1.3A requires that "Our practice team uses a nationally recognised medical vocabulary for coding." [Standards-for-general-practice-5th-edition.pdf \(racgp.org.au\)](https://www.racgp.org.au/standards-for-general-practice-5th-edition.pdf)

Requirement:

eHealth PIP Requirement 3 is: "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.**" [Practice Incentives Program - eHealth Incentive - Services Australia](#)

Requirement:

Also, eHealth PIP Requirement 3 is that "Practices must provide a **written policy** to this effect to all GPs within the practice." [Practice Incentives Program - eHealth Incentive - Services Australia](#)

Medical Director (DOCLE)

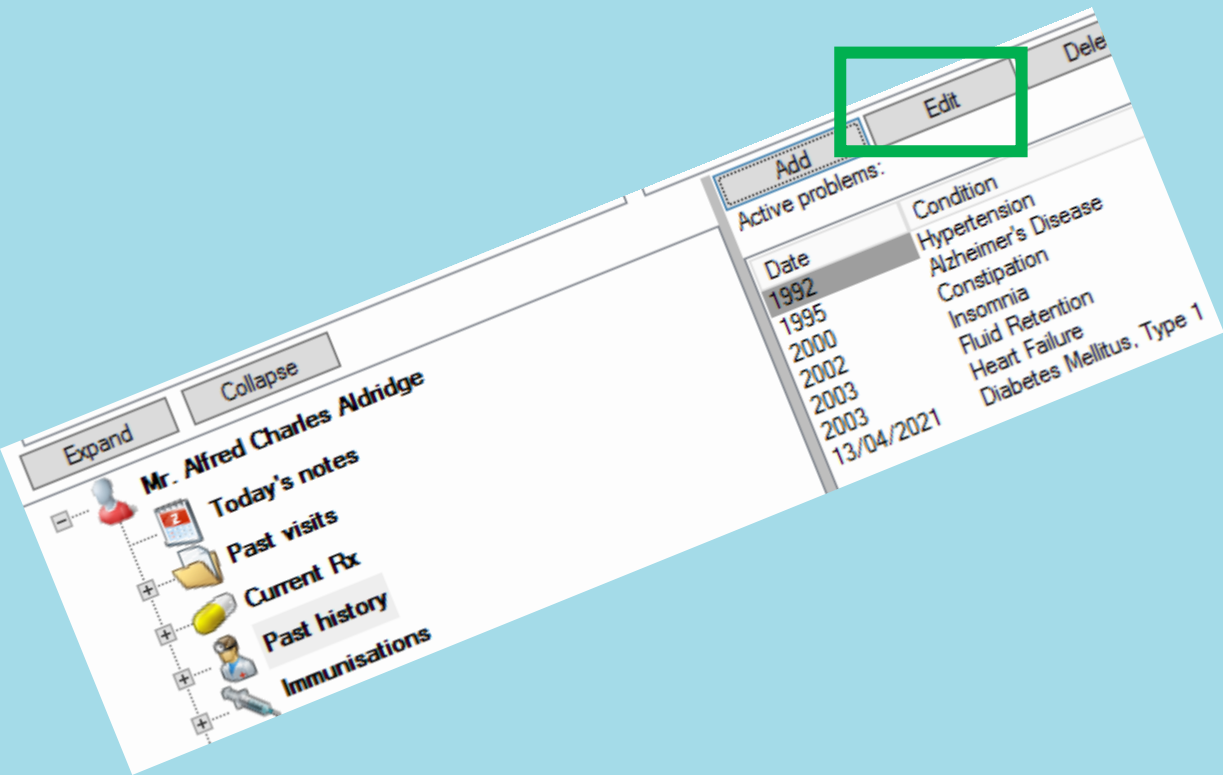
Chronic Renal Failure	
	Chronic Renal Failure
	Dialysis - haemodialysis
	Haemodialysis
	Hemodialysis
	Kidney failure - chronic
	Renal dialysis
	Kidney Disease - Chronic - Stage 1 -5
	Renal Disease - Chronic - Stage 1 -5
	Chronic Kidney Disease - Stage 1 -5
	CKD (Chronic Kidney Disease) - Stage 1 -5

Best Practice (SNO-MED-CT; Pyefinch)

Chronic Renal Failure	
	Chronic renal failure
	Haemodialysis
	Kidney failure, chronic
	Renal dialysis
	Renal failure, chronic
	Dialysis
	Renal impairment
	Chronic Kidney Disease,
	Chronic Kidney Disease, Stage 1-5

BEST PRACTICE

1. How to Search for condition
2. How to select condition
3. How to edit hand-typed condition



Past Medical History

Date: / / Today 6/03/2023

Search:

Condition:

Left Right Bilateral

Acute Chronic

Mild Moderate Severe

Active Inactive

Provisional diagnosis

Fracture:

Displaced Undisplaced

Compound Comminuted

Spiral Greenstick

Further details:

Send to My Health Record

Confidential

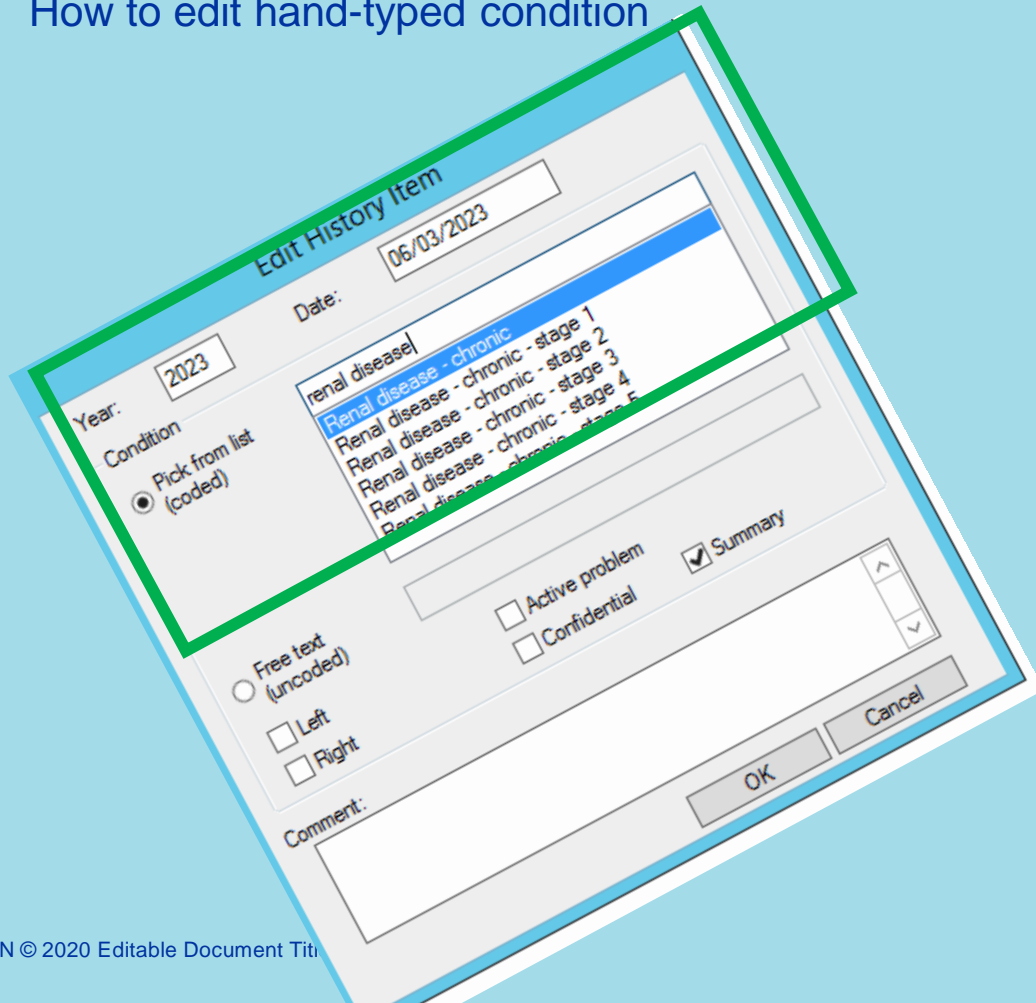
Include in summaries

Save as reason for visit

Save this condition in favourites list

MEDICAL DIRECTOR

1. How to Pick Condition from list
2. How to search for condition
3. How to edit hand-typed condition



New History Item

Year: Date:

Condition

Pick from list (coded)

- Chronic kidney disease
- Chronic kidney disease - stage 1
- Chronic kidney disease - stage 2
- Chronic kidney disease - stage 3
- Chronic kidney disease - stage 4
- Chronic kidney disease - stage 5

Free text (uncoded)

Left Active problem

Right Confidential Summary

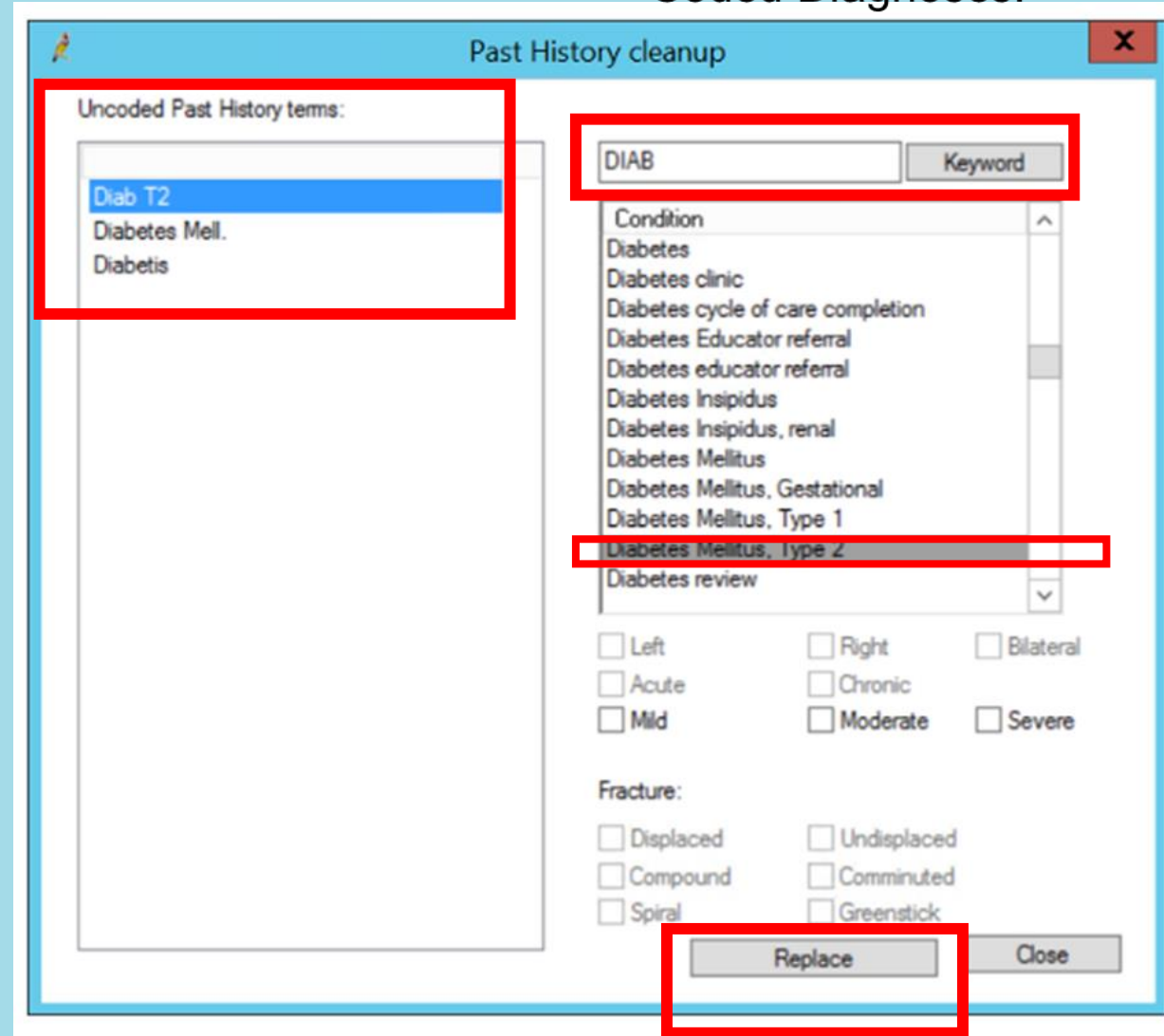
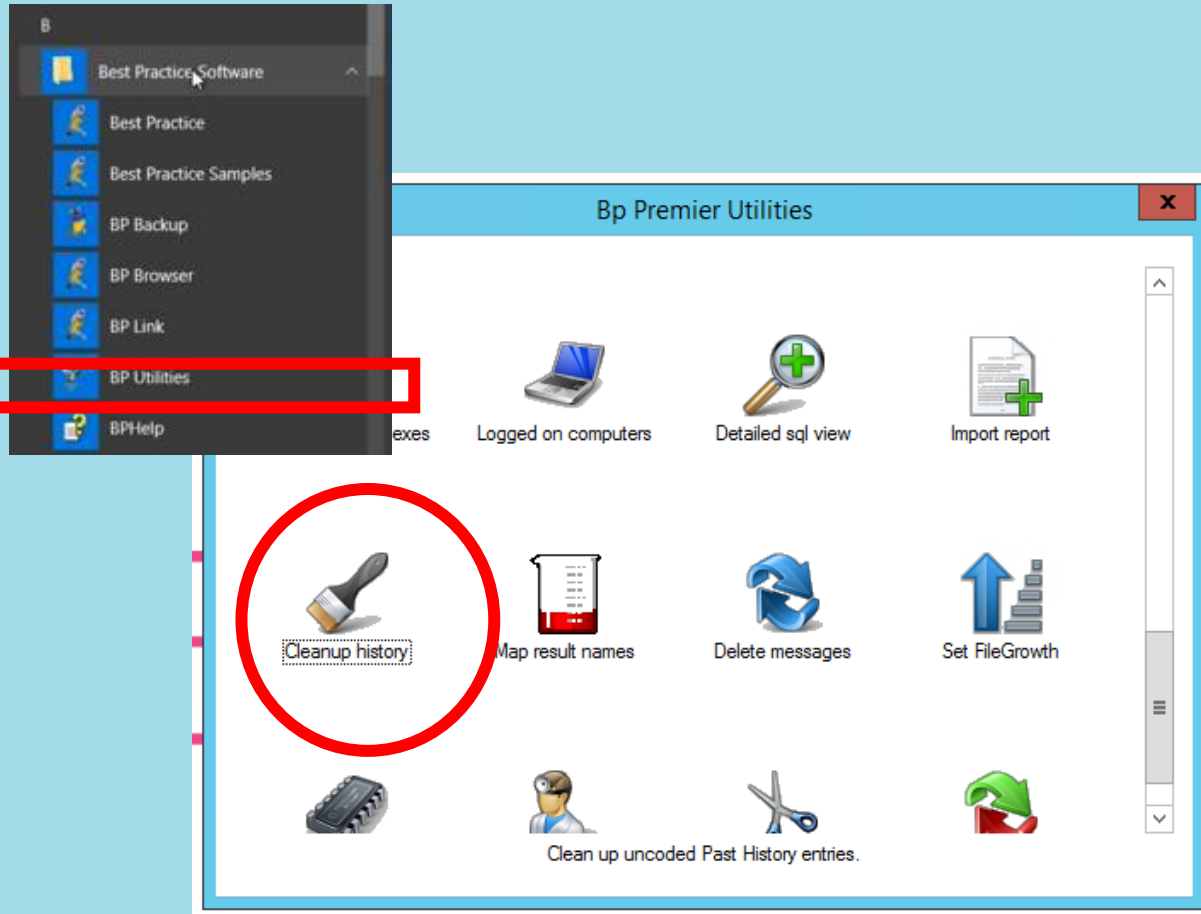
Comment:

CLEAN UP DIAGNOSES

Best Practice

Hot Tip: Make Practice Policy to Use Coded Diagnoses!

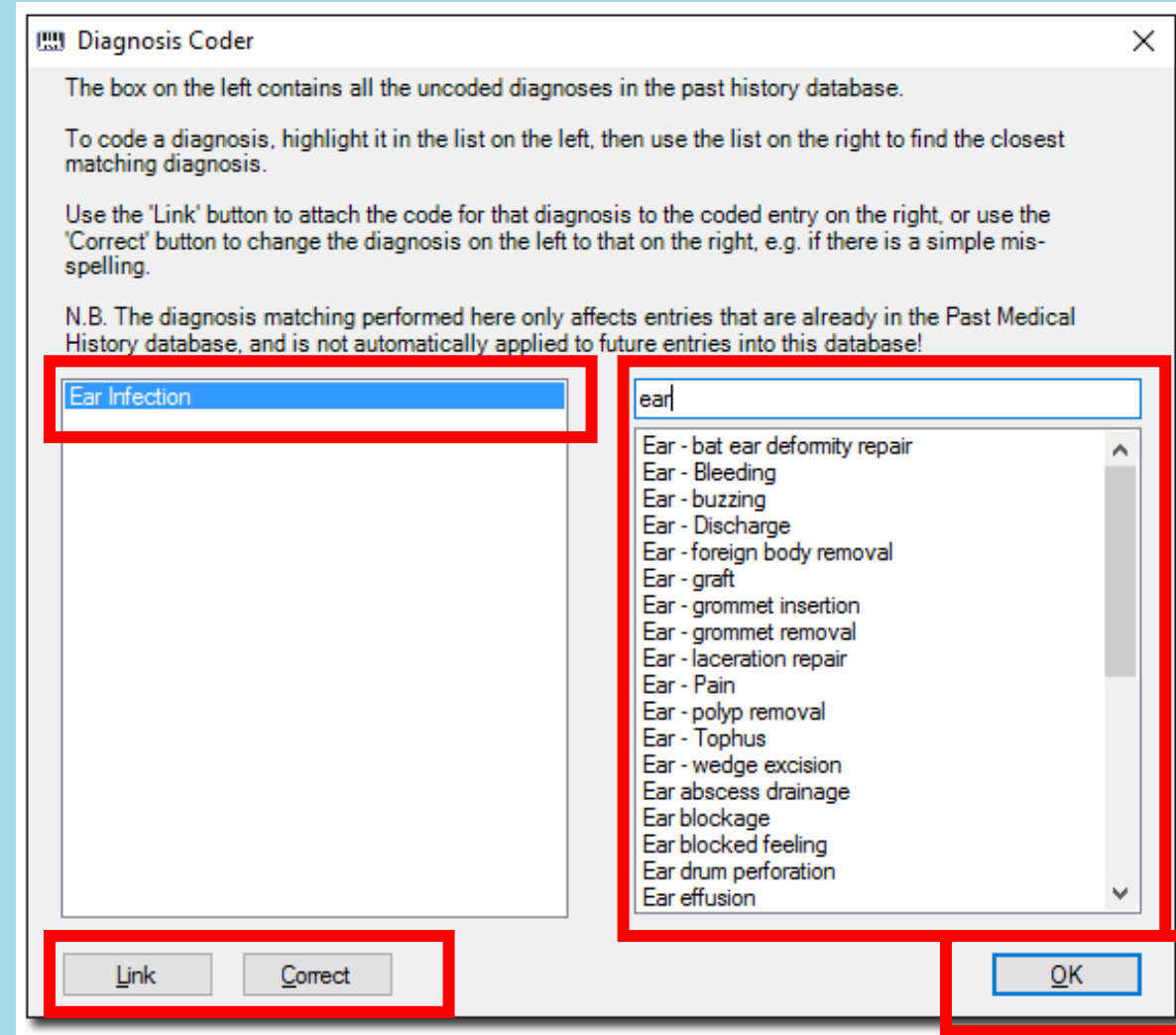
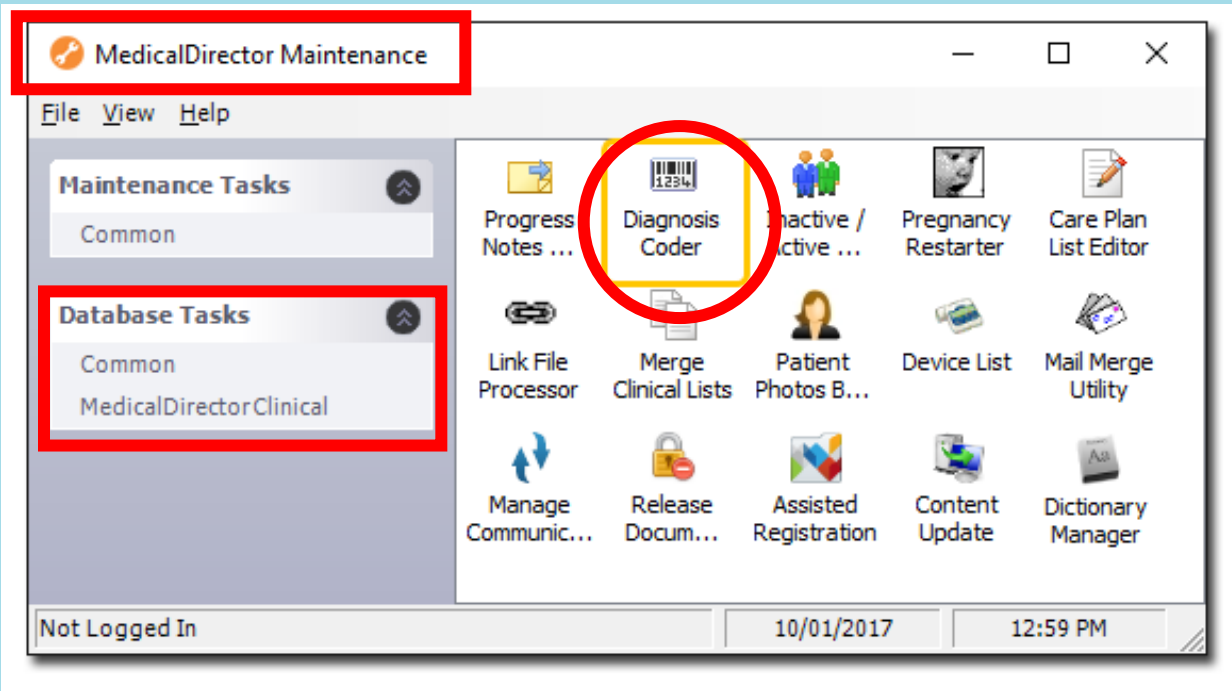
1. From the desktop, select the Windows logo in the bottom left > Apps > BP Utilities.
2. Select your user name from the drop down list and enter your password.
3. Double-click on the Cleanup history icon. The Past History cleanup screen will appear.



<https://kb.bpsoftware.net/bppremier/saffron/Database/ClinicalCoding.htm?Highlight=pyefinch>

CLEAN UP DIAGNOSES

Medical Director



, you will be prompted to select a [Configuration](#), and enter your Username and Password.

https://www.medicaldirector.com/help/topics-maintenance/Diagnosis_Coder.htm?rhlterm=diagnosis&hsyns=%20

CAT4 - DUPLICATE PATIENTS BY NUMBER OR NAME

Demographics Ethnicity **Data Quality** Data Cleansing Allergies Smoking Alcohol Measures Pathology Disease Screening Comorbidities Medications Diabetes SIP Items

CDSA Patient Data Report

Data Quality Dashboard Data Completeness Report Data Completeness Patient Graph **Duplicate Number Patient Report** Duplicate Name Patient Report

1 of 1 100%

Duplicate Number Patient Report

Report Date: 08/04/2022 2:44 PM
Practice Name: Best Practice Clinic

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

Number Matches [patient count = 9]

Surname	First Name	Sex	D.O.B.	Age	Address	City	Postcode	Medicare	HCC No	DVA No	ID
Allen	David	M	06/10/1960	61	2 Star Street	Fremantle	6160	22345678911			7
Allen	Fay	F	12/07/1940	81	Grey St	Fremantle	6160	22345678911			8
Allen	Janelle	F	24/01/1965	57	2 Star Street	Fremantle	6160	22345678911			9
Allen	Kenneth	M	10/06/1928	93	Grey St	Fremantle	6160	22345678911	404-674-343X		11
Adams	Felix	M	30/12/1928	93	5 Yarrabine Road	Landsborough	4550	41331804661		QX456789	5
Alfreds	David Charles	M	19/03/1930	92	81 Spence St	Oxley	4075	41331804661	123-897-586X		33
Bartholomew	Raymond	M	27/11/1928	93	54 Main Road	Bridgeman Downs	4035	41331804661	464-313-798K		15
Aldridge	Alfred Charles	M	24/01/1908	114	Lazy Lakes Nursing Home, King St	Launceston	7250	55000649711	707-674-333X	TX4687	6
Marshall	Sandra	F	12/02/1970	52	90 Richard St	Kings Cross	2011	55000649711			38

https://www.medicaidirector.com/help/topics-maintenance/Diagnosis_Coder.htm?rhlterm=diagnosis&hsyns=%20

DATA CLEANSING CAT4- INDICATED CKD WITH NO DIAGNOSIS CODED REPORT

Demographics Ethnicity Data Quality **Data Cleansing** Allergies Smoking Alcohol Measures Pathology Disease Screening Comorbidities Medications Diabetes SIP Items CKD Musculoskeletal CV Event Risk CHA₂DS₂VA Score Immunisations Standard Reports MBS Items MBS Eligibility Sexual H < >

Missing Demographics Missing Clinical/Accreditation Items **Indicated CKD with No Diagnosis** Indicated Diabetes with No Diagnosis Indicated Mental Health with No Diagnosis Indicated COPD with No Diagnosis Indicated Osteoporosis with No Diagnosis < >

Indicated **Reviewed**

Patient List page 1 of 13 [Count = 253] Save & Remove Export Page No. 1 Go

Double-click a patient to open it in your clinical system (MD, BP, Zedmed).
Click on Column Heading to sort

Clinical Action Plan 1-3mths 3-6mths 12mths

Note: CKD Stage is calculated using the most recent eGFR and ACR.

Surname	First Name	DOB	Indication Date	Sex	eGFR	ACR	CKD	BSL	FBG	Smoking	Diabetes (Dx or HbA1c >= 6.5, BSL > 11.1 or FBG > 7)	Hypertension (Dx or BP > 140/90)	Obesity (BMI > 30)	CVD Dx	Indigenous and Age > 30	Assigned Provider	Confirm Condition Does Not Exist
Surname	Firstname_1...	01/10/1947	03/05/2019	F	56.0		Stage ..	7.3		Ex smoker		Y				Surname_13	<input type="checkbox"/>
Surname	Firstname_1...	01/10/1945	02/08/2019	M	56.0	1.7	Stage ..	4.8	6.1	Ex smoker		Y				Surname_16	<input type="checkbox"/>
Surname	Firstname_1...	01/10/1963	29/03/2019	F	34.0		Stage ..	4.8		Ex smoker		Y	Y			Surname_13	<input type="checkbox"/>
Surname	Firstname_1...	01/10/1946	02/07/2019	F	52.0		Stage ..	7.1	6.5	Never smok...	Y					Surname_15	<input type="checkbox"/>
Surname	Firstname_1...	01/10/1943	02/09/2019	M	6.0	7.9	Stage 5	4.7	6.8	Never smok...	Y	Y		Y		Surname_9	<input type="checkbox"/>
Surname	Firstname_1...	01/10/1934	05/04/2019	F	41.0	1.9	Stage ..	4.7		Never smok...		Y		Y		Surname_13	<input type="checkbox"/>

Check patient record that 3 tests have been done >=3months.
Flag that patient should be recalled for follow up testing if there are not 3 results.
Interpret results against logarithm.

CHRONIC DISEASE MANAGEMENT- MULTI-DISCIPLINARY

KHA Handbook

6. Common issues in CKD

Acidosis	69
Albuminuria	69
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- Algorithm for the management of persistent microscopic haematuria	74
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Lipids	75
Malnutrition	76
Mineral and bone disorder	76
Muscle cramps	76
Oedema	77
Pruritus	78
Restless legs	78
Sleep apnoea	78
Uraemia	79

- GPMP
- **NURSE/AHP MONITORING**
- **TEAM CARE**
- **ARRANGEMENT**
- **MEDICATION REVIEW**
- **CASE CONFERCING**
- **MENTAL HEALTH CARE PLAN**
- **SPECIALIST REFERRALS**

Psychology / Psychiatry

Dietician

Dermatologist

Respiratory – Sleep Apnoea

Pharmacist

Nephrologist

Quality Improvement Activity 4



PRIMARY CARE
IMPROVEMENT

PRIMARY
HEALTH
NETWORK

phn
HUNTER NEW ENGLAND
AND CENTRAL COAST
An Australian Government Initiative

Quality Improvement Scenario 3: Chronic Disease Management

Using **Chronic Disease Management** enablers assists practice health professionals to provide appropriate care to patients with **Chronic Kidney Disease**. **Medical Benefit Schedule (MBS)** items such as GP Management Plan (GPMP), Team Care Arrangement (TCA), Reviews of both, Allied Health Consultations and Nurse Monitoring & Support are beneficial to the management of a patient's **Chronic Kidney Disease**.

PenCS CAT4 Report "Identify Patients with Chronic Kidney Disease who never had a GP Management Plan (721) claimed" will determine the number of patients with **Chronic Kidney Disease** who are eligible for a GPMP or TCA. [Identify patients with CKD who never had a GPMP/TCA claimed - CAT Recipes - PenCS Help](#)



CKD – CAT4 Management Report

KHA Handbook

CAT4 - CKD Mgmt Report

Quality Improvement Activity 4

Yellow clinical action plan
eGFR 45-59 mL/min/1.73m² with microalbuminuria or
eGFR 45-59 mL/min/1.73m² with normoalbuminuria

Goals of management

- Investigation to determine underlying cause
- Reduce progression of kidney disease
- Assessment of diabetes (Carbohydrate Metabolism)
- Avoidance of nephrotoxic medications or volume depletion

Management strategies

- Early detection and management of complications
- Adjustment of medication to reduce kidney disease
- Appropriate referral for a specialist when indicated

Orange clinical action plan
eGFR 30-44 mL/min/1.73m² with microalbuminuria or
eGFR 30-44 mL/min/1.73m² with normoalbuminuria

Goals of management

- Investigation to determine underlying cause
- Reduce progression of kidney disease
- Assessment of diabetes (Carbohydrate Metabolism)
- Avoidance of nephrotoxic medications or volume depletion

Management strategies

- Early detection and management of complications
- Adjustment of medication to reduce kidney disease
- Appropriate referral for a specialist when indicated

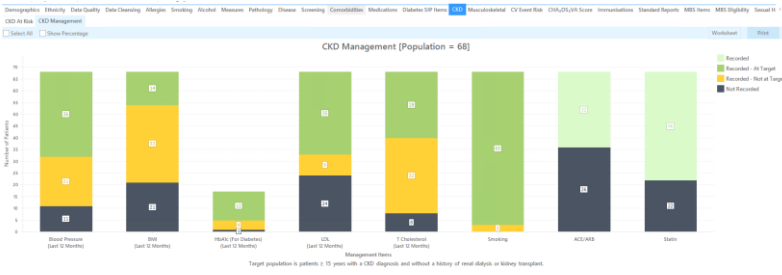
Red clinical action plan
eGFR <30 mL/min/1.73m² or eGFR 30-44 mL/min/1.73m² with proteinuria of albuminuria

Goals of management

- Investigation to determine underlying cause
- Reduce progression of kidney disease
- Assessment of diabetes (Carbohydrate Metabolism)
- Avoidance of nephrotoxic medications or volume depletion

Management strategies

- Early detection and management of complications
- Adjustment of medication to reduce kidney disease
- Appropriate referral for a specialist when indicated



PRIMARY CARE IMPROVEMENT

Quality Improvement Scenario 4: CKD Clinical Action Plans

Evidence-based care guidelines state that CKD Clinical Action Plans should be completed in a timely fashion.
[CKD-Management-in-Primary-Care handbook 2020.1.pdf \(kidney.org.au\)](#)

Patients diagnosed with Chronic Kidney Disease must have selected clinical items reviewed as per appropriate timing in Clinical Action Plans to follow-up on missing clinical items or address clinical items not at treatment targets.

Yellow clinical action plan
eGFR 45-59 mL/min/1.73m² with microalbuminuria or
eGFR 45-59 mL/min/1.73m² with normoalbuminuria

Orange clinical action plan
eGFR 30-44 mL/min/1.73m² with microalbuminuria or
eGFR 30-44 mL/min/1.73m² with normoalbuminuria

Red clinical action plan
eGFR <30 mL/min/1.73m² or eGFR 30-44 mL/min/1.73m² with proteinuria of albuminuria

Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
 Kidney Health Australia, Melbourne, 2020.

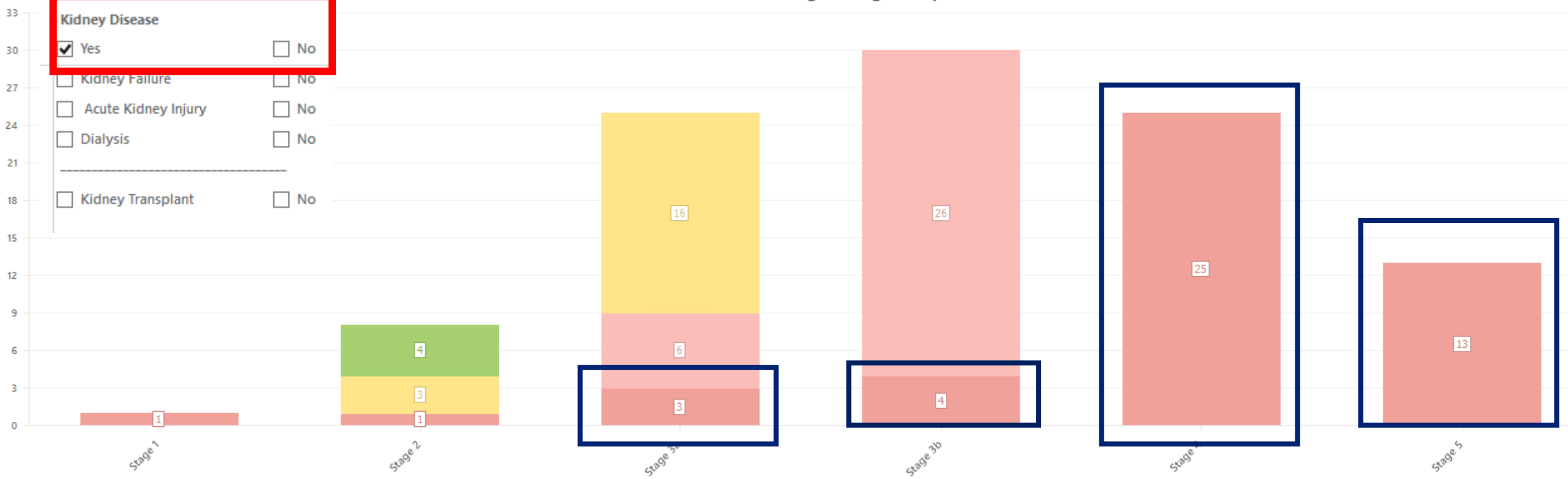
NEW CAT4 REPORT- IDENTIFY PATIENTS BY CLINICAL ACTION PLAN

Demographics Ethnicity Data Quality Data Financing Allergies Smoking Alcohol Measures Pathology Disease Screening Comorbidities Medications Diabetes SIP Items **CKD** Musculoskeletal CV Event Risk CHA₂DS₂VA Score Immunisations Standard Reports MBS Items

CKD At Risk CKD Management **CKD Stage**

Select All Timeline

CKD Stage [Target Population = 102]



* Not CKD unless haematuria, structural or pathological abnormalities present.
CKD stages are calculated using the most recent eGFR and ACR values.

Kidney Disease

Yes No

Kidney Failure No

Acute Kidney Injury No

Dialysis No

Kidney Transplant No

* Not CKD unless haematuria, structural or pathological abnormalities present.
CKD stages are calculated using the most recent eGFR and ACR values.

CLINICAL ACTION PLANS - FREQUENCY

Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition). Kidney Health Australia, Melbourne, 2020.*

Yellow clinical action plan

eGFR ≥ 60 mL/min/1.73m² with microalbuminuria or eGFR 45-59 mL/min/1.73m² with normoalbuminuria

Goals of management

- Investigations to determine underlying cause.
- Reduce progression of kidney disease.
- Assessment of Absolute Cardiovascular Risk.
- Avoidance of nephrotoxic medications or volume depletion.

Management strategies

Frequency of review

- Every 12 months

Clinical assessment

- Blood pressure
- Weight
- Smoking

Laboratory assessment

- Urine ACR (see page 27)
- eGFR (see page 25)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Fasting lipids

Other assessments

- Assess absolute cardiovascular risk (see page 41 for criteria on who to assess including age groups)
- Blood pressure reduction (see page 45)
- Lifestyle modification (see page 36)
- Lipid lowering treatment (where appropriate for risk factor reduction) (see page 75)
- Glycaemic control (see page 43)
- Avoid nephrotoxic medication or volume depletion (see page 51)
- Whole of practice approach to CKD (see page 34)

Orange clinical action plan

eGFR 30-59 mL/min/1.73m² with microalbuminuria or eGFR 30-44 mL/min/1.73m² with normoalbuminuria

Goals of management

- Investigations to determine underlying cause.
- Reduce progression of kidney disease.
- Assessment of Absolute Cardiovascular Risk.
- Avoidance of nephrotoxic medications or volume depletion.
- Early detection and management of complications.
- Adjustment of medication doses to levels appropriate for kidney function.
- Appropriate referral to Nephrologist when indicated.

Management strategies

Frequency of review

- Every 3-6 months

Clinical assessment

- Blood pressure
- Weight
- Smoking

Laboratory assessment

- Urine ACR (see page 27)
- eGFR (see page 25)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Fasting lipids
- Full blood count
- Calcium and phosphate
- Parathyroid hormone (6-12 monthly if eGFR < 45 mL/min/1.73m²)

Other assessments

- Assess absolute cardiovascular risk (see page 41 for criteria on who to assess including age groups)
- Blood pressure reduction (see page 45)
- Lifestyle modification (see page 36)
- Lipid lowering treatment (where appropriate for risk factor reduction) (see page 75)
- Assess risk of atherosclerotic events and consider treating with an anti-platelet agent in keeping with existing cardiovascular guidelines¹
- Glycaemic control (see page 43)
- Avoid nephrotoxic medication or volume depletion and adjust doses to levels appropriate for kidney function (see page 51)
- Assess for common issues (see pages 68-79)
- Appropriate referral to nephrologist when indicated (see page 61)
- Whole of practice approach to CKD (see page 34)

Red clinical action plan

Macroalbuminuria irrespective of eGFR or eGFR < 30 mL/min/1.73m² irrespective of albuminuria

Goals of management

- Investigations to determine underlying cause.
- Reduce progression of kidney disease.
- Assessment of Absolute Cardiovascular Risk.
- Avoidance of nephrotoxic medications or volume depletion.
- Early detection and management of complications.
- Adjustment of medication doses to levels appropriate for kidney function.
- Appropriate referral to a Nephrologist when indicated.
- Prepare for kidney replacement therapy if appropriate.
- Prepare for non dialysis supportive care if appropriate.

Management strategies

Frequency of review

- Every 1-3 months

Clinical assessment

- Blood pressure
- Weight
- Smoking
- Oedema

Laboratory assessment

- Urine ACR (see page 27)
- eGFR (see page 25)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Fasting lipids
- Full blood count (if anaemic, see page 70)
- Calcium and phosphate
- Parathyroid hormone (6-12 monthly if eGFR < 45 mL/min/1.73m²)

Other assessments

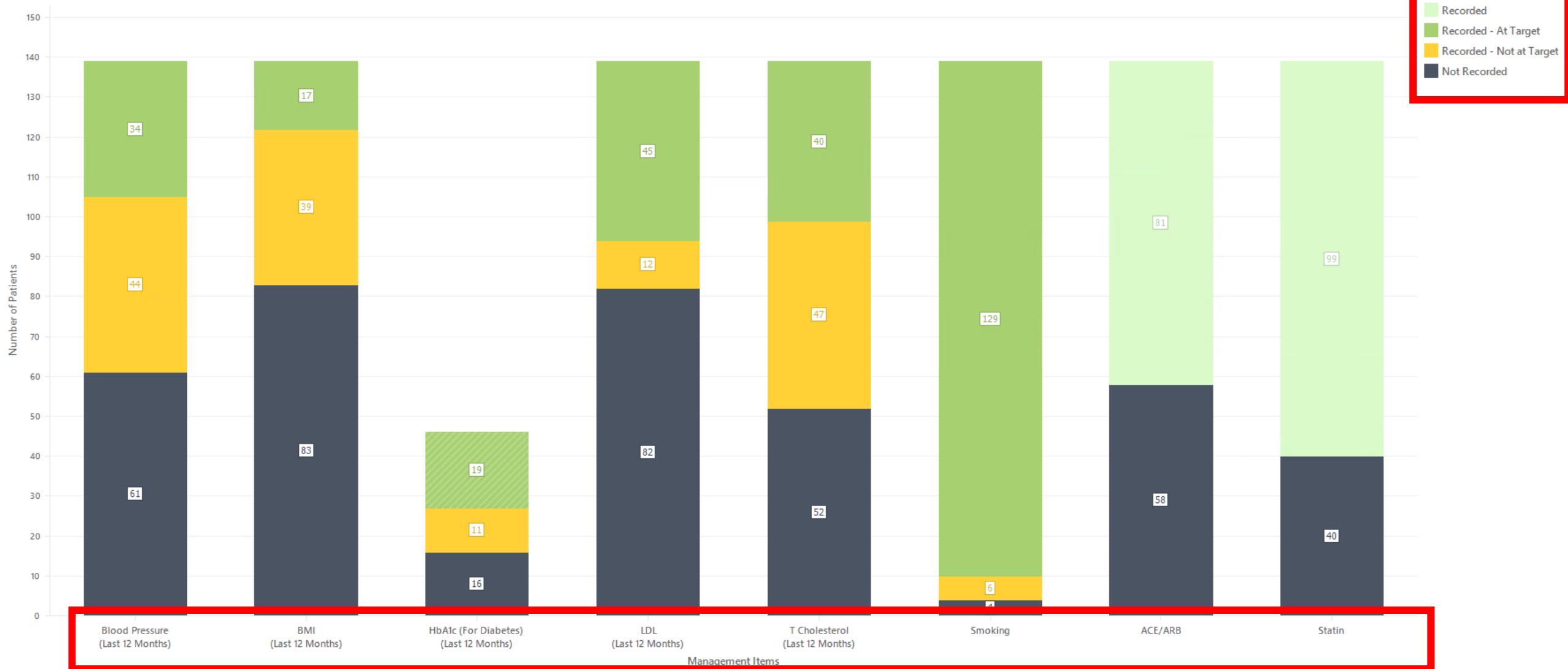
- Assess absolute cardiovascular risk (see page 41 for criteria on who to assess including age groups)
- Blood pressure reduction (see page 45)
- Lifestyle modification (see page 36)
- Lipid lowering treatment (where appropriate for risk factor reduction) (see page 75)
- Assess risk of atherosclerotic events and consider treating with an anti-platelet agent in keeping with existing cardiovascular guidelines¹
- Glycaemic control (see page 43)
- Avoid nephrotoxic medication or volume depletion and adjust doses to levels appropriate for kidney function (see page 51)
- Assess for common issues (see pages 68-79)
- Appropriate referral to nephrologist when indicated (see page 61)
- Whole of practice approach to CKD (see page 34)
- Discuss treatment options, including dialysis, transplant and non-dialysis supportive care if eGFR < 30 and progressing to kidney replacement therapy
- Discuss advance care plans if appropriate (see page 66)

CLINICAL ACTION PLANS – MANAGEMENT ITEMS

<p>Determine underlying cause Reduce progression of kidney disease</p> <p>Blood pressure and reduction</p> <p>Lifestyle Risk modifications -Weight -Smoking</p> <p>Urine ACR Serum eGFR, urea, creatinine, electrolytes HbA1c (with diabetes) and glycaemic control Fasting lipids and Lipid reduction ACVRA</p> <p>Avoid nephrotoxic meds Avoid volume depletion</p>	<p>+ Early detection and management of complications</p> <p>+ Adjustment of medication doses as per kidney function</p> <p>+ Appropriate referral to Nephrologist when indicated.</p> <p>+ Calcium and phosphate</p> <p>+ Parathyroid hormone</p> <p>+ Assess CVD risk of atherosclerotic events for anti-platelet med</p> <p>+ Assess common issues</p>	<p>+ Prepare for kidney replacement therapy</p> <p>+ Prepare for non-dialysis supportive care</p> <p>+ Odema</p> <p>+ Full blood count</p> <p>+ Discuss treatment options including dialysis, transplant, and non-dialysis Conservative Care if eGFR<30.</p> <p>+ Progressing to kidney replacement therapy (dialysis, transplant)</p> <p>+ Discuss advance care plans</p>
<p><u>Whole of Practice approach to CKD</u></p>	<p><u>Whole of Practice approach to CKD</u></p>	<p><u>Whole of Practice approach to CKD</u></p>
		<p>Source: <i>Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)</i>. Kidney Health Australia, Melbourne, 2020.</p>

CAT 4 CKD MANAGEMENT REPORT & TREATMENT TARGETS In last 12 months

CKD Management [Population = 139]



Target population is patients ≥ 15 years with a CKD diagnosis and without a history of renal dialysis or kidney transplant.

PenCS CKD Management Items and At-risk Levels Reference Guide

Management Item Targets

Item	Target	Timeframe
Blood Pressure	If ACR in last 12 months > 3.5 mg/mmol female or > 2.5 mg/mmol male: BP <= 130/80 mmHg Otherwise: BP <= 140/90 mmHg	BP in last 12 months ACR in last 12 months (Note if ACR is not recorded or older than 12 months then BP is checked against 140/90 target value)
BMI	18.5 – 24.9	Weight in last 12 months Height recorded
HbA1c	If Diabetic: < 7%	HbA1c in last 12 months
LDL	< 2.5 mmol/L	LDL in last 12 months
Total Cholesterol	< 4.0 mmol/L	Total Cholesterol in last 12 months
Smoking	Non smoker, never smoked or ex smoker	Smoking recorded

At Risk Levels

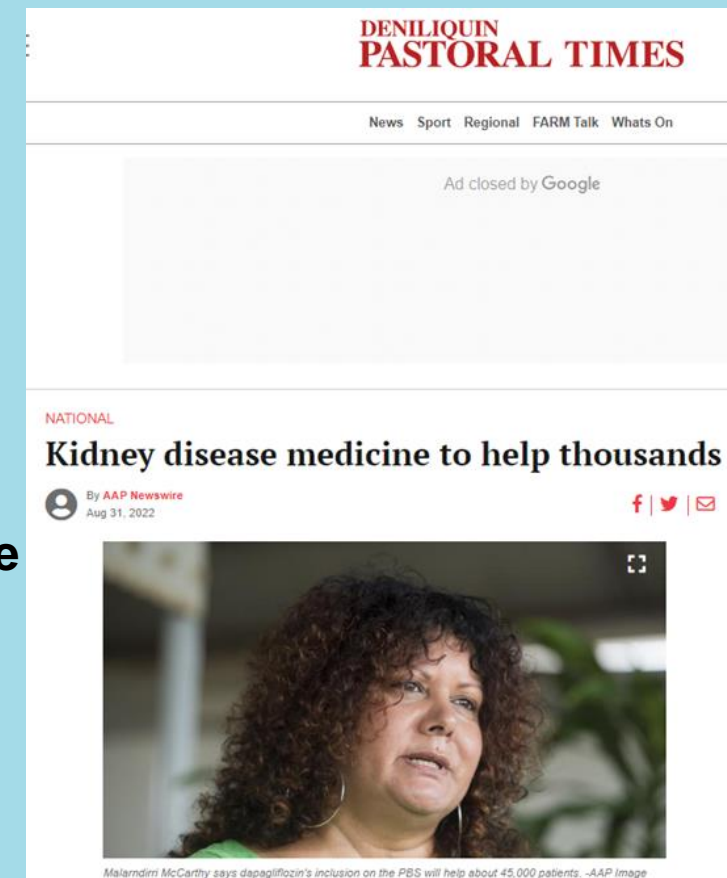
Item	"At Risk" Level		
Smoker	Smoking = Daily, Weekly or Irregular		
Diabetes (Dx or Risk)	Diabetes Diagnosis recorded OR HbA1c >= 6.5% OR BSL > 11.1 mmol/L OR BSLF > 7 mmol/L		
Hypertension (Dx or Risk)	Hypertension Diagnosis recorded OR SBP > 140 mmHG or DBP > 90 mmHg		
Obesity	BMI > 30		
CVD Dx	CVD Diagnosis recorded		
ATSI and Age>30			

NEWS FLASH



DAPAGLIFLOZIN

- First government-funded (PBS) Chronic Kidney Disease
- Indicated medication **in 20 years**
- Previously was \$700 year, **now \$42.50 script or \$6.80 concession**
- Slows the progression of kidney disease **to prevent a patient reaching kidney failure.**
- Already used to treat diabetes and heart failure, **now indicated to prescribe for patients with CKD**
- **45,000 Australians could benefit, contributing to reducing the 17,700 CKD deaths**



[New PBS listing: Dapagliflozin for chronic kidney disease \(nps.org.au\)](https://nps.org.au)

News Flash: Unfortunately, NPS funding will not be renewed from 31 Dec 2022 to the Australian Commission on Safety and Quality in Health Care (the Commission) or to new contestable funding arrangements. NPS MedicineWise to cease operations after 24 years - NPS MedicineWise

Key points

- ▶ **On 1 September 2022, a new indication and clinical criteria were added to the Authority Required (Streamlined) PBS listing for dapagliflozin (Forxiga).**

The new indication is for treatment of CKD and must be an addition to standard care. The patient must be stabilised on an ACE inhibitor or ARB for at least 4 weeks prior to initiation, unless contraindicated.
- ▶ **There is a high and urgent unmet clinical need for effective CKD treatments, with limited effective therapies on the PBS specifically for CKD.**

When added to standard care, for some patients, dapagliflozin provided a significant improvement in efficacy over standard care alone.
- ▶ **Dapagliflozin's role in the treatment of CKD for patients without type 2 diabetes is not yet reflected by Australian guidelines.**

Evidence shows that patients with CKD (with or without type 2 diabetes) have a reduced risk of CKD progression when dapagliflozin is added to standard care.
- ▶ **International guidelines and KDIGO recommend dapagliflozin be considered in addition to standard care for the management of CKD (with and without type 2 diabetes).**

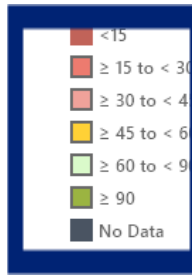
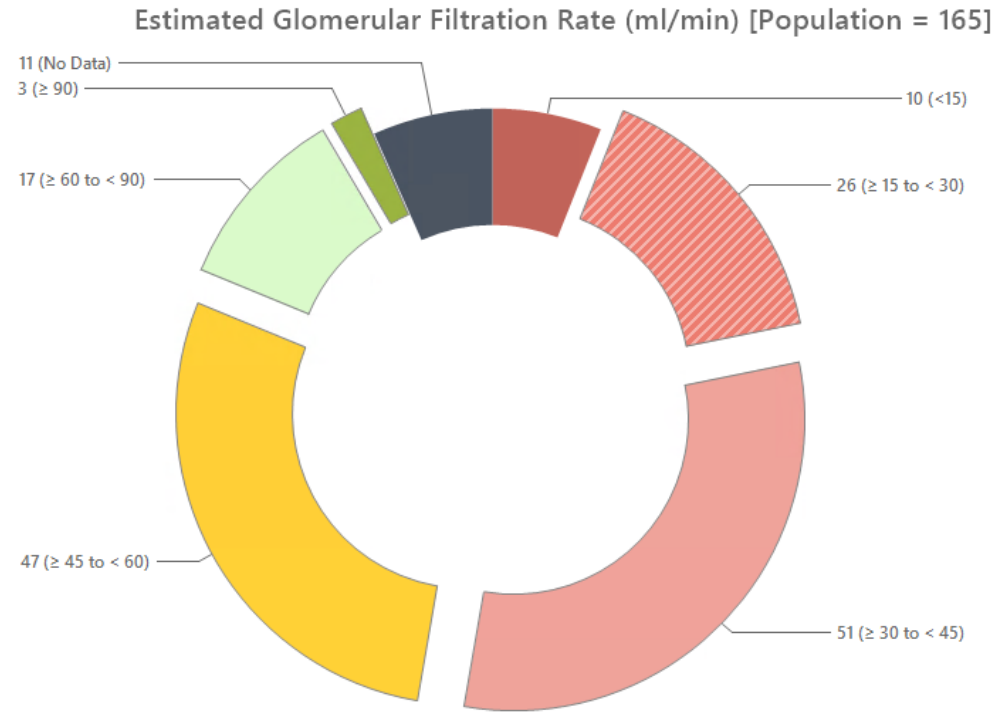
The new PBS listing is in line with international guidelines. Consider prescribing dapagliflozin for patients with CKD (eGFR 25–75 mL/min/1.73 m² and urine ACR 22.6–565 mg/mmol [200–5000 mg/g]) that has been stable using an ACE inhibitor or ARB for at least 4 weeks.
- ▶ **Dapagliflozin does not need to be up-titrated and a standard oral dose of 10 mg daily, with or without food, is recommended for all patients.**

This dose does not need to be reduced due to age, or kidney or hepatic function.

PATHOLOGY REPORT - EGFR

Demographics Ethnicity Data Quality Data Cleansing Allergies Smoking Alcohol Measures Pathology* Disease Screening Comorbidities Medications Diabetes SIP Items CKD Musculoskeletal CV Event Risk CHA₂DS₂VA Score Immunisations Standard Reports MBS Items MBS Eligibility Sexual I
Lipids eGFR* ACR* Microalbumin HbA1c FBG RBG INR Creatinine Serum COVID-19 Serology COVID-19 PCR
 Select All Show Percentage

Timeline Export Print



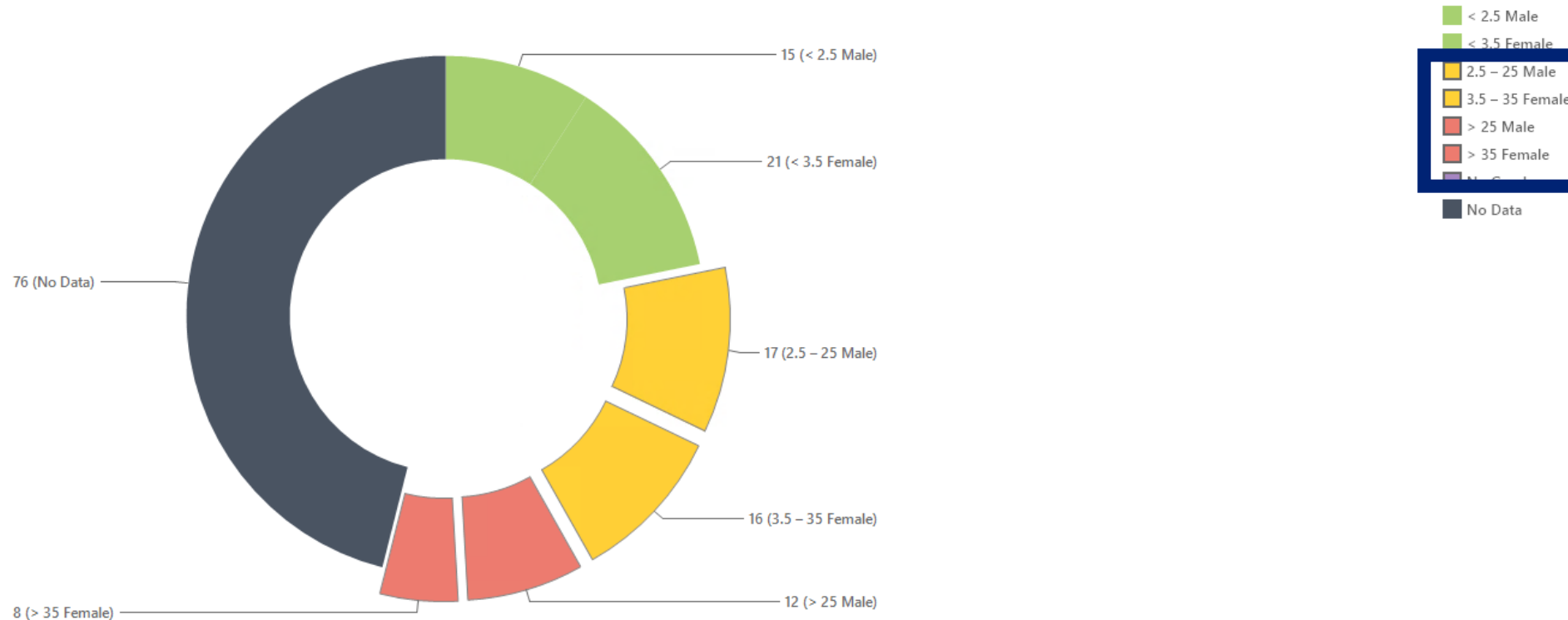
The new PBS listing is in line with international guidelines. Consider prescribing dapagliflozin for patients with CKD (eGFR 25–75 mL/min/1.73 m²) and urine ACR 22.6–565 mg/mmol [200–5000 mg/g]) that has been stable using an ACE inhibitor or ARB for at least 4 weeks.

PATHOLOGY REPORT - URINE ACR

Demographics Ethnicity Data Quality Data Cleansing Allergies Smoking Alcohol Measures Pathology Disease Screening Comorbidities Medications Diabetes SIP Items CKD Musculoskeletal CV Event Risk CHA₂DS₂VA Score Immunisations Standard Reports MBS Items MBS Eligibility Sexual I
Lipids eGFR ACR Microalbumin HbA1c FBG RBG INR Creatinine Serum COVID-19 Serology COVID-19 PCR
 Select All Show Percentage

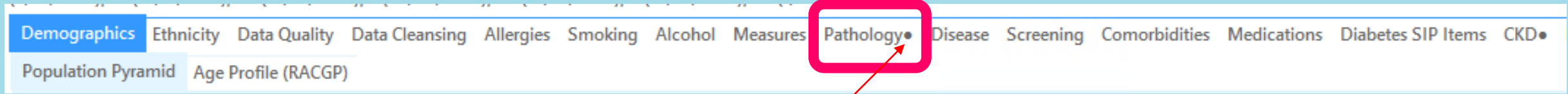
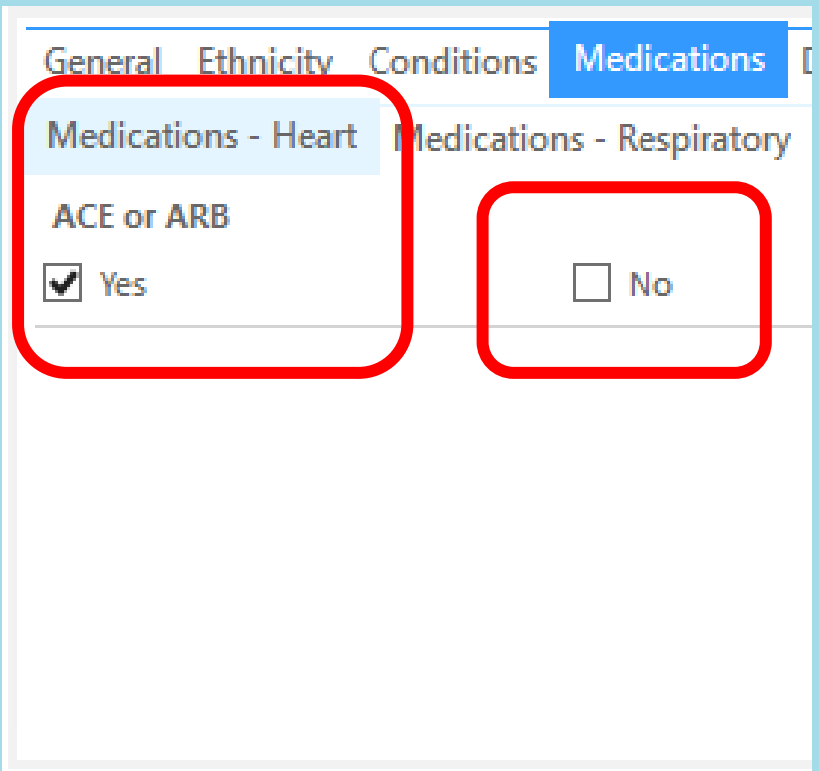
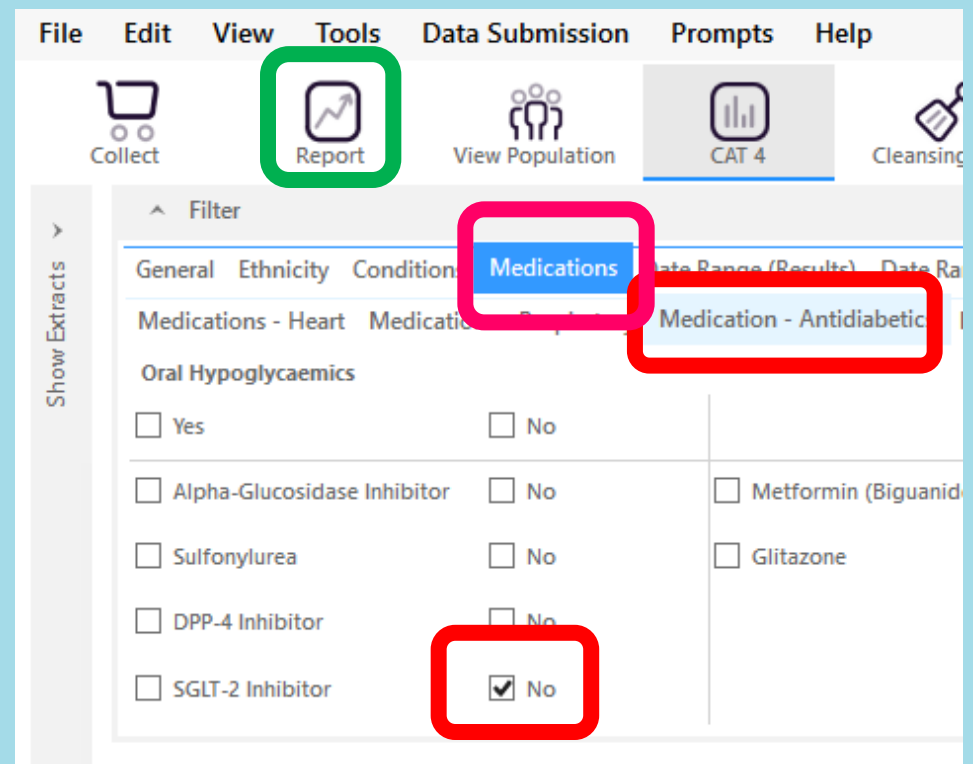
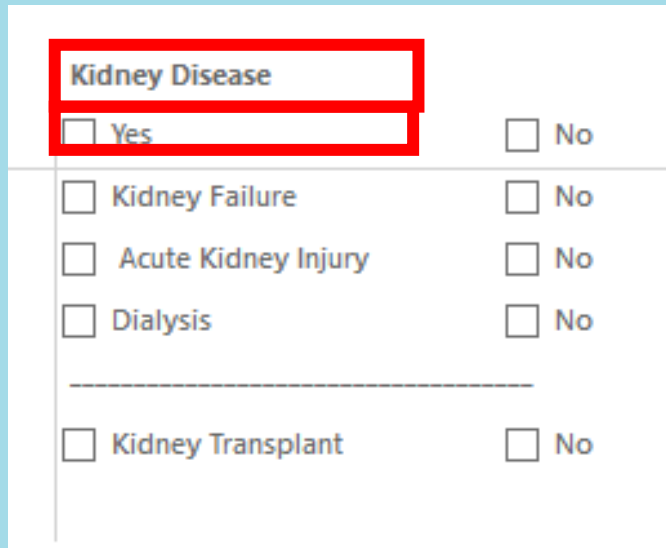
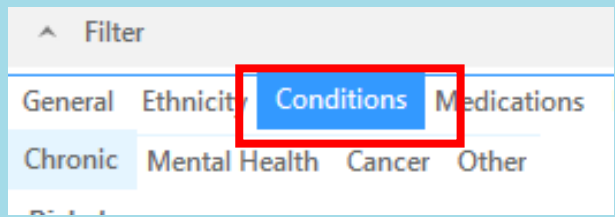
Timeline Export Print

Microalbumin Creatinine Ratio (mg/mmol) [Population = 165]



The new PBS listing is in line with international guidelines. Consider prescribing dapagliflozin for patients with CKD (eGFR 25–75 mL/min/1.73 m² and urine ACR 22.6–565 mg/mmol [200–5000 mg/g]) that has been stable using an ACE inhibitor or ARB for at least 4 weeks.

CAT4 CROSS TABULATED REPORTS - MEDICATION AND PATHOLOGY



Multiple selected reports will have a **Black Dot Indicator**. Use the **Report Icon** at top of page to generate cross-tabulated report.

- What We Do
 - Planning
 - Commissioning
 - Consultation
 - Grants Program
 - Primary Care Support**
 - Digital Health

Primary Care Support

Last updated July 5, 2022 [PRINT](#)

The PHN's Primary Care Improvement Team partner with practices to build a primary health system.

The PHN understands that General Practices are the cornerstone of primary care, an invaluable part of the communities in which we live. Many factors, such as a shortage, digital innovations, and industry changes can be challenging for GPs to navigate whilst trying to provide optimal patient care.



About Us



Quality Improvement Framework



Accreditation



Cancer Screening



Chronic Kidney



Diabetes

PRIMARY CARE SUPPORT > FOCUS AREAS

Chronic Kidney Disease

The PHN is dedicated to helping the communities in the Hunter New England and Central Coast region. There is a strong commitment in delivering innovative and collaborative solutions in the prevention and management of Chronic Kidney Disease.

Here you will be able to find resources and information that will assist your practice in the implementation of these strategies, alongside the development and integration of quality improvement activities for Chronic Kidney Disease to use in Primary Health Care.

Deborah Walganski is the PHN support lead for Chronic Kidney Disease. Deborah can be contacted at dwalganski@thephn.com.au or through your Primary Care Improvement Officer.

- Data and Dashboard
- Quality Improvement
- The Patient
- Community of Practice
- Resources



<https://centralcoast.communityhealthpathways.org/>

Username: centralcoast

Password: 1connect

For health professionals



<https://www.ccpatientinfo.org.au/>

For patients and the general community

No password required



Hunter New England

<https://hne.communityhealthpathways.org/>

Username: hnehealth

Password: p1thw1ys

For health professionals



<http://patientinfo.org.au/>

For patients and the general community

No password required

Relevant HealthPathways

Central Coast HealthPathways:

- [Chronic Kidney Disease \(CKD\)](#)
- [Prescribing in Renal Impairment](#)
- [Nephrology Referrals](#)
 - [Urgent Nephrology Assessment](#)
 - [Non-urgent Nephrology Assessment](#)
 - [Nephrology Advice](#)

Hunter New England HealthPathways:

- [Chronic Kidney Disease \(CKD\) – Adult](#)
- [Prescribing in Renal Impairment](#)
- [Nephrology Referrals](#)
 - [Nephrology Referrals](#)
 - [Renal Dietitians Referrals](#)
 - [Dialysis Units](#)
 - [Renal Supportive Care](#)

[Home](#) / [Medical](#) / [Nephrology](#)

Nephrology

In This Section

- [Chronic Kidney Disease \(CKD\) – Adult](#)
- [Haematuria](#)
- [Management of Chronic Dialysis Patients](#)
- [Prescribing in Renal Impairment](#)
- [Nephrology Referrals](#)

[Home](#) / [Medical](#) / [Nephrology](#) / [Chronic Kidney Disease \(CKD\) – Adult](#)



Chronic Kidney Disease (CKD) – Adult

Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
Kidney Health Australia, Melbourne, 2020.

CONTENTS

1. Compelling Population Health Statistics
2. Quality Improvement
 1. Dashboard Interpretation
 2. Activities
 3. Model for Improvement
3. Risk Factors
4. Kidney Health Check
5. Diagnosis
6. Staging
7. Clinical Action Plans
8. Monitoring and Management

