

CHRONIC KIDNEY DISEASE

**PRIMARY CARE QUALITY
IMPROVEMENT**

**DEBORAH WALGANSKI,
PCIO, SUBJECT MATTER
EXPERT CKD**

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





Kidney Health Week 7 - 13 March 2022

Kidney Health for All

Visit [kidney.org.au](https://www.kidney.org.au) to see what's on and to download the digital toolkit



NUTRITION



MOVEMENT



SLEEP

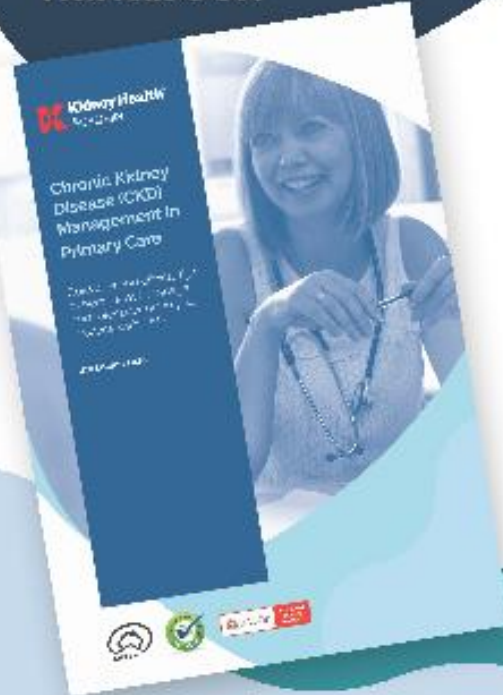


STRESS





Our Chronic Kidney Disease management in Primary Care handbook



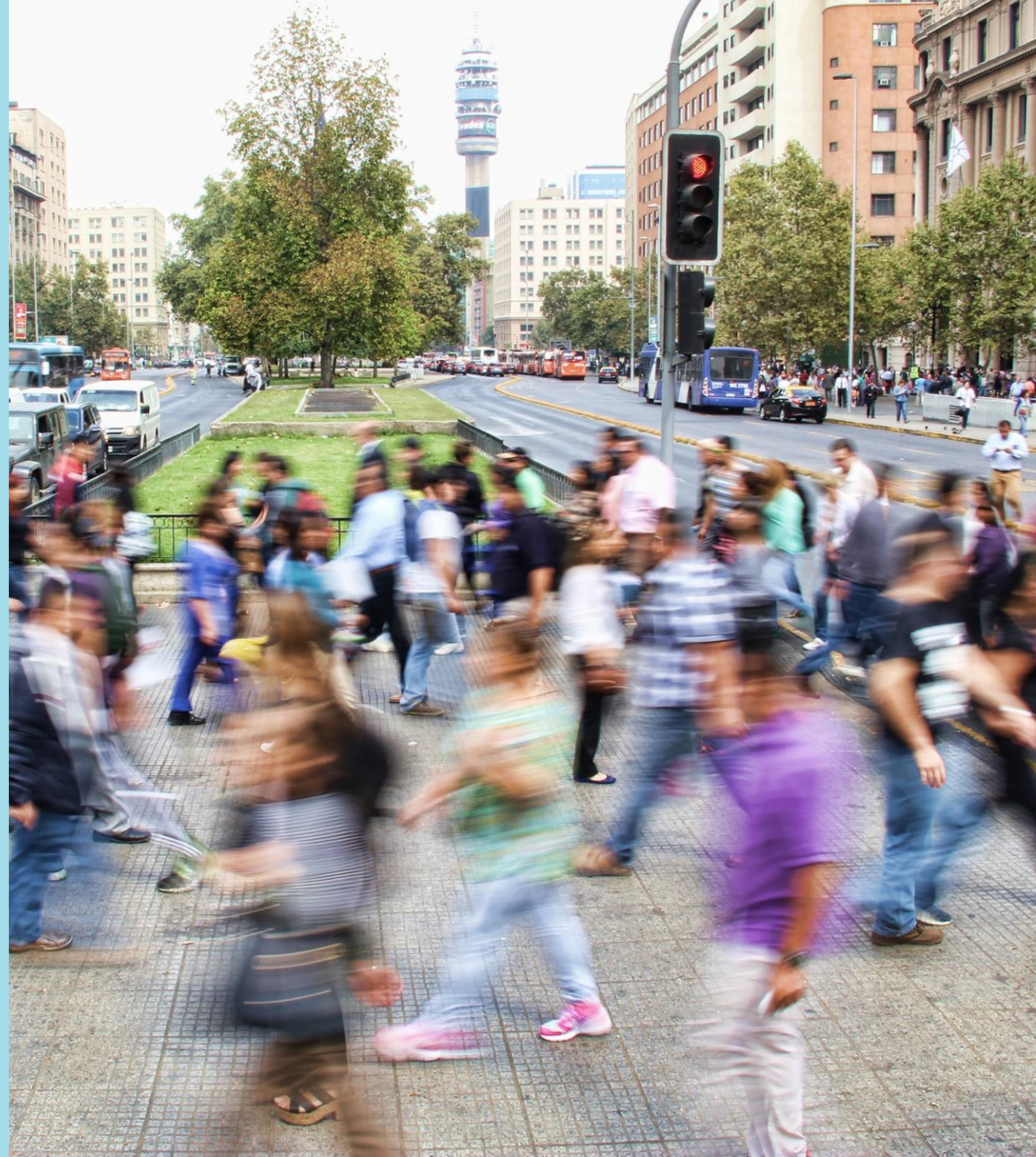
Use this QR code to receive a **20% discount** on the CKD management in primary care handbook

www.kidney.org.au

Prevent. Detect. Support. Research.

CONTENTS

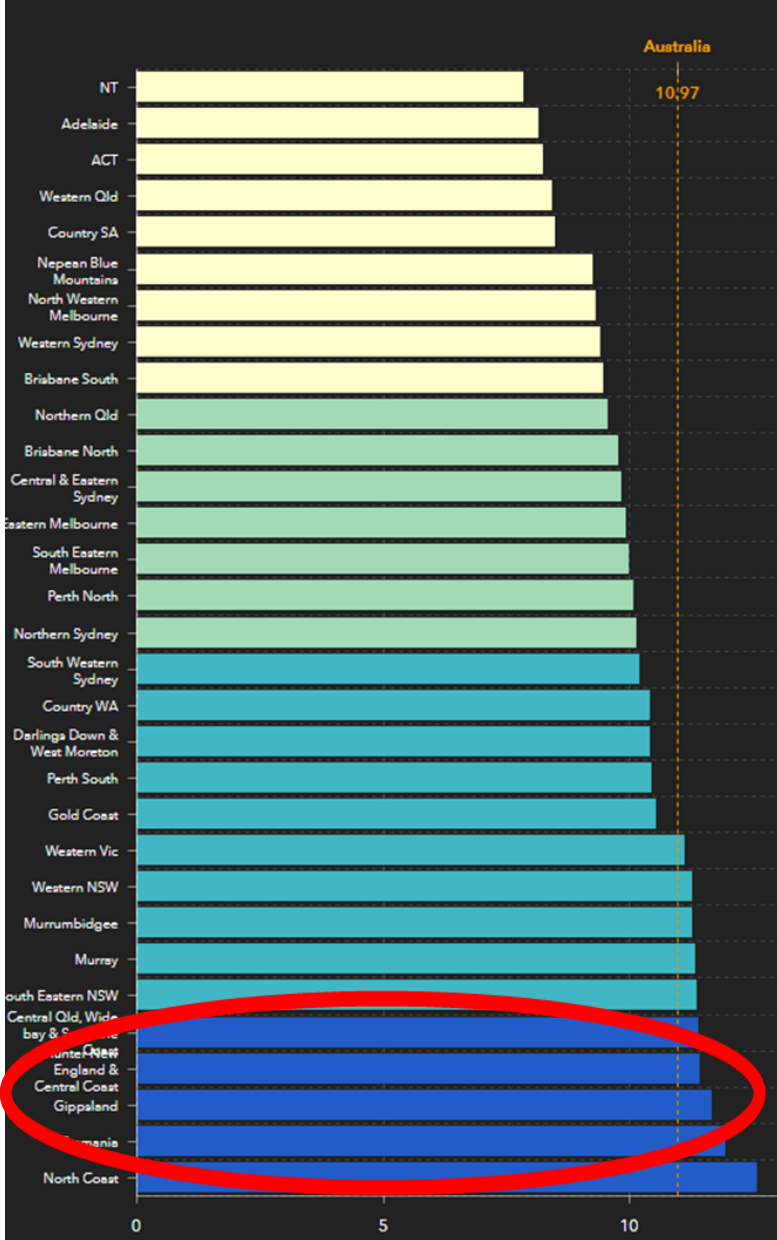
1. Statistics
2. Quality Improvement
3. Risk Factors
4. Kidney Health Check
5. Diagnosis
6. Staging
7. Clinical Action Plans
8. Monitoring and Management



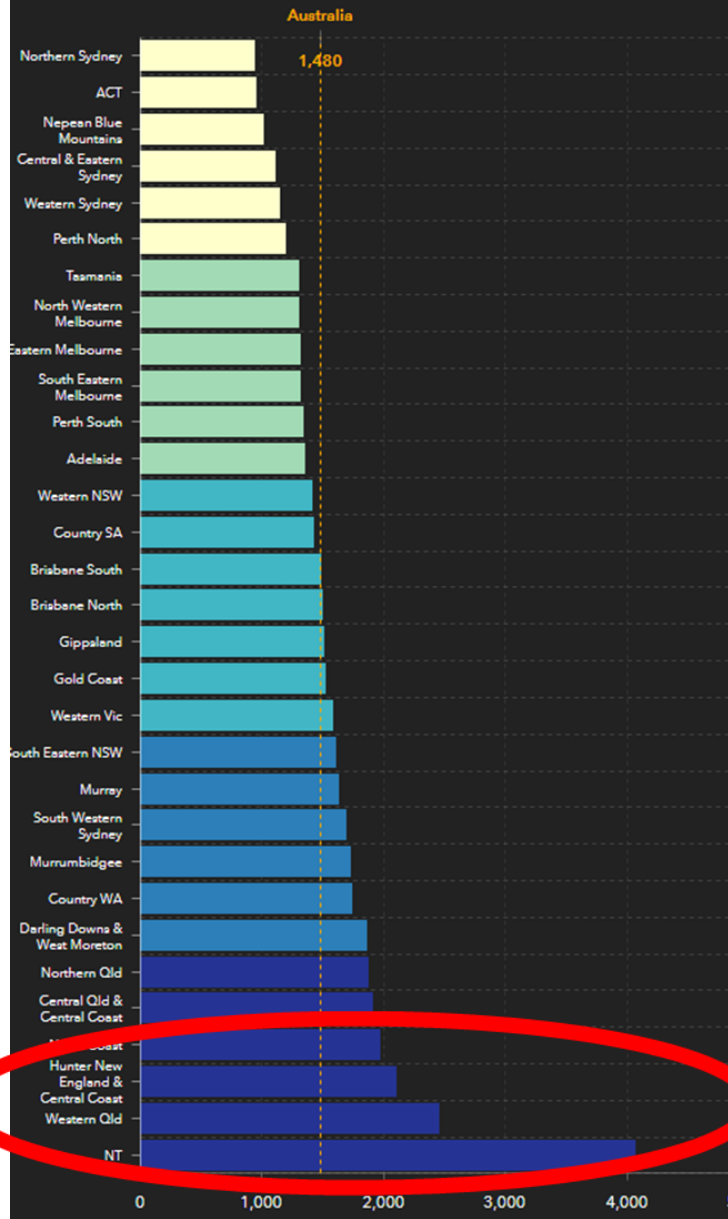
4. HNECCPHN Comparison

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

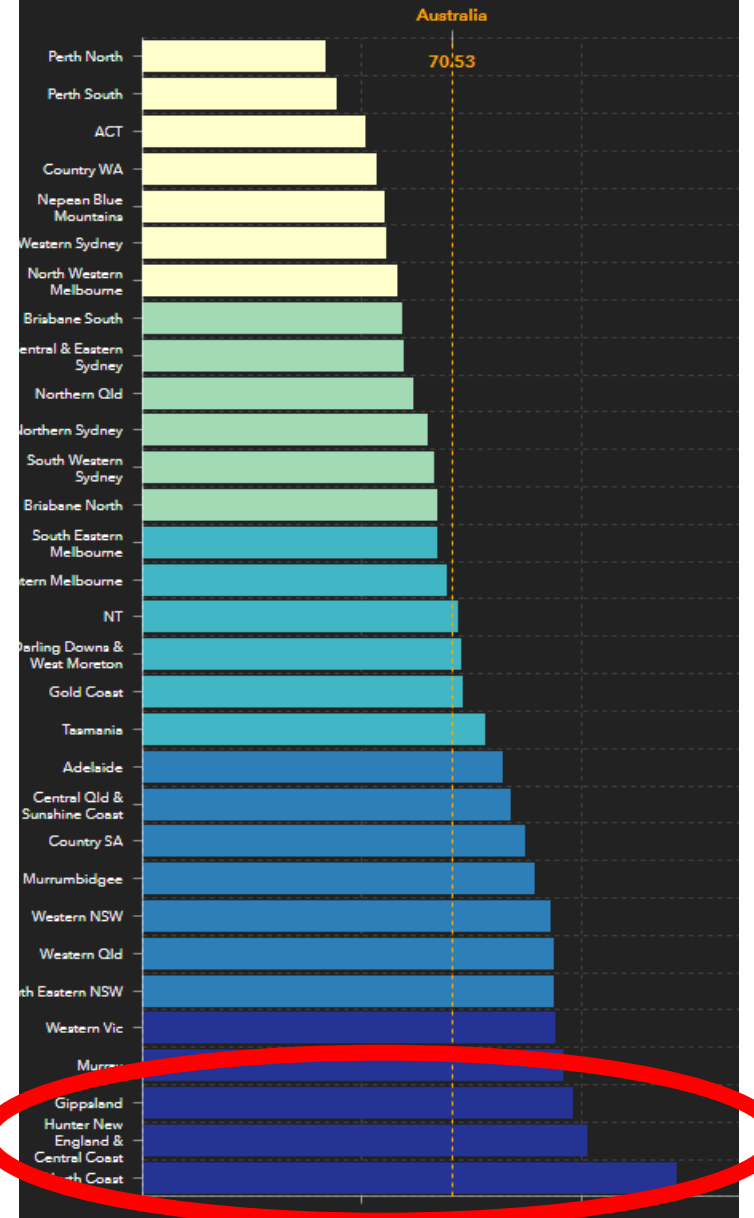
Adults with CKD by PHN—crude rate (%)



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



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

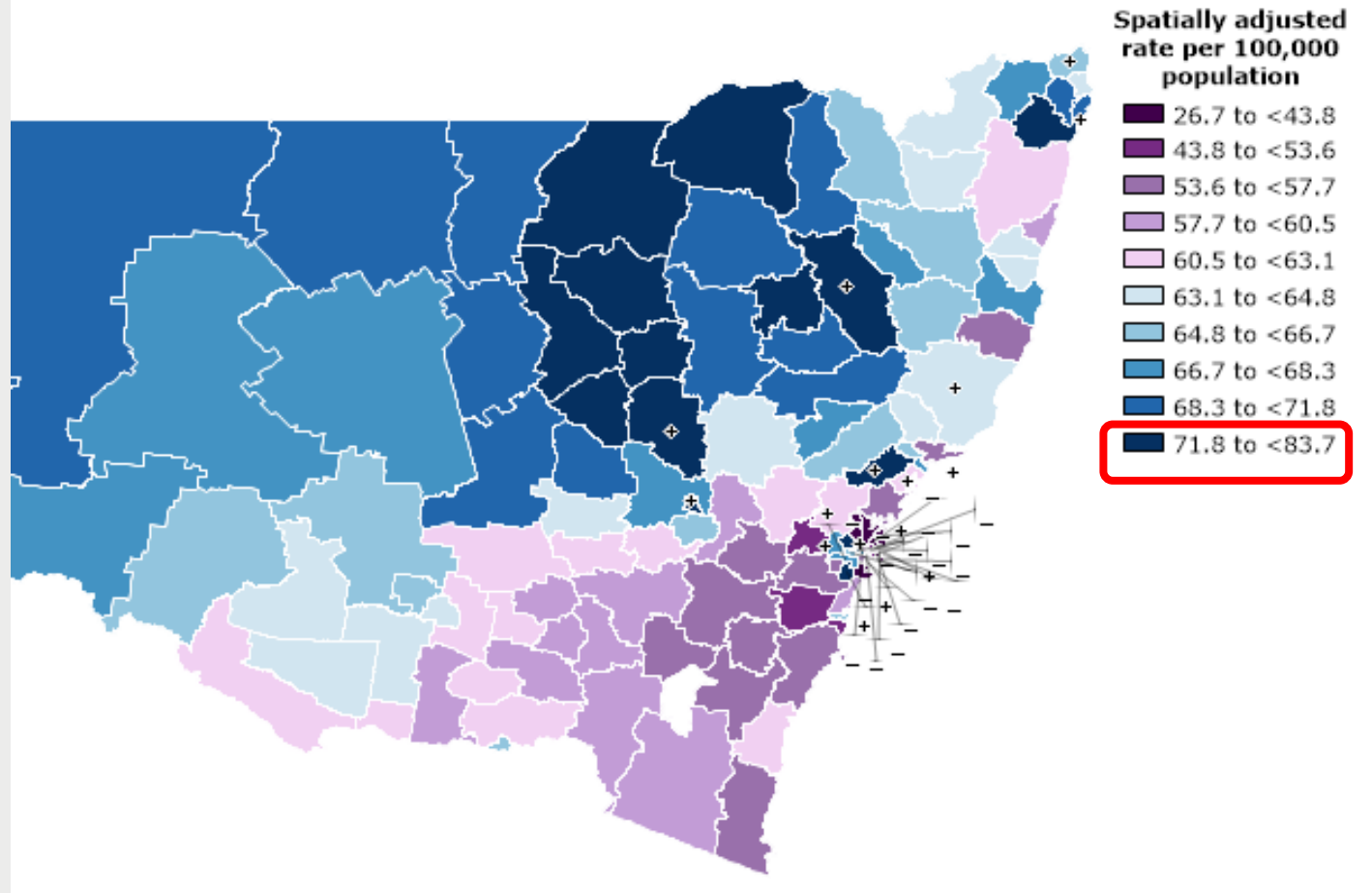


5. DEATHS - COMPELLING REASON

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

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



HealthStats NSW 2016-2018, NSW Government

Primary Care Support

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

The PHN understand that General Practices are the cornerstone of primary health, an invaluable part of the communities in which we live. Many factors, such as work-life balance, digital innovations, and industry changes can be challenging for General Practices whilst trying to provide optimal patient care.



About Us



Quality Improvement Framework



Accreditation



Cancer Screening



Chronic Kidney Disease



Diabetes

Primary Care Support

- About Us
- Quality Improvement Framework
- Focus Areas
 - Accreditation
 - Cancer Screening
 - Chronic Kidney Disease
 - Diabetes
 - Digital Health
 - Heart Health
 - Immunisation
 - Lifestyle Risk Factors
 - LUMOS Data Linkage Project
 - Mental Health
 - Practice Management and MBS



NEED HELP?

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

DWalganski@thephn.com.au

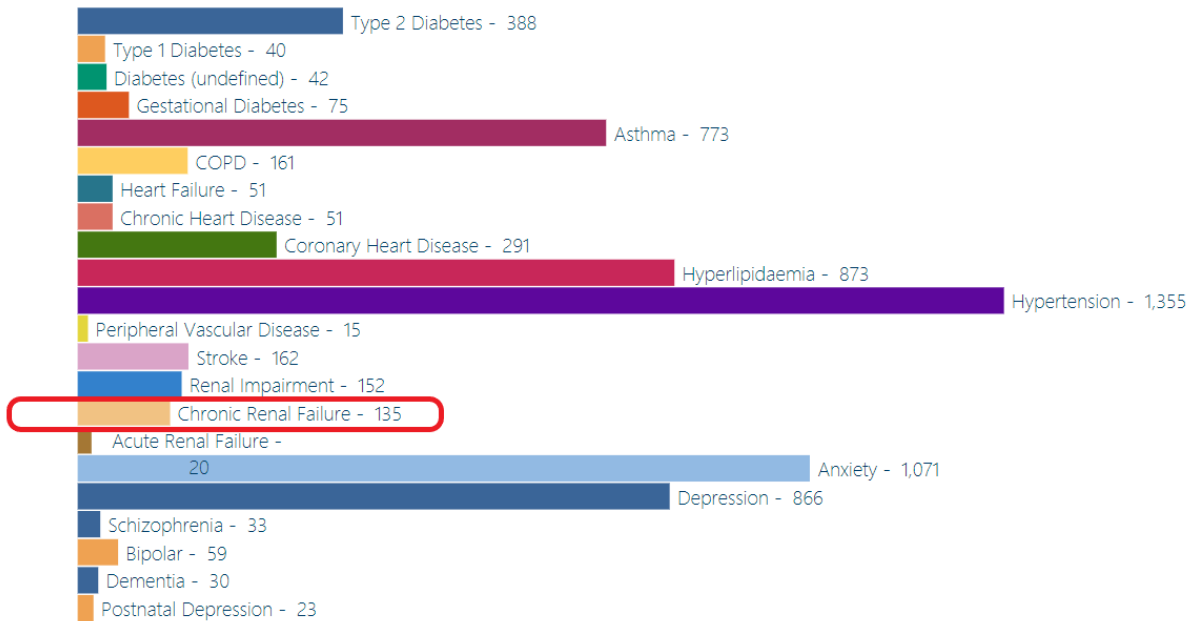
10. HNECCPHN QI ACTIVITIES - DASHBOARD - DIAGNOSIS



General Practice Summary

DISEASE PREVALENCE

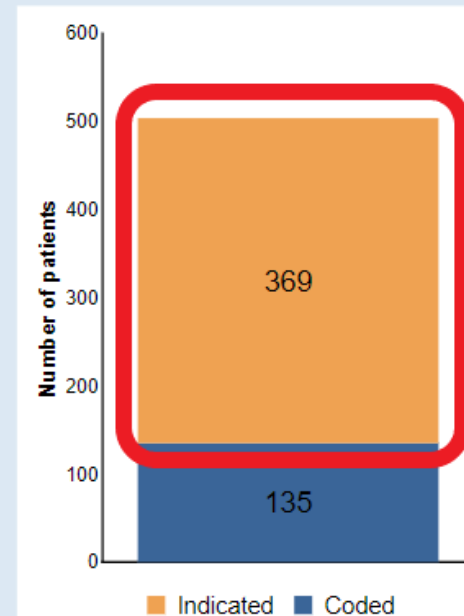
Chart indicates numbers of patients at your practice coded with each diagnoses



* Patients may be counted in more than one disease category according to their coded diagnoses

CODED AND INDICATED DIAGNOSES

CHRONIC KIDNEY DISEASE



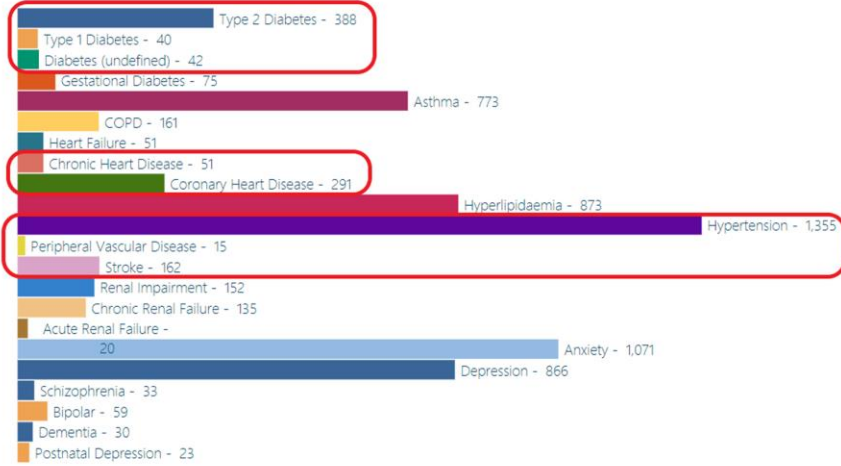
Indicated CKD with no diagnosis

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.

9. INTERPRETATION GUIDE – RISKS FOR CHRONIC KIDNEY

DISEASE PREVALENCE

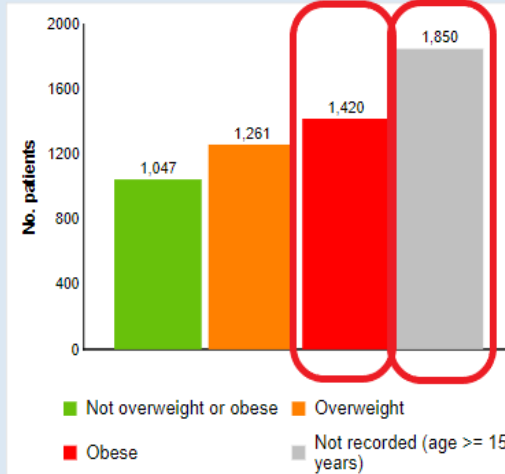
Chart indicates numbers of patients at your practice coded with each diagnoses



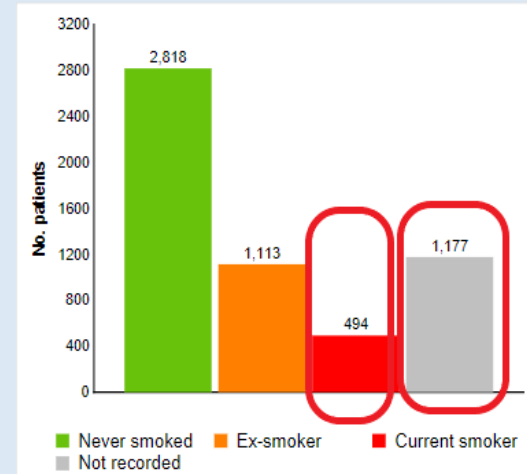
* Patients may be counted in more than one disease category according to their coded diagnoses

LIFESTYLE RISKS

WEIGHT (BMI)



SMOKING



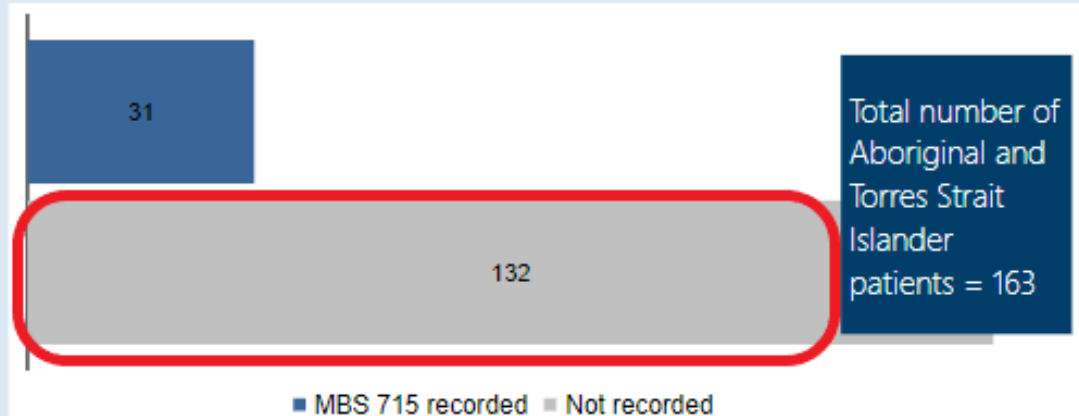
ETHNICITY

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)



6. QUALITY IMPROVEMENT ACTIVITIES X 4 QI PIP QUARTERS



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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](#)

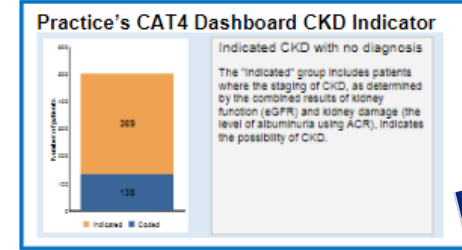
Who is at risk of CKD?

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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"



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

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	Orange clinical action plan	Red clinical action plan
<p>Goals of management:</p> <ul style="list-style-type: none"> Identify patients with CKD Identify patients with CKD who are at risk of progression Identify patients with CKD who are not at treatment targets Identify patients with CKD who are not at treatment targets 	<p>Goals of management:</p> <ul style="list-style-type: none"> Identify patients with CKD who are at risk of progression Identify patients with CKD who are not at treatment targets Identify patients with CKD who are not at treatment targets 	<p>Goals of management:</p> <ul style="list-style-type: none"> Identify patients with CKD who are not at treatment targets Identify patients with CKD who are not at treatment targets



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Quality Improvement Scenario 3: Chronic Disease Management

Using Medical Benefit Schedule (MBS) Chronic Disease Management items assists practice health professionals to provide appropriate care to patients with Chronic Kidney Disease. 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](#)

General | Clinical | **Indicators** | Data Range (Monthly) | Date Range (12/1/20) | Patient Name | Patient Status | Location | Risk Factors | Health Care Provider | MBS Attendance | Search Filter

Indicators: Identify patients with CKD who never had a GPMP/TCA claimed

7. QUALITY IMPROVEMENT ACTIVITIES- OVER 1 YEAR



12 Month | Quality Improvement Record

GOAL SETTING

This document can be used for one "Practice Incentive Payment Quality Improvement (PIP QI)" Quarter or is suitable for a 12-month strategic planning 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?

Use **Specific, Measurable, Achievable, Relevant, Time-based, Agreed (S.M.A.R.T.A)** goals.

Example: Our practice would like to increase clinical coding/recording of smoking status, weight, alcohol intake and physical activity in each patient's clinical record within the next 3/6/9/12 months.




7. PLAN DO STUDY ACT IMPROVEMENT CYCLE




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Plan Do Study Act (PDSA)





The Thinking Part

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



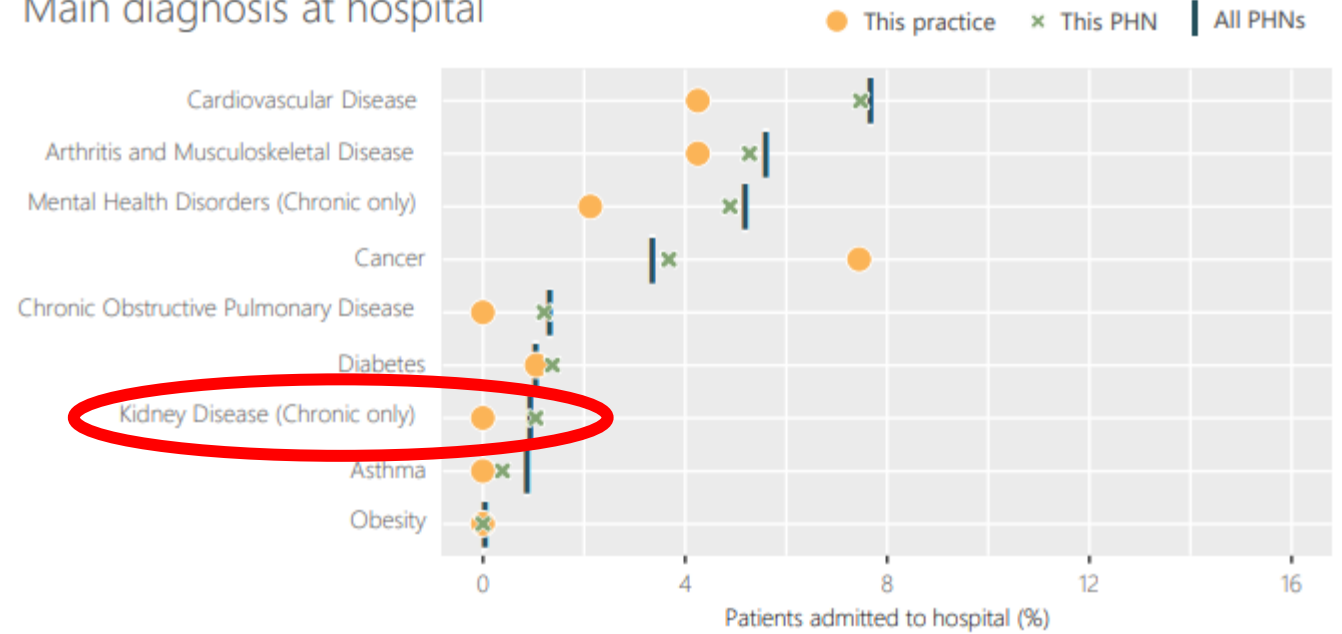
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The Doing Part

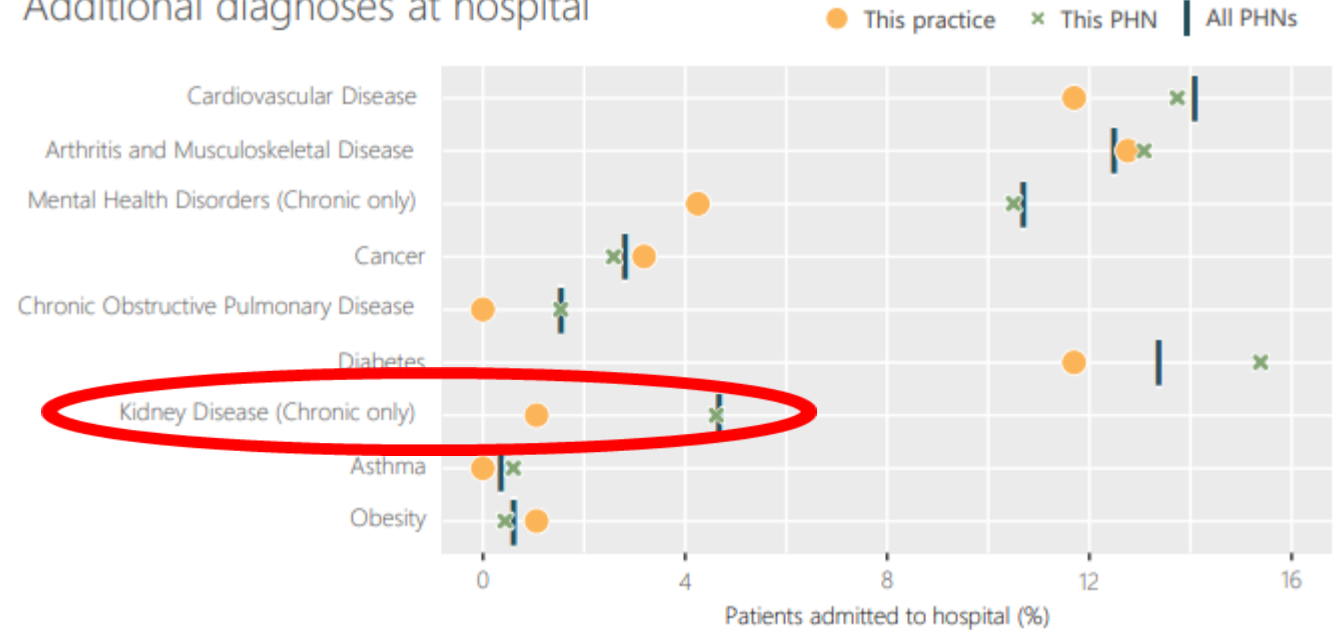
PLAN 	<p><i>What is the specific action plan idea?</i></p> <hr/> <p><i>What?</i></p> <hr/> <p><i>Why?</i></p> <hr/> <p><i>Who?</i></p> <hr/> <p><i>When?</i></p> <hr/> <p><i>Where?</i></p> <hr/> <p><i>Prediction?</i></p> <hr/>
DO 	<p><i>Was the plan executed? Any unexpected events or problems?</i></p>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

QUALITY IMPROVEMENT
ACTIVITIES -
LUMOS PROGRAM
HOSPITAL ADMISSIONS
BY MAIN DIAGNOSIS
AND ADDITIONAL
DIAGNOSIS

Main diagnosis at hospital



Additional diagnoses at hospital

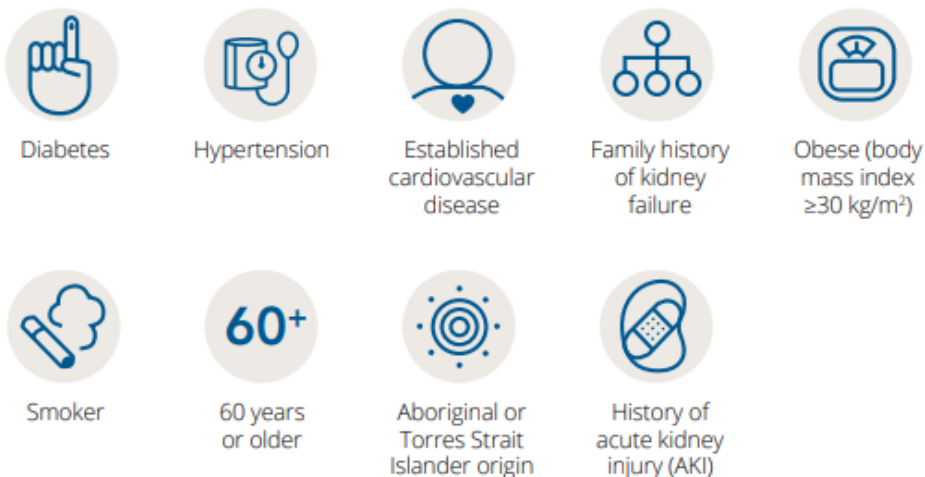


12. Risk Factors for CKD

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

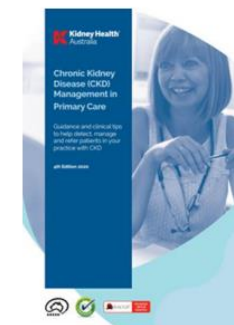


Quality Improvement Scenario 1: Patients at Risk of CKD

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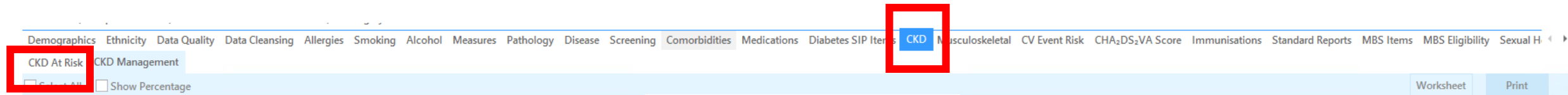
Who is at risk of CKD?

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.

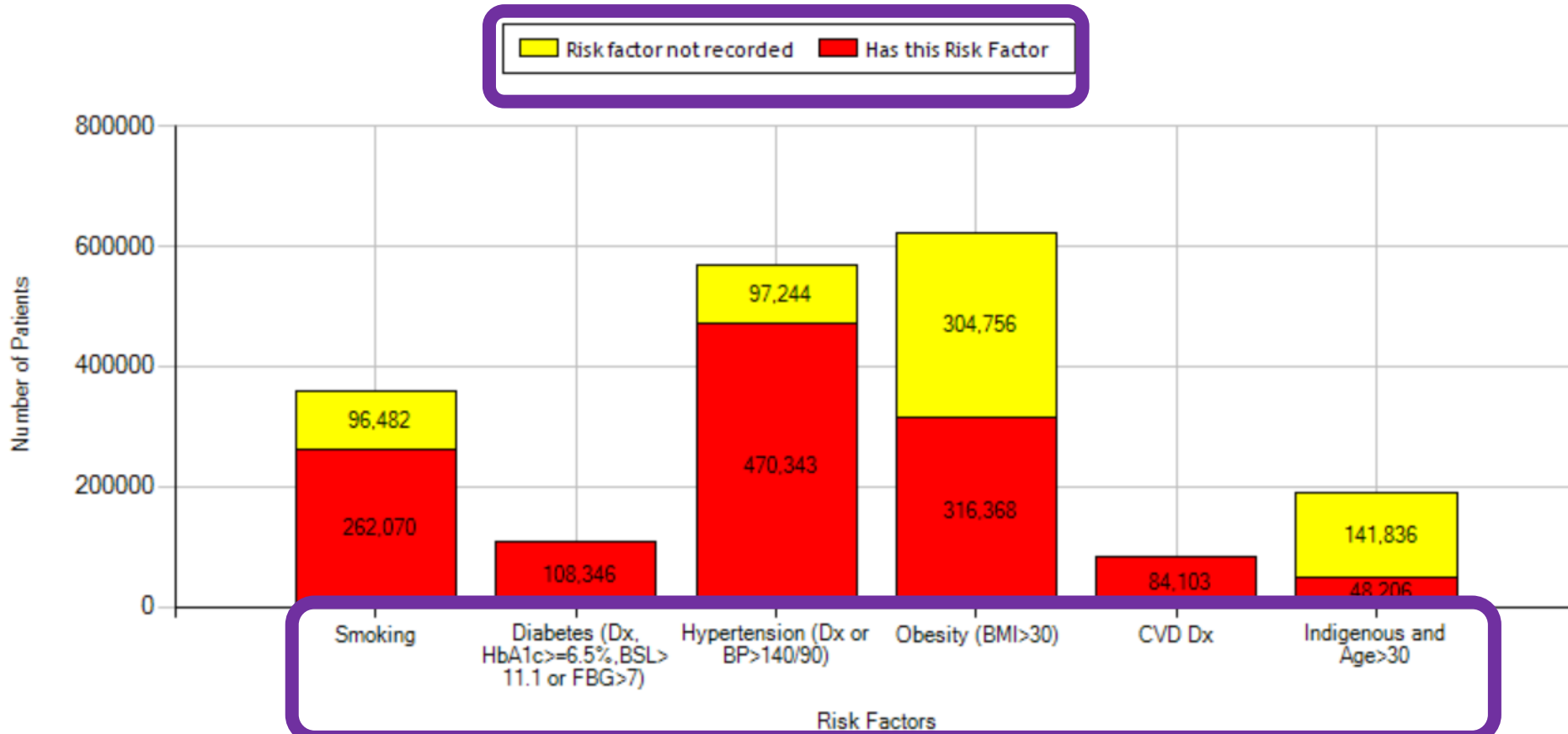
13. Reports Section - PenCS CAT4 CKD Tab and Data Cleansing Tab



15. CKD - CAT4 PATIENTS AT RISK REPORT

CKD At Risk [Target Population = 855,988]

No filters applied for July 2021 audit month. Generated on 20 July 2021 05:21 PM (0h 0m 39s 641ms)



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>

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.**

PenCS

16. Kidney Health Check

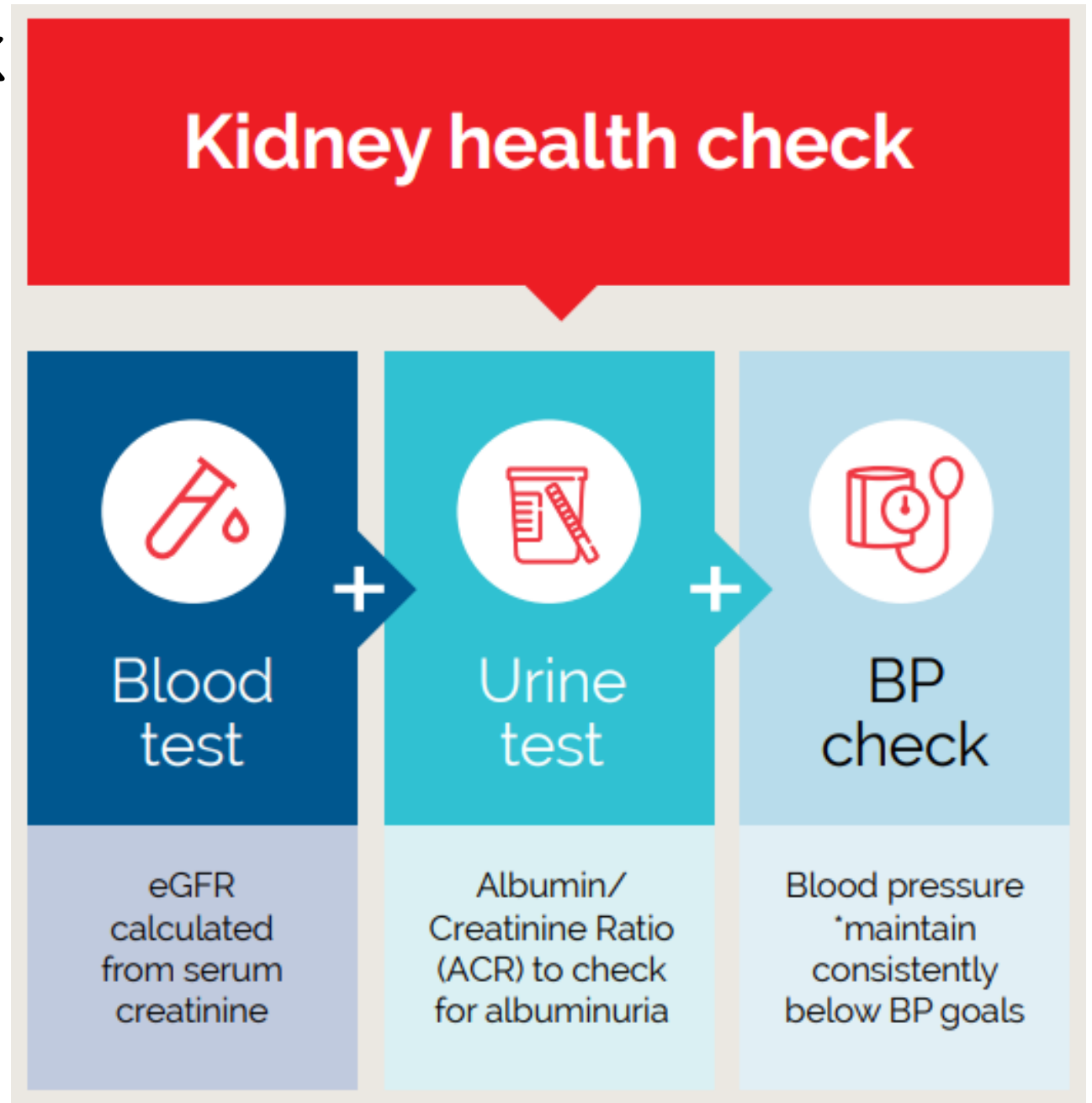
Clinical presentation of CKD

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.



17. Kidney Health Check – Indications and Frequency

KHA Handbook

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

Indications for assessment*	Recommended assessments	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).	
Established cardiovascular disease**	If eGFR <60mL/min/1.73m² repeat within 7 days.	
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

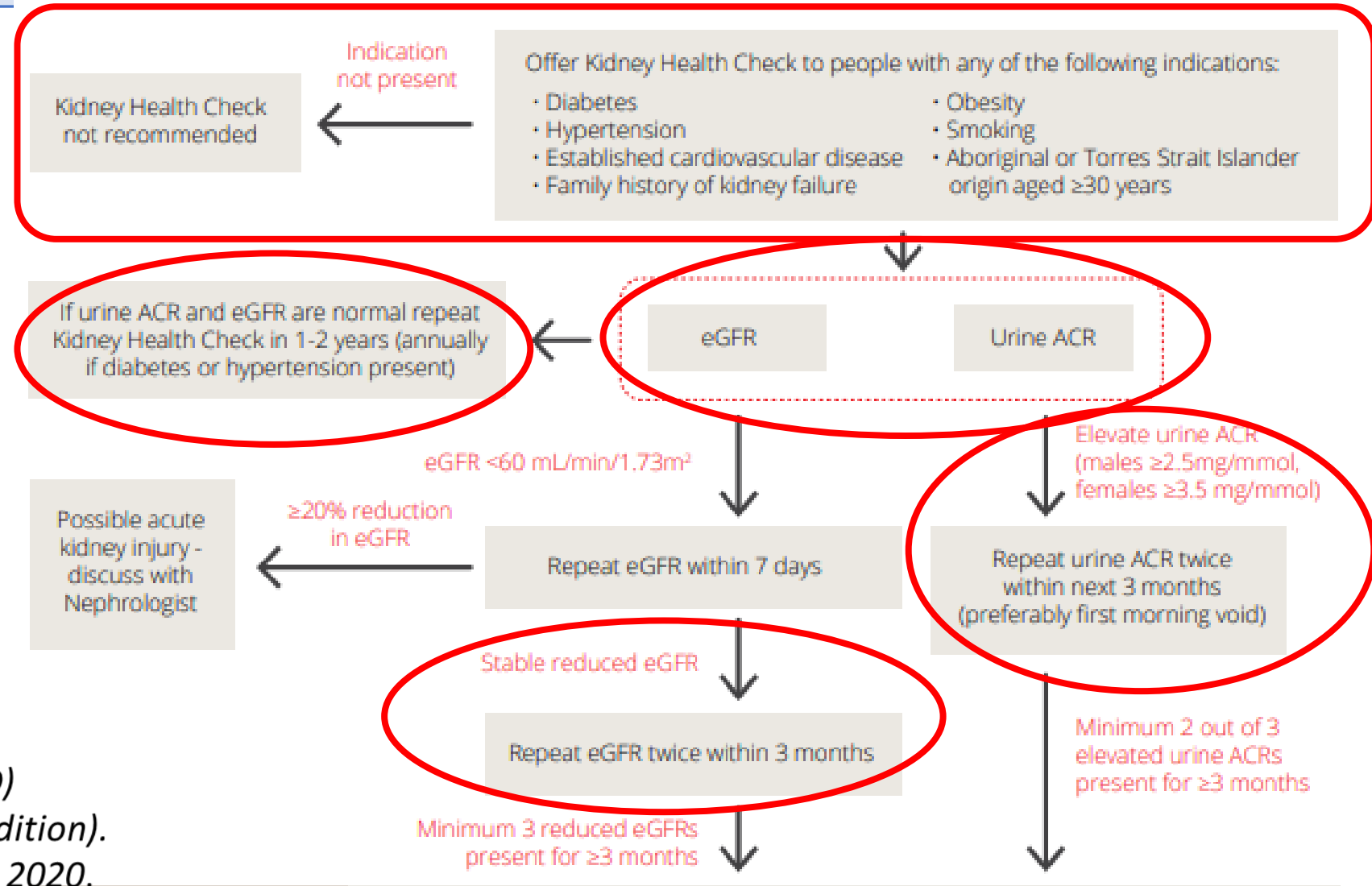
Indications for assessment	Recommended assessments	Frequency
People aged 18-29 years without any CKD risk factors.	Screen for CKD risk factors (see page 19 for list of CKD risk factors).	As part of annual health assessment.
All people ≥30 years and People 18-29 years with one or more CKD risk factors.	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).

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

18. Initial Detection – Kidney Health Check

Algorithm for initial detection of CKD



19. Diagnosing CKD

KHA Handbook

CAT4 - Indicated CKD Report

Quality Improvement Activities

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)

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]

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.

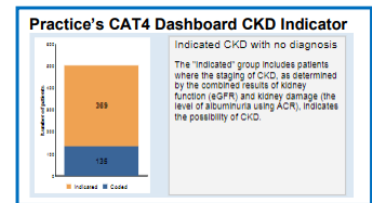
Surname	Firstname	DOB	Indication Date	Sex	eGFR	ACR	CKD
Surname	Firstname_1043	12/02/1951	23/01/2015	F	51.0	0.3	Stage 3a
Surname	Firstname_1122	12/02/1952	09/02/2015	F	77.0	8.2	Stage 2
Surname	Firstname_1224	12/02/1953	02/01/2015	M	49.0	0.3	Stage 3a
Surname	Firstname_1312	12/02/1954	27/01/2015	M	80.0	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



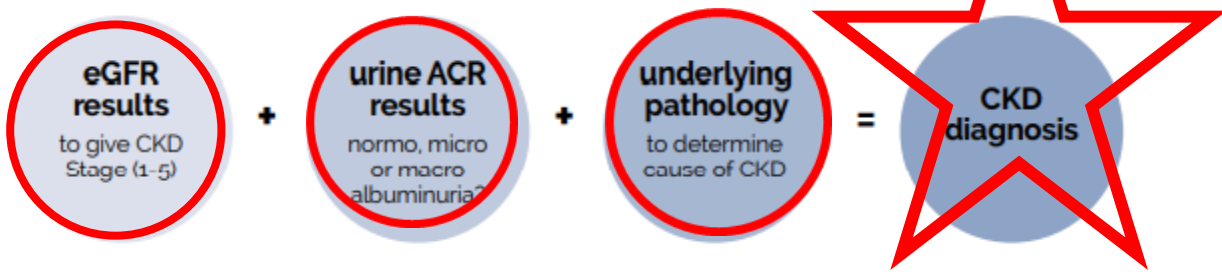
Quality Improvement Scenario 2: Patients Indicated Chronic Kidney Disease (CKD) with No Coded Diagnosis

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 -



There are three components to a diagnosis of CKD



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

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

20. CKD DIAGNOSIS

CKD occurs due to **kidney damage**, evidenced by *albuminuria*, or by haematuria, structural or pathological abnormalities (green box).

CKD occurs due to **loss of kidney function**.

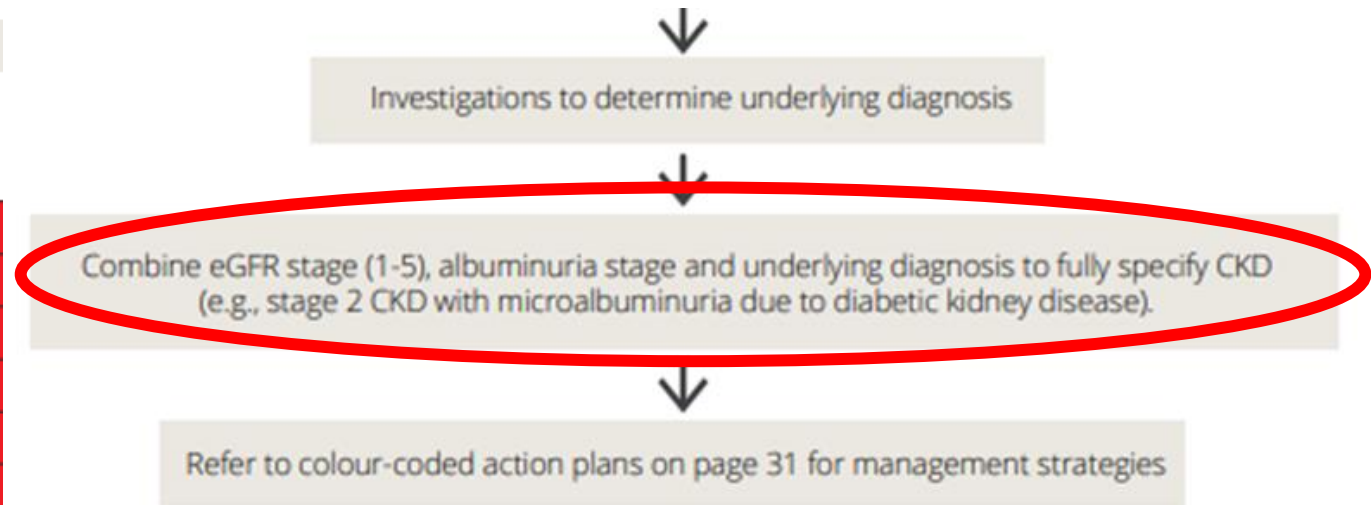
Kidney Function Stage	GFR (mL/min/1.73m ²)	Albuminuria Stage		
		Normal (urine ACR mg/mmol) Male: <2.5 Female: <3.5	Microalbuminuria (urine ACR mg/mmol) Male: 2.5-25 Female: 3.5-35	Macroalbuminuria (urine ACR mg/mmol) Male: >25 Female: >35
1	≥90	Not CKD unless haematuria, structural or pathological abnormalities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

21. Full CKD Diagnosis

KHA Handbook

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		
2	60-89			
3a	45-59			
3b	30-44			
4	15-29			
5	<15 or on dialysis			



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

22. DATA CLEANSING CAT4 MODULE

INDICATED CKD WITH NO DIAGNOSIS CODED

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"/>

HOT TIP: Stage without a number is due to eGFR “0” result that is corrupted. Stage without colour is due to no Urine ACR result.

23. CLINICAL ACTION PLANS - CUMULATIVE

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 a Nephrologist when indicated.

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)

25. 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

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 irrespective of albuminuria

Goals of management

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

Management strategies

- Early detection and management of complications
- Reduce progression of kidney disease
- Assessment of diabetes (Cardiovascular Risk, Cardiovascular Risk)
- Avoidance of nephrotoxic medications or volume depletion

Frequency of review

- Every 12 months

Clinical assessment

- Blood pressure
- Weight
- Smoking

Laboratory assessment

- Urine albumin:creatinine ratio (ACR)
- eGFR (page 27)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Smoking status

Other assessments

- Review albuminuria (see page 41)
- No proteinuria (see page 41)
- Blood pressure reduction (see page 42)
- Weight reduction (see page 42)
- Cardiovascular risk assessment (see page 43)
- Diabetes control (see page 43)
- Smoking cessation (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)

Management strategies

- Early detection and management of complications
- Reduce progression of kidney disease
- Assessment of diabetes (Cardiovascular Risk, Cardiovascular Risk)
- Avoidance of nephrotoxic medications or volume depletion

Frequency of review

- Every 12 months

Clinical assessment

- Blood pressure
- Weight
- Smoking

Laboratory assessment

- Urine albumin:creatinine ratio (ACR)
- eGFR (page 27)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Smoking status

Other assessments

- Review albuminuria (see page 41)
- No proteinuria (see page 41)
- Blood pressure reduction (see page 42)
- Weight reduction (see page 42)
- Cardiovascular risk assessment (see page 43)
- Diabetes control (see page 43)
- Smoking cessation (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)

Management strategies

- Early detection and management of complications
- Reduce progression of kidney disease
- Assessment of diabetes (Cardiovascular Risk, Cardiovascular Risk)
- Avoidance of nephrotoxic medications or volume depletion

Frequency of review

- Every 12 months

Clinical assessment

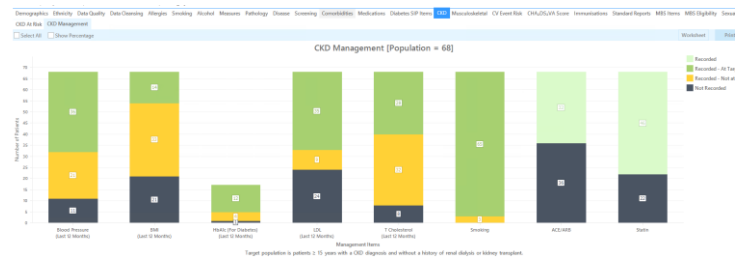
- Blood pressure
- Weight
- Smoking

Laboratory assessment

- Urine albumin:creatinine ratio (ACR)
- eGFR (page 27)
- Biochemical profile including urea, creatinine and electrolytes
- HbA1c (for people with diabetes)
- Smoking status

Other assessments

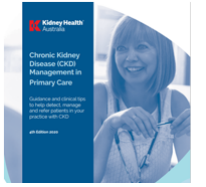
- Review albuminuria (see page 41)
- No proteinuria (see page 41)
- Blood pressure reduction (see page 42)
- Weight reduction (see page 42)
- Cardiovascular risk assessment (see page 43)
- Diabetes control (see page 43)
- Smoking cessation (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)
- Review of other clinical conditions (see page 43)



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.

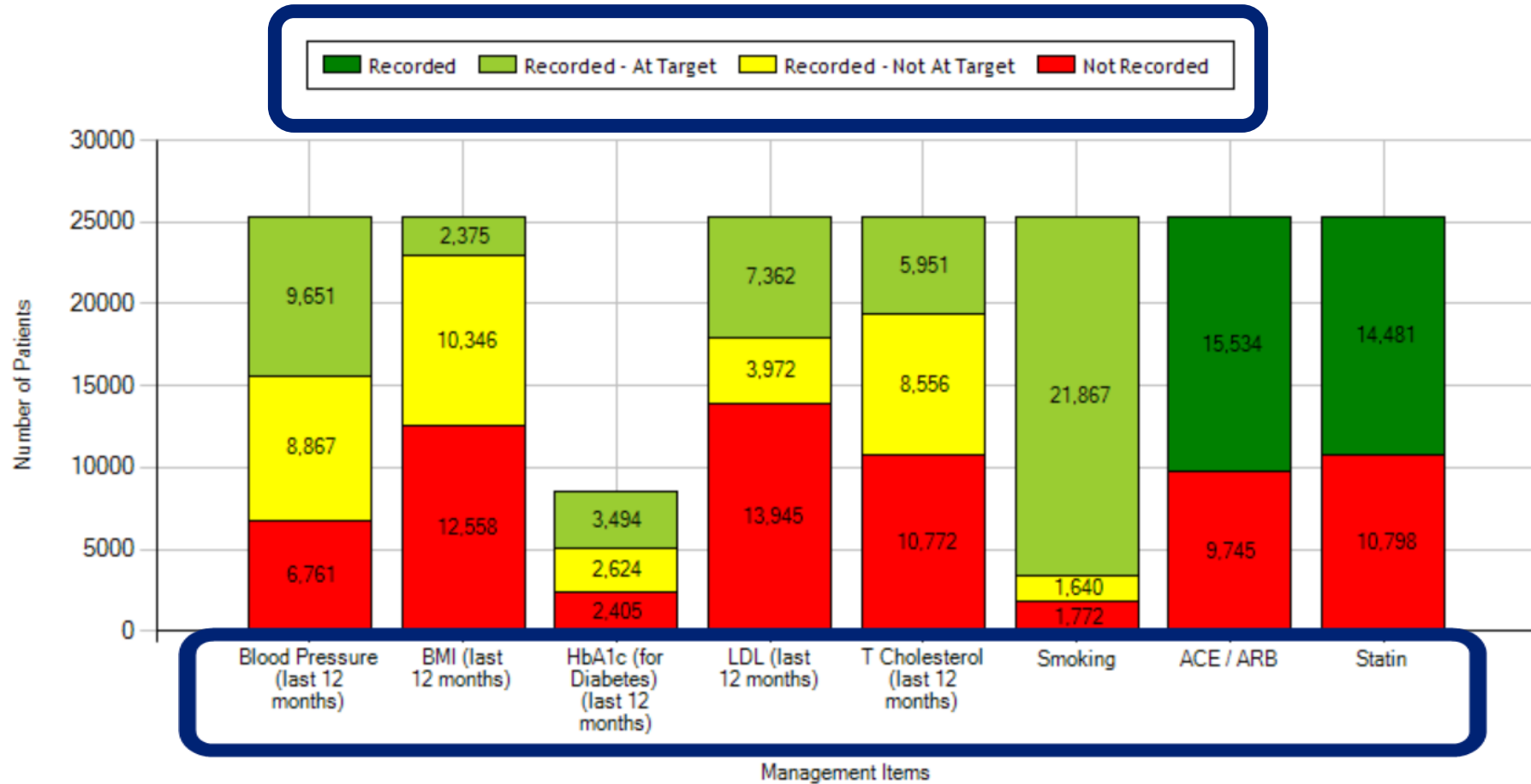


Source: *Chronic Kidney Disease (CKD) Management in Primary Care (4th edition)*.
 Kidney Health Australia, Melbourne, 2020.

26. CAT4 CKD MANAGEMENT & TREATMENT TARGETS

CKD Management [Target Population = 25,279]

No filters applied for July 2021 audit month. Generated on 20 July 2021 05:27 PM (0h 0m 38s 656ms)



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

14. PenCS CKD Management and Risk Quick 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		

24. 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 Comprehensive 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>		

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

28. CHRONIC DISEASE MANAGEMENT- MULTI-DISCIPLINARY

KHA Handbook

6. Common issues in CKD	
Acidosis	69
Albuminuria	69
Anaemia	70
Cognitive decline	71
Depression	71
Dietary protein	72
Haematuria	73
- Algorithm for the management of persistent microscopic haematuria	74
Hyperkalaemia	75
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 CONFERENCING**
- **MENTAL HEALTH CARE PLAN**
- **SPECIALIST REFERRALS**

Psychology / Psychiatry

Dietician

Dermatologist

Respiratory – Sleep Apnoea

Pharmacist

Nephrologist

Quality Improvement Activity 4

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](#)

GPMP/TCA Eligibility (Population = 646)
Eligible population is patients with Diabetes, CVD or CKD

Category	Count
Eligible	646
Not Eligible	0

CONTENTS

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

