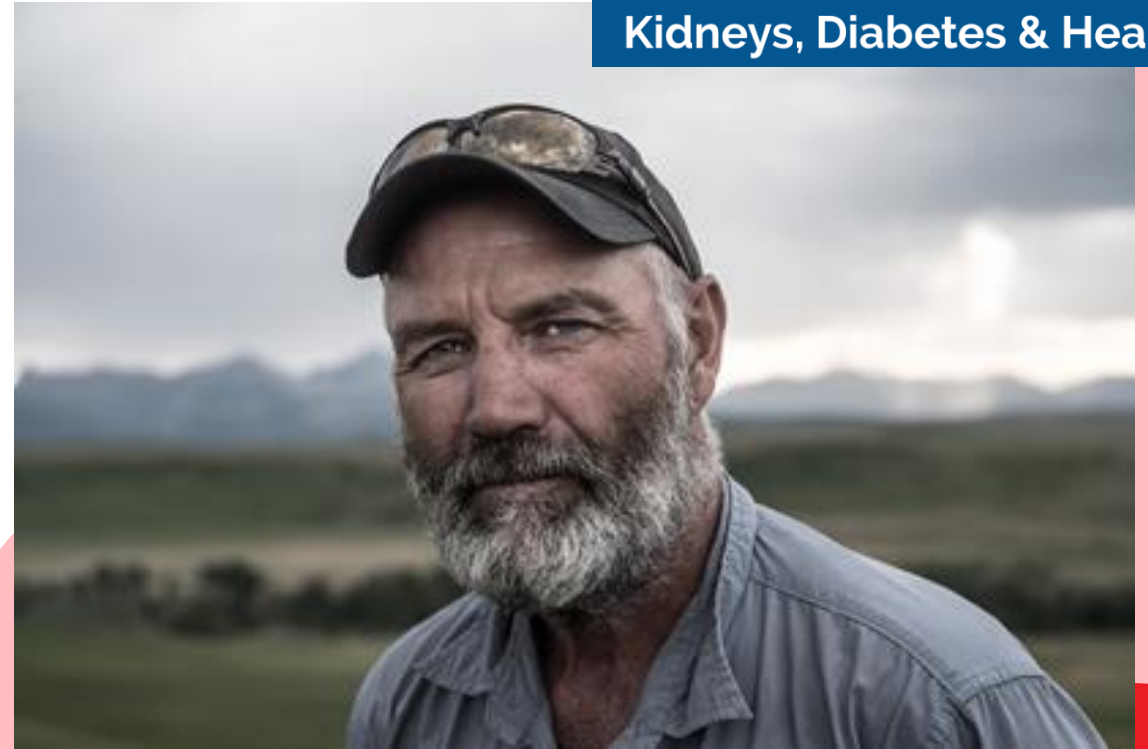
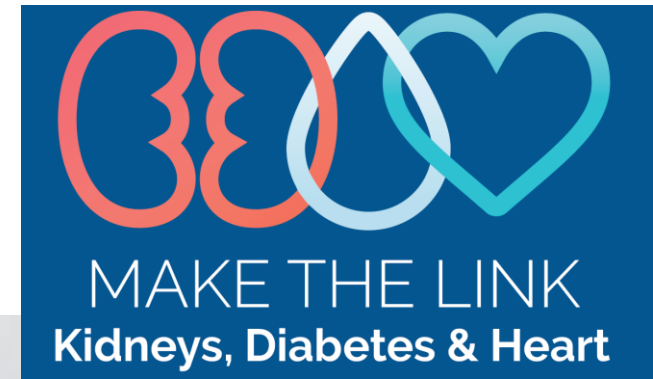


Kidneys, Diabetes & Heart: the clinical importance to make the link

Primary Care Education Workshop

*This module was conceived and developed by
PEAK**

Presented by:



Acknowledgements

Thanks to the 'Primary Care Education Advisory Committee for Kidney Health Australia' (PEAK) who has developed and reviewed this education.

Thanks to our volunteer presenters!

Thanks to our webinar sponsor



Housekeeping



Learning aim

Apply the Kidney Health Check to the early detection of Chronic Kidney Disease (CKD) in primary care, and optimal management of CKD to slow or halt disease progression

Learning outcomes

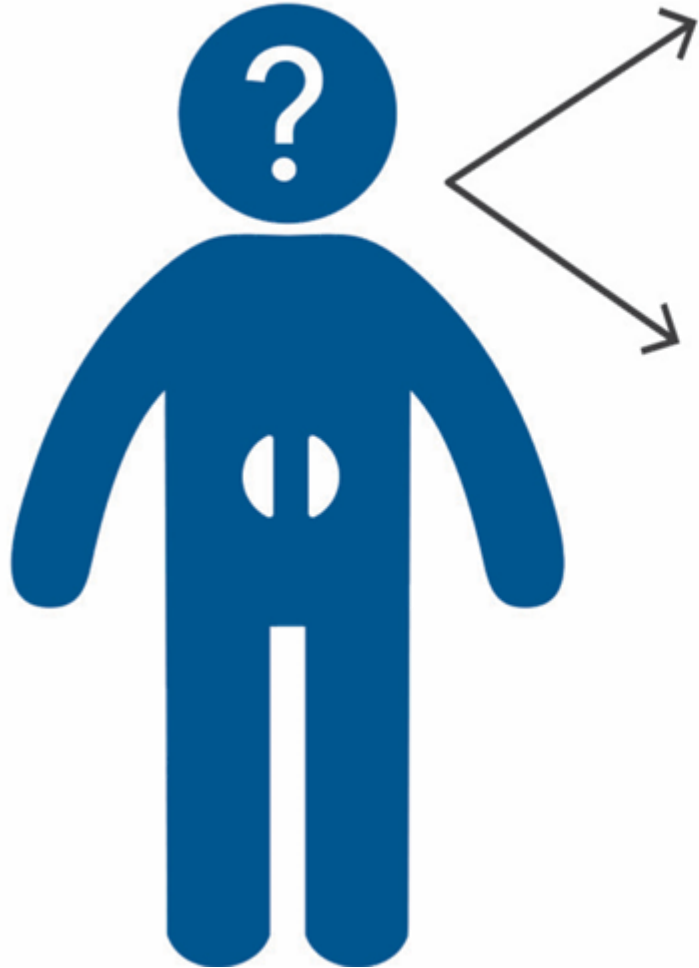
At the end of this workshop participants will be able to:

Explain how chronic kidney disease, diabetes, and cardiovascular disease interact and influence each other

Outline the health burden of the conditions and their impact on wellbeing.

Review medication and treatment when managing chronic kidney disease alongside diabetes, and cardiovascular disease

What is CKD?



CKD is defined as...

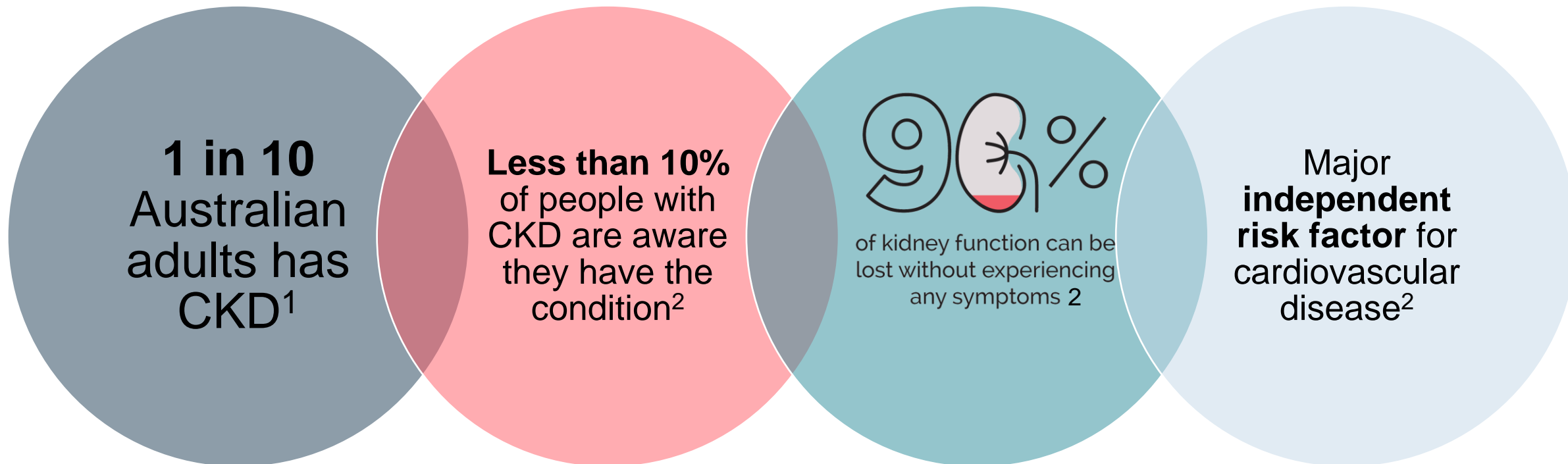
An estimated or measured glomerular filtration rate (GFR) <60 mL/min/1.73m² that is present for ≥ 3 months with or without evidence of kidney damage.

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)

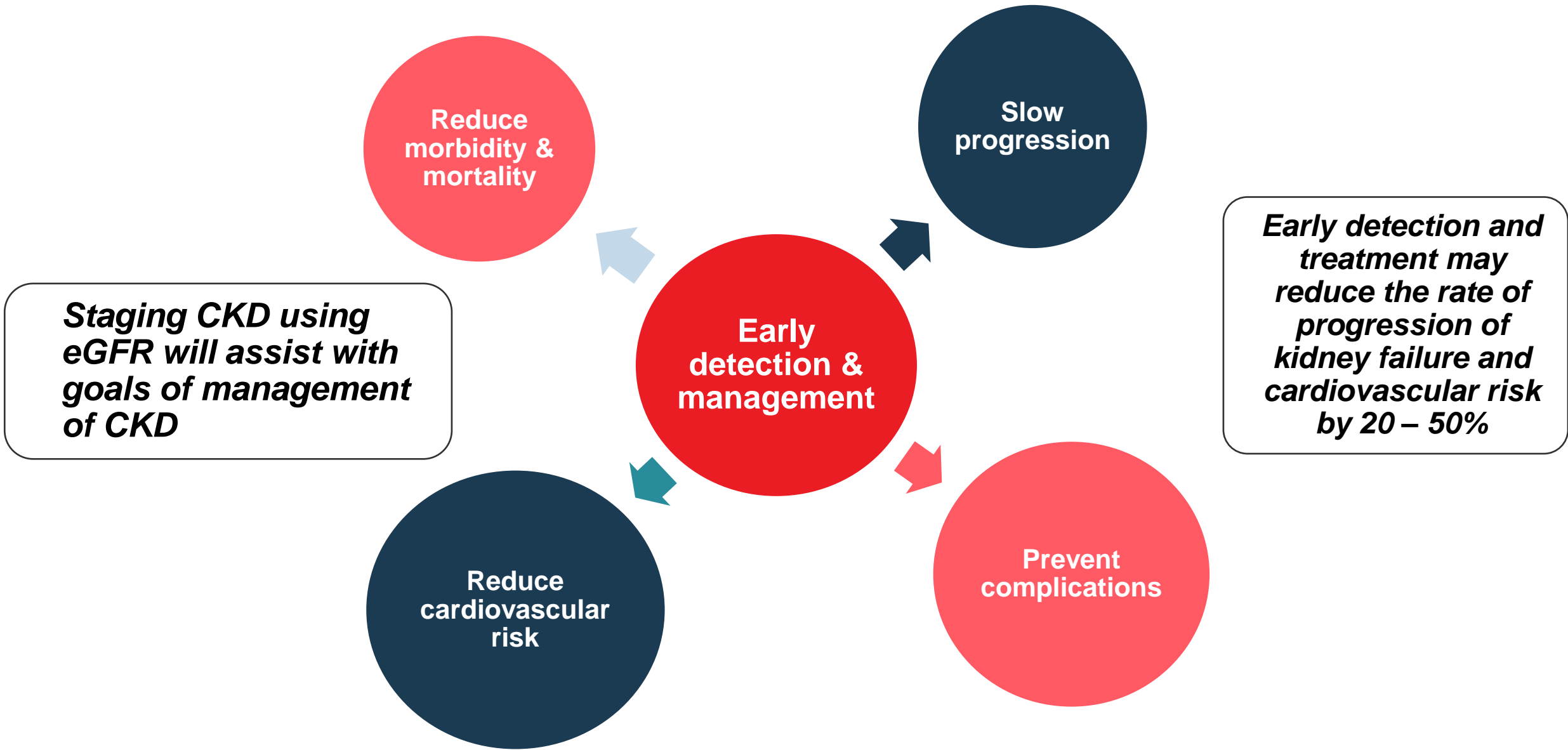
CKD is a major public health problem



1. Australia Bureau of Statistics. Australian Health Survey: Biomedical Results for Chronic Diseases, 2011-12. ABS, Canberra; 2013

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

Early detection saves lives!



Combined, what percentage of Australian adults are affected by one or more of these conditions: CKD, Diabetes & CVD?

- a) 12%
- b) 29%
- c) 53%
- d) 66%



Question

Combined, what percentage of Australian adults are affected by one or more of these conditions: CKD, Diabetes & CVD?

- b) 12%
- c) 29%
- d) 53%
- e) 66%

29%

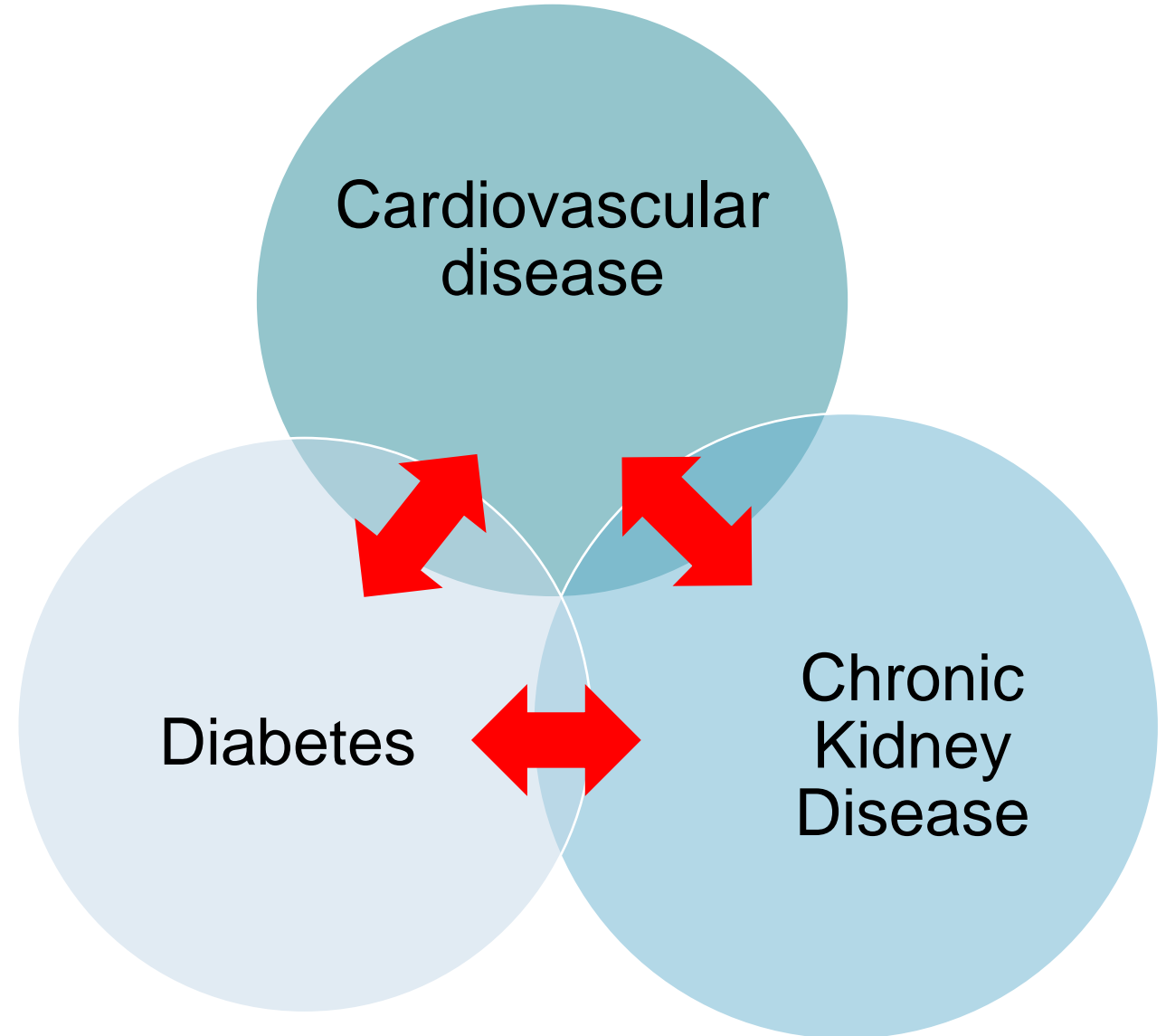
of Australian adults are affected by **one or more** of CKD, Diabetes and CVD.



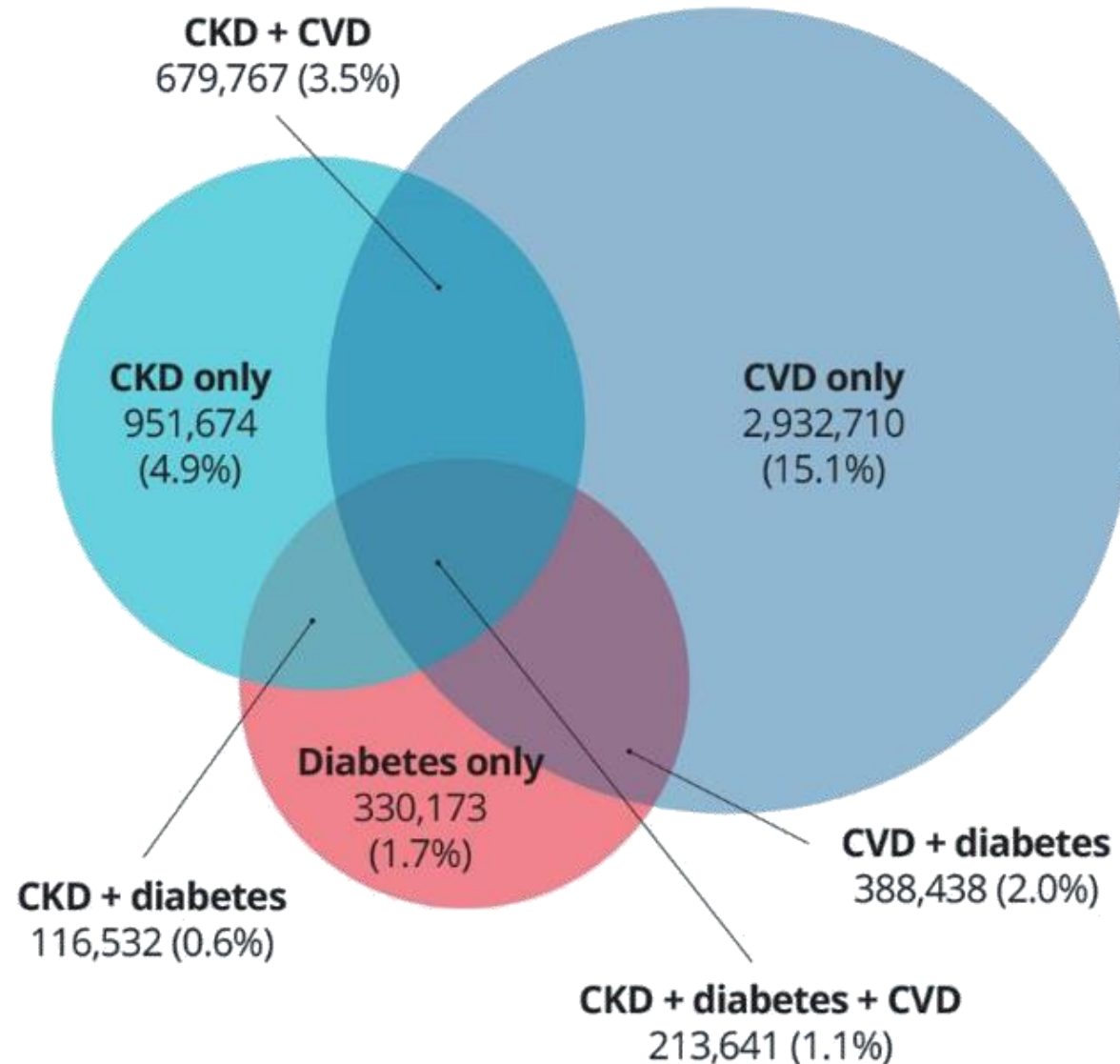
Answer

The link between CKD, Diabetes & CVD

- Shared treatment goals & management
- Each effects the morbidity, mortality & outcomes of the others



5.6 million Australians have at least 1 of these three conditions



INCIDENCE OF TREATED KF BY PRIMARY KIDNEY DISEASE, 1997-2018

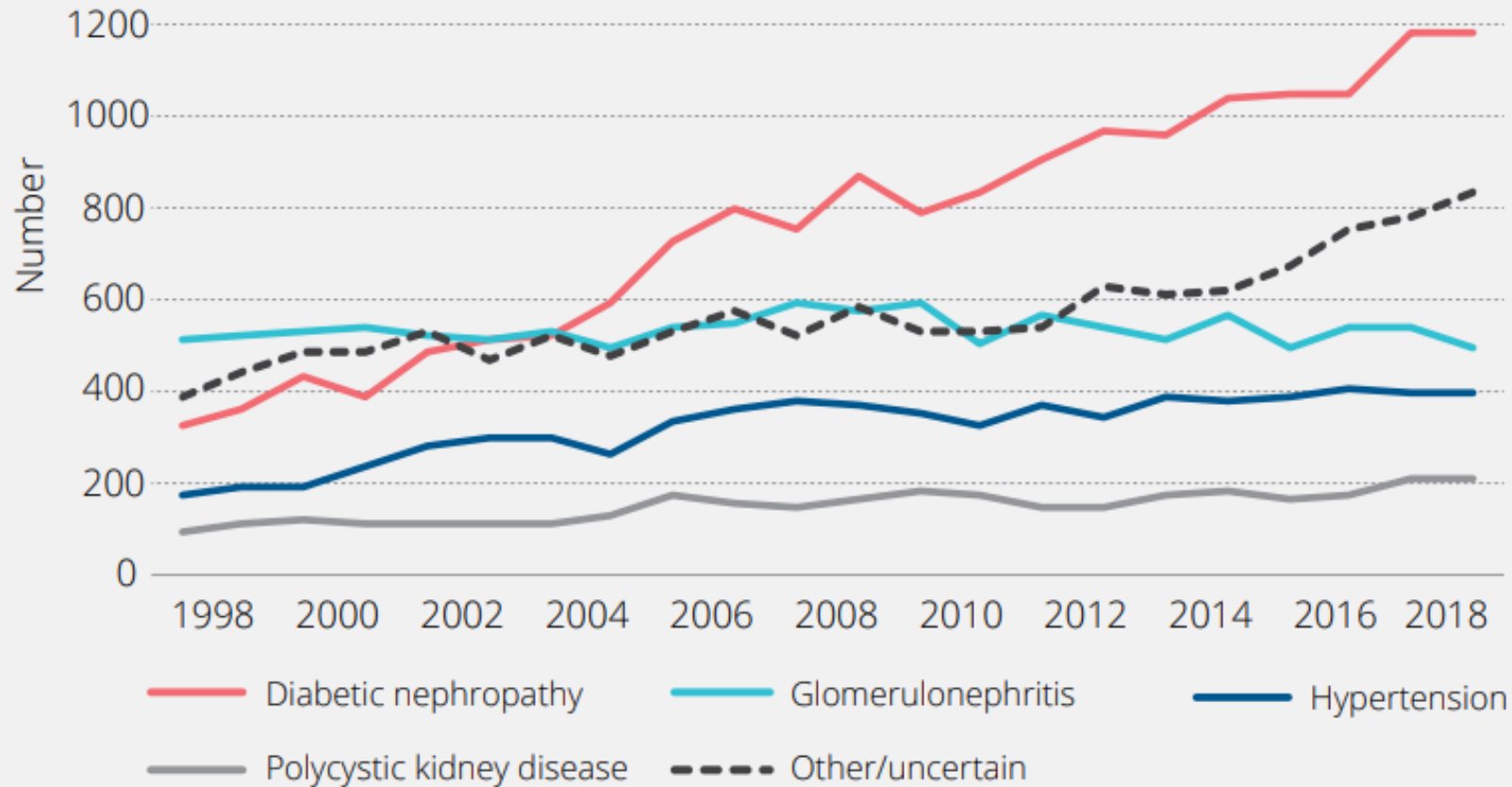


Figure iv: Crude incidence of treated kidney failure (KF) by primary kidney disease for all patients commencing kidney replacement therapy (all modalities) between 1997 and 2017 (Source: ANZDATA 2018 Annual Report).

HOSPITALISATION RATES FOR PERSONS WITH A COMBINATION OF CKD / DIABETES / CVD

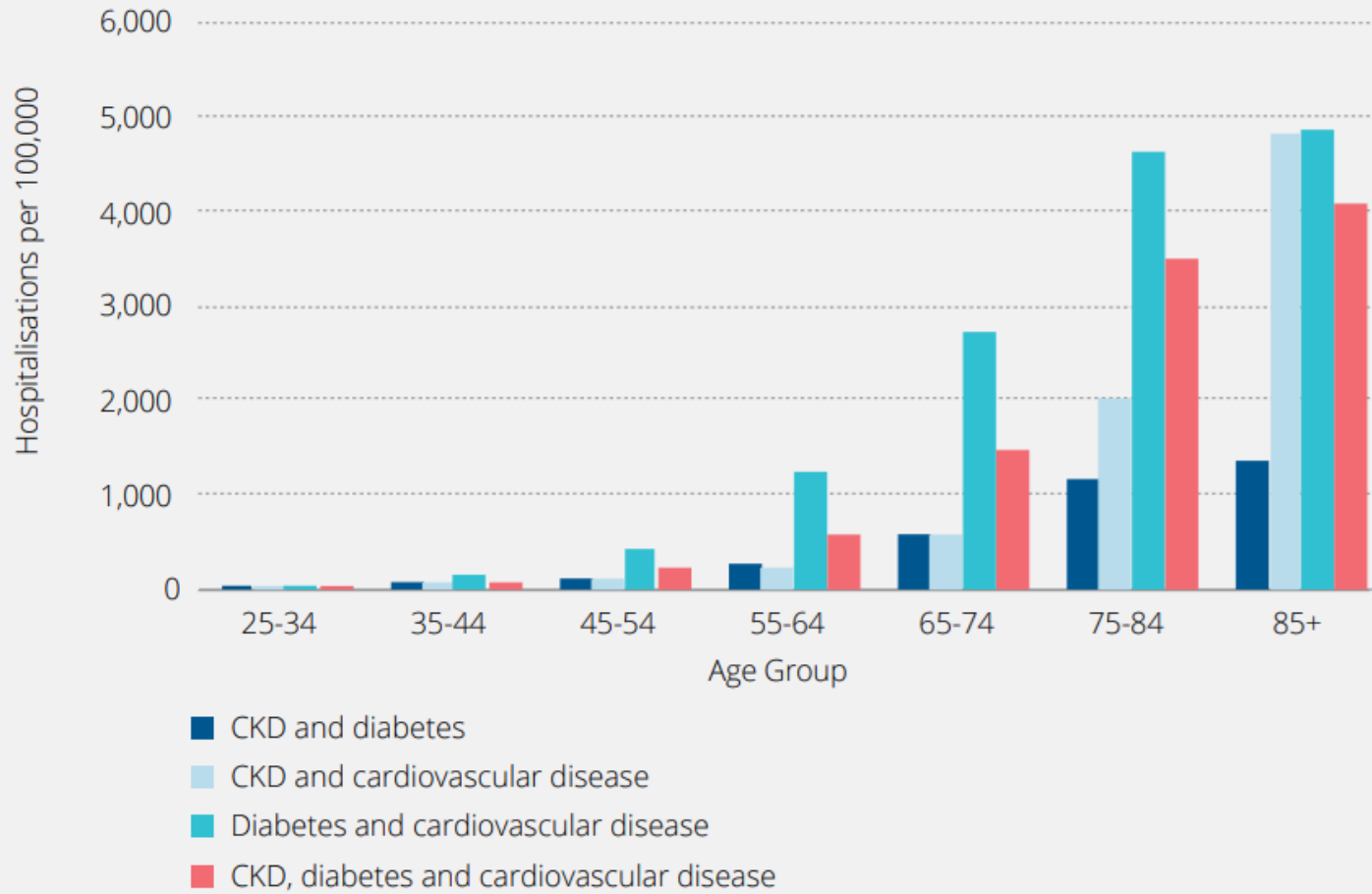


Figure 29: Hospitalisation rates for persons with 2 or more diagnoses of CKD, diabetes and/or cardiovascular disease, 2012-2013

White SL. Chronic Kidney Disease, Diabetes & Cardiovascular Disease: Evidence Report 2021. Kidney Health Australia, Melbourne, Australia 2021

DIRECT HEALTH CARE COSTS PER PERSON IN 2012

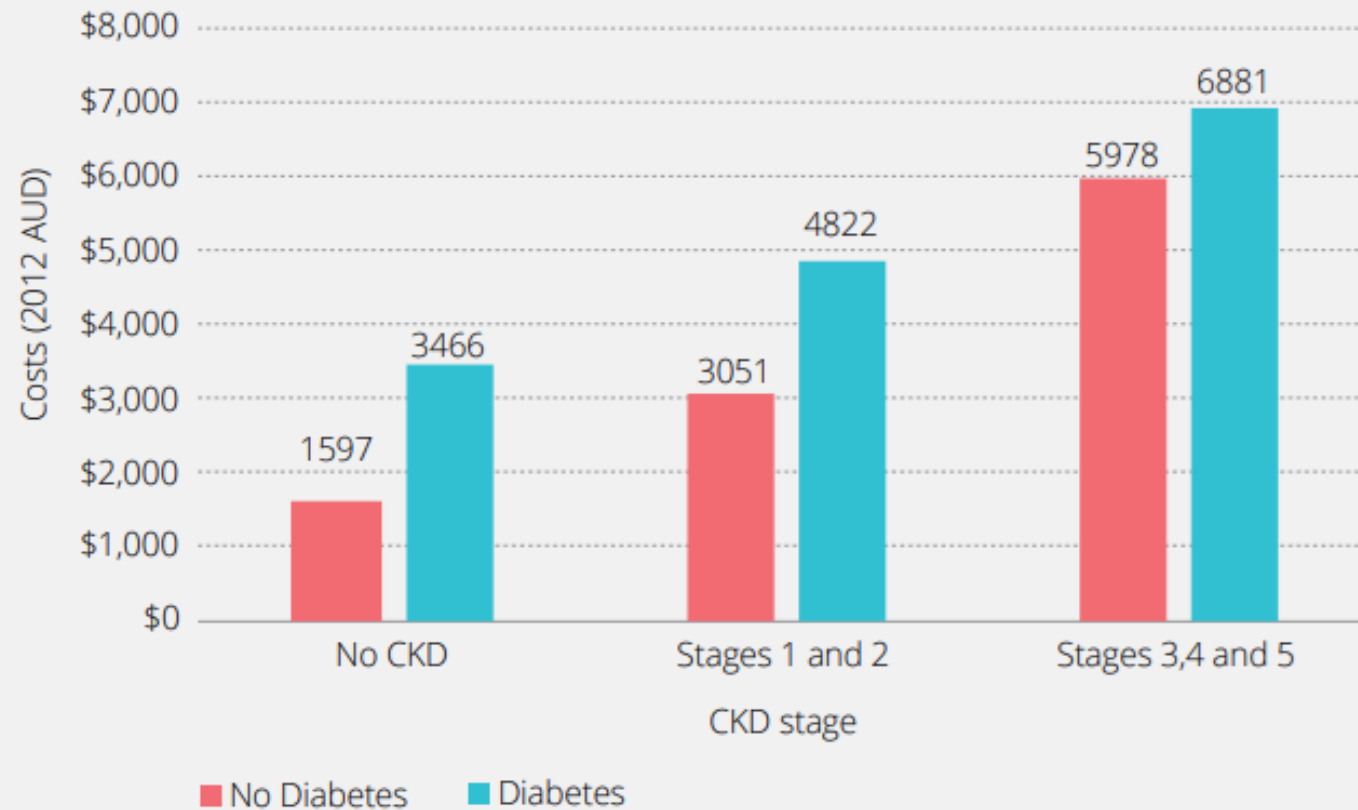


Figure 59: Estimated annual direct health care costs per person per year by CKD and diabetes status, in 2012 Australian dollars. Estimates are not adjusted for age, to reflect the higher costs associated with an older age distribution among persons with more advanced CKD (Source: Wyld 2015 ^[47])

Case study – Dennis

Background

- 54 years old
- Works full-time in landscaping supplies
- His work has been impacted by statewide lockdowns

Today

- Dennis sees you for his usual blood pressure lowering prescription



History



Medical conditions:

Hypertension, 18 years
Dyslipidaemia, 6 months ago
Diabetes, 3 years ago, diet controlled
CKD stage 3b with microalbuminuria (eGFR 40mL/min/1.73m² | urine ACR 22.6mg/mmol)
Knee osteoarthritis



Previous smoker:

Cessation 8 years ago (25 pack-year history)

Alcohol:

3-5 drinks per week

Medications:

Nifedipine SR 60mg daily with no side effects



Dennis hasn't shown an interest in his role in disease prevention measures. However, his cousin's recent primary coronary angioplasty for a myocardial infarction has Dennis worried this could happen to him, his main concern is not being able to afford it financially.

Case study - Dennis

Fasting bloods

BGL 9.0 mmol/L / 8.0% HbA1c

K⁺ 4.2 mmol/L

Creatinine 165 µmol/L

eGFR **40mL/min/1.73m²**

Total cholesterol 6.7 mmol/L

HDL cholesterol 1.4 mmol/L

LDL cholesterol 3.2 mmol/L

Triglycerides 2.4 mmol/L

Urine ACR (early morning) 22.6 mg/mmol



Examination

BP 150/90 mmHg
(145/95, 3 months ago)

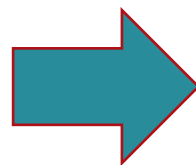
Weight 92 kg

Height 1.75 m

BMI 30 kg/m²

Managing CKD in primary care

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			
3a	45-59	Yellow	Orange	Red
3b	30-44	Orange	Orange	Red
4	15-29	Red	Red	Red
5	<15 or on dialysis	Red	Red	Red



Follow the corresponding colour-coded action plan found in the handbook

Yellow clinical action plan

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

Orange clinical action plan

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

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.



Goals of management

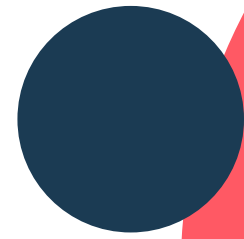
- Investigations to determine underlying cause.
- Reduce progression of kidney disease.
- Assessment of Absolute Cardiovascular Risk.
- Avoidance of nephrotoxic medications or volume depletion.
- Early detection and management of complications.
- Adjustment of medication doses to levels appropriate for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



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.





Which of the following are effective risk reduction strategies in the management of CKD?

(select more than one answer)

- a) Blood pressure lowering
- b) Lipid lowering with statins
- c) Diabetes management
- d) Lifestyle changes



Question

Which of the following are effective risk reduction strategies in the management of CKD?

- ✓ *Blood pressure lowering*
- ✓ *Lipid lowering with statins*
- ✓ *Diabetes management*
- ✓ *Lifestyle changes*



Answer

CKD, Diabetes & CVD are linked with interrelated biological pathways & risk factors



Physical inactivity



Poor nutrition



Overweight & obesity



High blood pressure



Smoking



Harmful use of alcohol















High blood cholesterol



Insulin resistance

Similar risk factors

	Risk Factor	CKD	Diabetes	Cardiovascular Disease
 High blood pressure	 Cardiovascular disease or family history of cardiovascular disease	✓		✓
 Diabetes	 Family history of kidney failure	✓	✓	
 Smoking	 Acute Kidney injury	✓		
 Overweight or obese (Body Mass Index BMI \geq over 30 kg/m ²)	 Family history of high blood pressure or diabetes		✓	
 Aboriginal or Torres Strait Islander background	 Gestational Diabetes		✓	
60+ Older age	 Male			✓
	 Depression and social isolation			✓

How do you establish Dennis' risk of experiencing a CVD event?

- a) Assess absolute cardiovascular risk using Australian risk calculator
- b) Dennis has stage 3b CKD, he is already at high risk
- c) His hypertension is the best indicator of a future CVD event



Question

How do you establish Dennis' risk of experiencing a CVD event?

- a) Assess absolute cardiovascular risk using Australian risk calculator
- b) Dennis has stage 3b CKD, he is already at high risk
- c) His hypertension is the best indicator of a future CVD event



Answer

CVD risk

Adults already at the **highest** risk of a cardiovascular event:

- **eGFR < 45 mL/min/1.73m² or persistent proteinuria** OR
- Diabetes and age > 60 years OR
- **Diabetes and microalbuminuria** OR
- Previous diagnosis of familial hypercholesterolaemia OR
- Systolic BP >180mmHg or diastolic >110mmHg OR
- Serum total cholesterol .7.5mmol/L

Should **NOT** have their absolute cardiovascular risk assessed.

Cardiovascular risk reduction in CKD

- CKD is a potent risk factor
- essential to determine CKD **before** using the tool www.cvdcheck.org.au
- with CKD, individual's cardiac death risk is 2-3 greater than without CKD
- with CKD, individuals are **20 times** more likely to **die** from CVD **than survive** to need dialysis or transplant

CVD risk summary

- **Lower eGFR is a strong predictor of increased CVD risk**
- **Higher urine albumin excretion also predicts increased risk**
- **The two provide independent information so that individuals with both risk factors have the highest risk**
- **These markers are additional to the information provided by traditional risk factors**

**Dennis has hypertension.
What blood pressure target should he aim
for?**

- a) 120/80
- b) 130/80
- c) 140/90
- d) 110/60



Question

**Dennis has hypertension.
What blood pressure target should he aim
for?**

- a) 120/80
- b) 130/80
- c) 140/90
- d) 110/60



Question

Hypertension targets



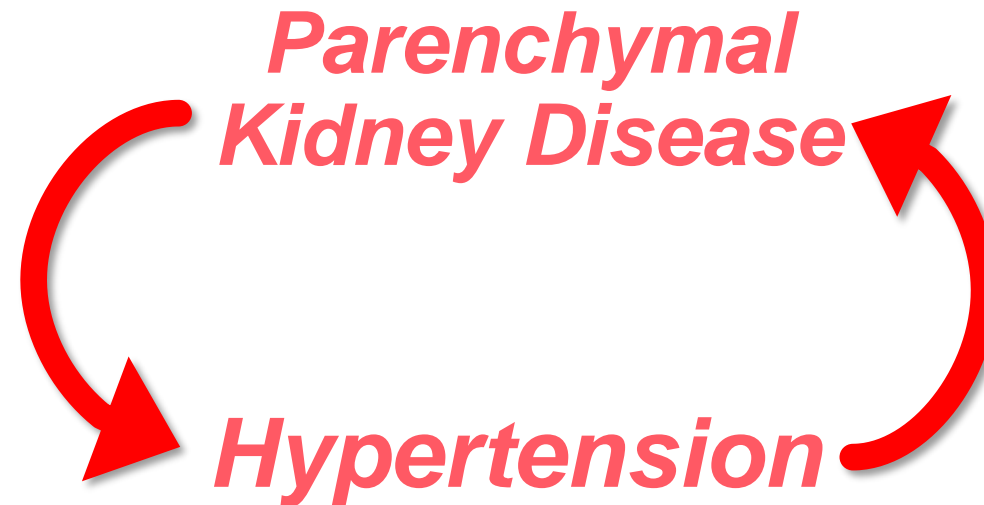
For all people with CKD...
maintain BP below

130/80 mmHg

- Treatment should always be individualised and in some patients, it may be appropriate to aim for a lower BP target
- Treatment targets should take into account the risk / benefit scenario along with clinical practicalities

Risk factor - high blood pressure

High blood pressure can damage the small blood vessels in the kidneys. The damaged vessels cannot filter waste products from the blood the way they should.

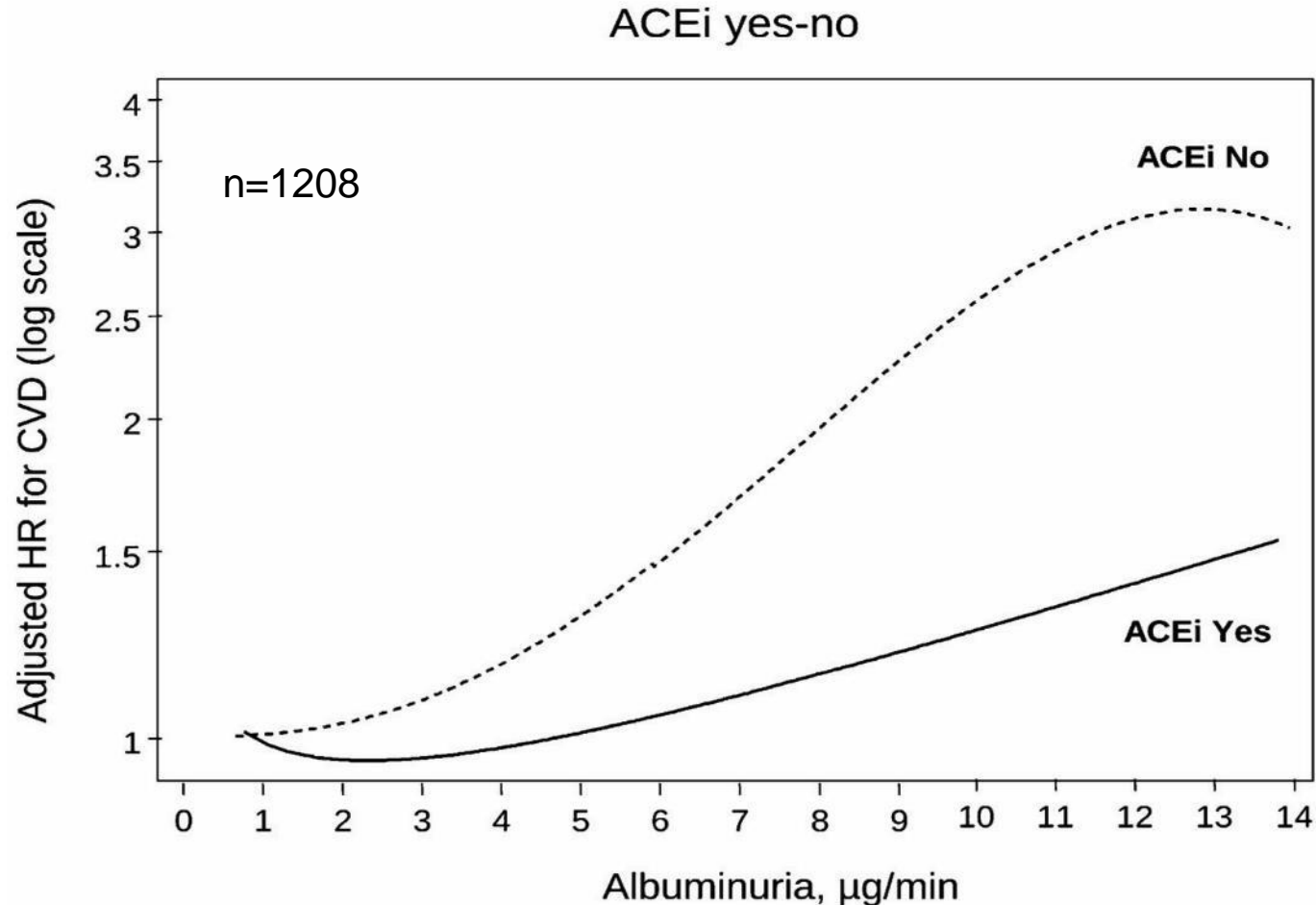


Or.....damaged kidneys cause high blood pressure and high blood pressure damages kidneys

Intervention and outcomes

ACE inhibitors in Type 2 Diabetes with hypertension The BENEDICT Trial

Adjusted Health Risks (HR) for major cardiovascular events according to baseline albuminuria



Risk of CVD is significantly reduced

Lifestyle

Lifestyle approaches are the first consideration

SNAP - smoking, nutrition, alcohol, physical activity

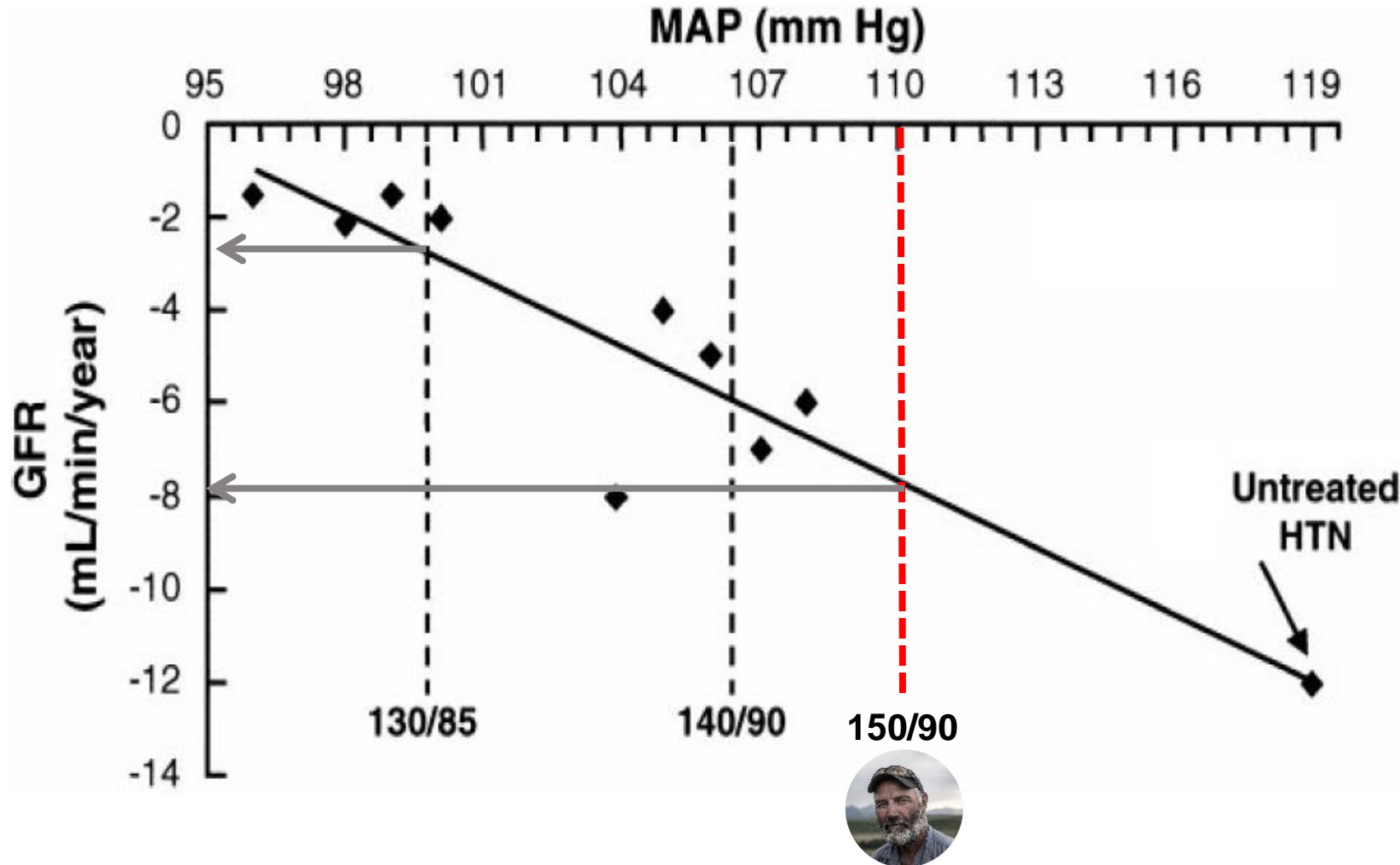
- Stop smoking
- A low salt diet
- A dietary approach to reduce his BMI
- A reduction in his alcohol intake
- An exercise program

Lifestyle modification: effects on BP

Modification	Recommendation	Reduction in mmHg
Weight reduction	BMI 18-24.9 kg/m ²	4.4mmHg (for 5.1kg weight lost)
Dietary sodium restriction	Reduce dietary sodium intake to no more than 2g sodium (or 5g salt)	4-7mmHg (for reduction by 5g in daily salt intake)
DASH diet (Dietary Approaches to Stop Hypertension)	Fruit, veggies, low saturated and total fat	5.5-11.4mmHg (5.5 for normotensives 11.4 for hypertensives)
Physical activity	Aerobic activity for 30-60mins/day, 3-5 days/week	5mmHg
Moderate alcohol consumption only	No more than 2 drinks per day (men) or 1 drink per day (women)	3mmHg (for 67% reduction from baseline of 3-6 drinks per day)

Hypertension

BP management delays the progression of CKD (reduces the GFR drop/year)



If Dennis's BP was consistently below target, his GFR loss per year would be reduced by 62%

Blood pressure lowering in CKD - summary

BP lowering may result in similar relative risk reductions for CV events compared to the general population

Absolute risks are higher in CKD therefore absolute benefits are greater, and numbers needed to treat are lower

RAS blockade is a sensible first line therapy due to the likely renal benefits, especially in proteinuric patients

Combined therapy of ACE inhibitor and ARB is not recommended except with specialist advice

Lifestyle changes have considerable benefits and underpin all management strategies

Case Study - Dennis

*You prescribe Dennis an ACE inhibitor, start him on metformin (titrated up to 1g bd) and make an appointment for him to see your PN to discuss further dietary changes and exercise plans
A follow-up appointment is scheduled for two months' time*



Case study - Dennis

Dennis returns for his follow up appointment

Investigations	1 st visit	1 month later
Fasting bloods		
BGL	9.0 mmol/L	7.0 mmol/L
	8.0% HbA1c	
K ⁺	4.2 mmol/L	4.2 mmol/L
Creatinine	165 µmol/L	183 µmol/L
eGFR	40 mL/min/1.73m ²	35 mL/min/1.73m ²
Total cholesterol	6.7 mmol/L	
HDL cholesterol	1.4 mmol/L	
LDL cholesterol	3.2 mmol/L	
Triglycerides	2.4 mmol/L	
Urine ACR (early morning)	22.6 mg/mmol	



You notice Dennis' eGFR has reduced since the last visit. Do you need to address this?

- a) Yes. Refer Dennis to a nephrologist.
- b) Not yet. His ACEi can cause a reversible reduction in GFR (25%). If GFR is stable within 2 months, continue medication.
- c) No. eGFR is not of concern until $<30\text{mL}/\text{min}/1.73\text{m}^2$



Question

You notice Dennis' eGFR has reduced since the last visit. Do you need to address this?

- a) Yes. Refer Dennis to a Nephrologist.
- b) Not yet. His ACEi can cause a reversible reduction in GFR (25%). If GFR is stable within 2 months, continue medication.
- c) No. eGFR is not of concern until $<30\text{mL}/\text{min}/1.73\text{m}^2$



Question

ACE or ARB use in CKD

- **Useful in addressing albuminuria**
- **Cause a reduction in glomerular blood flow – eGFR can decline when initiated**
- **Providing eGFR reduction is <25% within 2 months, continue.**
- **If >25% reduction, then cease**
- **Use caution if baseline K⁺ is ≥5.5 mmol/L as rises of around 0.5 are expected**
- **Don't use ACE + ARB unless on specialist advice.**

Case study - Dennis

Dennis' sugar levels are not at target...

Investigations	1 st visit	2 nd visit	3 months later
Fasting bloods			
BGL	9.0 mmol/L	7.0 mmol/L	
	8.0% HbA1c		7.4% HbA1c
K ⁺	4.2 mmol/L	4.3 mmol/L	4.9 mmol/L
Creatinine	165 µmol/L	183 µmol/L	170 µmol/L
eGFR	40 mL/min/1.73m ²	35 mL/min/1.73m ²	39 mL/min/1.73m ²
Total cholesterol	6.7 mmol/L		7.0 mmol/L
HDL cholesterol	1.4 mmol/L		1.0 mmol/L
LDL cholesterol	3.2 mmol/L		3.4 mmol/L
Triglycerides	2.4 mmol/L		2.6 mmol/L
Urine ACR (early morning)	22.6 mg/mmol		15.0 mg/mmol



After 8 months of dietary therapy Dennis' lipid results are not to target. Would he benefit from pharmacotherapy for his dyslipidaemia?

- a) Yes – there is strong evidence that lipid lowering in people with CKD will decrease the risk of atherosclerotic events
- b) No – there is no evidence that lipid lowering in people with CKD will decrease the risk of atherosclerotic events



Question

After 8 months of dietary therapy Dennis' lipid results are not to target. Would he benefit from pharmacotherapy for his dyslipidaemia?

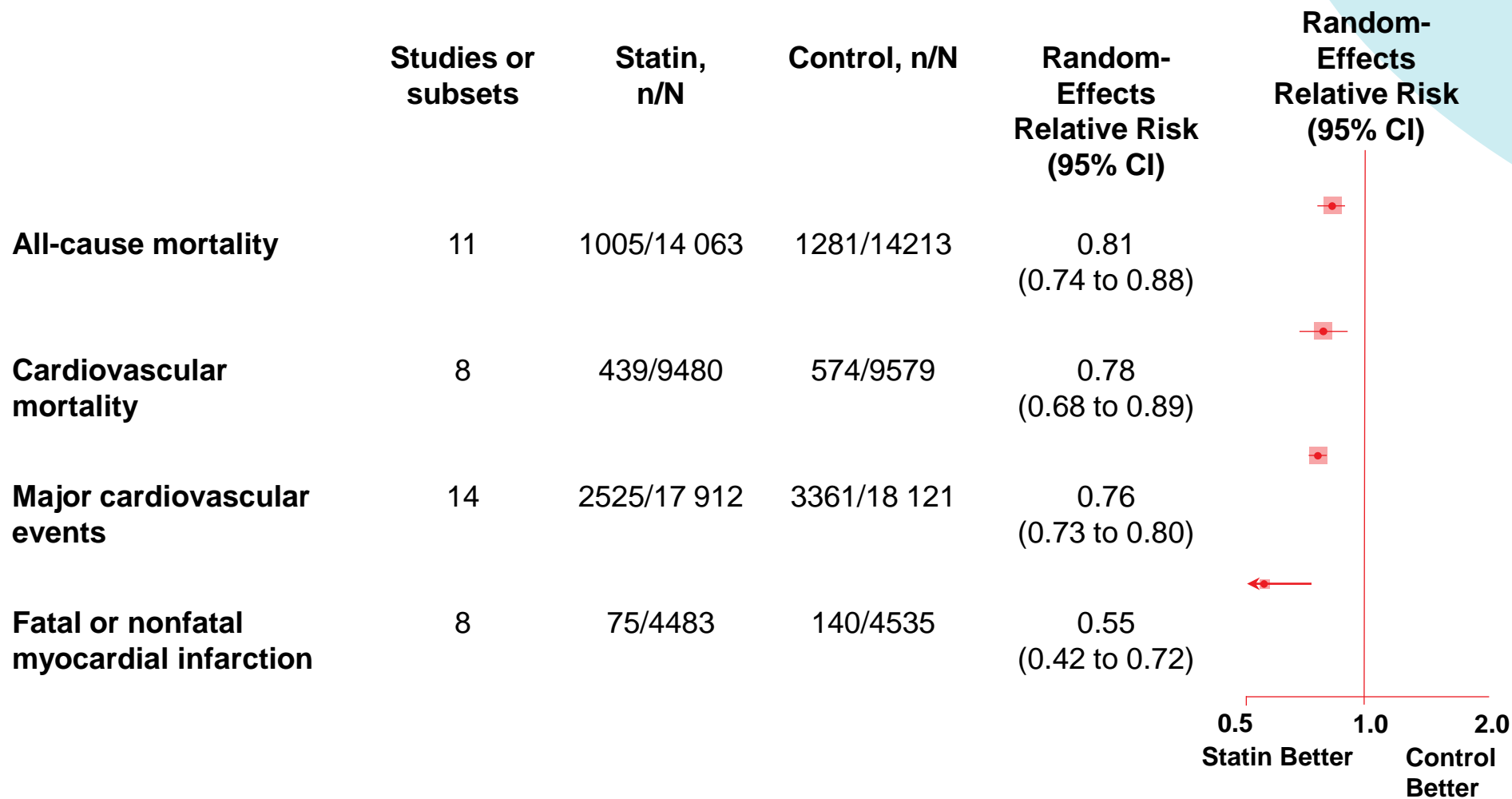
- a) Yes – there is strong evidence that lipid lowering in people with CKD will decrease the risk of atherosclerotic events
- b) No – there is no evidence that lipid lowering in people with CKD will decrease the risk of atherosclerotic events



Question

Drug therapy

Effect of statin therapy on outcomes for people with CKD, not on dialysis



Living CARI Guidelines: *Management of lipid lowering therapy in CKD*

STRONG recommendations

1. People with CKD (eGFR ≥ 15 ml/min/1.73m²) **and** an absolute CVD risk of $\geq 10\%$ should receive statin therapy (+/- ezetimibe)
2. Aboriginal & Torres Strait Islander Peoples & Māori with CKD (eGFR ≥ 15 ml/min/1.73m²) **and** an absolute CVD risk of $\geq 5\%$ should receive statins (+/- ezetimibe)

GOOD PRACTICE points

- Patients with CKD (eGFR ≥ 15 ml/min/1.73 m²) & albuminuria or primary hypercholesterolaemia should receive statins (+/- ezetimibe)
- ***Ensure that patients and their carer/family know the effects that statin therapy +/- ezetimibe has in preventing CVD events and death.***

Case study - Dennis

- You reinforce Dennis' dietary efforts
- Reassure Dennis that cholesterol lowering treatment is generally well tolerated in CKD
- Recommend commencement of medication



After a discussion with Dennis, you suggest he should begin an additional hypoglycaemic medication. Which would you choose?

- a) Sulfonylurea
- b) SGLT2i
- c) DPP4i
- d) GLP1-RA



Question

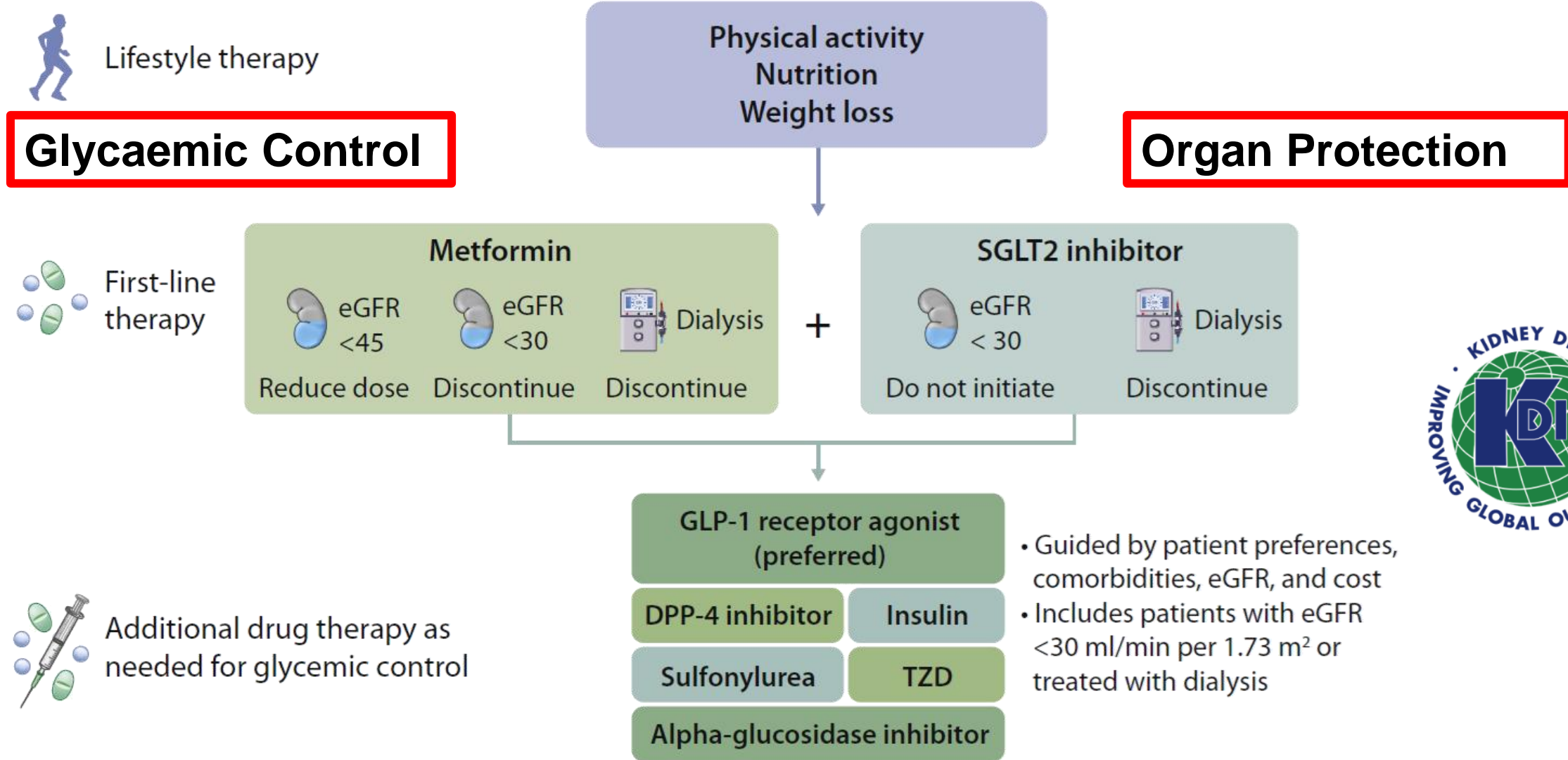
After a discussion with Dennis, you suggest he should begin an additional hypoglycaemic medication. Which would you choose?

- a) Sulfonylurea
- b) SGLT2i
- c) DPP4i
- d) GLP1-RA



Answer

Diabetes management in CKD



Commonly used Diabetes medications

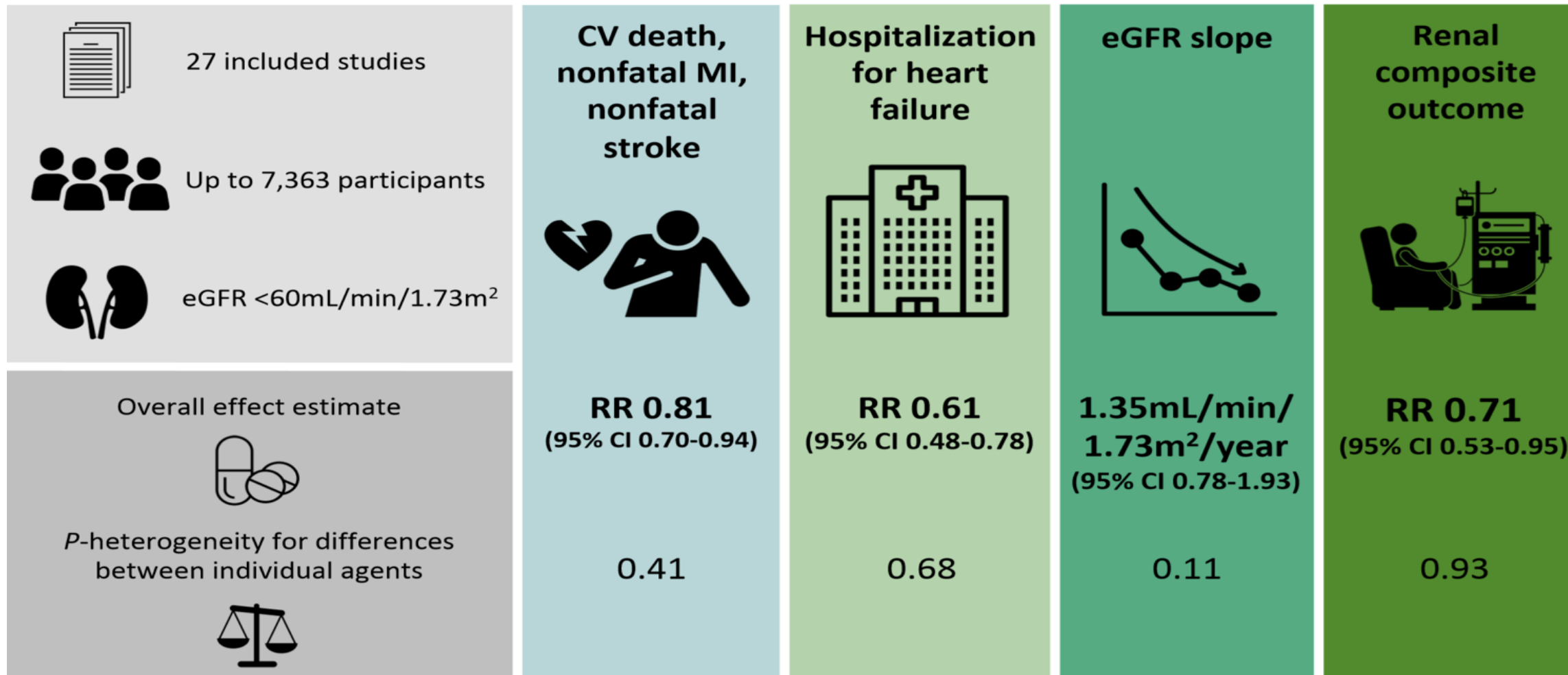
Medication Class	CKD Dosing	Comments
Metformin	<ul style="list-style-type: none"> Reduce dose (eGFR 30-60) Contraindicated (eGFR <30) 	<ul style="list-style-type: none"> Should temporarily stop during periods of illness
SGLT2 inhibitors	<ul style="list-style-type: none"> Efficacy decreases, thus contraindication with moderate renal impairment contraindicated for eGFR <30 or eGFR 45 depending on agent 	<ul style="list-style-type: none"> Recent evidence shows significant renal and cardiovascular benefits for SGLT2 inhibitors (CREDENCE, CANVAS, EMP-REG studies) Possible side effects of UTI and euglycaemic diabetic ketoacidosis
Gliptins (DPP4-inhibitors)	<ul style="list-style-type: none"> Safe with dose adjustment (no dose adjustment for linagliptin) 	
Sulfonylurea	<ul style="list-style-type: none"> Dose reduction required at eGFR <30 	<ul style="list-style-type: none"> Hypoglycaemia risk increases as eGFR declines. Avoid glibenclamide if eGFR <60
GLP-1 receptor agonist	<ul style="list-style-type: none"> Some contraindicated (eGFR<30) Others not recommended eGFR <15 	<ul style="list-style-type: none"> Potential cardiovascular benefits
Insulin	<ul style="list-style-type: none"> Normal doses titrated to blood sugar level 	<ul style="list-style-type: none"> As eGFR declines risk of hypo increases

Effect of SGLT2 inhibitors on cardiovascular, renal and safety outcomes in patients with type 2 diabetes mellitus and chronic kidney disease: a systematic review and meta-analysis

Toyama & Neuen et al.

Diabetes, Obesity and Metabolism doi: 10.1111/dom.13648

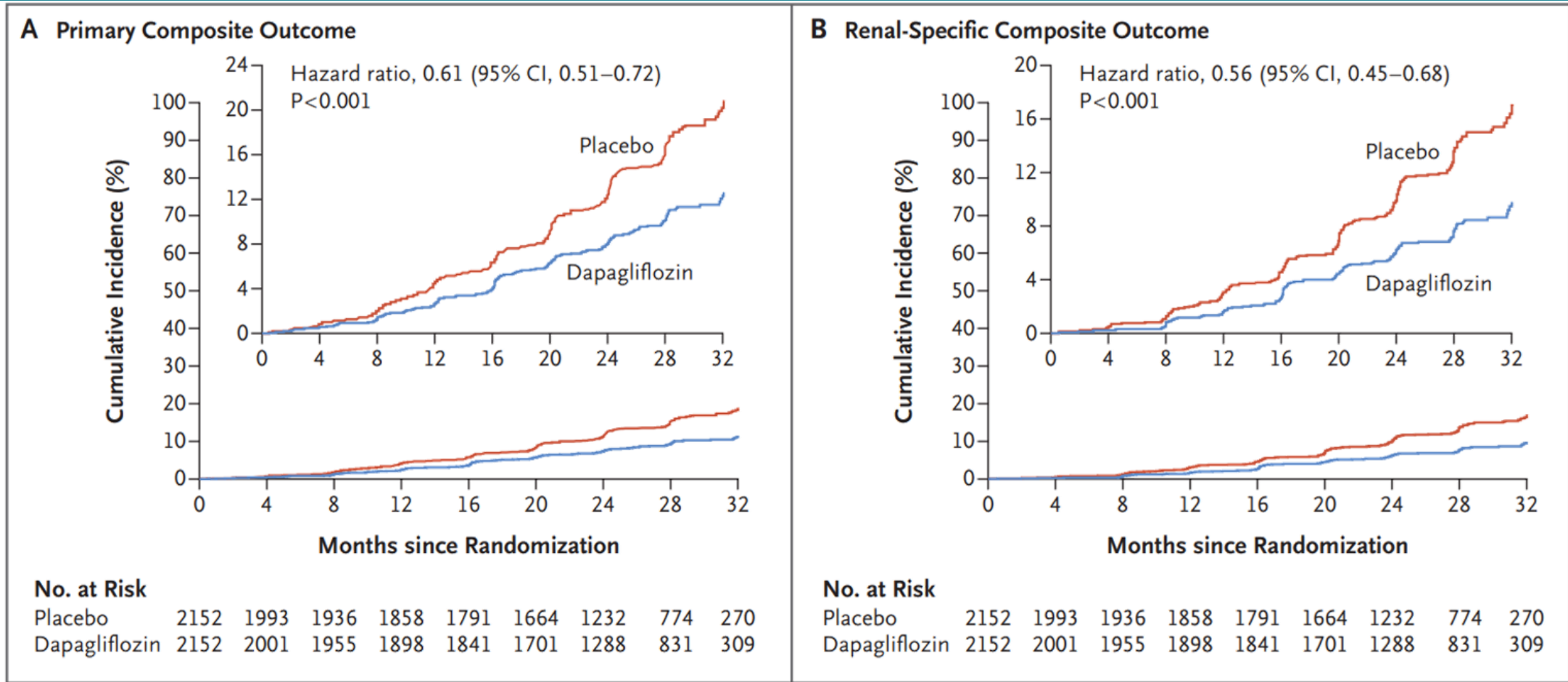
 @brendonneuen



Conclusion: SGLT2 inhibitors reduce the risk of cardio-renal outcomes in patients with T2DM and CKD, without clear evidence of additional safety concerns beyond those already known for the class

DAPA-CKD

Dapagliflozin is now TGA indicated to reduce the risk of progressive decline in kidney function in patients with CKD in stages 2 - 4 & macroalbuminuria



After starting an SGLT2i, Dennis' eGFR decreases to 32 (creatinine 200 μ mol/L)

Should you stop the medicine?

- a) Yes
- b) No
- c) Maybe



Question

After starting an SGLT2i, Dennis' eGFR decreases to 32 (creatinine 200 μ mol/L)

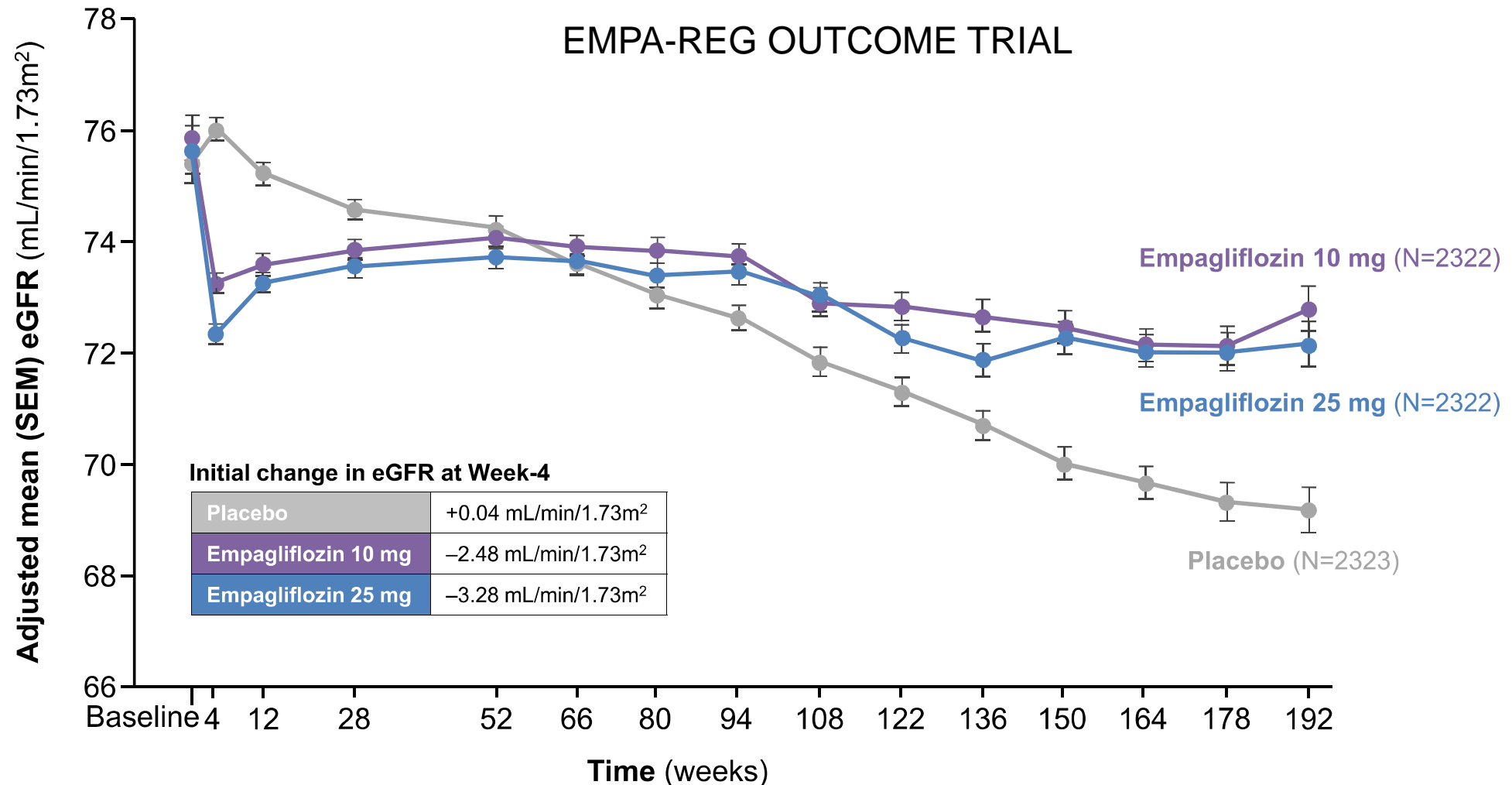
Should you stop the medicine?

- a) Yes
- b) No
- c) Maybe



Answer

SGLT2 inhibitors and eGFR



Source: J Am Soc Nephrol 28: 1023–1039, 2017. doi: 10.1681/ASN.2016060666. Adapted from Wanner et al. NEJM 2016

Not to be reproduced without permission from Kidney Health Australia

SGLT2i and eGFR

SGLT2i cause predictable reduction in eGFR

- Tolerate up to 30% decrease

Due to changes in glomerular haemodynamics

A drop of >30% maybe associated with increased risk for AKI

If eGFR drops further assess for other causes

As part of your 'whole of person' approach to CKD, you decide it would be good to re-visit Dennis' mental health. Which of the following are common in CKD?

(select multiple answers)

- a) Depression
- b) Cognitive decline
- c) Poor quality of life



Question

As part of your 'whole of person' approach to CKD, you decide it would be good to re-visit Dennis' mental health. Which of the following are common in CKD?

(select multiple answers)

- ✓ Depression
- ✓ Cognitive decline
- ✓ Poor quality of life



Question

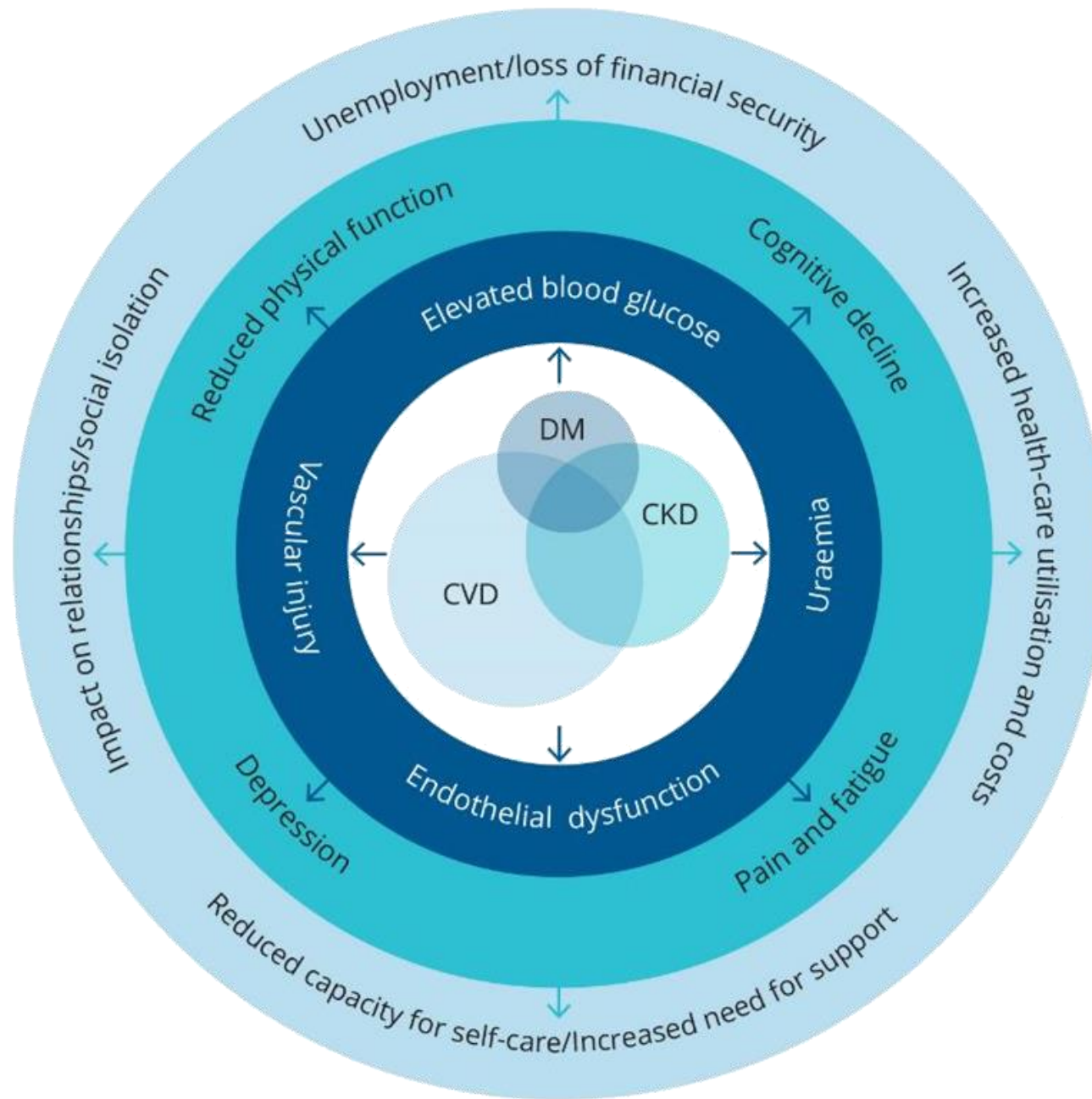
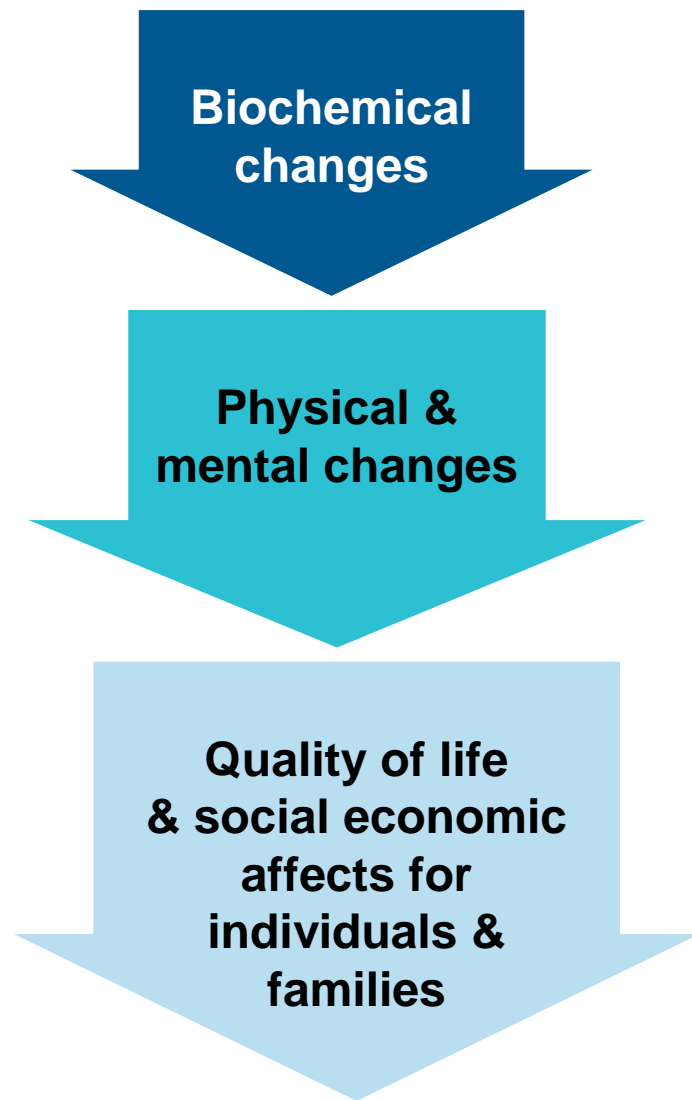
Case study - Dennis

Dennis' DASS-21 score

Measure	12 month's ago	Today's visit
Depression	5	9
Anxiety	4	7
Stress	8	12

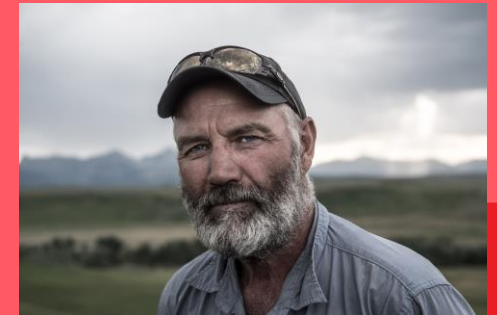


The ripple effect



What's next for Dennis?

Please type your responses in the **public chat box**



Question

Best practice CKD management

Orange clinical action plan

Dennis has CKD stage 3b, therefore you follow the Orange Clinical Action Plan as part of his CKD management plan.



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.
- +

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)

Who needs a Nephrologist ?

Nephrology referral recommended

eGFR <30 mL/min/1.73m²
(Stage 4 or 5 CKD of any cause).

Persistent significant albuminuria
(urine ACR ≥30 mg/mmol).

A **sustained decrease** in **eGFR** of 25% or more within 12 months OR a sustained decrease in eGFR of 15 mL/min/1.73m² per year.

CKD with hypertension that is hard to get to target despite **at least three anti-hypertensive agents**.

Referral not necessary*

Stable eGFR ≥30 mL/min/1.73m².

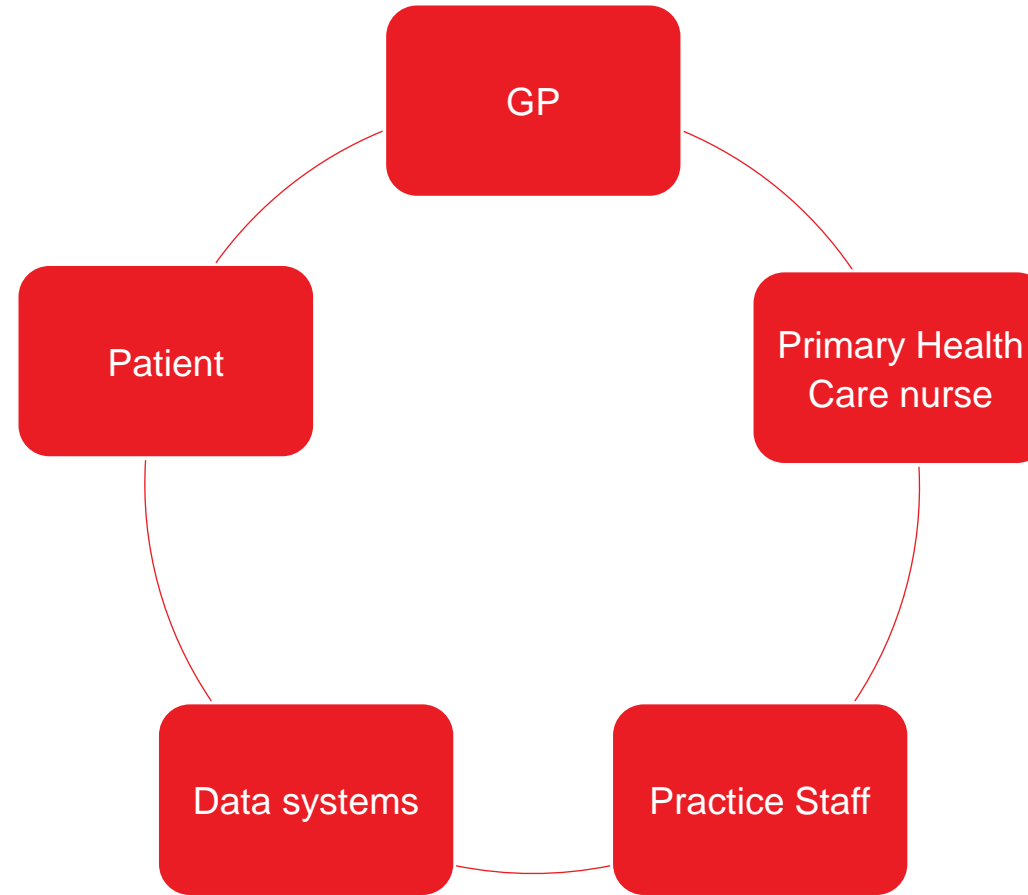
Urine ACR <30 mg/mmol
(with no haematuria).

Controlled blood pressure.

* The decision to refer should always be **individualised**, particularly in younger patients.

Whole of practice approach to CKD...

- Role of each GP and Practice Nurse
- MBS Item Numbers
- Patient-led Behavioural changes and Lifestyle Management



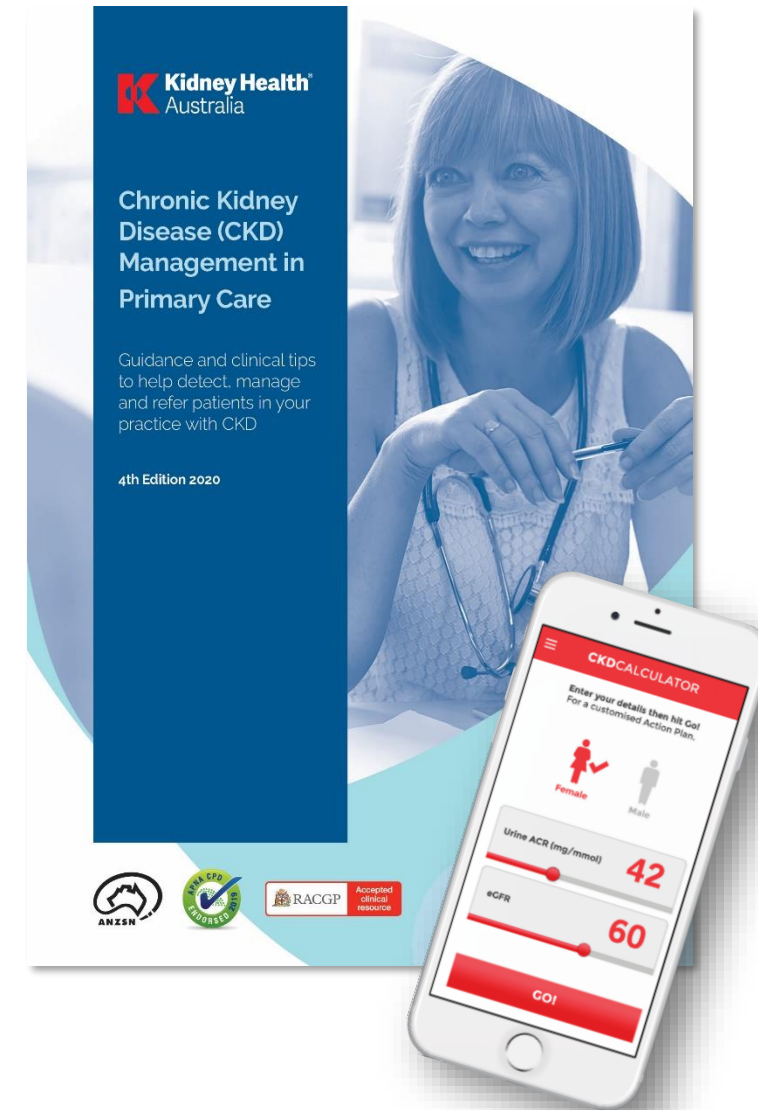
How can I get the new 4th edition handbook?

Download a free digital copy at www.kidney.org.au/health-professionals

Buy a hardcopy (\$15) from www.kidney.org.au/shop

CKD-GO! App

can be downloaded for FREE on the iPhone & Android app stores



Addressing CKD in your practice

- Integrated care and Management plans
- Use CKD handbook to guide care
- Use your practice data to identify patients with risk factors
- Code CKD stage and underlying causes in your practice software
- Implement a register & recall system to actively screen patients
- Support and assist patients in managing CKD
 - Refer to Kidney Health Australia 1800 454 363 / kidney.org.au



Patient resources

Your Kidney Connection

A newsletter from
Kidney Health Australia
Connect with us
[www.kidney.org.au/
subscribe](http://www.kidney.org.au/subscribe)



Kidney Helpline

Free call information service

Kidney questions?

Information or advice?

Contact 1800 454 363

kidneyhelpline@kidney.org.au

Fact sheet

Make the Link: Chronic Kidney Disease, Diabetes and Cardiovascular Disease

Chronic kidney disease (CKD), diabetes and cardiovascular disease are harmful chronic diseases that commonly occur together. These three conditions share causes and risk factors. They also have similar treatment strategies.

What is CKD?

CKD is a condition where your kidneys no longer filter the body's blood as well as they should. This leads to the build-up of waste in your blood.

Inside each kidney there are about one million tiny filters called nephrons that filter the blood and separate out excess water and waste products – which then leave the



Factsheets

Take home messages

- Lifestyle management
- Psychosocial support
- Coding of CKD in medical software
- Blood Pressure target
- Glycaemic control
- Consider SGLT2i
- RAAS blockade
- Medication review (dose adjustment according to eGFR)
- GP management plan

Messages from the report



CKD rarely occurs in isolation and frequently occurs alongside **diabetes** and **cardiovascular disease**.

29%

of Australian adults are affected by **one or more** of CKD, Diabetes and CVD.



The most **disadvantaged Australians** experience a disproportionate burden of CKD, diabetes and cardiovascular disease and a **higher rate** of comorbidity of these conditions.



Over **one-third** of **Aboriginal and Torres Strait Islander peoples** have one or more of CKD, diabetes or cardiovascular disease. These conditions occur at a **younger** age and progress **faster** than in non-indigenous individuals.

**Download the report
and
report summary
kidney.org.au**

1 in 3

hospitalisations involve diabetes, cardiovascular disease and/or CKD (including dialysis).



Psychosocial factors – **depression, quality of life, cognitive impairment** – have complex and multidirectional associations with CKD, diabetes and cardiovascular disease.



Depression is highly prevalent in persons with CKD, diabetes and cardiovascular disease.

Over to you....

*Please type your
questions in the*

Q&A box





Kidney Health GP Champions

www.kidney.org.au/health-professionals/gp-champions

Thank you

Thank you for participating in the webinar!

1. **Complete the evaluation** form emailed to you (link provided in Zoom chat box now)
2. **Download** your copy of the CKD Management in Primary Care 4th edition handbook www.kidney.org.au
3. **Download** your copy of the Kidney Health Australia Evidence report 2021 www.kidney.org.au
4. **Follow Kidney Health Australia** on Facebook, LinkedIn and Twitter

kidney.org.au