Key Takeaways – SME Chat CKD

What is CKD

Chronic Kidney Disease (CKD) is defined as either:

- an estimated or measured glomerular filtration rate (GFR) < 60 mL/min/1.73m^2 that is present for ≥ 3 months.
- estimated GFR ≥ 60 mL/min/1.73 m2 and the presence of one or more of the following features for ≥ 3 months:
    - Albuminuria
    - Haematuria after exclusion of urological causes
    - Structural abnormalities (e.g., on kidney imaging tests)
    - Pathological abnormalities (e.g., renal biopsy)

CKD is common, affecting up to 10% of patients attending general practice. The risk of death from cardiovascular disease is about 20 times higher than the risk of requiring dialysis or transplantation. Early CKD is usually asymptomatic:

- Up to 90% of kidney function may be lost before symptoms are present.
- Monitoring at-risk patients helps to make an early diagnosis.

Supporting WQ HealthPathways:

- Chronic Kidney Disease (CKD)
- Advanced and End-stage Kidney Disease
- Nephrology Requests

SME

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Topics Covered

Burden of Chronic Kidney Disease (CKD)

- CKD prevalence is increasing worldwide. Rates in Australia, the USA, China (10–14%), and Japan highlight the global magnitude of the problem.
- Most people with early CKD (Stages 1–3) are unaware they have the disease due to lack of symptoms. Less than 10% of people in early stages recognise they have CKD.
- By Stage 4, awareness improves but by then the disease is advanced and progression to Stage 5 often occurs rapidly despite intervention.

CKD in Australia

- Data (noting some slides were older) show over **500,000 Australians** at CKD Stage 3 and more than **1 million at risk**.
- Nephrologist workforce is limited: ~479 nephrologists in 2016; the 2023 global assessment estimated ~600 in Australia (23 nephrologists per million population), with upcoming retirements worsening shortages.
- This reality means **primary care must be the frontline** for early detection, prevention, and treatment.

Why Early Detection Matters

- CKD is silent until late. Patients often feel well and are shocked when told their GFR is low.
- Diagnosis requires abnormalities persisting for **more than 3 months**.
- CKD staging must be interpreted alongside **albuminuria categories**, as albuminuria is a major predictor of risk.
- CKD Stage 1 **with significant proteinuria** can have a **higher risk** of progression than CKD Stage 3 with minimal proteinuria.

Progression and Prognosis

- Without treatment, median time to kidney failure can be ~7 years.
- Early intervention (BP control, proteinuria reduction, diabetes management, SGLT2 inhibitors) can delay progression significantly.
- ESRD prognosis is poor: 5-year survival on dialysis is <50%, worse than several cancers.
- Cardiovascular mortality is disproportionately high across all CKD stages and in dialysis patients, even in young adults.

Newer Kidney-Protective Drugs

Focus of the session: **SGLT2 inhibitors, GLP-1 receptor agonists, and non-steroidal mineralocorticoid receptor antagonists (ns-MRAs)**.

1. SGLT2 Inhibitors (e.g., Dapagliflozin, Empagliflozin)

- Benefit: **Strongest renal-protective effect**, independent of blood glucose lowering.
- Useful in **diabetic and non-diabetic CKD**.
- PBS threshold commonly: **eGFR ≥25 mL/min**.
- Reduces kidney failure risk by ~38%.
- Cautions:
- History of genital infections
- Previous lower-limb amputation
- Acute illness, starvation states
- eGFR <25

2. GLP-1 Receptor Agonists (e.g., Ozempic, Trulicity)

- Benefit: **Cardiometabolic protection** (weight loss, CV benefit).
- May be added when patients are overweight, have ASCVD, or need better glycaemic control.
- Use with caution when eGFR <30.
- Contra/caution:
- History of pancreatitis (relative—not absolute—contraindication; consider cause)
- Medullary thyroid carcinoma or MEN-2
- GI side effects can cause dehydration → AKI

3. ns-MRAs (e.g., Finerenone – Kerendia)

- Useful in diabetic kidney disease and heart failure.
- eGFR threshold around ≥25.
- **Using Them in Combination**
- Evidence strongly supports combining **SGLT2 inhibitor + GLP-1 agonist** for maximal kidney and cardiovascular protection.
- BUT PBS restrictions generally **prevent combination** in non-Indigenous prescribing.
- In Aboriginal Community Controlled Health Services (ACCHS), S100 provisions allow **more flexibility** in accessing these medicines together.

Challenges in Remote and Aboriginal Communities

Dr Vogelpoel's Observations

- High burden of early renal disease: many patients have Stage 1–2 CKD and albuminuria.
- Causes: diabetes, smoking, hypertension, IgA nephropathy, poor nutrition and housing.
- Health literacy barriers:
    - Beliefs such as "home brew protects kidneys"
    - Fear of dialysis ("If you see the doctor, you'll end up on dialysis")
- Logistical issues:
    - Unreliable access to fridges → insulin difficult

- Difficulties attending clinics or telehealth
- Too many nephrology services are directed toward **end-stage management**, leaving **early CKD under-supported**.
- Long waitlists mean early CKD patients may not be prioritised.

Erica West's Observations

- Comorbidities and limited follow-up lead to missed opportunities for early intervention.
- Young patients often show signs of CKD in adolescence but progress undetected until much later.

CKD Management Discussion

Use of SGLT2 inhibitors in CKD when results are not current

- Ideally, clinicians should review *recent* pathology results before initiating SGLT2 inhibitors.
- However, in remote practice, patients often do not return promptly, or tests may be several months old.
- The SME (Dr Thin Han) advised that if an eGFR taken **within the last ~3 months** is **≥20–25**, it is reasonable to initiate an SGLT2 inhibitor rather than delaying treatment.
- Current clinical practice and guidelines have progressively lowered the acceptable eGFR threshold as evidence grows.
- Earlier initiation offers earlier renal protection and may prevent further decline.

Mechanism of eGFR 'dip' after starting SGLT2 inhibitors

- SGLT2 inhibitors cause an **expected early drop in eGFR** (usually 3–5 mL/min in the first 4 weeks).
- This occurs because of **tubuloglomerular feedback**, resulting in **afferent vasoconstriction** and reduced intraglomerular pressure.
- This mirrors the initial dip seen with ACE inhibitors/ARBs.
- Guidance:
- A **drop >30% from baseline** should prompt holding the medication.
- Assess hydration status and concurrent diuretics.
- Rehydrate and consider re-trial when stable.
- eGFR generally **returns to baseline over 8–12 weeks**.

Monitoring after initiation

- If possible, repeat pathology **2–4 weeks** after starting therapy, especially if baseline eGFR was close to threshold or the patient is frail, dehydrated, or on diuretics.
- Practical reality in rural settings may require flexible approaches, prioritising prevention over perfect monitoring.

CKD prevention vs late-stage management

- Many GPs report feeling overwhelmed by CKD given complexity and limited access to specialist follow-up.
- However, when "broken down," the early-stage management pathway is simple and relies on a few high-value interventions:
- **Blood pressure control** (target 130/80).
- **ACE/ARB** for albuminuria.
- **SGLT2 inhibitor** for renal protection regardless of diabetes.

- **GLP-1 RA** where weight loss or cardiovascular protection is needed.
- Dr Vogelpoel noted there is often *much discussion about dialysis and end-stage CKD*, but less emphasis on **prevention and early intervention**, which is where primary care can make the greatest impact.

Closing remarks from SME

- **Primary care is essential** in early CKD detection and prevention due to specialist shortages.
- Combination therapy (SGLT2 + GLP-1) is highly effective but hindered by PBS rules, except in S100 settings.
- Focus must shift to **earlier screening**, especially in Aboriginal communities where CKD starts younger and progresses faster.
- Effective early management (BP control, albuminuria reduction, smoking cessation, new reno-protective drugs) can significantly delay or prevent ESRD.
- Improving health literacy and face-to-face care in remote communities is critical.
- New pharmacotherapies offer meaningful **delays in CKD progression**, even if patients only use them for a limited time.
- Even a **12-month delay in dialysis** has significant benefits for patients, families, and the health system.
- Specialist capacity cannot meet the growing CKD burden, so **early detection and GP-led intervention** are essential.
- The SME expressed appreciation for the quality of rural GP services and encouraged ongoing collaboration between primary care and renal specialists.