



In 2010, there were more than 280,000 Australians living with diabetic kidney disease – a number that is likely to escalate as the population ages and the prevalence of diabetes increases.

In patients with type 2 diabetes, CKD can accelerate the complications often associated with diabetes, including nerve and eye damage and cardiovascular disease, while poor glycaemic control can in turn accelerate the progression of kidney disease.

Patients with diabetic kidney disease suffer cardiovascular events at more than twice the rate of those with diabetes alone. Relative to healthy individuals, patients with diabetic kidney disease have a 79% increased risk of congestive heart failure, a 41% increased risk of atherosclerotic vascular disease, and a 56% increased risk of death.

Annual Kidney Function Screening

With the overwhelming majority of CKD patients in stages one to four, where the condition is generally asymptomatic, a large proportion of these people remain undiagnosed.

CKD often becomes apparent only in its later stages when up to 90% of kidney function has been lost and the complications associated with both the loss of kidney function and poor glycaemic control are more pronounced. At this point preventative therapy is often redundant.

Poor diagnosis of kidney disease in the absence of a national screening program for people with type 2 diabetes has high cost consequences in terms of the impact on patients' quality of life, health care resources and the economy in general.

Alternately, annual screening of kidney function in

patients with type 2 diabetes would allow for treatment to be initiated to reduce the progression of CKD, reduce health care costs and improve patient outcomes.

While anti-diabetic medications that improve glycaemic control form an essential role in treating patients with type 2 diabetes, the Report also highlights that not all anti-diabetic treatments are appropriate for patients with or at risk of developing CKD.

This is due to the decreased clearance of certain drugs through the kidneys and as a result, the prolonged exposure to the drug or its metabolites which may lead to adverse side effects.

The Cost Burden of Diabetic Kidney Disease

The annual cost of diabetic kidney disease to the Australian health care system is estimated at \$466.8 million. This includes the cost of hospital services, out of hospital medical services (including general practitioners, specialists, imaging and pathology), pharmaceuticals, and the services of other health professionals. A further \$208 million is consumed by indirect costs and loss of productivity.

The health care cost associated with diabetic kidney disease is forecast to increase to more than \$682 million by 2015-16, and to more than \$914 million by 2020-21, based on the expected rise in the number of people with end-stage kidney disease (ESKD) and the increase in the cost of delivering health care service.



Total Cost of CKD in people with type 2 diabetes, 2009-10

Cost \$ (million)

Health care costs

466.8

Indirect economic loss

208.0

Productivity loss

65.8

Informal carer costs

38.9

Transport costs

3.5

Deadweight loss

99.8

Total - Health care costs and indirect economic loss

674.8

The annual cost of caring for each patient with advanced kidney disease is estimated to be \$74,000 or three times the cost of a heart attack survivor.

The greatest cost burden associated with kidney disease is incurred at the later stages when Renal Replacement Therapy (kidney dialysis and transplantation) is required.

The management of diabetes over the long term must recognise and reflect that the condition often coexists with and accelerates the progression of kidney disease and other complications.

Cost Effectiveness of CKD Screening

Although some patients with type 2 diabetes are routinely screened by their general practitioner to assess their level of kidney function, there is no systematic CKD screening program in Australia. This has large cost consequences through low rates of early diagnosis and the associated loss of quality of life and increased health care expenditure that accompanies later stages of the condition.

The cost of testing the kidney function of Australians aged 50-69 years with type 2 diabetes and subsequent ARB (angiotensin receptor blocker) or ACE Inhibitor (angiotensin-converting enzyme) therapy for those with confirmed CKD would be \$73.8 million in year one and was estimated to result in 14,485 years of healthy life gained, 1,811 lives saved and 1,358 fewer people requiring Renal Replacement Therapy due to patients avoiding end-stage kidney disease.

For a subsequent cost of \$7.7 million per annum, to screen and treat new patients with type 2 diabetes in this age bracket, 190 lives could be saved and 1,516 years of healthy life gained.

Australians with type 2 diabetes aged between 50-69 years should have their kidney function tested annually as a preventative measure to assist with delaying / reducing kidney function decline and to address the medical and economic burden associated with the progression of both chronic kidney disease and type 2 diabetes.

A kidney health test is as simple as a urine test followed by a blood test for those with excess protein in their urine sample.

The Two of a KinD Report was produced by Deloitte Access Economics for Kidney Health Australia following an unconditional education grant from Boehringer Ingelheim.

The full Report can be viewed at: www.kidney.org.au