

Kidney Health Check: Promoting the Early Detection & Management of Chronic Kidney Disease

Document Number PD2010_023

Publication date 15-Apr-2010

Functional Sub group Clinical/ Patient Services - Aged Care
Clinical/ Patient Services - Medical Treatment
Clinical/ Patient Services - Critical care

Summary This policy directive outlines a new approach to the early detection and management of chronic kidney disease to prevent progression to end stage kidney disease. It involves opportunistic screening using the Kidney Health Check in order to identify risk of chronic kidney disease, and will target high-risk individuals in hospital settings.

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Applies to Area Health Services/Chief Executive Governed Statutory Health Corporation, Board Governed Statutory Health Corporations, Affiliated Health Organisations, Affiliated Health Organisations - Declared, Public Hospitals

Audience Managers and clinicians

Distributed to Public Health System, Divisions of General Practice, Ministry of Health, Private Hospitals and Day Procedure Centres

Review date 15-Apr-2015

Policy Manual Patient Matters

File No. 09/5492

Status Active

Director-General

This Policy Directive may be varied, withdrawn or replaced at any time. Compliance with this directive is **mandatory** for NSW Health and is a condition of subsidy for public health organisations.

KIDNEY HEALTH CHECK: PROMOTING THE EARLY DETECTION AND MANAGEMENT OF CHRONIC KIDNEY DISEASE

PURPOSE

This policy directive promotes the early detection and management of chronic kidney disease. It aims to optimise existing contacts with at risk patients in hospital settings in order to prevent progression to end stage kidney disease. The screening tool described is the *Kidney Health Check*. If disease is detected, a primary care referral will be made, highlighting the importance of treating the condition in order to encourage remission and regression of the disease.

MANDATORY REQUIREMENTS

Area Health Services are to develop and implement a framework to screen for chronic kidney disease which consists of three steps:

1. **Identification of High Risk Patients** – risk factors are listed in section 2 step 1 of the attached Kidney Health Check procedures;
2. **Kidney Health Check** - assessment of urinalysis, blood pressure and an estimated measure of glomerular filtration rate (section 2 step 2); and
3. **Follow Up** - a referral is to be made to the patient’s General Practitioner or Nurse Practitioner if any one of these tests yields abnormal results (section 3).

IMPLEMENTATION

Chief Executives of Area Health Services are responsible for implementing this Policy Directive and must ensure:

- Local policies and procedures are developed for clinical care establishing standards of practice;
- Staff education and training programs are in place to support the implementation of the Kidney Health Check; and
- An evaluation framework is in place to assess that the Kidney Health Check has been implemented and that the target group has been identified, screened using the Kidney Health Check, and followed up appropriately.

The Clinical Excellence Commission will conduct a longer term evaluation of the Policy Directive at a state level.

REVISION HISTORY

Version	Approved by	Amendment notes
April 2010 (PD2010_023)	DDG	New policy

ATTACHMENTS

1. Kidney Health Check- Procedures

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1 BACKGROUND

Chronic kidney disease (CKD) is defined as the occurrence of kidney damage or decreased kidney function (decreased glomerular filtration rate) for a period of three or more months¹.

CKD is responsible for a substantial burden of illness and premature death with:

- 1 in 3 Australians at risk of developing the disease²;
- 1 in 7 Australians over the age of 25 years having at least one clinical indicator of existing CKD²;
- the disease being the 7th leading cause of death²;
- CKD being a preventable and treatable condition. Once the disease is diagnosed and treatment implemented, the progression to end-stage renal failure can be reduced by up to 50%³; and
- proteinuria, which is a clinical marker for CKD, also indicative of an increased risk of cardiovascular disease⁴.

Early detection of CKD is the key to both the prevention and the slowing of the progression of the disease.

The purpose of this policy directive is to provide a framework to identify those who have or are at high-risk of developing CKD and for the implementation of timely treatment in order to prevent the progression to end-stage kidney disease. In turn, this will raise awareness of CKD for staff and the public and reduce the burden of disease associated with kidney disease in the NSW population. It will be the responsibility of each Area Health Service to develop and implement a framework for the program.

Area Health Services should have in place systems to screen patients in high-risk categories as identified by Kidney Health Australia by conducting the **Kidney Health Check**. This system of screening should, in the first instance, be implemented within all high-risk inpatient units in hospital settings.

The application of this policy to a broader range of clinical settings should be considered subject to evaluation within the hospital setting.

2 CHRONIC KIDNEY DISEASE SCREENING

The following process is summarised as a simple algorithm in Appendix 1.

Step 1- Identification of high-risk patients

Patients who have not previously been diagnosed with chronic kidney disease should undergo the Kidney Health Check if they have one or more of the following features:

- cardiovascular disease;
- diabetes;
- Aboriginal and Torres Strait Islander peoples;
- tobacco smokers.
- obesity;
- hypertension;
- aged over 50 years; and
- a family history of kidney disease;

Step 2 - Kidney Health Check

Area Health Services will implement the Kidney Health Check in high-risk inpatient groups such as cardiology, cardiovascular, general medicine, endocrine, stroke, rehabilitation, geriatric medicine and maternity units, and include patients undergoing cardiac surgery and vascular surgery. Over time, it would be expected that the practice is expanded to other areas of the health service including high-risk outpatient clinics and Emergency Departments.

Patients identified as being at high risk for CKD should undergo the Kidney Health Check, as described below. All three tests, that is, assessment of urinalysis, blood pressure and an estimated measure of glomerular filtration rate must be conducted to constitute a Kidney Health Check.

- **Urinalysis (“Dip Stick”)**

Proteinuria has been demonstrated to be an independent risk factor for progression of renal disease. Microalbuminuria is a predictor of progressive renal disease in diabetes.

Patient without diabetes	Test for protein	Abnormal > 30mg/dL
Patient with diabetes	Test for albumin	Abnormal > 3mg/dL (albumin specific dipstick) ⁵

- **Blood pressure assessment**

Hypertension can contribute to the development of CKD.

Abnormal result	>140/ >90 mmHg ⁶
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- **Estimated Glomerular Filtration Rate (eGFR)**

The eGFR is considered to be an accurate measure of kidney function, although the test is not always accurate in all circumstances (for example, in patients who are obese, elderly or for Aboriginal or Torres Strait Islander peoples).

Abnormal result	< 60 mL/min/1.73m ²
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Clinicians should be mindful that proteinuria and haematuria may be clinical indications of a more rapidly deteriorating patient requiring immediate referral to a renal physician.

Step 3 - Follow Up

Should any of these results be abnormal, this suggests the possibility of CKD. A referral for ongoing assessment must be made, highlighting that re-testing is required to confirm a diagnosis.

The Kidney Health Check should be conducted no more frequently than twelve monthly in the absence of abnormal results.

3 IMPLEMENTATION

Area Health Services should implement the introduction of the Kidney Health Check and appropriate follow up arrangements in accordance with local policies and practices. Efforts to encourage compliance with recommended follow up arrangements should reflect the level of risk associated with non-compliance. This should include, but not be limited to:

- informing the patient of the need for follow up with their GP and/or Nurse Practitioner;
- referral to their GP and/or Nurse Practitioner for follow up; and
- provision of appropriate documentation for their GP and/or Nurse Practitioner and *written information* for the patient.

Sample letters for both the patient and the patient's GP and/or Nurse Practitioner are contained in Appendix 2 and 3.

It is anticipated that Area Health Services will develop an education program to support clinical staff to implement the Kidney Health Check. This could include an education program through Nurse Educators and Clinical Nurse Educators (so that education can be provided to staff of inpatient wards), through the established training/education sessions for junior medical staff and registrars, and through nurse practitioners in transitional positions.

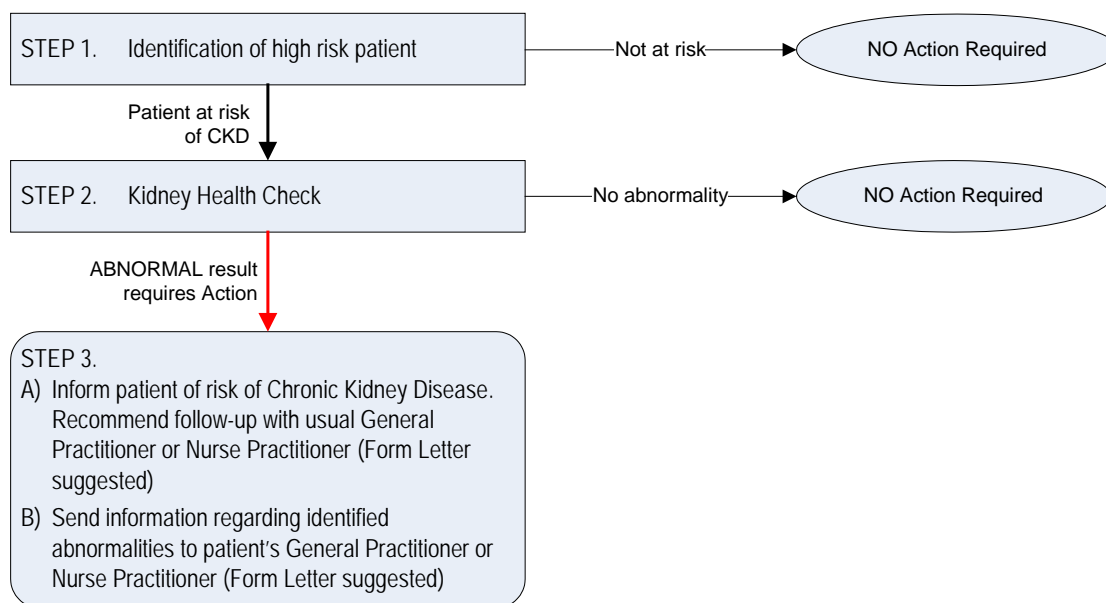
Area Health Services must implement an evaluation framework to assess that the Kidney Health Check has been implemented and patient care improved. The Clinical Excellence Commission will be undertaking a longer term evaluation of the outcome of the Policy Directive at a state level.

4 REFERENCES

- 1 Levey AS, Coresh J, Balk E, et al. National Kidney Foundation Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification, and Stratification. *Annals of Internal Medicine*. 2003; 139:137-149.
- 2 *National Chronic Kidney Disease Strategy*. Kidney Health Australia. Melbourne, 2006.
- 3 Hoy WE, Wang Z, Baker PR & Kelly AM. Reduction in natural death and renal failure from a systematic screening and treatment program in an Australian Aboriginal community. *Kidney International Suppl*. 2003; 83:S66–73.
- 4 Perkovic V, Verdon C, Ninomiya T, Barzi F, Cass A, et al. The relationship between proteinuria and coronary risk: A systematic review and meta-analysis. *PLoS Med*. 2008; 5(10): e207. doi:10.1371/journal.pmed.0050207
- 5 *Testing for Proteinuria*. The CARI Guidelines – Caring for Australians with Renal Impairment. Published October 2004.
- 6 National Heart Foundation of Australia (National Blood Pressure and Vascular Disease Advisory Committee). *Guide to Management of Hypertension 2008: Assessing and managing raised blood pressure*. Updated August 2009. http://www.heartfoundation.org.au/Professional_Information/Clinical_Practice/Hypertension/Pages/default.aspx
- 7 *Chronic Kidney Disease (CKD) Management in General Practice*. Kidney Health Australia. Melbourne, 2007.

APPENDIX 1: Algorithm for CKD screen

Algorithm for CKD screen



STEP 1:	STEP 2:
<p>High risk patients have 1 or more of the following risk factors:</p> <ol style="list-style-type: none"> 1. Cardiovascular Disease 2. Diabetes 3. Aboriginal and Torres Strait Islander peoples 4. Tobacco Smokers 5. Obesity 6. Hypertension 7. Age over 50 years 8. Family history of Kidney Disease 	<p>Kidney Health Check comprises:</p> <ol style="list-style-type: none"> I. Dipstick analysis for protein. > 30 mg/dL is abnormal II. Check Blood pressure. >140/ >90 mmHg is abnormal III. Check eGFR (estimated from serum creatinine). < 60 mL/min/1.73m² is abnormal

APPENDIX 2: Sample Letter Patients

APPENDIX 2: SAMPLE LETTER PATIENTS (Copy to GP or Nurse Practitioner)

Letter Head

[Name]
[Address]
[Suburb] [State] [Post Code]

Dear [Name]

During your hospital stay, routine screening showed that you may be at risk of developing early kidney disease. It is important that you are seen by your GP or nurse practitioner within 3 months so that a few simple tests can be redone to confirm if the condition is ongoing.

Chronic kidney disease often has no symptoms so regular screening of high-risk individuals is recommended. You may be at risk if you have one or more of the following features:

- a previous stroke
- heart disease
- high blood pressure
- a family history of kidney disease
- diabetes
- are of Aboriginal and Torres Strait Islander descent
- aged over 50 years
- obesity
- tobacco smokers.

The good news is that if kidney disease is found early, changes can be made to your lifestyle and/or medications can be prescribed to slow or stop the progression of the disease. If the condition is left untreated, the final outcome may be heart disease and/or end-stage kidney failure and premature death.

A letter has also been sent to your GP or Nurse Practitioner recommending that you are re-tested in 3 months and then annually. The testing, known as a Kidney Health Check, involves:

1. testing a urine sample for protein
2. taking your blood pressure to assess if it is within normal limits
3. taking a sample of blood to assess overall kidney function.

If you would like more information, please contact:

Name and position _____
Phone number _____

Please make an appointment with your GP or Nurse Practitioner 3 months after coming home from hospital for further testing.

Yours sincerely

[Name]

APPENDIX 3: Sample Letter to GP or Nurse Practitioner

APPENDIX 3: SAMPLE LETTER TO GP or NURSE PRACTITIONER

Letter Head

[Name]
[Address]
[Suburb] [State] [Post Code]

Dear [Name]

Re: (Insert patient identification sticker)

During (patient's name) recent hospital stay, he/she was screened for kidney disease. Clinical signs of the disease have been detected but diagnosis of the condition cannot be made until it is confirmed by further testing. *If you have already tested for chronic kidney disease within the last 12 months, then please disregard this letter.*

As you are aware, chronic kidney disease often has no symptoms. Regular screening of high-risk individuals through the **Kidney Health Check** is therefore recommended. Your patient was considered at-risk as they have one or more of the following features:

- cardiovascular disease
- hypertension
- family history of kidney disease
- Aboriginal and/or Torres Strait Islander origin
- diabetes
- aged over 50 years
- obesity
- tobacco smokers

A letter has been sent to your patient explaining that if chronic kidney disease is left untreated, the final outcome may be end-stage kidney failure whereby individuals require renal dialysis or a kidney transplant to avoid premature death.

What you need to do

Please repeat the **Kidney Health Check** within three months of your patient being discharged from hospital. This involves:

Procedure	Abnormal Results
STEP 1 Dipstick analysis for protein	Greater than 30 mg/dL
STEP 2 Check blood pressure	Greater than 140/90
STEP 3 Check eGFR (estimated from serum creatinine)	Less than 60mL/min

Kidney Health Australia's booklet on Chronic Kidney Disease (CKD) Management in General Practice (2007) contains information on screening and treatment protocols, and indications for referral to a Nephrologist. This can be accessed via the Kidney Health Australia website at <http://www.kidney.org.au/HealthProfessionals/PublicationsforHealthProfessionals/tabid/635/Default.aspx>

If you would like more information on the contents of this letter, please contact (Name and position) on (contact phone number).

Yours sincerely

[Name]