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Chronic kidney disease management in select NT Aboriginal Community Controlled Health Organisations

Analysis of de-identified Communicare Data 2004-2014

Acknowledgement

The statistical analysis of the data in this report was undertaken by Mark Chatfield and Paul Lawton. The narrative, compilation and editing of the report was undertaken by Gillian Gorham, with support from Alan Cass.

Contact details

Gillian Gorham
Research Program Manager
Wellbeing and Preventable Chronic Disease

Ph: 08 80468529 | M: 0409736550

Gillian.gorham@menzies.edu.au

Note: The term ‘Aboriginal’ is used in this Report to represent both Aboriginal and Torres Strait Islander people and is used interchangeably with ‘Indigenous’.

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Executive Summary

Menzies School of Health Research (Menzies) has compiled de-identified data relating to the screening, identification and management of people with chronic kidney disease at several collaborating Aboriginal Community Controlled Health Organisations (ACCHO) in the NT. The seven collaborating health services oversee care delivered by eleven primary health centres.

This report provides a high level analysis of de-identified clinical and outcome data extracted from the clinical information systems (Communicare) maintained by the eleven health centres. The health services are dispersed across the Territory and provide a good representation of primary health care delivered by ACCHOs in each region. This report follows more detailed reports provided to the individual health services on activity within their organisations. The analysis was primarily intended to be used as a supplementary tool to assist the services identify and understand potential gaps in screening, identification and monitoring of people with chronic kidney disease.

Several ACCHOs suggested a comparison between the health services would be of benefit. This report graphs the data from 2004-2014 for all contributing ACCHO health services as well as providing a comparative analysis between these services for the year 2014.

Key Findings

- Between 2004 and 2014, there was a 72% increase in the number of individuals with a documented chronic (CD) disease diagnosis.
- Since 2010, the rates of screening for kidney disease have remained relatively stable but have not kept pace with the rising number of people with a chronic disease.
- In 2014 approximately 4,200 people with a CKD risk factor were unscreened (neither eGFR or UACR).
- Screening for kidney disease in diabetics (high risk group) according to recommended guidelines, was 32% in 2014.
- Documented diagnosis of kidney disease improved substantially over the 10 years.
- More than 90% of people with CKD stage 4/5 and nearly 80% of people with CKD stage 3 had a kidney disease diagnosis in the data set in 2014.
- Over the 10 years, a substantial increase in the number of people identified with CKD stage 3, 4 and 5 (to more than 1000 in 2014) is evident.
- High rates of monitoring of CKD patients are evident with at least one blood pressure measurement (82%) or HbA1c (65%) in the data set in 2014.
- Of these, approximately 40% of CKD patients achieved a systolic BP below 130 mm/Hg and 44% of diabetic CKD patients achieved a mean HbA1c of 7% or less.

As with the individual reports, we have included a summary of the findings against the National Aboriginal KPI. Comparison of the results in this report against the National and NT KPI was considered invalid as 1. the data in this report is limited to certain chronic diseases,

and in most cases only those people with kidney disease, and not the entire client base of each Health Service and 2. The definition of 'client of a health service' by NT Government health services was inconsistent with ACCHO health services' definition and likely to provide a positive effect.

Table 1: Attainment of Aboriginal and Torres Strait Islander National KPI: ACCHO 2014

Measure	ACCHO Average
MBS health assessment – aged 25+	40%
General Practitioner Management Plan (GPMP)	28%
Team Care Arrangement (TCA)	26%
Blood pressure *recorded* (clients with type 2 diabetes)	82%
Blood pressure *result* (clients with type 2 diabetes) Clients with result ≤ 130/80 mmHg	40%
HbA1c test recorded (in last 12 months)	65%
HbA1c result (clients with type 2 diabetes)	
≤ 7% (53 mmol/mol)	44%
≥8% to ≤ 10%	43%
Kidney function eGFR/ACR result (clients with type 2 diabetes)	
eGFR	13%
ACR	3%
Both	28%

Source: National key performance indicators for Aboriginal and Torres Strait Islander primary health care: results from December 2014. AIHW: 2015 [1]

Background

In 2007, the NT and Australian Government collaborated to improve patient assessment, management and referral services for patients most at risk of developing End Stage Kidney Disease (ESKD). The Australian Government provided funding for clinical positions focused on the identification and management of people with Chronic Kidney Disease (CKD) in the four largest Aboriginal Community Controlled Health Organisations in the NT. The health services included Danila Dilba Health Service (DDHS) based in Darwin, Central Australian Aboriginal Congress (CAAC) in Alice Springs, Anyinginyi Health Service (AHS) in Tennant Creek and Wurli-Wurlinjang (Wurli) in Katherine. These positions, known as Renal Case Managers (RCMs) were focused solely on the identification, monitoring and management of people with CKD with the intent of delaying progression to ESKD and the requirement for dialysis. The positions would be supported by the CKD registered nurses (RN) and nephrologists based in Northern Territory Renal Services (NTRS).

The funding came into effect in 2007/2008, although not all health services or communities were able to recruit and fill the positions immediately.

The NT Government funded 13 similar positions based in the government managed Primary Health Service in remote communities. At the same time, the 'I'M OK' project (**I**mproving the **M**anagement **O**f chronic **K**idney disease in remote Indigenous communities), was established. This project aimed to improve the patient journey by establishing a model of care that linked primary health care and renal specialist teams.

The main premise of the 'I'M OK' project was that greater engagement of the people closest to the patient (families, primary health staff, and communities) would improve informed decision making and self-management leading to improvement in modifiable risk factors. The aim was to facilitate care to slow progression of CKD, improve understanding of treatment options and attain timely consent for vascular access creation for people with advanced stages of kidney disease.

DDHS approached Menzies in 2014 to undertake a review of their kidney health program and the impact of the RCM role in improving the identification and management of people with kidney disease. The data extraction program and the subsequent analysis using Stata 14.2 in this report was originally written and designed for the DDHS review.

The data extraction program and analysis was offered to other Aboriginal community controlled health services across the NT using Communicare, to provide a comparative analysis of chronic kidney disease identification and management.

This project received approval from participating health service Heath Boards and Ethics approval from both the Central Australian Human Research Ethics Committee (HREC-15340) and the Human Research Ethics Committee of the Northern Territory Department of Health and Menzies (HREC 2014-2288).

This report is an analysis of clinical and activity data held in the electronic clinical system (Communicare) of seven collaborating Health Services.

Data analysis

Data was extracted from Communicare by the health service, de-identified and provided in a password protected format to Menzies.

Objective of the report

The analysis aims to identify changes in clinical outcomes and activity related to the management of kidney patients at the health service between 2004 and 2014.

Data were analysed to determine whether the program:

1. improved screening and early identification for people at risk for chronic kidney disease (CKD)
2. improved management of comorbidities of people with CKD through the attainment of clinical targets; and
3. increased utilisation of Medicare Benefit Schedule (MBS) billable items to facilitate best-practice care.

De-identified clinical data were extracted from the Communicare clinical patient management system using a specifically designed program. Data included all adult patients from 2004 to 2014 with:

1. A recorded estimated glomerular filtration rate (eGFR) result of 60mls/min/1.73m^2 or below, or
2. International Classification of Primary Care (ICPC) codes documenting known risk factors for ESKD:
    a. T89 and T90 (Diabetes Mellitus),
    b. K86 and K87 (Hypertension),
    c. T82 and T83 (Obesity/Overweight),
    d. K22 (Risk factor for cardiovascular disease) and
    e. T93 (Lipid disorders).

Limitations of the report

The total data extract applied only to people with a known risk factor for CKD, however there were people without a documented risk factor in the data set, as documentation may only occur once over the course of a patient's treatment and attendance. The relevant diagnosis may have been documented prior to 2004 and this may affect results of some of the analysis.

We can only assess the data as it is presented and interpretation is based on best practice guidelines. We noted creatinine results that were inconsistent and have determined results were reported using two units of measurement (umol/L and mg/dL), possibly from the transfer of information from one system to another. We applied a calculation to standardise results.

This analysis should be viewed in light of the history of each health service including activities or practice changes that may affect data in the system, such as the transfer of clinical information from paper-based formats to electronic systems.

Methodology

1. Screening and early identification
    a. All patients in the data set are over 18 years and are eligible for screening (according to Central Australia Rural Practitioners Association guidelines (CARPA)
    b. Individuals were only determined 'at risk' from the time they had a newly documented chronic disease (CD) risk factor in the data set and only from the first service item after the CD recorded diagnosis.
    c. CD included diabetes, hypertension, hyperlipidemia, obesity and cardiovascular disease
    d. Patients were included in the analysis if they had a row of data in the data set. Approximately 15% of people had a gap of 2 or more years (not necessarily consecutively).

The 'intent to screen' was defined as the presence of a creatinine blood result and urinary albumin creatinine ratio (UACR).

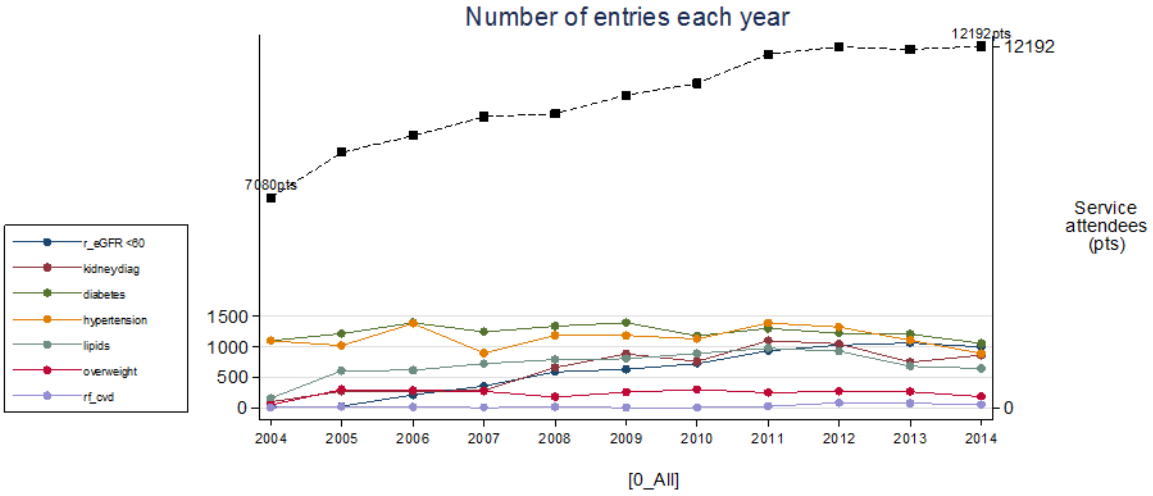
2. Definition of stage
    a. Definition of CKD was based on a calculation (CKD-epi formula) using creatinine, age and gender and did not use reported eGFR, GFR or ACR.
    b. CKD stage 3, 4 and 5 was based on a single blood result and defined as per Kidney Health Australia (KHA) guidelines.
        i. 'Stage 6' = eGFR below 8mls/min/1.73m^2 was created to identify dialysis or palliation patients under the care of the primary health service.
    c. Stage was carried forward until next creatinine measurement although a person could only be in one stage per year
    d. Stage was based on the most time spent in any one stage in the year.
3. Definition of 'under care'
    a. Patients were considered under care in a given year if they had one row of data in that year and not under care when there were no rows of data in a given year.
4. For analysis of clinical targets and clinical attendances, patient numbers with CKD stages 4 and 5 were too small for reliable analysis. As KHA guidelines for clinical care are the same for CKD stage 4 and 5, we combined these two stages for all episodes of care analysis.

Characteristics of patients

Between 2004 and 2014, there was an overall rise in the number of newly documented chronic conditions particularly for diabetes and hypertension (Fig. 1). In 2014, there were 12,192 people who had attended a health service with a documented CD including kidney disease. This represents a 72% increase in the number of people with a CD since 2004.

The coloured line of Figure 1 show the number of individuals, who had a newly documented diagnosis for a specific CD in that year (not necessarily a new diagnosis). Individuals may be represented in more than one CD. The black line indicates the number of patients with at least one row of data per year in the extract, which has been interpreted as attending the service and being under the care of the service. This line (and number) does not represent a summation of the other categories therefore the position on the 'Y' axis is not in proportion to the units of measurement. The number of service attendees at the start and end points of the study have been provided on this line.

Figure 1: Number of new patients each year with a documented chronic disease diagnosis



The characteristics of *newly diagnosed* CKD patients are described in Table 2 with 2008 as the pivotal point. In relation to kidney disease, not only was there an increase in the proportion of people across all stages but also an increase in the number of people with evidence of kidney disease (CKD stages 3-5) who had a corresponding diagnosis (10.1% to 38.8%). The age and gender of each group are similar although there is greater representation of people with diabetes and kidney disease (Table 2). The picture varied little between health services.

Table 2: Characteristics of *newly diagnosed* CKD patients in study -All

	Jan 2004 (n=945)	Jan 2008 (n=1369)
Kidney diagnosis	10.1%	38.8%
Gender (F)	59%	59%
Age yrs	57.6	56.9
Diabetes	28.8%	42.7%
Initial stage recorded		
3	74.4% (703)	76.6% (1048)
4	12.2% (115)	8.8% (120)
5	4.4% (42)	5.7% (78)
6	9% (85)	9% (123)

Screening and early identification

Best practice guidelines for primary health management such as those published by Central Australia Rural Practitioners Association (CARPA) and Kidney Health Australia (KHA), recommend the screening of people with a chronic disease that is considered a risk factor for kidney disease. These risk factors include hypertension, obesity, cardiovascular disease and diabetes.

The calculation and reporting of eGFR on pathology result forms based on a serum creatinine, has been automated from private ambulatory pathology laboratories in the NT since 2002, and public hospital laboratories since 2005. GPs are therefore assisted with screening of all patients who are ordered urea and electrolytes through this mechanism.

Estimated glomerular filtration rates (eGFR) and urinary albumin creatinine ratio (UACR) are markers of kidney disease. Therefore the *'intent to screen*' was determined as the presence of both a creatinine **and** UACR. The estimated GFR was calculated wherever there was a creatinine result. Recorded eGFRs from either transposed pathology results or manual data entry was not used in this definition.

Screening

We determined patients were 'at risk' and therefore eligible for screening only from the *first* service item after the documentation of an ICPC code for a chronic disease. Kidney diseases (U99 and U88) were excluded.

We noted that approximately 15% of people had a gap of two or more years (not necessarily consecutively) in the data set. While these people may still be clients of the health service, including them in the analysis of clinical indicator targets or service activity, where there was no data, would significantly affect results. However, we did feel it was important to identify the number of people with a CD who may not present or have contact with the health service each year.

People who did not have data in a year, but had data the year before, were identified as 'not seen and not screened' (NotSeenNS) and for the purposes of this analysis 'not at risk'. People with a CD who had a row of data were deemed 'at risk' and if they were not screened = NotScreened (Fig 2).

The number of people attending the services with a chronic disease has increased substantially since 2004 although screening for kidney disease has not kept pace with the increasing number of people at risk. Screening of people at risk in 2014 across all health services is below 50% (Fig 3).

Figure 2: Number of patients with a chronic disease risk factor screened for CKD from 2004

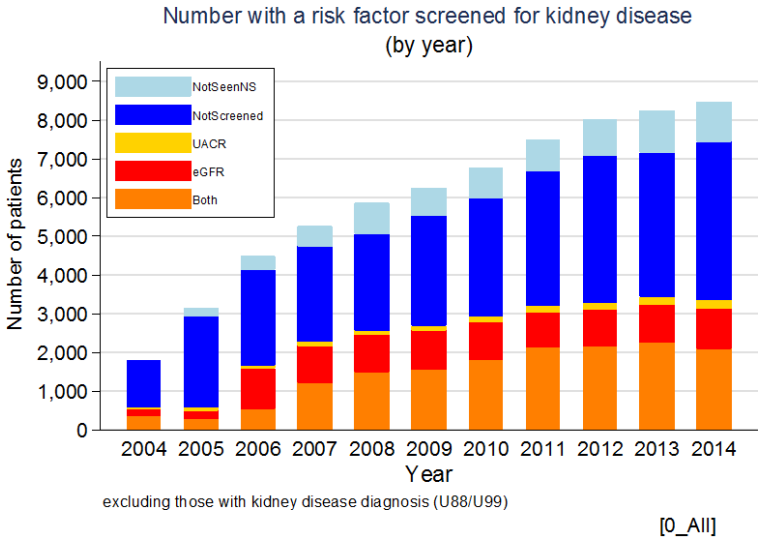
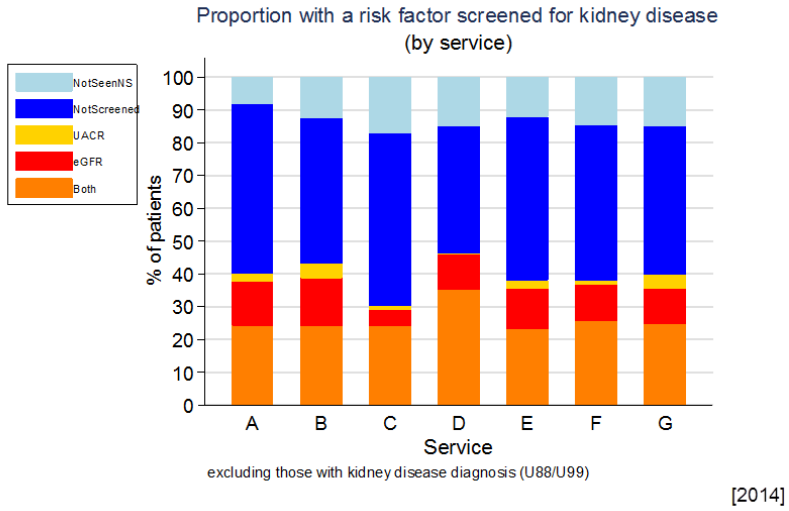


Figure 3: Proportion of patients in 2014 with a chronic disease risk factor screened for CKD by service



Further analysis specifically assessed the extent of screening for CKD amongst people with diabetes. Diabetes is the leading cause of end stage kidney disease (ESKD) in Australia and accounts for nearly one in three new cases [2]. In the NT, nearly 67% of all new dialysis patients (75% for Indigenous patients) have diabetes as the primary cause of their renal disease [3].

Figure 4 identifies the number of known diabetics (who did not have a diagnosis of kidney disease) who were screened for CKD each year from 2004. As with the broader screening of people at risk, screening has not kept pace with the growing burden of diabetes (Fig 4). Screening of diabetics by each health service in 2014 is reflected in Figure 5.

Figure 4: Number of diabetics screened for CKD by method from 2004

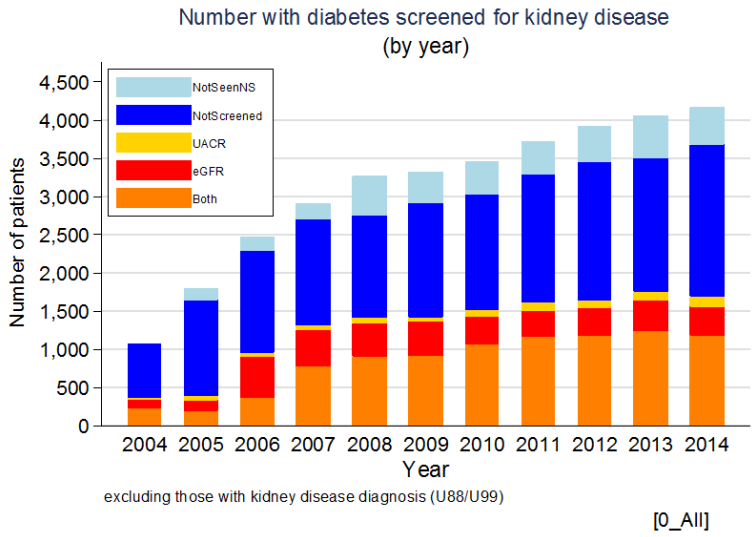
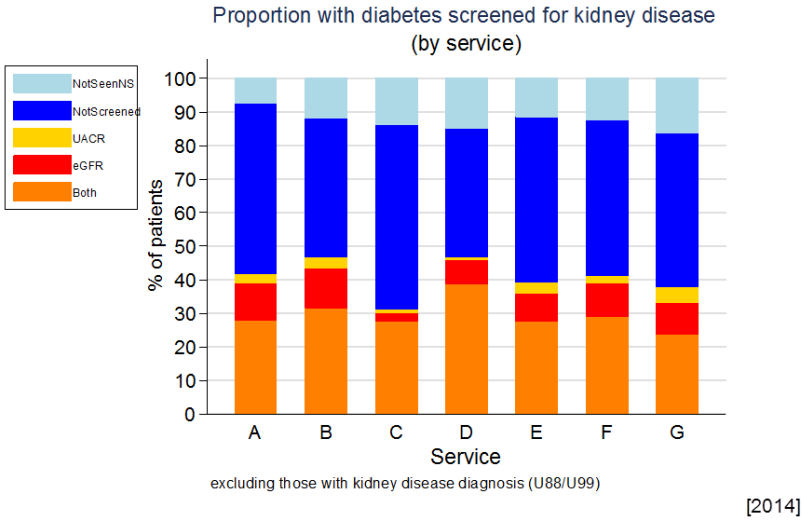


Figure 5: Proportion of diabetics screened for CKD by method in 2014



Early identification

Analysis of the clinical data of individuals who had a calculated mean eGFR below 60 mls/min/1.73m^2, demonstrated a significant rise in the number of people *correctly* identified with CKD (Fig 6). In particular this was evident for those people with CKD stages 4 and 5. (As these numbers are very small they have been combined). More than 80% of people with CKD stage 3 had a documented diagnosis in the data set in 2014 while those in CKD stages 4/5 were over 90%. Differences in performance by individual services are noted but these results should be viewed with caution as the total numbers within some services are very

small making comparisons less reliable (Fig 7). As noted previously, it is possible that some people had a documented CKD diagnosis that pre-dated 2004.

Figure 6: People with CKD by stage with a CKD diagnosis from 2004

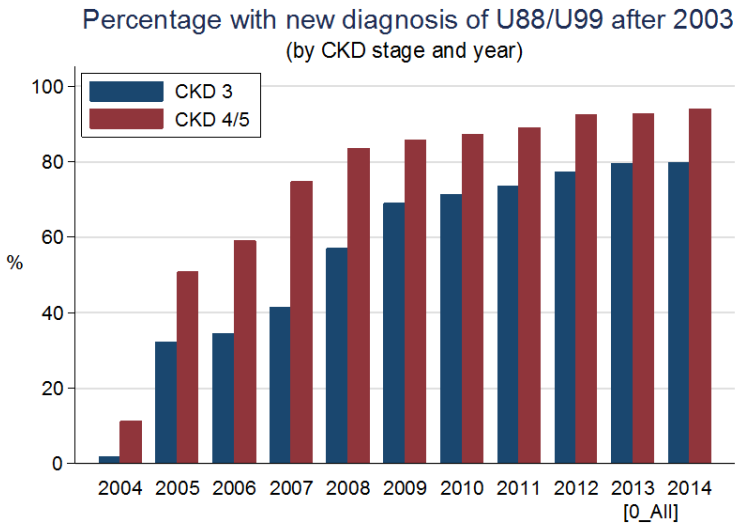
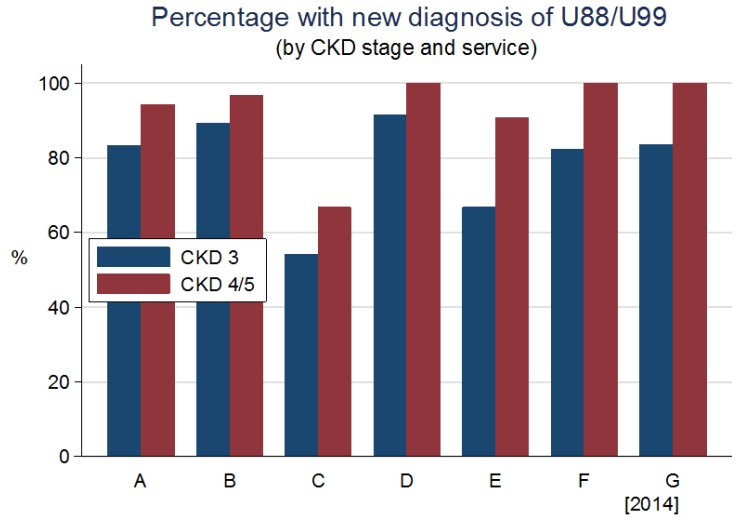


Figure 7: People with CKD by stage with a CKD diagnosis in 2014

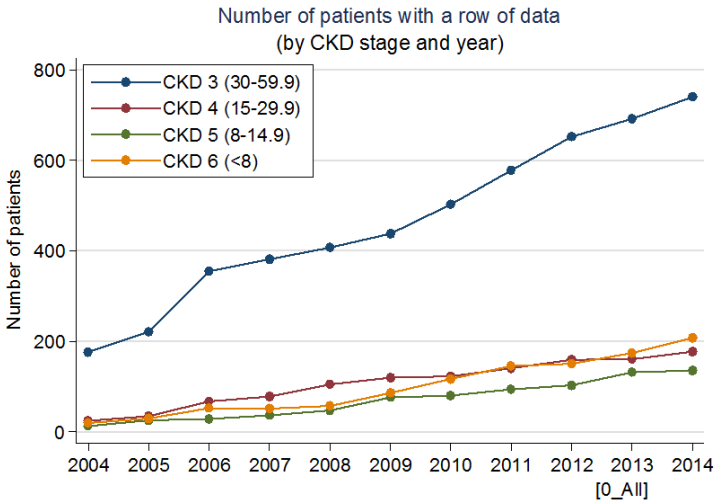


The actual number of patients with a documented diagnosis of CKD stage 3,4, or 5, attending the health services of interest, has grown substantially since 2004, more than quadrupling (Fig 8). In 2014 there were 1024 people with CKD stage 3,4 and 5. Of those, 308 were in the advanced CKD stages 4/5.

We identified a CKD stage 6 for this analysis to account for the high number of people with a calculated eGFR below 8mls/min/1.73m^2. In consultation with the clinicians, this group have

been determined as dialysis patients. The steady rise in the number of patients in Category 6 would correspond with the increase in dialysis patients receiving primary health care from primary health services (Fig 8).

Figure 8: Growth in prevalence of CKD patients 2004 - 2014



Attainment of clinical targets

According to clinical management guidelines, patients with an eGFR of less than 60mL/min/1.73m^2 with microalbuminuria, should have a clinical assessment every three to six months inclusive of weight, blood pressure (BP) and laboratory assessment [4]. For those with an eGFR of less than 30mL/min/1.73m^2 the clinical review should be one to three monthly. The aim is the early detection and management of complications to reduce cardiovascular risk and to delay the progression of kidney disease.

For this analysis we focused on patients with at least one:

1. BP measurement per year and the result; and
2. Glycated haemoglobin (HbA1c) measurement for diabetic patients and the result.

Blood pressure measurements

The average number of blood pressure measurements documented for patients with CKD differed significantly across years and across health services and as this may relate to variations in data entry practices, it was not included in this report. However monitoring is important and thus the National KPI assesses the number of people attending a health service without a blood pressure or blood glucose measurement in any given year.

Since 2004 a decrease in the number of CKD patients without a blood pressure measurement each year, particularly for people with advanced stages of kidney disease, is

evident. The discrepancy between the different stages has also narrowed (Fig 9). In 2014 more than 80% of patients across all stages of CKD received at least one blood pressure measurement in that year. However variation in monitoring of blood pressures between services is evident (Fig 10).

Figure 9 Percent of patients without a BP measurement each year from 2004

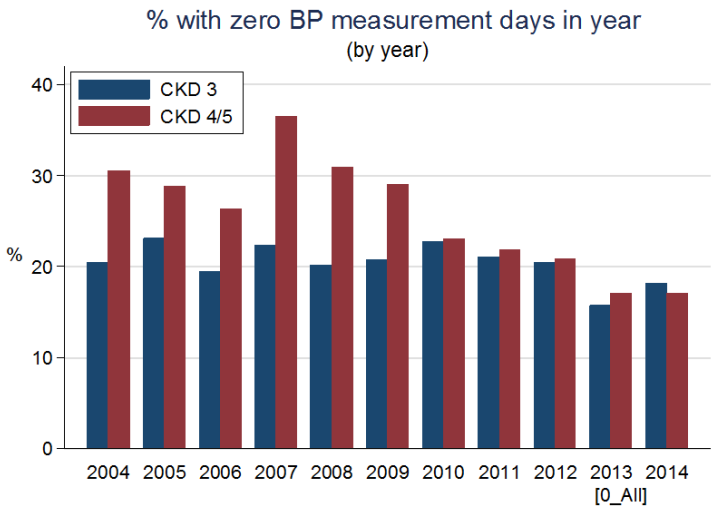
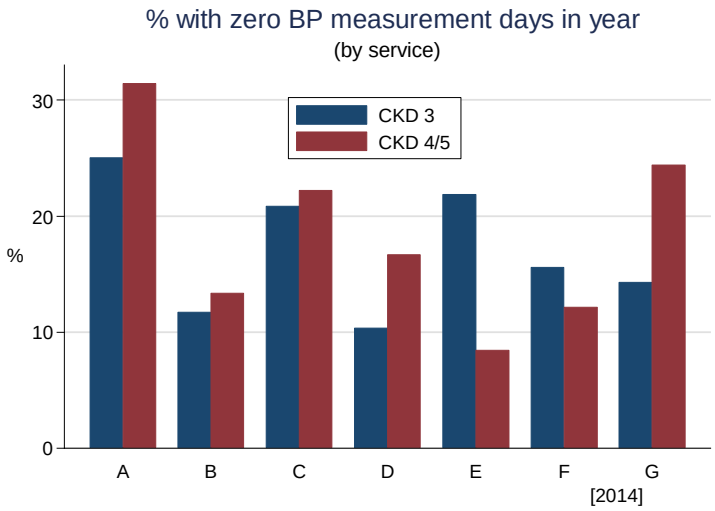


Figure 10: Percent of patients without a BP measurement in 2014 by service



The recommended BP target for CKD patients is to maintain a BP consistently below 140/80 mm/Hg or 130/80 mm/Hg for those with albuminuria or diabetes. Due to the small number of patients in each category in the early years, and for some services in 2014, we combined all three stages for the purposes of this analysis. There was minimal change in the systolic BP

measurement for all CKD patients, with the average systolic BP measurement below 140mm/Hg between 2004 and 2014 (Fig 11 and Fig 12).

Figure 11: Average Systolic BP for all CKD patients from 2004

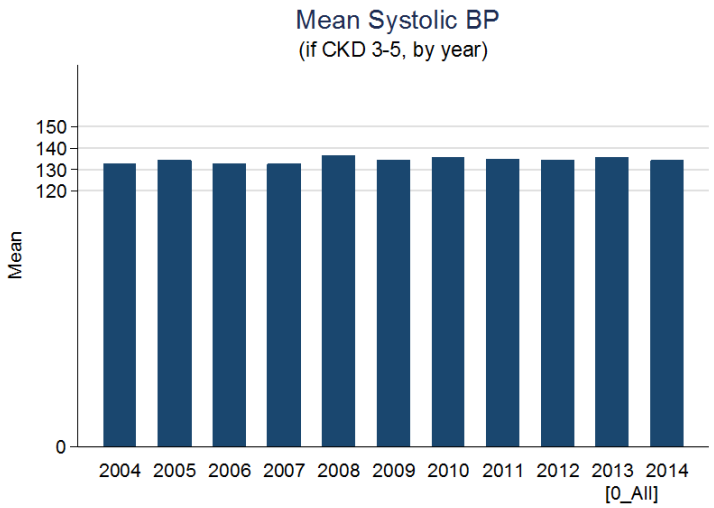
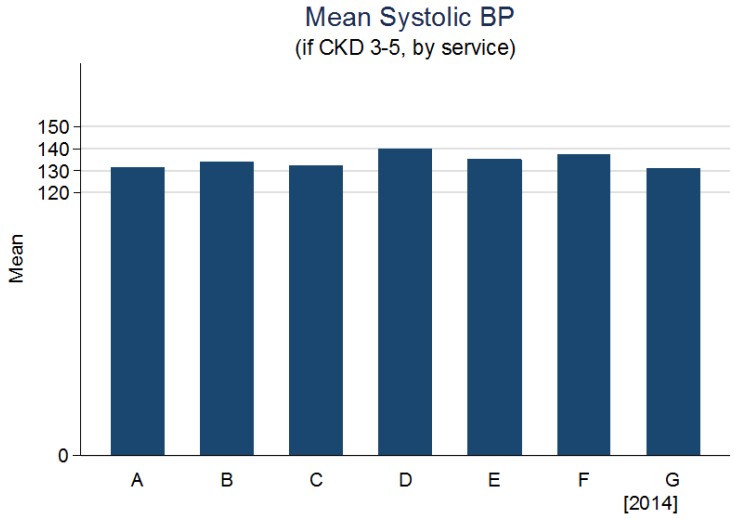


Figure 12: Average Systolic BP for all CKD patients in 2014 by service



In relation to the tighter systolic BP target of 130 mm/Hg, there appeared to be a downward trend, across all services in the percentage of people attaining the target between 2004 and 2014 (Fig 13). There is also some variability between services in the attainment of the blood pressure target (Fig 14).

Figure 13: Proportion of patients meeting clinical target for systolic BP from 2004

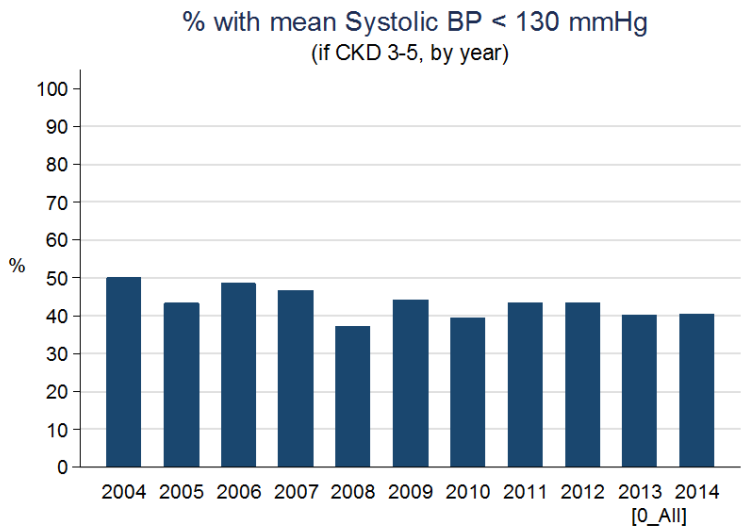
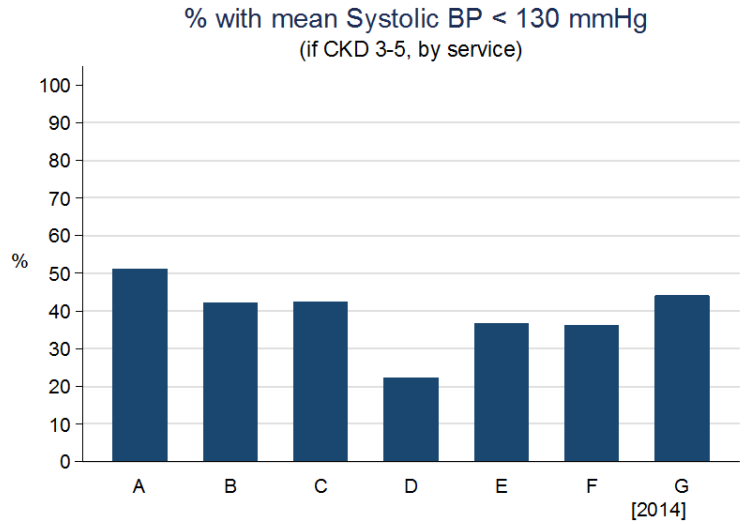


Figure 14: Proportion of patients meeting clinical target for systolic BP in 2014



Blood sugar control

Diabetes and kidney disease are comorbidities often found together in the same individual, with poor management of one exacerbating the severity of the other [5]. Poorly managed diabetes also has significant flow-on effects in terms of worsening pathology for cardiac, ophthalmology and vascular comorbidities. Therefore close monitoring of CKD patients with diabetes and management of blood sugar levels below a HbA1c of 7.0% is recommended.

From 2004 there was an increase, across all health services in the number of people who had at least one HbA1c test a year. Approximately 70% of people with CKD received a HbA1c in 2014 (Fig 15). Again significant variance across health services is noted (Fig 16).

Figure 15: Percent of CKD patients with diabetes without a recorded HbA1c from 2004

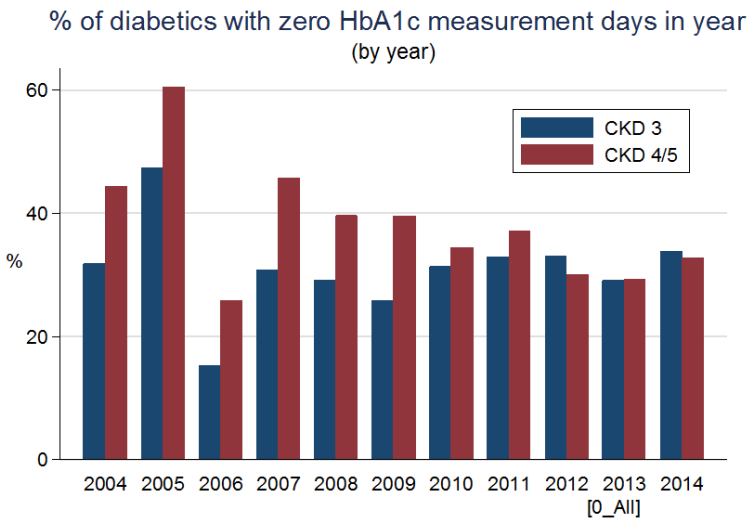
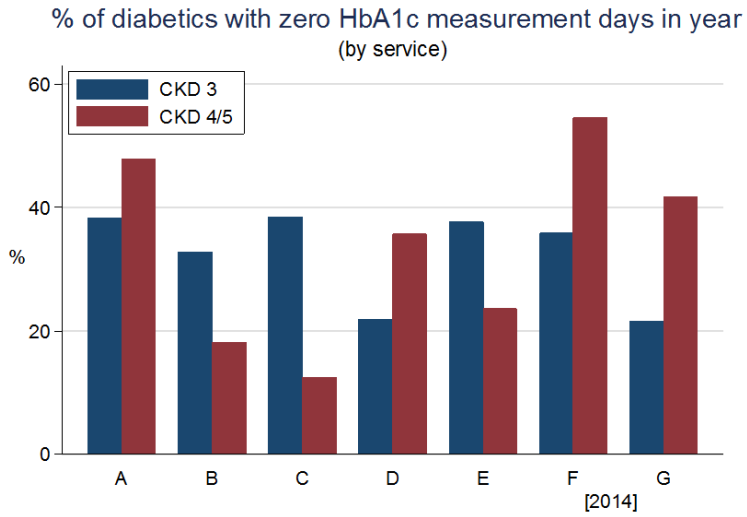


Figure 16: Percent of CKD patients with diabetes without a recorded HbA1c in 2014



Overall, the percent of CKD patients with diabetes who attained the target of HbA1c of 7.0% or less, has trended upwards from 2004 (Fig 17). As with the blood pressure analysis, CKD stages 3, 4 and 5 were combined. Attainment of the clinical target of 7% or less by service, varied between 33% and 50% across all stages in 2014 (Fig 18).

Figure 17: Percentage of patients meeting clinical target for HbA1c from 2004

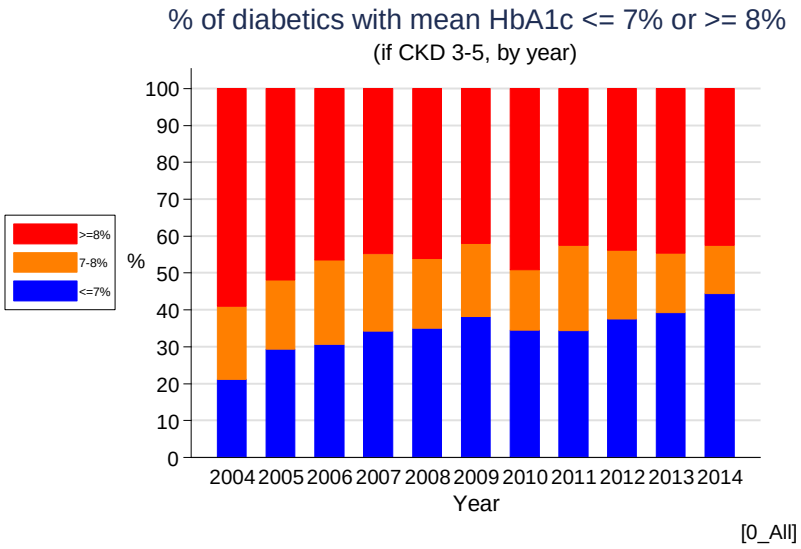
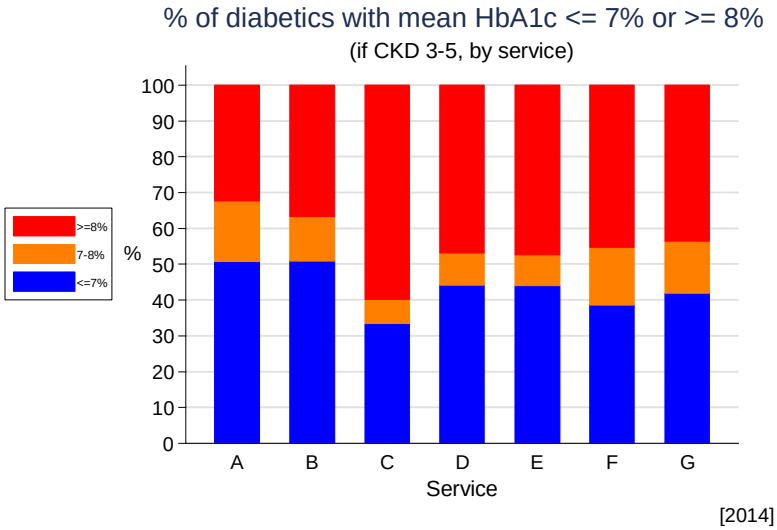


Figure 18: Percentage of patients meeting clinical target for HbA1c in 2014



These results are not unusual, particularly in a group of people with multiple comorbidities. As there is strong evidence to suggest that most patients, regardless of primary disease or ethnicity, have difficulty in managing blood sugar levels, the mean HbA1c measurements were also determined [6].

On average patients maintained a HbA1c of approximately 8% from 2006 to 2014, although results were slightly higher between 2011 and 2013 (Fig 19). In 2014 the average results varied between 7.7% and 8.6% across the health services (Fig 20).

Figure 19: Average HbA1c amongst diabetic CKD patients

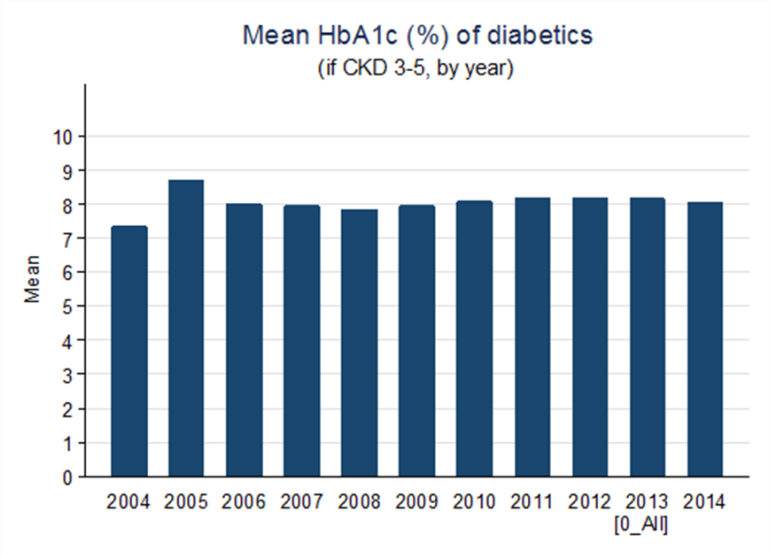
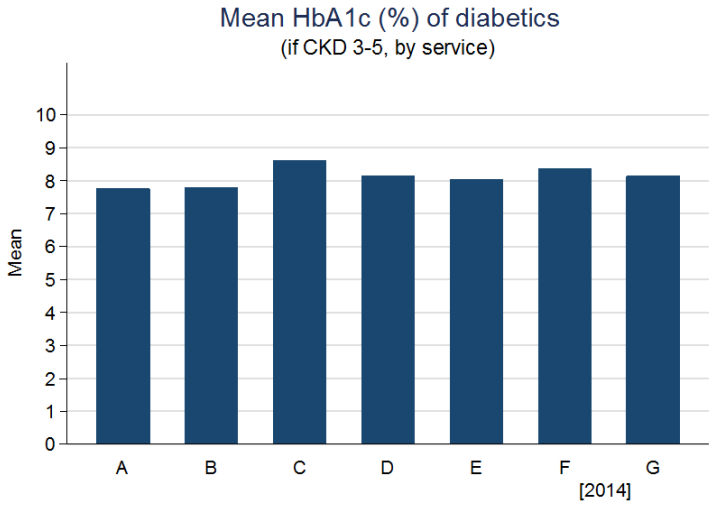


Figure 20: Average HbA1c amongst diabetic CKD patients in 2014



Monitoring and Management

The goals of CKD management are to provide regular and frequent monitoring to ensure medications and doses are appropriate for the level of kidney function; identify issues and complications early; and ensure patients are referred to a nephrologist at the appropriate time.

Clinical Review

The data were analysed to determine the frequency of care and the intensity of follow-up management. We searched for any documentation that indicated that an episode of care had been delivered. An episode consists of any clinical care relating to patient management including the review of notes, but excludes administrative tasks such as the entry of data. This was identified by searching the system for 'Completed' episodes. However data entry practices at each health service may vary and it is not possible for us to determine from the data if an administrative event has been coded as 'Completed'.

An increase in clinical contacts between GPs and patients from 2004 to 2009 is evident. In 2009 there was an average of 12 contacts per patient per year across all health services, which subsequently decreased and stabilized to approximately eight contacts per patient per year (Fig 21). This equates to approximately one review every 6-8 weeks. This is in line with the guidelines for monitoring of patients in CKD stage 4 and 5 which recommends clinical review every 1-3 months and above the recommendations for CKD stage 3 [4]. Marked variation between health services is evident in the number of clinical contacts (Fig 22).

Figure 21: Number of episodes of care for CKD patients by GP from 2004

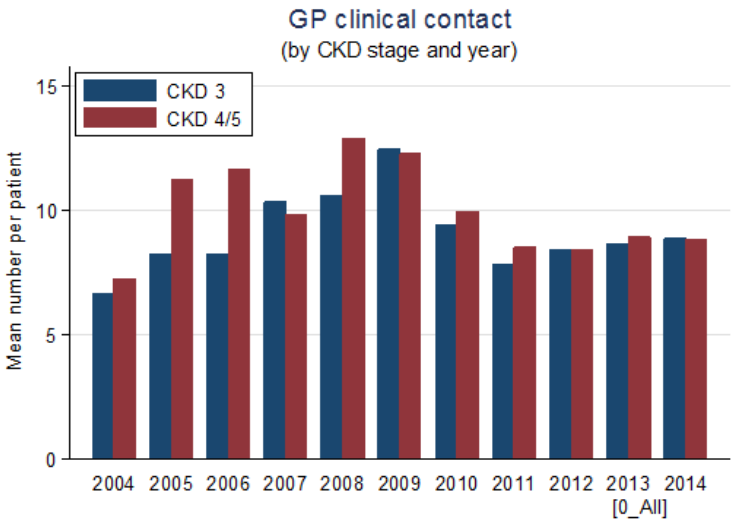
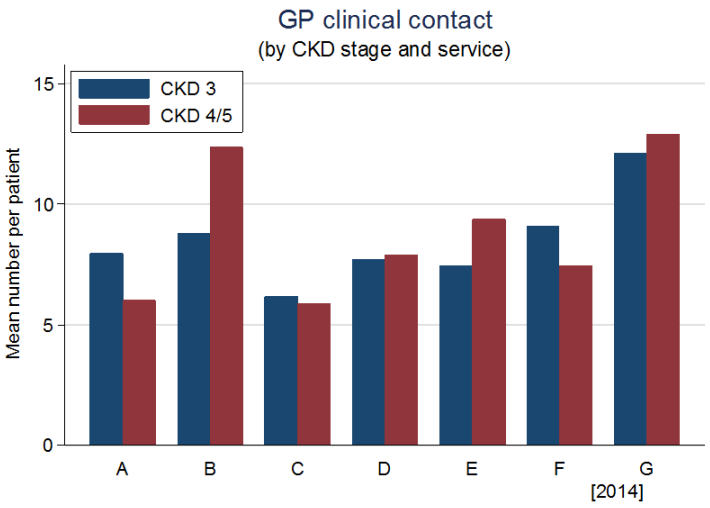


Figure 22: Number of episodes of care for CKD patients by GP in 2014



The number of clinical reviews by nursing and Aboriginal health practitioners was also analysed. Nursing terms included: Registered Nurse, Nurse Educator, Chronic Care Coordinator, Diabetes Educator and Enrolled Nurse. A 'U' curve in contacts with Registered Nurses (RN) between 2005 and 2014 is evident, particularly for people in the more advanced stages of CKD. In the latter years, contact per CKD stage is relatively similar and averages 12-13 contacts across all health services (Fig 23). However there is marked variation between services with some services having as few as five contacts per patient per year in 2014 to upwards of 20 contacts per patient per year (Fig 24).

Figure 23: Number of episodes of care for CKD patients by RN from 2004

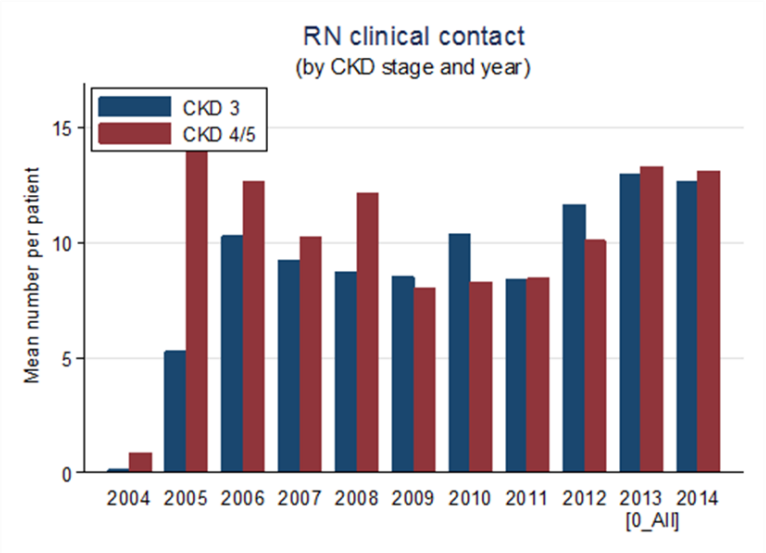
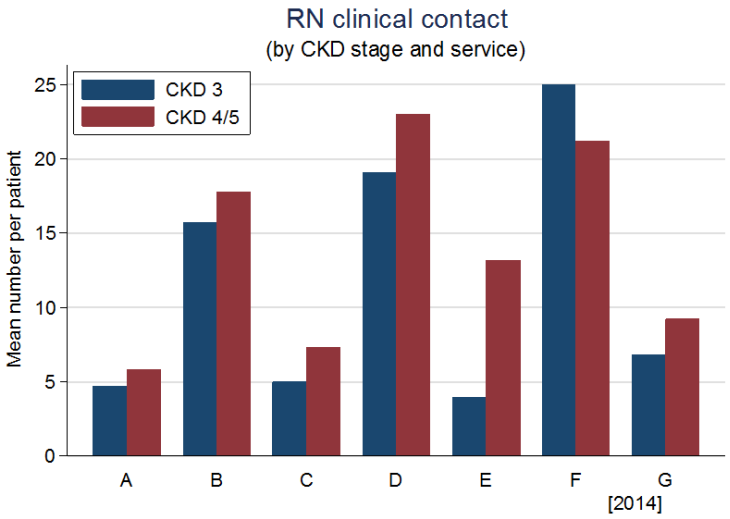


Figure 24: Number of episodes of care for CKD patients by RN in 2014



In regards to Aboriginal Health Practitioners (AHP), we included Aboriginal and Torres Strait Islander Health Practitioners, Aboriginal and Torres Strait Islander Health Worker (previous nomenclature) and Aboriginal Family Health Workers.

Contacts by an AHP, although higher in the earlier years, averaged between four and five clinical reviews per year for all CKD stages (Fig 25). The variation in clinical contacts by AHP between services may possibly reflect staffing configurations, different roles or differing data entry practices (Fig 26).

Figure 25: Number of episodes of care by Aboriginal Health Practitioners from 2004

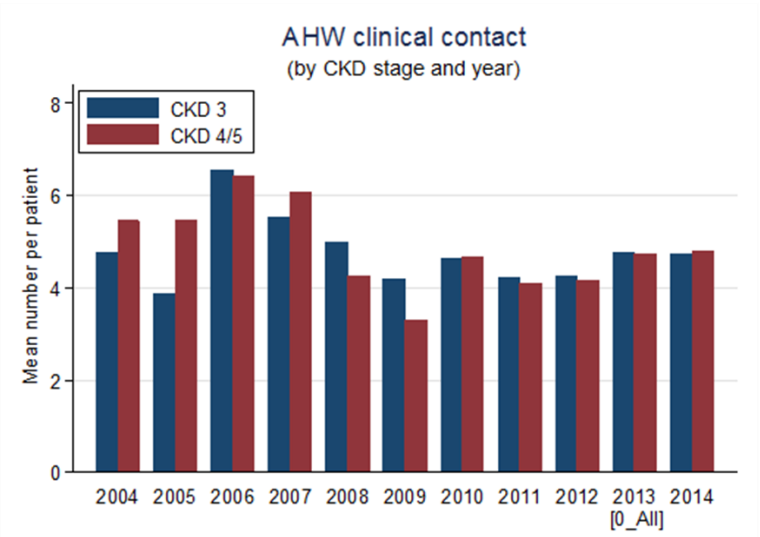
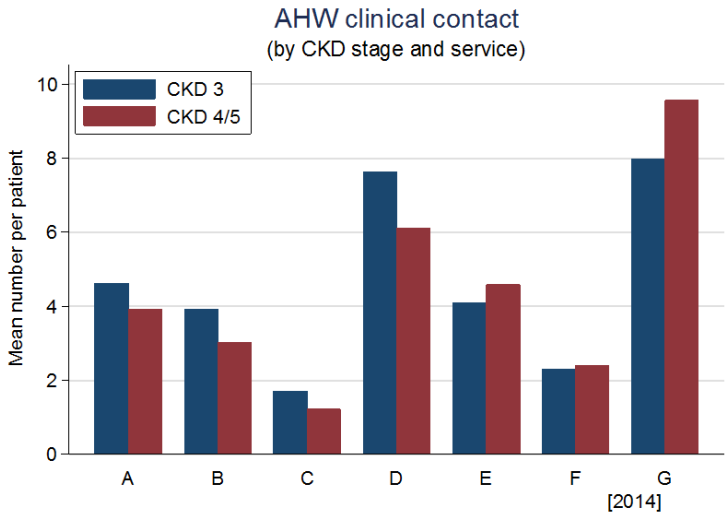


Figure 26: Number of episodes of care by Aboriginal Health Practitioners in 2014



Medicare Benefit Schedule Billable Items

Data on the number of Medicare Benefits Schedule (MBS) items that were *claimed and paid* were analysed. The proportion of CKD patients with a claim for a GP management plan (GPMP), team care arrangement (TCA) and Indigenous health assessment (IHA) was analysed. These Medicare billing items are designed to improve the care coordination of people with chronic and complex conditions and offer an opportunity to increase the financial return to health services for care delivered.

The number of claims for clinical care provided to CKD patients by service providers was also analysed. All items were under-utilised according to the allowable number of claims. We are unsure if this is reflective of the number of interactions with patients or if this is an administrative resource issue.

Item 721 – preparation of a GP Management plan can be claimed each 12 months for a patient with a chronic condition. While the use of this item has trended upwards since 2005, less than 40% of people with CKD were likely to have a GPMP claimed each year (Fig 27).

In 2014 the uptake of this item was quite low by most of the health services. Only one service claimed the GPMP for more than 50% of CKD patients (Fig 28).

Figure 27: Proportion of CKD patients with a paid MBS item for a GPMP (721) since 2005

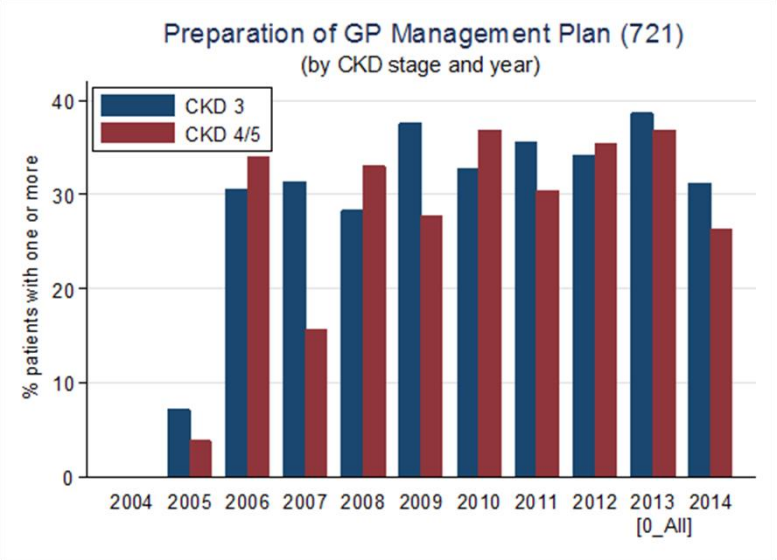
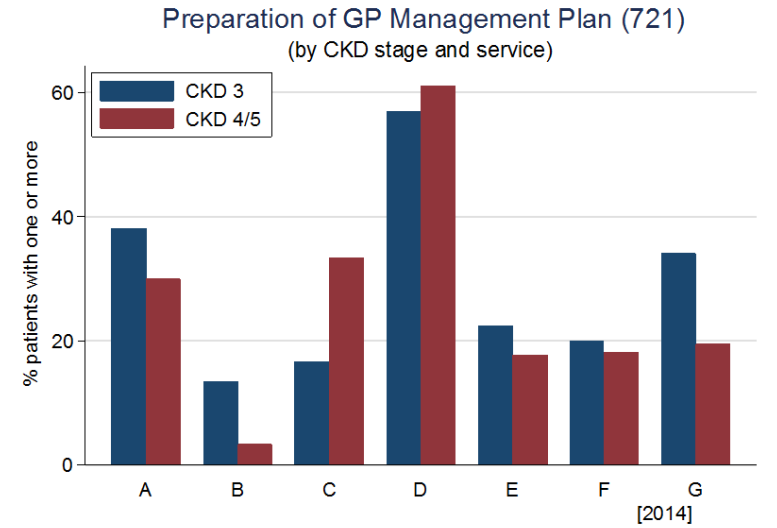


Figure 28: Proportion of CKD patients with a paid MBS item for a GPMP (721)



Item 723 - Team Care Arrangement (TCA), can also be claimed each 12 months for each patient with a chronic condition. Claims for the Item commenced in 2005 and an average of 20-30% of CKD patients had claims made for a TCA in the ensuing years (Fig 29).

In 2014 the TCA item was under-utilised by most health services (Fig 30).

Figure 29: Proportion of CKD patients with a paid MBS item for a TCA (723) from 2005

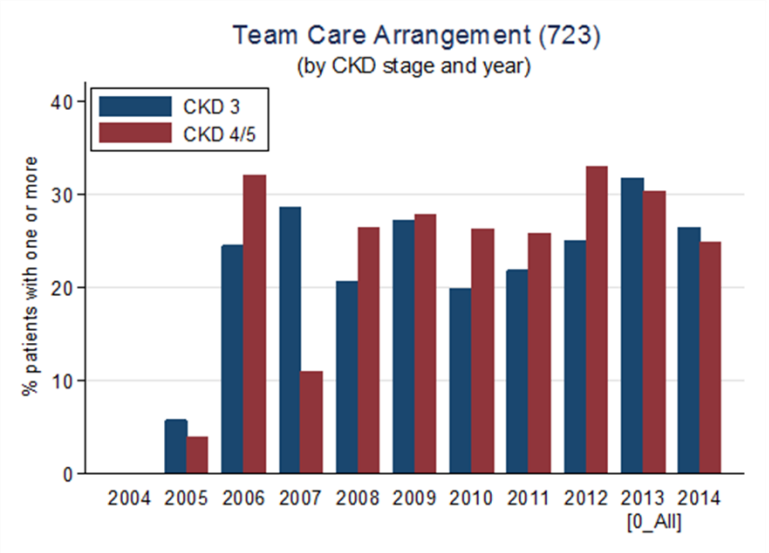
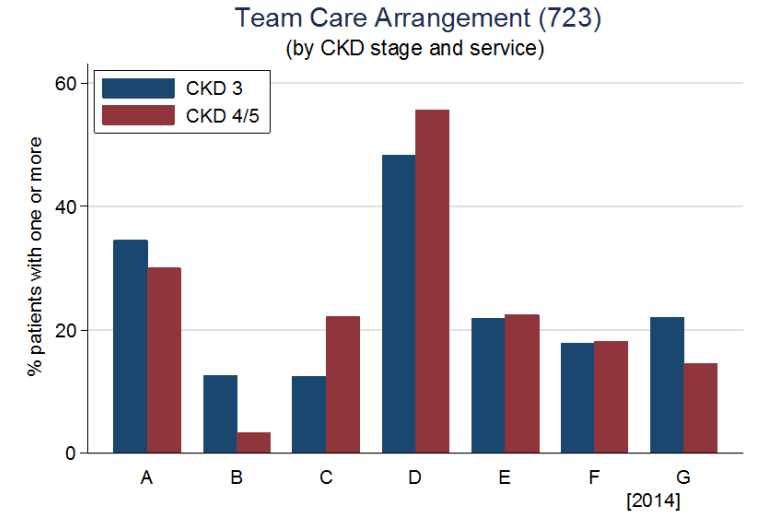


Figure 30: Proportion of CKD patients with a paid MBS item for a TCA (723) in 2014



The Indigenous Health Assessment (IHA) – Item 715 is available for all Indigenous people over the age of 15 years. The item was first implemented in 1999 for Indigenous people over 55 years (as Item 710 - which no longer exists) and later in 2004 it was expanded to include Indigenous persons over the age of 15 years. Poor uptake of the item led the Australian Government to determine Item 715 as a key performance indicator [7] in 2012. The item is designed to increase the monitoring of at risk people for the early identification and management of chronic conditions.

The National KPI evaluates the proportion of eligible patients with a claim every 24 months for MBS Item 715. The 2015 Australian Institute of Health and Welfare (AIHW) report "*National Key Performance Indicators for Aboriginal and Torres Strait Islander primary health*

care: results from December 2014",[1] found that approximately 46% of patients attending participating services in the NT in 2014 had received an assessment within the previous 24 months.

We analysed the data for the presence of IHA in a 24 month period. Patients had to have at least one row of data in the first 12 months to be included. We did not limit the analysis to CKD patients but analysed all patients in the data set in light of the purpose of the item; ie the early identification of people at risk of chronic disease.

There has been a steady improvement in the uptake of Item 715 with results in 2014 slightly lower than the findings of the AIHW Report (Fig 31). Approximately 40% of patients in the data set had received an assessment within the previous 24 months.

Uptake of the item varied across the health services with claims varying from 27% of patients to 55% of patients within a two year period (Fig 32).

Figure 31: Proportion of patients with a paid MBS item for an IHA (710 and 715)

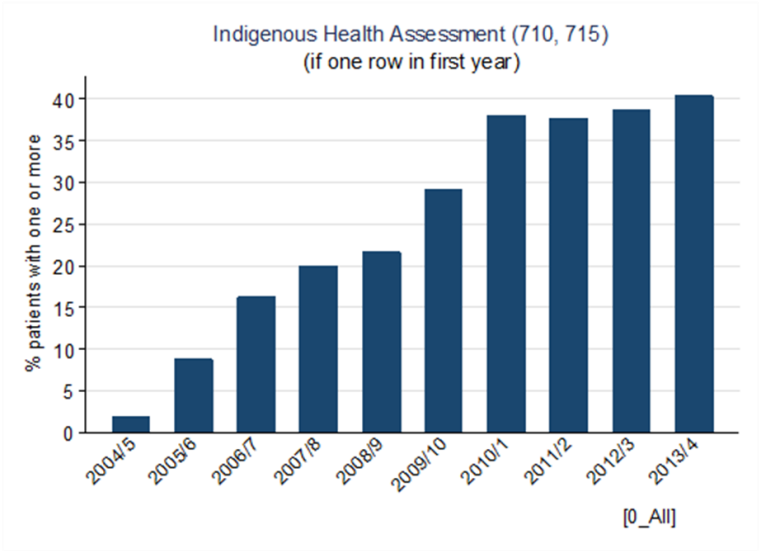
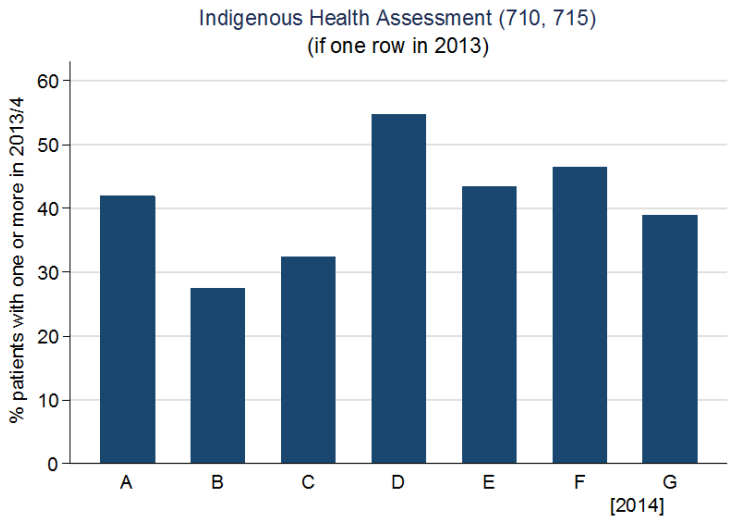


Figure 32: Proportion of patients with a paid MBS item for an IHA (710 and 715) in 2014



Conclusion

Between 2004 and 2014, there was a 72% increase in the number of individuals with a documented chronic (CD) disease diagnosis attending the health services of interest. Since 2010, the rates of screening for kidney disease have remained relatively stable but have not kept pace with the rising number of people with a chronic disease. Screening for kidney disease in the high risk group, those with diabetes, was 32% in 2014.

The number of people at risk of chronic kidney disease is large and increasing over time. Approximately 4,200 people in the data set remain unscreened, with at least 50% having diabetes and being at high risk of developing kidney disease, likely to benefit from closer screening and monitoring.

The documented diagnosis of people with kidney disease has improved substantially since 2004. More than 90% of people with CKD stage 4/5 and nearly 80% of people with CKD stage 3 had a kidney disease diagnosis in the data set in 2014. Some health services correctly identified nearly 100% of all patients with chronic kidney disease.

A substantial increase in the number of people with kidney disease is also evident with more than 1000 people identified with CKD stage 3, 4 and 5.

The monitoring of patients with kidney disease indicated regular clinical contacts with a GP, RN and AHP. The number of contacts with a health professional is reflected in the correspondingly high rates of people with at least one blood pressure measurement (82%) or HbA1c (65%) in the data set in 2014.

High levels of monitoring might be expected to translate into improved attainments of clinical targets. In this respect, there was significant variability in the attainment of targets across health services. Approximately 40% of patients achieved a systolic BP below 130 mm/Hg in 2014, although results ranged from 22% – 51% for individual health services.

In relation to HbA1c management, 44% of patients in 2014 achieved the target of 7% or less but again there was considerable variation in results, which ranged from 33% to 50% across health services.

Uptake of MBS billable items was low particularly for GPMP and TCA. Greater utilisation of these Items as well as the IHA, should be investigated; as flow on benefits are likely from a financial and patient management perspective.

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7. Australian Institute of Health and Welfare: **National Key Performance Indicators for Aboriginal and Torres Strait Islander primary health care: first national results June 2012 to June 2013**. In: *National key performance indicators for Aboriginal and Torres Strait Islander primary health care series.* Edited by AIHW. Canberra; 2014.