Indicator metadata

NHS Atlas of Variation for Kidney Disease
Version 1.1

Indicator themes

Chronic Kidney Disease

1: Ratio of reported to expected chronic kidney disease prevalence, by PCT, 2010/11

Indicator:	**Ratio of reported to expected chronic kidney disease prevalence**
Statistic:	Ratio
Time period:	2010/11
Age group:	18+
Description:	Ratio of reported to expected chronic kidney disease prevalence in adults
Data source:	Quality and Outcomes Framework 2010/11, Health Survey for England 2009 & 2010, Attribution Dataset, 2011
Numerator:	The observed crude prevalence of CKD as recorded by the Quality and Outcomes Framework
Denominator:	Expected CKD prevalence is calculated using the latest Health Survey for England results (2009 and 2010 data combined). The prevalence of CKD by age and sex is taken from the combined Health Survey for England and applied to practice populations. Details of the sex and age group composition of practices, needed to calculate expected CKD prevalence, are obtained from the Attribution Dataset.
Methodology:	Numerator divided by denominator as a ratio. The ratio is limited in its calculation to just those practices included in the revised version of the QOF CKD toolkit (n=8,007), excluding the total number of practices in QOF (n=238). Further details are available on the Kidney Care website listed below.
Source locations:	http://www.kidneycare.nhs.uk/resources/toolkits/
Further notes:	Chronic kidney disease affects up to 3 million people in England. Early identification and intervention can reduce the risk of premature cardiovascular disease (through management of hypertension, healthy living advice and LDL cholesterol reduction for example) and progression towards Established Renal Failure. Evidence based management of CKD has been described in NICE CG 73 and the Quality Standard for CKD.
Produced by:	East Midlands Public Health Observatory
Date created:	December 2011

2: Percentage of patients on the CKD register in whom the last blood pressure reading, measured in the preceding 15 months, is 140/85 or less, by PCT, 2010/11

Indicator:	Blood pressure control in CKD patients
Statistic:	Percentage
Time period:	2010/11
Age group:	All ages
Description:	Percentage of patients on the CKD register in whom the last blood pressure reading, measured in the preceding 15 months, is 140/85 or less
Data source:	Quality and Outcomes Framework 2010/11
Numerator:	Total number of points achieved by practices (aggregated to PCTs) against whether patients on the CKD register have a blood pressure reading of 140/85 or less. Taken from patient records at one point during 2010/11 over the past 15 months
Denominator:	Total number of possible points available for practices (aggregated to PCTs) on whether patients on the CKD register have a blood pressure reading of 140/85 or less.
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.ic.nhs.uk/statistics-and-data-collections/audits-and-performance/the-quality-and-outcomes-framework
Further notes:	Treatment of hypertension is the key evidence based intervention to reduce progression of chronic kidney disease
Produced by:	The NHS Information Centre for Health and Social Care
Date created:	October 2011

3: Percentage of patients on the CKD register with hypertension and proteinuria who are treated with an angiotensin converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB), by PCT, 2010/11

Indicator:	Patients with CKD, hypertension and proteinuria ACE inhibitors or ARBs
Statistic:	Percentage
Time period:	2010/11
Age group:	All ages
Description:	Percentage of patients on the CKD register with hypertension and proteinuria who are treated with an angiotensin converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB)
Data source:	Quality and Outcomes Framework 2010/11
Numerator:	Total number of points achieved by practices (aggregated to PCTs) against whether patients on the CKD register with hypertension and proteinuria who are treated with ACE-I or ARB.
Denominator:	Total number of possible points available for practices (aggregated to PCTs) on whether people on the CKD register have a blood pressure reading of 140/85 or less.
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.ic.nhs.uk/statistics-and-data-collections/audits-and-performance/the-quality-and-outcomes-framework
Further notes:	Use of ACE inhibitors to manage hypertension is the key evidence based intervention to reduce progression of chronic kidney disease in people with proteinuria.
Produced by:	The NHS Information Centre for Health and Social Care
Date created:	October 2011

4: Percentage of patients with diabetes with a diagnosis of proteinuria or micro-albuminuria who are treated with ACE inhibitors (or A2 antagonists), by PCT, 2010/11

Indicator:	**Diabetics with proteinuria or micro-albuminuria treated with ACE inhibitors**
Statistic:	Percentage
Time period:	2010/11
Age group:	All ages
Description:	Percentage of patients with diabetes with a diagnosis of proteinuria or micro-albuminuria who are treated with ACE inhibitors (or A2 antagonists)
Data source:	Quality and Outcomes Framework 2010/11
Numerator:	Total number of points achieved by practices (aggregated to PCTs) against whether patients on the diabetes register with a diagnosis of proteinuria or micro-albuminuria are treated with ACE inhibitors.
Denominator:	Total number of possible points available for practices (aggregated to PCTs) on whether patients on the diabetes register with a diagnosis of proteinuria or micro-albuminuria are treated with ACE inhibitors.
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.ic.nhs.uk/statistics-and-data-collections/audits-and-performance/the-quality-and-outcomes-framework
Further notes:	Proteinuria or microalbuminuria are signs of diabetes related kidney damage. ACE inhihitors are an evidence based treatement that slow the progression of diabetes related kidney damage.
Produced by:	The NHS Information Centre for Health and Social Care
Date created:	October 2011

Renal Replacement Therapy

5: Rate of renal replacement therapy per population, by country, 2003 to 2009

Indicator:	**International comparison of renal replacement therapy**
Statistic:	Crude rate per 100,000
Time period:	2003 to 2009
Age group:	Adult population
Description:	Rate of renal replacement therapy per population, by country
Data source:	OECD Health Data 2011
Numerator:	Number of people with end-stage renal failure undergoing renal replacement therapy
Denominator:	Total adult population
Methodology:	Numerator divided by the denominator. The number of patients treated for end-stage renal failure (ESRF) refers to the number of patients who are receiving different forms of renal replacement therapy: haemodialysis/haemoinfiltration, intermittent peritoneal dialysis, continuous ambulatory peritoneal dialysis, continuous cyclical peritoneal dialysis, or living with a functioning kidney transplant.
Source locations:	http://www.oecd-ilibrary.org/sites/health_glance-2011-en/04/08/index.html;jsessionid=3sob2sgebnprq.delta?contentType=&itemId=/content/chapter/health_glance-2011-36-en&containerItemId=/content/serial/19991312&accessItemIds=/content/book/health_glance-2011-en&mimeType=text/html
Further notes:	There is significant international variation in the prevalence of renal replacement therapy globally - reflecting variation in take on rates and practice in managing end stage renal failure
Produced by:	OECD, UK Renal Registry and USRDS
Date created:	December 2011

6: Standardised acceptance ratio for incidence of renal replacement therapy, by PCT, 2009

Indicator:	**Standardised acceptance ratio of RRT**
Statistic:	Indirectly standardised ratio, adjusted by age and sex
Time period:	2004-2009
Age group:	All ages
Description:	The standardised incidence of people accepted for renal replacement therapy
Data source:	UK Renal Registry and ONS Mid Year 2009 population estimates
Numerator:	Observed cases were calculated by summing all new cases starting RRT in all age and gender bands for each PCT
Denominator:	Overall crude rates (for each year) were calculated for the whole covered population (the standard population) by summing the observed numbers of new cases starting RRT, over the PCTs, for each age/gender band and dividing this by the total covered population in that age/ gender band. These crude rates (by age/gender band) were then multiplied by the population each PCT has in each band to give the number of cases expected in that band if that PCT had the same rates as the standard population.
Methodology:	The age standardised ratio is calculated by numerator divided by denominator.
Source locations:	http://www.renalreg.com/Reports/2010.html
Further notes:	There is significant variation in the take-on rate for Renal Replacement Therapy across England.This may reflect demographics and local practice.
Produced by:	UK Renal Registry
Date created:	December 2011

7: Standardised prevalence ratio of renal replacement therapy, by PCT, 2009

Indicator:	**Prevalence of Renal Replacement Therapy (RRT)**
Statistic:	Indirectly standardised ratio, adjusted by age and sex
Time period:	2004-2009
Age group:	All ages
Description:	The standardised prevalence of people having renal replacement therapy in 2009
Data source:	UK Renal Registry and ONS Mid Year 2009 population estimates
Numerator:	Observed cases were calculated by summing all prevalent cases undergoing RRT in all age and gender bands for each PCT
Denominator:	Overall crude rates (for each year) were calculated for the whole covered population (the standard population) by summing the observed numbers of those undergoing RRT, over the PCTs, for each age/gender band and dividing this by the total covered population in that age/ gender band. These crude rates (by age/gender band) were then multiplied by the population each PCT has in each band to give the number of cases expected in that band if that PCT had the same rates as the standard population.
Methodology:	The age standardised ratio is calculated by numerator divided by denominator.
Source locations:	http://www.renalreg.com/Reports/2010.html
Further notes:	There is significant variation in the prevalence of renal replacement therapy across England - reflecting variation in take on rates and survival
Produced by:	UK Renal Registry
Date created:	December 2011

8: Proportion (%) of people starting renal replacement therapy for established renal failure <90 days after presenting to renal services, by renal centre, 2009

Indicator:	**Late presentation of patients for established renal failure**
Statistic:	Percentage
Time period:	2009
Age group:	All ages
Description:	Proportion (%) of people starting renal replacement therapy for established renal failure <90 days after presenting to renal services
Data source:	UK Renal Registry
Numerator:	Number of incident patients starting RRT less than 90 days after referral to renal services.
Denominator:	Number of incident patients starting RRT
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.renalreg.com/
Further notes:	Late presentation with established renal failure is associated with worse patient outcomes (e.g. mortality, quality of life) and reduced choice about modality of renal replacement therapy. Although rates of late presentation (defined as presenting less than 90 days before RRT commences) have improved over recent years, there is still significant variation in this, in particular in relation to certain populations with less access to medical care. Variation in late presentation reflects quality of CKD screening, management, referral and follow up.
Produced by:	UK Renal Registry
Date created:	December 2011

9: Percentage of incident dialysis patients with definitive access (arterio-venous fistula or graft or peritoneal dialysis catheter), by renal network, 2009-2010

Indicator:	**Vascular Access: % of prevalent dialysis patients using a fistula or graft**
Statistic:	Percentage
Time period:	2009-2010
Age group:	All ages
Description:	Proportion (%) of people with arterio-venous access (AV fistula or graft) or peritoneal dialysis access compared to total on haemodialysis or peritoneal dialysis
Data source:	Kidney Care Vascular Audit in 2010 and UK Renal Registry incidence in 2009
Numerator:	Combined 6 month data from the Vascular audit (HD patients only), plus the number of people on PD from UK Renal Registry per 6 months. The number of HD patients with any AV access in 6 months is derived from the ((proportion AVG+ proportion AVF)/100)*No HD patients taken from the UK Vascular audit. The number starting PD per 6 months is derived from the number starting RRT in 2009 divided by two. All data is aggregated from provider to Network level.
Denominator:	The number of people starting haemodialysis recorded on the Vascular Audit plus the the number of people starting PD from the UK Renal Registry. All data is aggregated from provider to Network level.
Methodology:	Numerator(Number with AV access in 6 months+Number PD per 6 months)/denominator (No patients starting haemodialysis + Number starting PD per 6 months) expressed as a percentage. More details on the methodology can be sourced from the East Midlands Public Health Observatory.
Source locations:	http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/audit-reports/kidney-care http://www.renalreg.com/Reports/2010.html Chapter 1
Further notes:	St Barts and the West London Renal Unit did not participate in the vascular audit, so have been omitted from the results
Produced by:	East Midlands Public Health Observatory
Date created:	December 2011

10: Proportion (%) of prevalent dialysis patients receiving dialysis (haemodialysis and peritoneal) at home, by renal centre, 2009

Indicator:	**Proportion of Prevalent RRT Patients Receiving Dialysis at Home**
Statistic:	Percentage
Time period:	2009
Age group:	All ages
Description:	Proportion (%) of prevalent dialysis patients receiving dialysis (haemodialysis and peritoneal) at home
Data source:	UK Renal Registry
Numerator:	Number of prevalent RRT patients on Home Haemodialysis + number of prevalent RRT patients on Peritoneal Dialysis
Denominator:	Number of prevalent adult RRT patients
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.renalreg.com/Reports/2010.html
Further notes:	Dialysis at home offers a number of potential benefits for patients, carers and providers, including improved outcomes, better quality of life and lower costs than in-centre dialysis. Home haemodialysis and peritoneal dialysis are often suitable for the same patients and thus may compete for patients: this demonstrates the availablility of the totality of home therapy options.
Produced by:	UK Renal Registry
Date created:	December 2011

11: Proportion (%) of prevalent dialysis patients receiving haemodialysis at home, by renal centre, 2009

Indicator:	**Proportion of Prevalent RRT Patients Receiving Home Haemodialysis**
Statistic:	Percentage
Time period:	2009
Age group:	All ages
Description:	Proportion (%) of prevalent dialysis patients receiving haemodialysis dialysis at home
Data source:	UK Renal Registry
Numerator:	Number of prevalent RRT patients on home haemodialysis
Denominator:	Number of prevalent adult RRT patients
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.renalreg.com/Reports/2010.html
Further notes:	England has low rates of home dialysis compared to other countries (approx 2%), despite evidence that more patients would benefit from wider access to this: reduced travel, more autonomy and flexibility. There is also evidence of improved outcomes from home haemodialysis, including quality of life, and reduced cost compared to in-centre haemodialysis.
Produced by:	UK Renal Registry
Date created:	December 2011

12: Proportion (%) of prevalent dialysis patients receiving peritoneal dialysis at home, by renal centre, 2009

Indicator:	**Proportion of Prevalent RRT Patients Receiving Peritoneal Dialysis at Home**
Statistic:	Percentage
Time period:	2009
Age group:	All ages
Description:	Proportion (%) of prevalent dialysis patients receiving peritoneal dialysis at home
Data source:	UK Renal Registry
Numerator:	Number of prevalent RRT patients on Peritoneal Dialysis at home
Denominator:	Number of prevalent adult RRT patients
Methodology:	Numerator divided by denominator expressed as a percentage
Source locations:	http://www.renalreg.com/Reports/2010.html
Further notes:	Dialysis at home offers a number of potential benefits for patients, carers and providers, including improved outcomes, better quality of life and lower costs than in-centre dialysis. Home haemodialysis and peritoneal dialysis are often suitable for the same patients and thus may compete for patients.
Produced by:	UK Renal Registry
Date created:	December 2011

13: Rate of kidney transplants from living donors per population, by SHA, 2010/11

Indicator:	**Kidney transplants from living donors**
Statistic:	Crude rate per 1,000,000
Time period:	2010/2011 financial year
Age group:	All ages
Description:	Number of kidney transplants, where the donor was living, per million of population (pmp) by SHA, 2010/2011
Data source:	NHS Blood and Transplant
Numerator:	Number of kidney transplants where the kidney donor was living
Denominator:	ONS mid year estimates of population for strategic health authorities, 2009
Methodology:	The numbers of kidney tranplants were taken from the UKTR database held by NHS Blood and Transplant. Of all transplants, only those recipients receiving kidneys from live donors were selected between 1 April 2010 and 31 March 2011. Each transplant recipient was allocated to their SHA of residence based on the postcode of the recpient at the time of transplant. Crude rates of kidney transplants from live donors were constructed using the ONS mid year estimates of population at 2009.
Further notes:	ODT's key role is to ensure that organs donated for transplant are matched and allocated to patients in a fair and unbiased way. ODT manage the UK Transplant Registry which includes details of all donors and patients who are waiting for, or who have received, a transplant. They also audit and analyse the results of all organ transplants in the UK and Republic of Ireland to improve patient care. Data on organ donors and transplant recipients are collected by NHS Blood and Transplant, and data reporting is mandatory under the Human Tissue Act 2004. Therefore data completeness is expected to be 100%. http://www.organdonation.nhs.uk/ukt/default.jsp
Produced by:	NHS Blood and Transplant
Date created:	July 2011

14: Standardised pre-emptive transplantation ratio, by PCT, 2004-2009

Indicator:	**Pre-emptive transplants**
Statistic:	Indirectly standardised ratio, adjusted by age and sex
Time period:	2004-2009
Age group:	All ages
Description:	Standardised pre-emptive transplantation ratio
Data source:	UK Renal Registry and ONS Mid Year 2009 population estimates
Numerator:	The observed number of incident end stage renal disease patients for whom transplant was recorded as the first modality of renal replacement therapy treatment.
Denominator:	Overall crude rates were calculated for the whole covered population (the standard population) by summing the observed numbers of those with pre-emptive transplant, over the PCTs, for each age/gender band and dividing this by the total covered population in that age/ gender band. These crude rates (by age/gender band) were then multiplied by the population each PCT has in each band to give the number of cases expected in that band if that PCT had the same rates as the standard population.
Methodology:	The age standardised ratio is calculated by numerator divided by denominator.
Source locations:	http://www.renalreg.com/
Further notes:	There is significant variation in the rates of pre-emptive transplant between PCTs. This may reflect variation in organ allocation (deceased donor transplantation), or practice variation in transplant listing or living donor transplantation.
Produced by:	UK Renal Registry
Date created:	December 2011

Acute Kidney Injury

15: Rate of admissions for acute kidney injury (AKI) per all emergency admissions to hospital, by PCT,

Indicator:	**Acute kidney injury admissions**
Statistic:	Proportion of admissions per 1000
Time period:	2010/11
Age group:	All ages
Description:	Acute kidney injury (AKI) admissions per 1000 admissions by PCT
Data source:	Hospital Episode Statistics (HES), Office for National Statistics (ONS)
Coding scheme used:	ICD-10
Codes used:	N17 in primary diagnosis
Numerator:	Numbers of finished, ordinary or day case admissions with a diagnosis code indicating an acute kidney injury and an admission code indicating an emergency admission.
Denominator:	Numbers of finished, ordinary or day case admissions.
Methodology:	Records with the relevant primary ICD-10 admission codes for 2010/11 were extracted from HES using business objects and analysed in Excel. Duplicates were identified and removed using patient ID and admission date. A count of all finished, ordinary or day case admissions was then extracted using business objects and used as a denominator to calculate a proportion for each PCT for 2010/11.
Further notes:	Acute kidney injury is one of the fastest rising causes of emergency admission, with total bed stays rising by over 10% per annum. It occurs in 10-20% of all admissions and is a key safety issue for acute services, as highlighted in the NCEPOD Report, Adding Insult to Injury. Variation in AKI rates is a marker for the quality of the generic care of the acutely unwell person and will also reflect the accuracy of local coding. Publishing data on variation will encourage organisations to meet the NCEPOD recommendations on AKI, in particular by focussing on preventing AKI in at risk individuals.
Produced by:	SEPHO
Date created:	March 2012

16: Median length of stay in admissions with a primary diagnosis of acute kidney injury, by PCT, 2010/11

Indicator:	**Acute kidney injury length of stay**
Statistic:	Median
Time period:	2010/11
Age group:	All ages
Description:	Median length of stay in admissions with a primary diagnosis of acute kidney injury
Data source:	Hospital Episode Statistics (HES), Office for National Statistics (ONS)
Coding scheme used:	ICD-10
Codes used:	N17 in primary diagnosis
Numerator:	Length of stay for all finished, ordinary or day case admissions with a diagnosis code indicating an acute kidney injury.
Denominator:	N/A
Methodology:	Records with the relevant primary ICD-10 admission codes for 2010/11 were extracted from HES using business objects and analysed in Excel. A median was calculated for every admission length of stay by PCT for 2010/11.
Further notes:	Acute kidney injury is associated with increased length of stay and resource use. Variation in length of stay will reflect recognition, accurate coding and variation in practice.
Produced by:	SEPHO
Date created:	March 2012

Patient Experience

17: Percentage of respondents in the haemodialysis travel survey with a journey time of 30 minutes or less, by PCT, 2010

Indicator:	**Travel time to kidney dialysis**
Statistic:	Percentage
Time period:	2010
Age group:	All ages
Description:	Percentage of patients for whom travel time to dialysis is 30 minutes or less
Data source:	National Kidney Care Patient Transport Audit 2010
Numerator:	Number of survey respondents who indicated travel time to dialysis of 30 minutes or less.
Denominator:	Total number of survey respondents with valid response to travel time question.
Methodology:	The indicator is obtained from the National Kidney Care Patient Transport Audit 2010, a self-completion questionnaire survey of all patients receiving hospital-based dialysis on 13 or 14 October 2010. The survey included the question 'How long did the journey to the renal unit take today?'
Source locations:	http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/audit-reports/kidney-care
Further notes:	Transport services for people receiving in-centre haemodialysis are very important to patient experience and quality of life. Travel times of more than 30 minutes may reflect the planning and delivery of local RRT and transport services.
Produced by:	The Health and Social Care Information Centre
Date created:	June 2011

18: Percentage of respondents in the haemodialysis travel survey satisfied with their transport service, by PCT, 2010

Indicator:	**Kidney dialysis patient satisfaction with transport**
Statistic:	Percentage
Time period:	2010
Age group:	All ages
Description:	Percentage of kidney dialysis patients reporting that transport meets their needs either all or most of the time
Data source:	National Kidney Care Patient Transport Audit 2010
Numerator:	Number of survey respondents who indicated transport meets their needs either all or most of the time.
Denominator:	Total number of survey respondents with valid response to transport satisfaction question.
Methodology:	The indicator is obtained from the National Kidney Care Patient Transport Audit 2010, a self-completion questionnaire survey of all patients receiving hospital-based dialysis on 13 or 14 October 2010. The survey included the question 'Does your transport meet your needs?'. Response categories were 'Yes, it meets my needs', 'It meets my needs most of the time, but not always', 'It meets my needs some of the time, but not always' and 'No, it does no meet my needs'.
Source locations:	http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/audit-reports/kidney-care
Further notes:	Transport services for people receiving in centre haemodialysis are very important to patient experience and quality of life. This survey collected data on the satisfaction of patients with their services
Produced by:	The Health and Social Care Information Centre
Date created:	June 2011