Chronic kidney disease

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Introduction

• How common is CKD?
• Quality and Outcomes Framework CKD prevalence
• How will the number of people with CKD change over time?
Why is it important?

• CKD is common
• Progressive
• Early identification and treatment important
• Asymptomatic in many cases
• Can co-exist with other conditions
• Inequalities in the prevalence of CKD (Age, Gender, Deprivation, Ethnicity)
Prevalence of chronic kidney disease (CKD)

- About 5-10% of adults have moderate to severe CKD (stages 3-5)
- There is little UK prevalence data and studies include differing definitions and study groups
- CKD prevalence is similar in countries with predominantly Caucasian populations
- There is some evidence from the USA that prevalence may be increasing
Estimating the prevalence of CKD

- NEOERICA (early 2000s published 2007)
  - 10.6% females, 5.8% males, overall 8.5%
- Health Survey for England (2009)
  - 7% females, 5% males, overall 6%
- QI CKD (2010)
  - 7.3% females, 3.5% males, overall 5.4%

- BUT so far none of them allow you to adjust for ethnicity and deprivation
Sources of prevalence estimates

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample size</th>
<th>Source</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEOERICA</td>
<td>130,000</td>
<td>Primary care records</td>
<td>Single eGFR</td>
</tr>
<tr>
<td>HSE</td>
<td>2,000</td>
<td>Population (random)</td>
<td>Single eGFR</td>
</tr>
<tr>
<td>QI CKD</td>
<td>930,000</td>
<td>Primary care records</td>
<td>Two eGFR &gt;3 months apart</td>
</tr>
</tbody>
</table>

Pros and cons for each study
Which is the most accurate?
Which should we use?
Inequalities in the prevalence of CKD

CKD prevalence varies by:

- Age
- Gender
- Socioeconomic status
- Ethnicity
Health Survey for England 2009, CKD prevalence by age group and gender

Source: Health Survey for England 2009
Inequalities in CKD prevalence

Socio-economic status
• People classified as socially deprived have a higher incidence and prevalence of CKD
• CKD appears to progress more rapidly in socially deprived patients

Ethnicity
• South Asian and Black groups have similar CKD prevalence to other groups
• These groups have higher rates of RRT
• Suggests that the rate of CKD progression may be quicker
Identifying CKD in primary care

- Early ascertainment and management can reduce progression of CKD
- The primary care QOF system has included CKD indicators since 2007
- The number of people on primary care CKD registers has increased over time
- However the NHS Atlas of Variation has indicated that there is variability in case finding nationally
Number of people (18 and over) diagnosed with CKD, England 2006/07 to 2010/11

Source: NHS Information Centre, QOF
Observed vs expected ratio of CKD prevalence at PCT level, QOF 2010-11

Source: NHS IC QOF prevalence 2010/11, ONS 2009 MY pop estimates, HSE 2009
CKD variation within CCG, practice level QOF 2009/10

QOF Domain: Chronic Kidney Disease
Chart Type: Bar Chart

- Prevalence of CKD stages 3-5; observed relative to expected ("O rel to E").
- Selected GP: P81006; THE WINDSOR ROAD SURGERY In: Wyre (LA) Group 27 (RF) Lancashire Cluster (Cust).
- Showing all GPs in Lancashire Cluster
- Expected values calculated by the Information Centre.

Source; CKD QOF toolkit, NHS Kidney Care and EMPHO, using NHS IC QOF data
Trends in CKD risk factors

- Health Survey for England trend data
- The prevalence of hypertension is remaining stable
- Although a slight rise is predicted
Smoking prevalence (%) all adults 1993-2009 (HSE)

Source: NHS Information Centre, Health Survey for England
Projections of diabetes (type I and II) prevalence, England 2010-2030

Source: Diabetes prevalence model YHPHO
The number of people with CKD is likely to increase over time

• By virtue of the aging population
• The following examples only take into account the change in population, not the change in the risk factor profile
CKD projections

• Not identified any UK projections
• Apply current age/gender prevalence estimates to population change
• HSE 2009 prevalence estimates
• Office for National Statistics population projections
• No adjustment for change in risk factors or ethnicity
Projected population of UK (1,000s) by age group 2010 and 2035

Source: Office for National Statistics Population Projections
Projections of the increase in the number of people with CKD over time (using HSE and pop projections)

Source: modelled estimates HSE 2009, Pop projections ONS
Projections of the increase in the number of people with CKD over time (using HSE and pop projections)

Source: modelled estimates HSE 2009, Pop projections ONS
Impact on health services

Effect on demand for RRT

Projected mean numbers on RRT between 2000 and 2030 by mode, using Base scenario.

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NDT
Nephrology Dialysis Transplantation

Taken from: D O'Donoghue CLAHRC for Greater Manchester slides
Conclusions

• CKD is common and the number of people with CKD is increasing
• CKD ascertainment is increasing in primary care
• The increase in numbers is likely to affect the future provision of kidney services
Useful CKD links

• Health inequalities and chronic kidney disease in adults

• CKD QOF toolkit
  http://www.kidneycare.nhs.uk/_resourcestodownload-toolkits.aspx

• Any questions or comments please email
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