

# AKI update

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# AKI update

- Transfer protocols
- Possible regional AKI collaboration
- Unreferred stage 3s
- (new NICE indicators)

<http://www.londonaki.net/clinical/guidelines-pathways.html>

# Interhospital transfer of AKI

## Level 1 ward patient

### Transfer From Ward to Kidney Unit (interhospital transfer)

The following is a guideline for whether patients are safe to transfer from a ward to a kidney unit in another hospital.  
All AKI patients for transfer should be assessed by a senior (ST4+) doctor.

#### Hyperkalaemia

No ECG changes.  
K < 6.0mmol/L.

If K lowered to <6.0 after presentation this must be potentially sustained (e.g bicarbonate therapy or dialysis/CVVH) not transient therapy (insulin and dextrose).

#### Renal Acidosis

pH >7.2.  
Venous bicarbonate >12mmol/L.  
Lactate < 4mmol/L.

#### Respiratory

Respiratory rate >11 and < 26/min.  
Oxygen saturations >94% on not more than 35% oxygen.  
If patient required acute CPAP must have been independent of this treatment for 24 hrs.

#### Circulatory

Heart rate > 50/min and < 120/min.  
Blood pressure > 100mmHg systolic.  
MAP > 65MMHg.  
Lactate < 4mmol/L.

(lower BP values may be accepted if it has been firmly established these are pre-morbid).

#### Neurological

Alert on AVPU score or GCS >12.

If Criteria not Met Emergency Referral to Local Critical Care  
Once stabilised follow ITU to acute kidney unit transfer policy.

	YES	NO	N/A
Potassium <6.0mmol/l	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH>7.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Venous Bicarbonate >12mol/l	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calcium (ionised > 1mmol/l, total > 2mmol/l)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lactate (< 4 mmol/l)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood Pressure (>100mmHg)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MAP (>65mmhg)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heart Rate (>50/min and <120/min)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen Saturations (>94% on not more than 35% O2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory Rate (>11/min and <26/min)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AVPU Alert or GCS > 12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All AKI patients for transfer should be assessed by a senior (ST4+) doctor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MRSA Status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whether Diarrhoea in Last 48 Hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Interhospital transfer of AKI Improving Level 3 ITU patient - remaining dialysis dependent

## Transfer From Critical Care to Kidney Unit (interhospital transfer)

Phone Local Renal Team


If the Patient is Accepted for Transfer, a Handover to Critical Care in Receiving Hospital Should be Done and Critical Care Outreach Informed

Further discussion with receiving hospital intensivist not required if condition stable or improving

**Below is a Guideline for What Would be Considered a Safe ITU to Kidney Unit Transfer. These Transfers Should be Discussed at a Senior Level.**


### **Metabolic**

K < 6.0, ionised Ca > 1mmol/L.  
pH normal.  
Bicarbonate > 16mmol/L.  
Lactate normal.




### **Respiratory**

Respiratory rate >11/min and < 26/min.  
Saturations > 94% on not more than 35% oxygen.  
If patient required acute CPAP must have been independent of this treatment for 24 hrs.  
If ventilated <1 week should have been independent of respiratory support for 48hrs.  
If longer term invasive ventilation should have been independent of all respiratory support for 1 day for each week ventilated and for a period of not less than 48 hours.



### **Circulatory**

Heart rate > 50/min and < 120/min.  
BP > 100mmHg systolic.  
MAP > 65MMHg.  
If given inotropes given must have been inotrope independent > 24 hours.



### **Neurological**

Alert AVPU (unless stable, chronic neurological impairment).

# London AKI Network Manual v2.0 - 2015

## Overview – page 4

- Transfer target to kidney unit is 24 hours
  - but there are currently heavy demands on acute renal bed usage at some sites
- Temporary lowering of K with insulin and dextrose does not facilitate safe transfer
  - there may be rebound in transit
  - hyperkalaemic patients should have onsite CVVH or bicarbonate prior to transfer such that the K lowering is likely to be sustained.

# Single organ failure AKI audit

- Included:
  - All dialysis dependent AKI where first dialysis was haemodialysis in HEFT Renal unit 2000 - 2015
  - Empirical diagnosis of AKI or “Acute” status by treating clinician is relied upon
  - Thus AKI primarily under care of nephrology at start
  - Included even if they later went to ITU
  - n = 1389 or about 87 per year on average
  - Grouped together in two year eras
- Excluded
  - Patients who started with CRRT on ITU
  - Prior transplants
  - Therapeutic plasma exchange only



# Rules for SOF AKI coding

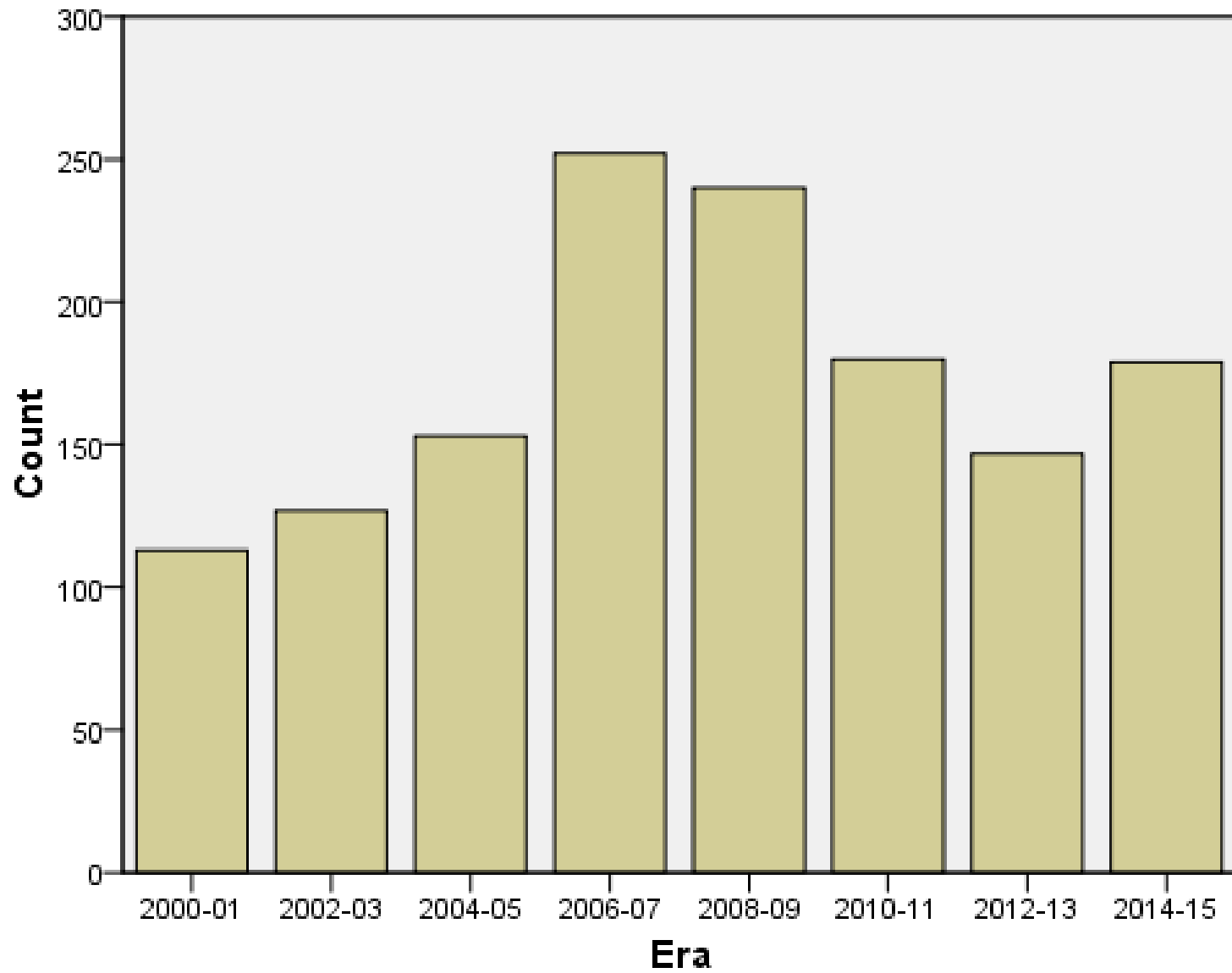
- Patients who had recovered from a previous dialysis dependent AKI episode included
- First outcomes examined
  - “Recovery” – partial or complete
    - No longer dependent on RRT
    - Clinic, Low clearance clinic, or Conservative clinic patients deemed to have recovered sufficiently to allow no RRT
  - Non recovery: switch from acute dialysis to Chronic RRT
    - HD, PD
  - Death whilst still undergoing acute RRT

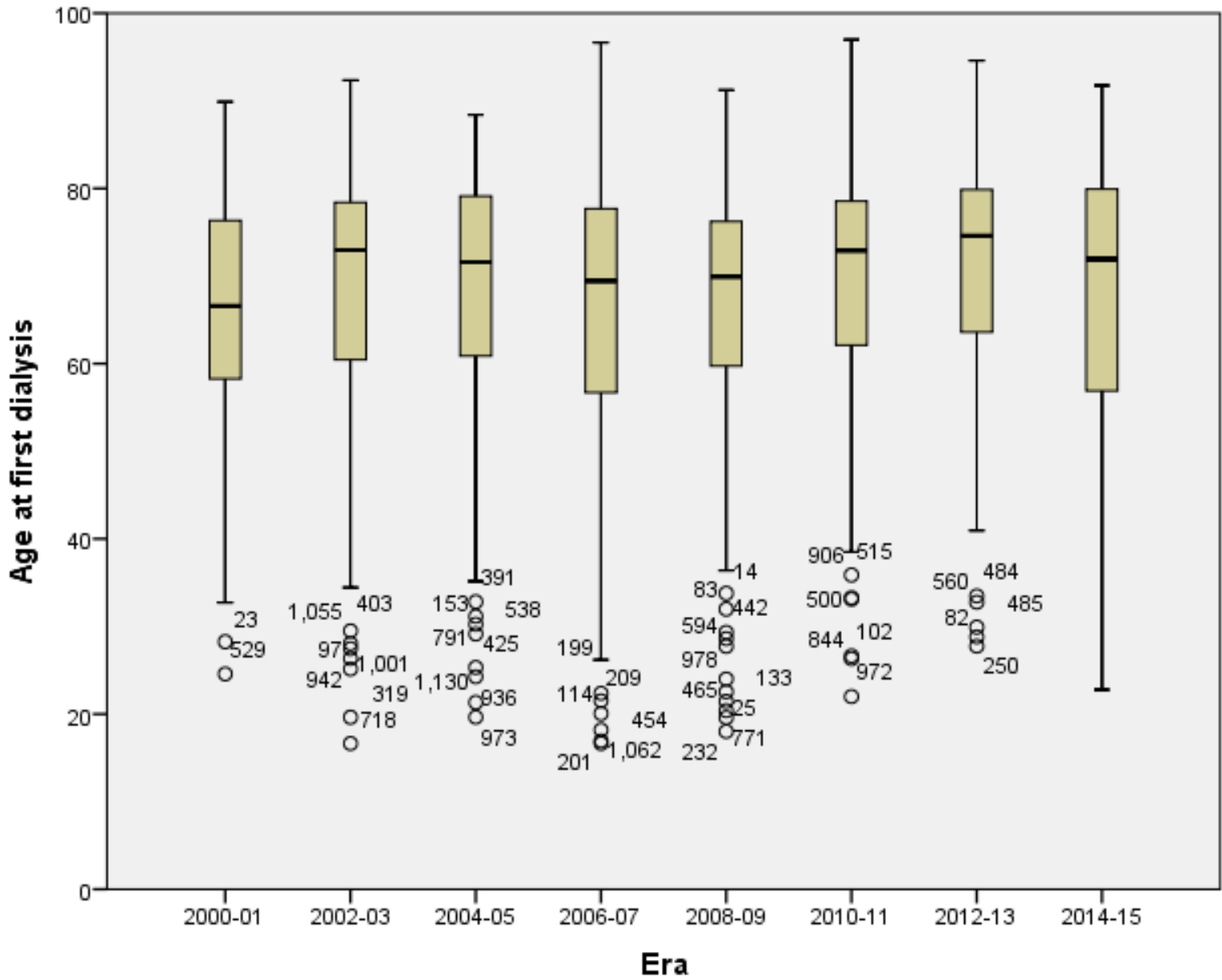
# What units would need to develop Regional comparisons

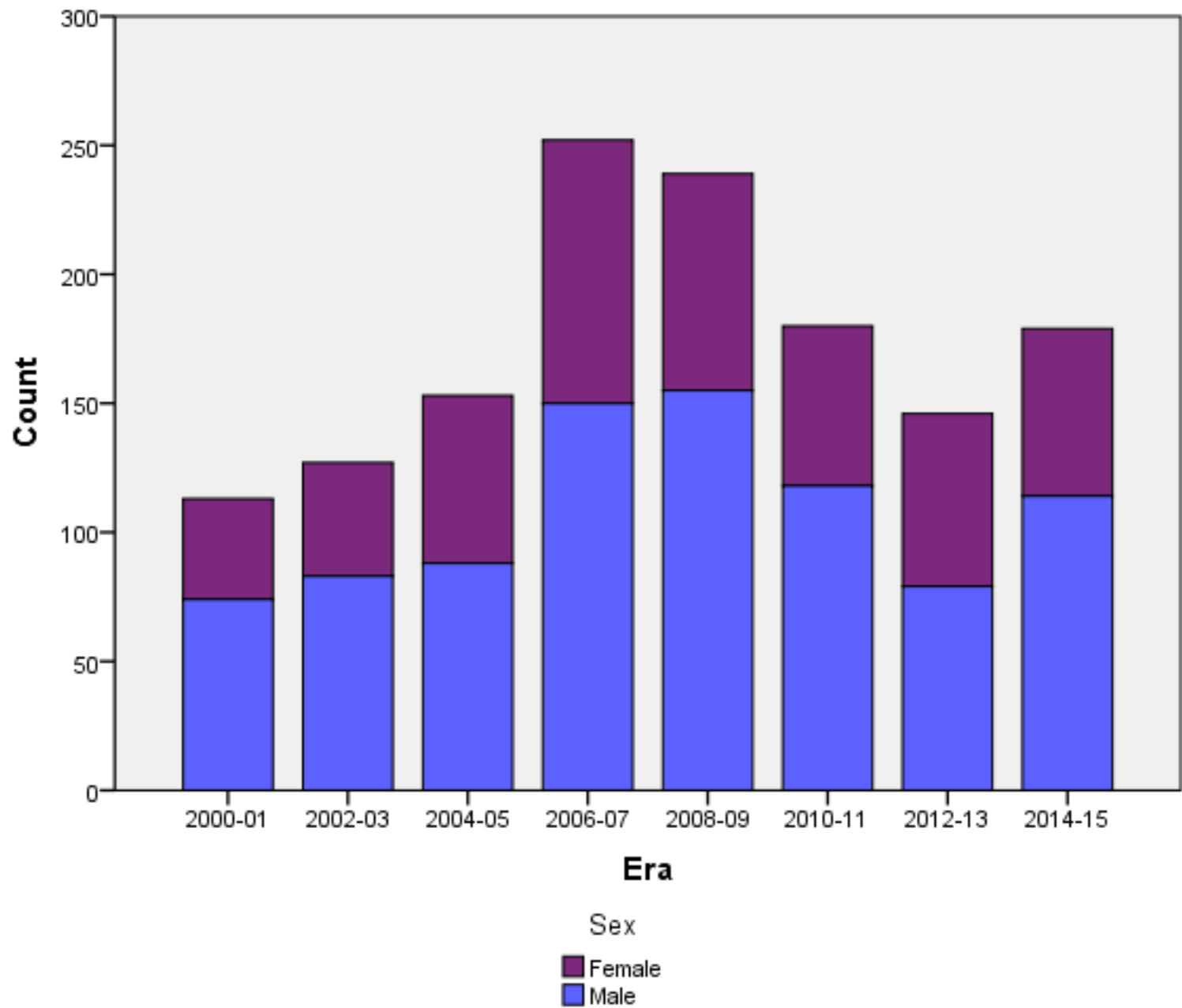
- Agreement on rules amongst all participating units, consultants and senior nurses
- Some coding education for all nurses dealing with “Acutes”
- Lead consultant
- Data manager time
  - Modest extra work once coding rules agreed
  - Some data cleaning
    - Remove ITU cases, if any
    - Remove TPE alone
    - Remove Transplant patients

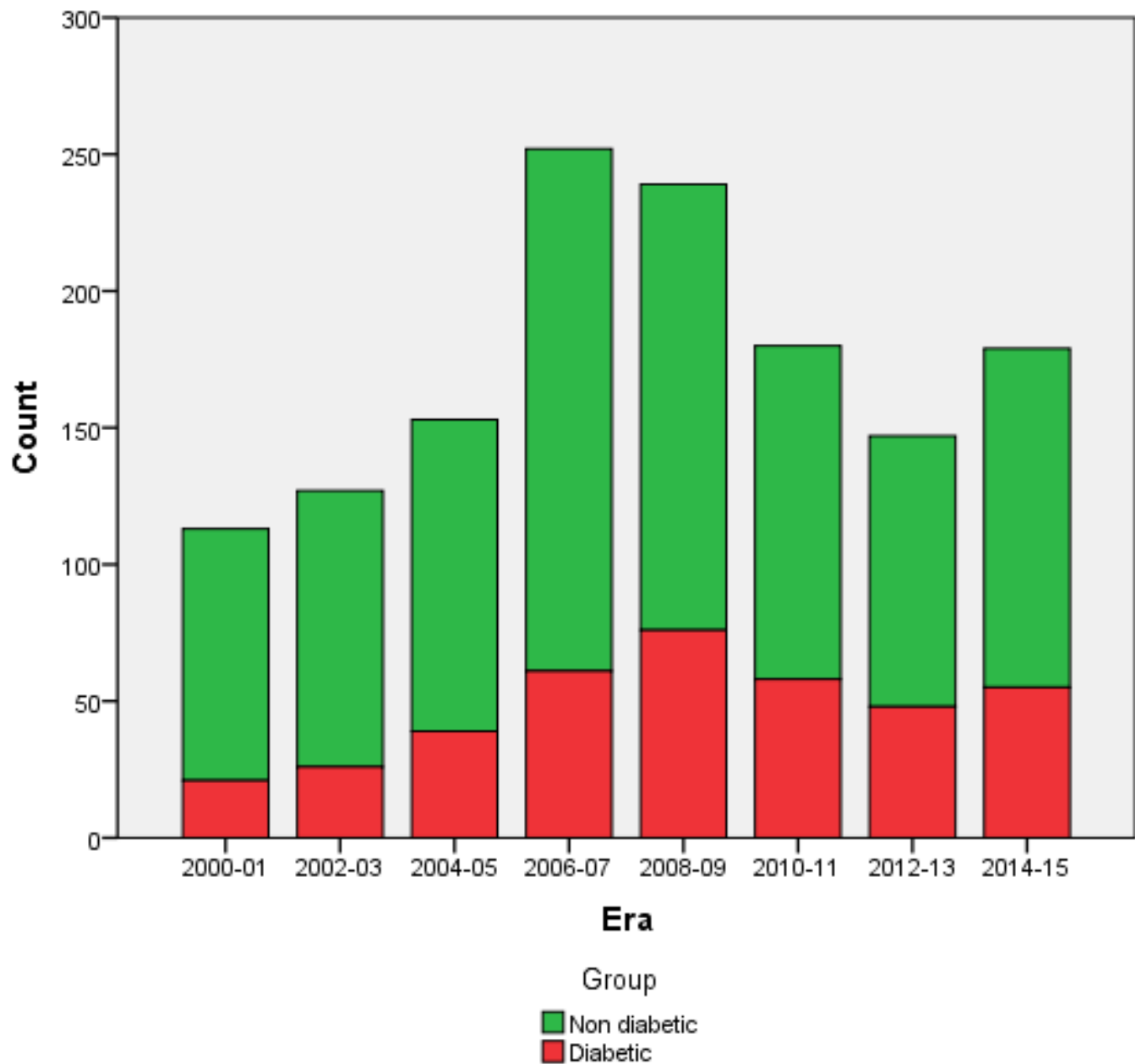
# We're not the Renal Registry

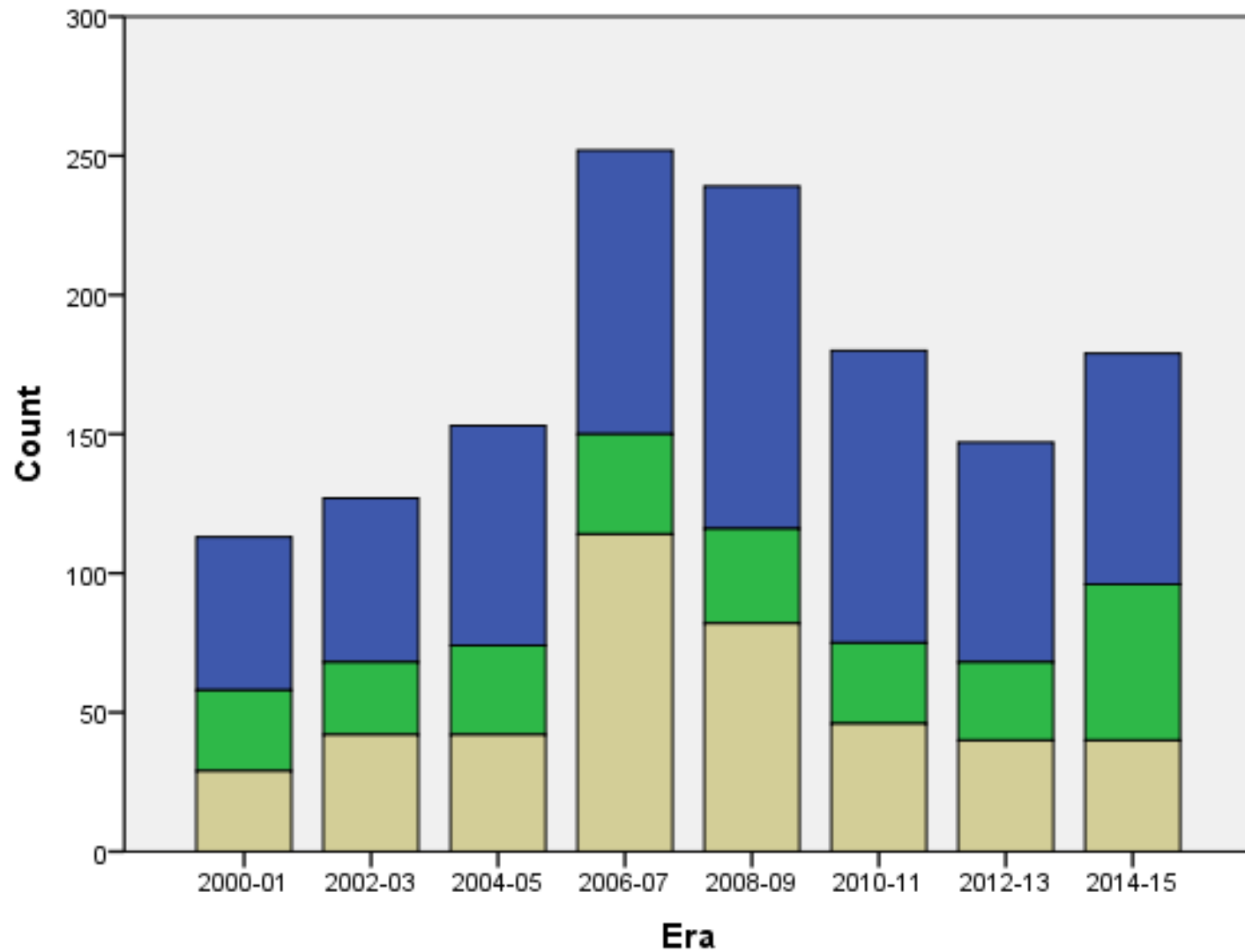
- Have a very limited minimum dataset to be agreed by leads
- Each unit to review its own data internally first
- Plan perhaps to review aggregate dataset in 6 or 12 months after coding agreed
- ? Take plan to UKRR first or later
- Adjust for age, diabetes (comorbidity.....??)
- Length of stay (optional?)











First change in status

Recovered  
Chronic RRT

Deceased during acute RRT



# Local audit conclusions

- There are rising numbers of diabetics
- Survival may have improved at the expense of more “chronic” patients
- A regional QuIP focusing on AKI receiving haemodialysis would be possible
- It would require modest work at a local level

# Proposed NICE indicator menu additions

- CCG5: Diagnosis rate of AKI within a CCG population  
*This will have to be supplied via UKRR from Trust laboratories*
- CCG6: Admission rates due to AKI  
*This is community acquired AKI. Currently in the UK this cannot be determined by coding as there is no "Present on admission" (POA) indicator in use in UK hospital coding. Therefore this indicator is not practical and poorly thought through, until coding practice is changed in the UK.*
- CCG7: The proportion of people diagnosed with AKI who require specialist care:
  - Renal replacement therapy
  - Critical care*This should be modified to:*
  - Renal replacement therapy outside critical care
  - Renal replacement therapy within Critical care
  - This is because the current ICNARC database for all ITUs only collects use of RRT and not all AKI; collecting data on AKI leading to critical care would require a change in a National Database

# Proposed NICE indicator menu additions

- **CCG8:** Length of stay for people diagnosed with AKI
- **CCG9:** Hospital re-admission rates where AKI is coded within 30 days of discharge from hospital
- **CCG10:** The proportion of people who experience a repeat admission due to AKI within 12 months of a previous episode of AKI

*These three indicators require extra IT resources within acute Trusts, at a time when such resources are being cut.*

- **CCG11:** The proportion of people with AKI who go onto develop CKD

*This requires long term linkage of AKI events to later kidney function testing. It is of interest to the NHS, but is a research question and not suitable as an indicator.*