Data completeness reporting

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UK Renal Registry
1. Why is complete data important?

2. How can data completeness be improved?
Epidemiology

- Describe patterns of health and disease in populations
- Identify cause of disease
- Measure need for health services, their use and effects
Dialysis modality - HD

Old age

Death

Exposure

Outcome

Confounder
Phosphate and risk of death in HD patients

Serial phosphate adjustment

Unadjusted
Age and sex
Predialysis Cr
WL status
Townsend Quintile
URR
Ethnicity
PRD
Time on RRT
Survival of incident RRT patients adjusted for co-morbidity

Adjusted 1 year after 90 day survival for centres with more than 85% returned comorbidity data
## Missing Data

2001 HD patients = 4230

<table>
<thead>
<tr>
<th>Confounder</th>
<th>No. with missing data</th>
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</thead>
<tbody>
<tr>
<td>Age and Gender</td>
<td>0</td>
</tr>
<tr>
<td>Time on RRT</td>
<td>0</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>105</td>
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<tr>
<td>Ethnicity</td>
<td>576</td>
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<tr>
<td>Biochemistry</td>
<td>326</td>
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<tr>
<td>WL status</td>
<td>3573</td>
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</tbody>
</table>
Missing data

Problems

- Fewer patients/centres in study
- Introduce bias as characteristics of those with missing data unknown

Solutions

- Exclude patients from study
- Statistical techniques to make a ‘educated guess’ about characteristics (imputation)
Or..................

Improve data quality
Act
Determine what changes are to be made

Plan
Change or test

Study
Summarize what was learned

Do
Carry out the plan

Source: Langley et al. (1996)
Plan

• Improve:
  – Timeliness of data return
  – Data completeness
Do -timeliness

- To be sent quarterly – 2 months after data collection commences

<table>
<thead>
<tr>
<th>Date of Quarter</th>
<th>Data collection period</th>
<th>1st dataset received</th>
<th>Dataset finalised</th>
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</thead>
<tbody>
<tr>
<td>Q1</td>
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<tr>
<td>Q4</td>
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</table>
Do – Data completeness

• User friendly

• Key areas
  – Incident and prevalent patients
  – Dialysis and transplant patients
  – Patient numbers
  – Demographic factors
  – Quality of care indices
Patient numbers

• New patients (All RRT)
• Prevalent patients – HD, PD, Transplant
• Deaths
Demographics

• All RRT – incident and prevalent
  – Ethnicity
  – Co-morbidity
  – Primary diagnosis
  – Referral data
Quality of care indices

Dialysis patients
• URR
• Phosphate
• Haemoglobin
• PTH
• Blood pressure

Transplant patients
• Haemoglobin
• eGFR
• Blood pressure
• Phosphate
Study – Data completeness

• In addition to current completeness report
• Single side of A4
• Pilot to Clinical Directors via CD forum
• Ready to test in RRT centres
  – Send to IT manager and Clinical Director
Please..........