Our focus

Review of:

– Why do we measure readmissions?
– Data and definitions
– Existing 28 days Readmission indicator to include all causes.
– Effect of admission to any facility (using linked data)
– Measurement based on Patient Journeys rather than single location /mode of treatment/data source
Methods/Journeys of Care

- Link together ED presentations, inpatient admissions and transfers between facilities into a single “Journeys of Care” (CHeReL).
- Journeys of care consist of contiguous hospital events/episodes beginning when a patient first interacts with a hospital (either in the ED or inpatient setting) until the patient completes all hospital events in the contiguous series (i.e. until the patient leaves the care of the health system).
  - Journeys can involve single or multiple settings.
  - Journeys can involve single or multiple facilities.
  - Analysis based on NSW facilities excluding private facilities.
Ways to Measure Readmissions/Representations

- Same Facility Readmission (based on inpatient stays)
- Any Facility Readmission (based on inpatient stays)
- Any Facility Representation Involving AP (based on journeys)
- Same Facility ED Representations (based on ED attendances)
- Any Facility ED Representations (based on ED attendances)
- Any Facility Representation Involving ED (based on journeys)
- Any Facility Representation (based on journeys)
Results - Measures of Unplanned Readmissions/Representations

Month 28 Day Unplanned Readmission and Representation Rates using Different Methods, NSW Public Facilities, Jan 2011 to Dec 2015

- Same Facility Readmission (based on inpatient stays)
- Any Facility Readmission (based on inpatient stays)
- Any Facility Representation Involving Inpatient Admission (based on journeys)
- Any Facility ED Representations (based on ED attendances)
- Same Facility ED Representations (based on ED attendances)
- Any Facility Representation Involving ED (based on journeys)
- Any Facility Representation (based on journeys)
28 day Unplanned Representations by Age and Type of Representation, NSW Public Facilities, 2015

<table>
<thead>
<tr>
<th>Age Group</th>
<th>ED Only</th>
<th>ED and Inpatient Readmission</th>
<th>Inpatient Readmission Only</th>
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<tr>
<td>0 yrs</td>
<td>15.1</td>
<td>16.2</td>
<td>13.5</td>
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<tr>
<td>1.4 yrs</td>
<td>16.2</td>
<td>14.5</td>
<td>14.5</td>
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<td>5-9 yrs</td>
<td>13.5</td>
<td>17.9</td>
<td>17.1</td>
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<td>10-14 yrs</td>
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<td>30-34 yrs</td>
<td>17.3</td>
<td>15.1</td>
<td>14.7</td>
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<td>35-39 yrs</td>
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Type of Representation:  
- **ED Only**  
- **ED and Inpatient Readmission**  
- **Inpatient Readmission Only**
Issues when Analysing Linked Data

- Not straightforward, requires a detailed knowledge of collections themselves and considerable analytical skills
  - Need to work collaboratively with others to complete your knowledge
  - Don’t expect to get it right the first time
- Some of the challenges include:
  - Combining contiguous events into a single journey:
    o Dates not matching between and within datasets
    o Transfers and nested records
  - Incorrectly flagging continuations of journeys as representations
  - Multiple values: demographics, facilities, LHDs, administrative factors, clinical factors – which do you use?
Conclusions

- Shows ED attendances and inpatient admissions are intimately linked when reviewing patient flow issues.
- Need for caution when using single setting unlinked data.
- Power of linking data across routine collections.
- Leveraging the maturing data environment.
- Issue is not about readmissions per se it is about the understanding Why!
Further information

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