THE THREE CRUCIAL ASPECTS OF ABF READINESS

+ Data integrity A.

+ A. What units of activity are we funding?

+ Data integrity B.

+ B. How accurately are we measuring activity?

+ Data integrity C.

+ C. How do we respond to ABF signals?
Are the states and territories ready?

- A. UNITS OF FUNDING
- B. ACCURACY OF MEASUREMENT
- C. FEEDBACK TO SERVICE DELIVERY
Data Integrity A

What activities are we talking about? / What are we funding?

- Classification uniformity – reliability
- Classification validity – fitness for purpose(s)
- Classification acceptance – and coding conformance
- Counting – admission policies – scope – unit of activity definitions
- Data abstraction rules – bundling policies – incentives
GRANULARITY OF CATEGORIES

- **Terms – concepts**
  - +/- 600,000 Snomed CT terms
  - +/- 300,000 Snomed RT concepts
    - Classification categories
  - +/- 15,000 Diagnoses
  - +/- 5,000 Procedures
  - 500<->1000 DRGs
  - 300<->400 ADRGs
  - [ +/- 200 SRGs - +/- 100 Clinical service types]
  - 23-26 MDCs or Chapters
# Design Issues for funding categories

## USE CASE ISSUES
- Purpose
- Responsibilities
- Design principles
- Review and Revising process
- Currency, DRG unit of activity for payment
- Setting Independence
- Bundling

## TECHNICAL APPROACH
- Iso-Resource Groupings
- Clinically meaningful
- Comprehensive coverage
- Readily available data
- Quantitative rules
- Statistical Criteria
- Improving the Explanation of Variance
Complete care products or inputs?

- **Who bears the risk for clinical choices? Continue to pay for inputs?**
  - Care types and DRGs
    - Rehabilitation, aged care, specialised nursing
    - Chronic care, Mental health.
  - ICU/ED In or out?? – well yes and no!!

- **Risk adjusted capitation groupings**
  - DCGs, CRGs etc
  - Care-staging-associated unbundled groupings – eg DBCs

- **Service Related Groups – SRGs**
  - Specialty utilisation measures – DRG aggregations
Admission rules

DEFINITIONS AND RULES

- EF INPATIENTS
- SAMEDAY INPATIENTS
- ED PATIENTS
- TRAUMA AND ACUTE ILLNESS
- FFS AMB PATIENTS
- PRIVATE AND DISCRETIONARY ELECTIVE??
- SAME DAY INPATIENTS
- BUNDLED OUTPATIENT
- AGED CARE AND MENTAL HEALTH PROGRAMS
- CHRONIC CARE PROGRAMS

PRIVATE AND DISCRETIONARY ELECTIVE??
Change of care type rules and practice

% Inputs by Care Type

Day of Episode of Care or Spell

'Acute Care'

'REHABILITATION CARE'

‘x’
Groups of healthcare activities which are:

- Similar (standard) resource consumption
- Derived using readily available data
- Clinically meaningful
  - Describe actual/typical care patterns
  - An eye to incentives for efficiency/quality
- Manageable number of groups
- ?? Mappable from other systems
- Benchmarking – time series
Data

- Primary data sources
- Underlying classifications
  - ICD/Morbidity, Procedures, Patient function
- Dependent variable
  - E.g. EPISODE:
    - Cost, length of Stay, price, charges
    - Quality indicators – process/outcomes
  - N.B. Problems with unbundled episodes
- Available design and test data sets
Statistical/classification tools

- Discriminant analysis (DA)
  - Uses least squares methods

- Regression models (multiple and logistic)
  - Relationship between multiple variables

- Artificial Neural Networks
  - Interconnected simple processors

- Tree-based algorithms (CART)
  - Classification and Regression Trees (CART), CHAID
  - AUTOGRP (Yale)

- Rules for new groups
  - Size, homogeneity

PCSI Summer School
Clinical input and design

- Clinical Panels, representatives of medical associations
  - Australia, UK

- Formal representation from hospitals, medical associations
  - USA, Germany

- Direct clinical design input and evaluation
  - Practicing clinicians, full time design, feedback loop to behaviour
  - Dynamic commentary loops – push and pull.
Predictive power of FI

Diagnosis

Procedure

Comorbidity

Age, Gender

Functioning Information

DRG

Length of stay

Without FI

With FI

13%  19%

8%  28%

References:

Dunstan et al. 1996; Sahadevan et al. 2004; Covinsky et al. 1997; Chuang et al. 2003; Pilotto et al. 2011
Data Integrity B

How well are we measuring activity and costs?

- System integration
- Data timeliness – feedback to clinicians
- Quality assurance edits and audits
- Mixed motives cultures – budget vs performance – reasonable exceptions – ‘commercial in confidence’
- Fraud, cost shifting and care model complexity – what about transparency and accountability?
INFORMATION SYSTEMS SCHEMA

STATISTICAL ANALYSIS

REPORT REPOSITORY

CUBES PIVOT

REPORTING LAYER (MIS)

DATA WAREHOUSE

BUSINESS LAYER

eg. SAS, SPSS, STATA, ACCESS
eg. BUSINESS OBJECTS
eg. COGNOS, BRIO, EXCELL

Aggregate

AED
EMD
ESIS

MH
DW

MH
ODS

MH
CMI

SUPPLY

HR

FMIS

PAS

EHR

DSSs/MDSs

eg. Oracle, SAP, etc
Don’t forget there are 2+ MIS data flows for ABF and good hospital management.
Data timeliness – feedback to clinicians

- Last year’s statistics are too late
- ABF data only ask a few questions
- ABF data do NOT give the answers
- We must have clinical data for clinical responses
- Equity/access questions are clinical questions also
Quality assurance, edits and audits

- When was your last external coding audit?
- How much QA do you do in your coding unit?
- What edits are built into data extraction and entry?
- How often are the edits refreshed or changed?
- How much automation is in the coding?
Mixed motives cultures – budget vs performance – mmmm...

- “If we report that way instead of the way we do it now, we will will lose $2m”!
- “We need to split out Emergency department / ICU costs from all DRGs because those services are managed separately”!!
- “If we discharge early we will be placing a burden on the primary care services”!!
- “We can’t tell you why we need the extra money for:
  - It would cost too much to collect the data”...
  - There may be privacy implications”...
  - There are commercial-in-confidence / market considerations”...
Fraud, cost shifting and care model complexity

- “They want data – give them data”
- “Get the GP to order your Xrays and bring them in
- “You can get an earlier follow up appointment at the private clinic co-located.
- “We are going to discharge you today but you can come back to finish your Rehab program at the day centre.
- “Our patients are different – Or – “We do that differently.
Data Integrity

Are our system managers responding to ABF signals?

+ Achievable targets and meaningful consequences
+ Fudging data or really improving healthcare?
+ Tracking utilisation to patients is not just about costing
+ Utilisation monitoring and best practice management
+ Benchmarking and responding to variability
Achievable well informed targets and meaningful consequences

- Efficiency and quality achievement targets – the fundamental of cross-subsidisation – patient to patient – hospital to hospital
- Transition arrangements – Budget neutral modelling – in the delivery system.
- Managing across the system – managing within the system – with good information on utilisation
- The consequences of expensive variability
  - Either .. prove you are right: BOTH equity AND outcome.. or..
  - Escalation of question if adjustment does not occur.
Fudging data or really improving healthcare?

+ “Empty beds? – just admit more outpatients – the NWAUs are much better in acute.
+ “Do we need more secondary diagnoses?
+ “What are the clinic names for the best Outpatient cost weights?
+ “How many times can we change the care type and administratively readmit in one day? .. OR..
+ “What do the coding standards say? Do we need a clarification on that coding standard?
+ “Can we include that in the next coding or admission practice Audit?
Tracking utilisation to patients is not just about costing

- Patterns of utilisation by case type AND variability benchmarking is important for quality management.

- *How can clinicians match best practice amongst natural patient variability unless data on case loads and peer norms are provided?*

- *How can quality and safety risk processes/practices be identified BEFORE the disaster / mortality / avoidable complications arise?*

- Utilisation analysis data = accurate costing data. – PLICS -
Look! You spent too much on patient 15644.

But patient 15644 was different from normal.

Utilisation monitoring and best practice management.
I've checked, and patient 15644 wasn't different at all!

I'll try not to do it again.
<table>
<thead>
<tr>
<th>Elements of cPaths</th>
<th>Our hospital</th>
<th>Other hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted how long before procedure?</td>
<td>9 hours</td>
<td>6 hours</td>
</tr>
<tr>
<td>Post-op hours in CCU</td>
<td>6 hours</td>
<td>Nil</td>
</tr>
<tr>
<td>Review of discharge plan at admission?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Discharge OK delegated?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

cost data and clinical patterns
THE LOCUS OF EFFICIENCY

“EVERY CLINICAL DECISION IS AN EXPENDITURE DECISION”
Are the states and territories ready?

A. UNITS OF FUNDING

B. ACCURACY OF MEASUREMENT

C. FEEDBACK TO SERVICE DELIVERY
QUESTIONS?