



**National Health
Funding Body**

Data matching of hospital activity and MBS claims: an unexpected journey

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*Proudly assisting the Administrator
of the National Health Funding Pool*

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A brief history

- Why match hospital activity with MBS claims?
- Administrator and NHFB – role and functions

What's it all about

- Data, business rules, hardware, software
- Journey so far

What have we learned

- Benefits and opportunities
- What states, territories and LHNs should consider

Next steps

A brief history

- Why match activity data with MBS claims?



Clause A6 of the National Health Reform Agreement states:

‘... the Commonwealth will not fund patient services through this Agreement if the same service, or any part of the same service, is funded through any of the benefit programs or any other Commonwealth program.’

A brief history

- Administrator and NHFB role and functions



The Administrator:

- Is an independent statutory office holder, distinct from Commonwealth and state and territory departments.
- Was established by the *National Health Reform Act 2011*
- Functions are specified by the Act and the National Health Reform Agreement. Including:
 - Calculating Commonwealth's contribution to public hospital funding
 - Making payments to Local Hospital Networks (LHNs) in line with directions of the relevant state/territory Minister
 - Reporting on transactions through the Pool.

The NHFB assists the Administrator in the performance of his/her duties.

What's it all about

- Data

From states and territories:

- Hospital activity data (NMDS, DSS etc.)
 - Patient level and aggregate
- Medicare Numbers for each patient level activity record
 - Converted to Medicare PINs by Commonwealth DHS

From the Commonwealth:

- Medical Benefits Schedule (MBS) claims data
- Pharmaceutical Benefits Scheme (PBS) claims data

*both datasets include Medicare PINs

See Administrator's *Three year data plans*—
www.publichospitalfunding.gov.au/dataplans

What's it all about

- Hardware and software

Hardware

- An Enterprise Data Warehouse (EDW) is used to receive, store, link and analyse the data. The EDW characteristics include:
 - secure online system for receiving data
 - secure access control management
 - a facility that allows secure access to approved data products
 - a physically secure location with disaster recovery capabilities
 - compliance with relevant Australian Government security policies.

Software

- Teradata
- SAS

See Administrator's *Data privacy, secrecy and security policy* –
www.publichospitalfunding.gov.au/operationaldocuments

What's it all about

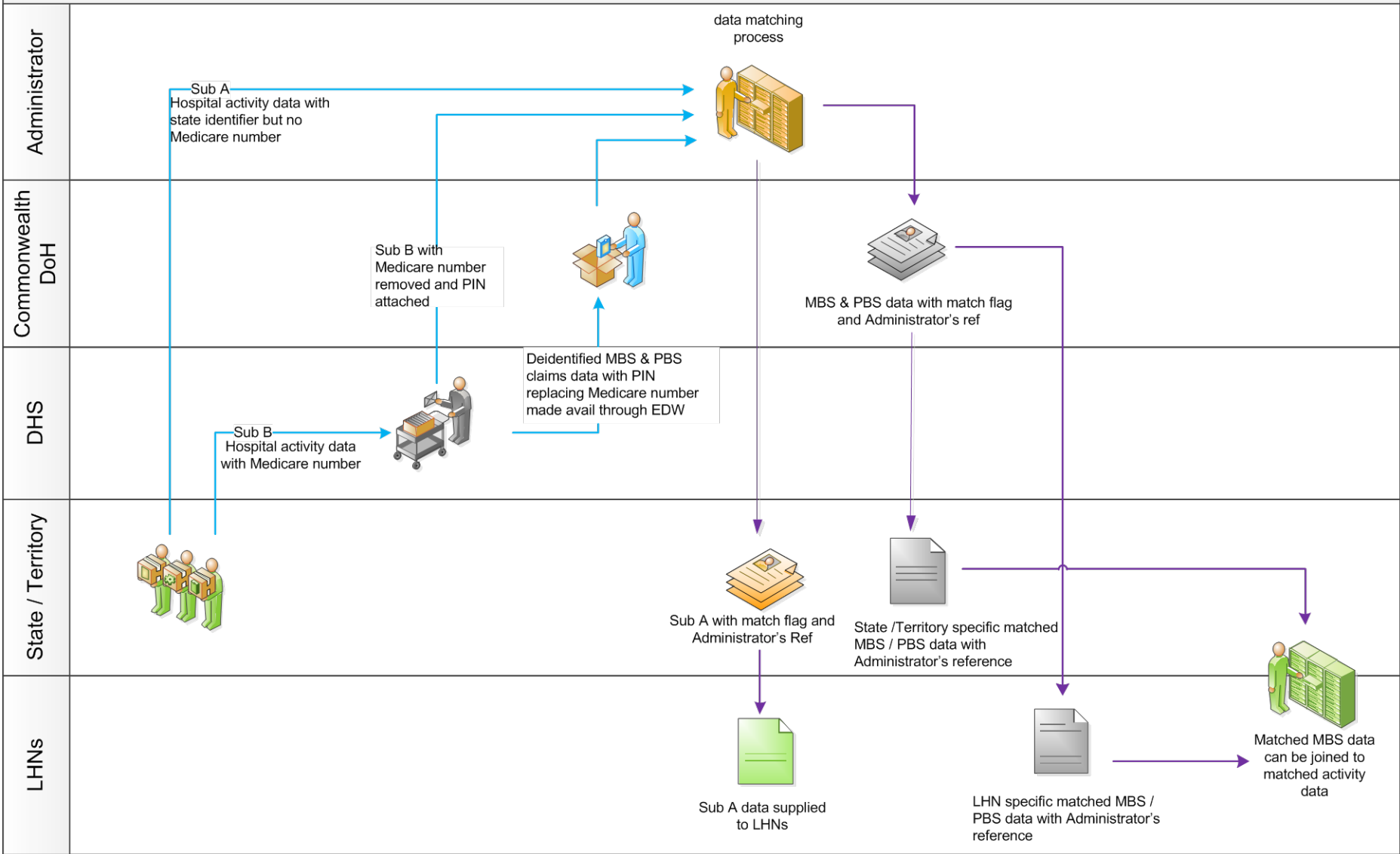
- Business rules

- The business rules form the ‘intent’ for an agile process to match data on hospital services with data in the MBS and separately with data in the PBS, informed by patterns and limitations observed in the actual data.
- The business rules include:
 - Matching principles
 - Data preparation steps
 - Detailed matching process
 - Matching scenarios and decision paths
 - Reference data requirements
 - Clinical markers.

See Administrator’s *Business rules for determining hospital services eligible for funding* –

www.publichospitalfunding.gov.au/operationaldocuments

Data matching data flow



What's it all about

- Journey so far (proof of concept)

- Environmental scanning - political, policy and legislative
 - Engagement with jurisdictions
 - Privacy, secrecy and security considerations
 - Technology and expertise – leverage off what is available.
- Understanding and testing the data
 - Data elements (Activity, MBS, PBS) – intended use, meaning and validity
 - Interaction with other data elements or data sets.
 - Expert advice.
- Preparing the data (prior to matching)
 - System capacity and technical capabilities
 - Consistency across data sets
 - Impacts of the sequence of steps
 - Confirm no loss in data integrity from preparation stage.

What's it all about

- Journey so far (proof of concept)



- Developing and refining the matching rules
 - Based on understanding of data and expert advice
 - Design scenarios to test hypotheses
 - Test rules and refine based on outcomes and feedback.
- Generating and analysing outcomes
 - Match activity records to MBS records
 - Sensibility checking
 - Trend analysis, case studies
 - Investigations with state and territory health departments
 - Expert reviews.
- Sharing matched MBS data with state or territory
 - Public Interest Certificates for each state, territory and LHN
 - Secure delivery mechanism – EDW Drop Boxes
 - **Generate relevant matched data sets for release.**

What's it all about

- Journey so far (proof of concept)



2013-14 outcomes:

- Acute admitted (middle days) - \$126.0 million (NHR), \$3.5 million (MBS)
- Acute admitted (including admission and separation days) - \$403.5 million (NHR), \$21.9 million (MBS)
- ED - \$92.2 million (NHR), \$46.2 million (MBS)
- Non-admitted - \$5.8 million (NHR), \$4.6 million (MBS)

Notes:

- NSW, VIC, QLD and SA – no data matching analysis conducted for non-admitted.
- WA – no data matching analysis conducted for ED.

What have we learned

- Benefits

The proof of concept phase has revealed the following potential benefits:

- Improved resource allocation/utilisation
- Improved compliance with MBS and PBS claim and hospital admission rules
- Improved data quality and integrity
- Insight for states and territories on service delivery resourcing, contractual and billing arrangements
- Increased understanding of blended resourcing models, assisting services planning and system management.

What have we learned

- Opportunities

Patient identified data across hospitals, MBS and PBS programs provides a wealth of information that can lead to increased knowledge for improved outcomes for patients.

- Understanding of patient continuum of care
- Data integration for improved planning
- Trend analysis
- SAS Visual Analytics
- Other analysis beyond that for matching purposes
- Knowledge of integrated health and hospital system

Next steps

- Beyond proof of concept?

- Prove concept for acute admitted middle days
 - Feedback and evidence from states, territories and LHNs
 - Implement process for reviewing, confirming/refuting matches prior to financial adjustments being made
- Strengthen business rules for day-of-admission and day-of-discharge
- Address ED and Non-admitted settings
- Conduct matching with PBS (all settings)
- Patient journey and continuum of care
- Clinical markers
- Continued analysis and review

Next steps

- What states, territories and LHNs should do



- Review billing circumstances:
 - Arrangements with third party providers
 - Rights of private practice
 - VMOs
 - Other hospitals/LHNs
- Review billing practices
 - Acute admitted
 - ED
 - Non-admitted
- Other
 - State funding policy

So why was the journey 'unexpected'?

