

Delving into the intricacies of clinical costing data to improve patient outcomes



Agenda

- Value of Data
- Early Days
- Situation Today
- Summary



Value of Data

- Transition from volume to value-based care model
 - Essential for healthcare organisations to gain complete understanding of treatment pathways of specific patient populations
 - Need to improve patient outcomes in most economical way
- While providing valuable information for remuneration models, clinical costing data also facilitates insights into service & operational performance
- Traditionally information has been filed on servers & presented retrospectively for operational reporting
- Use of visualisation tools allows key indicators to be highlighted

Early Days



Clinical Costing provides a systemic means of collecting, identifying and applying all costs to all types of treated patients. The capture of activity data across the health service and the linking of the activity.

Early Days

- Outcomes & implications . . .
 - Patient admissions no longer bear equal value
 - Introduced in Victoria in 1993-94 as part of a program of public sector restructuring to reduce expenditure & improve efficiency
- Clinical costing introduced to provide data to calculate cost weights to support casemix based funding
 - Early days involved large transactional based systems that were data hungry when data was not available
 - Required a different way of thinking & measuring activity
 - Mandated significant assumptions that impacted data applicability & value
 - Some challenges . . .

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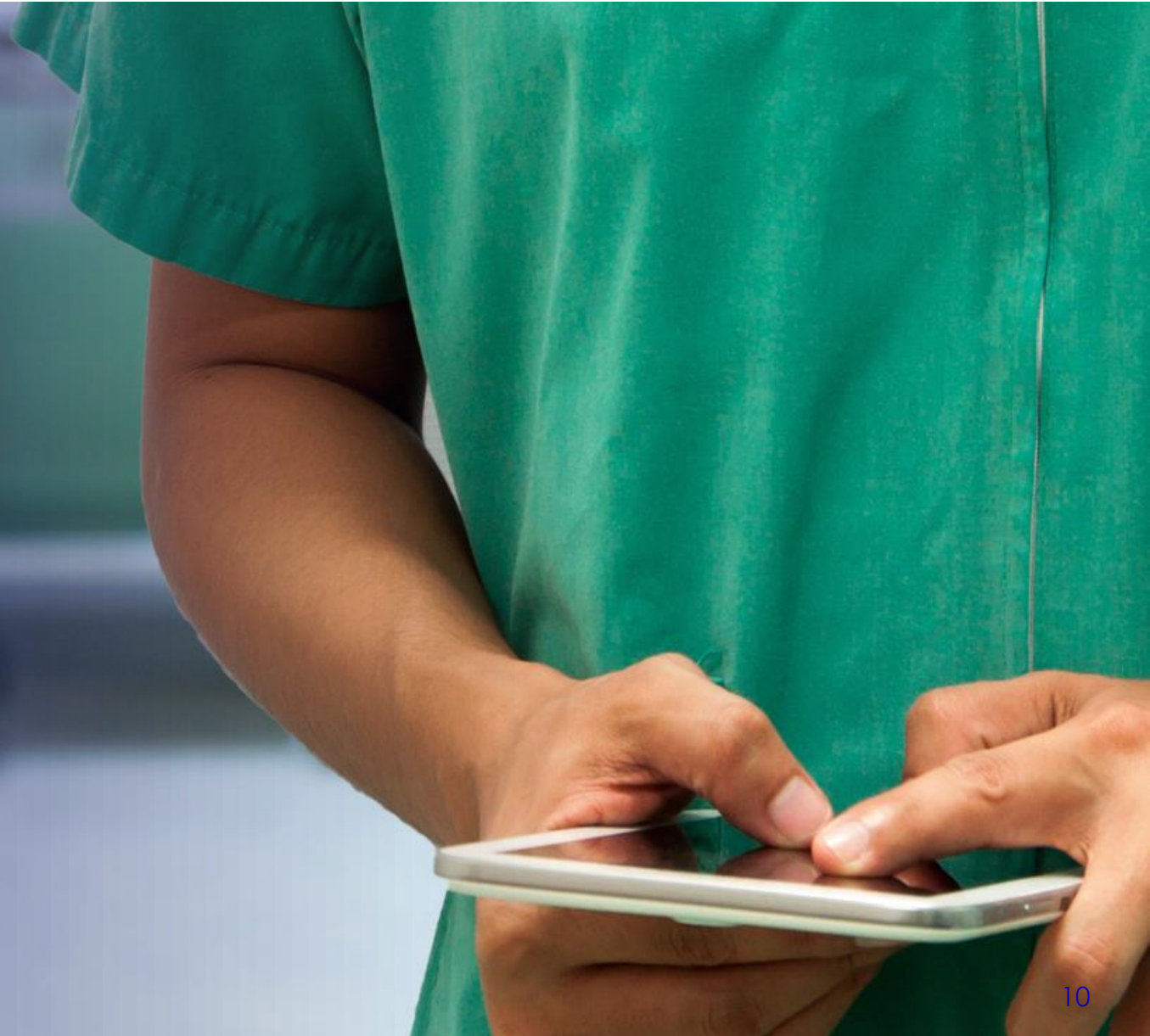
MEANINGLESSNESS!

Casemix funding is a method of allocating funds based on the activities hospitals perform and on the types and number of patients treated. Funding is allocated on the basis of **relative cost** of patients treated and to **reward improved performance and efficiency**.

Activity Based Funding

- Principles:
 - Classification: Group activity using similar amount of resources into clinical meaningful classes
 - Counting: Apply same rules & units to measure amount of activity that occurs
 - Costing: Measure in dollars amount of resources used to provide each output in classified group
- National Funding Reform
 - Funding reform of public hospital services involved adoption of a nationally consistent approach
 - Independent Hospital Pricing Authority (IHPA) benchmarks efficient cost of hospital services
 - Commonwealth & state funds pooled & provided to health services
- Largely dependent on clinical costing & cost weights

Situation Today



VIC NEWS

Public hospitals eye cuts to jobs, services

Hundreds of jobs in hospitals may be axed and operations cut as the state's public hospitals, grapple with debts in the tens of millions of dollars. **Remind me again, what's the problem with hospital funding?**

Health Cuts – The Facts

Australian Medical Association warns hospital 'funding crisis' jeopardises patient safety

HOSPITAL PHARMACY FUNDING CUT A 'DISAPPOINTING REALITY' FOR PATIENT CARE

Australia's Health System: Some Issues and Challenges

What has changed?

Now

- Tools allow actual costs to be more directly attributed
- Focus moved to cost rather than costing
- Lower overheads in processing data
- Recognised impact on funding models
- Experience with casemix / activity based funding

Impact

- Increased accuracy
- Outcome rather than input
- Less resource intensive
- Application understood
- Implication knowledge

Steps to Success

- Fundamental questions
 - Who is audience?
 - What information
 - What data?
 - What data sources?
 - What frequency
 - What currency?

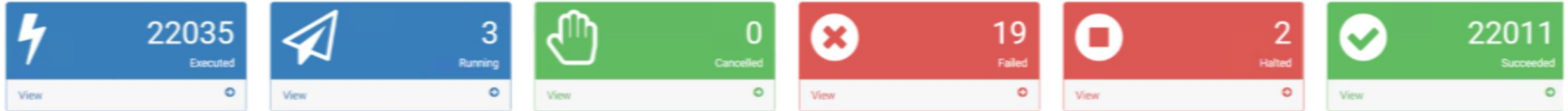


Approach

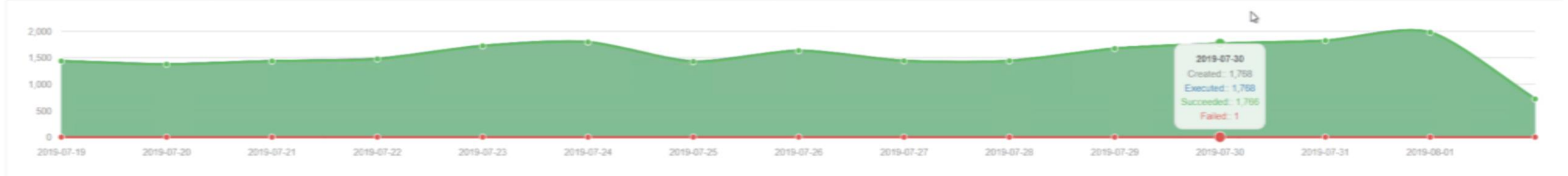
- Starting point is good data
 - Source system data reviewed for accuracy, integrity & consistency
 - Extracted & aligned with our purpose-designed enterprise data dictionary
 - Routines established to maintain currency & minimise need for ongoing manual intervention
- Understand what is happening to identify opportunities for improvement
 - Data is key to understanding
 - Clinical costing is one example
- Accessing data locked in proprietary systems
 - Getting to data - replication, extraction
 - Harmonising across systems

Stakeholder Engagement

- Iterative design sessions held with stakeholder groups
 - Start with education on capability of business intelligence tool to illustrate what was possible
 - Identify overall data set, key indicators & establish trends to be monitored
 - Visualisation options explored to determine most suitable presentation formats
 - Follow up sessions with stakeholders to validate design & build ownership
- Key stakeholders engaged throughout
 - Responsible for testing & validation of output
 - Understand capabilities of reporting tool
 - Parallel focus to validate accuracy & confirm suitability & interpretability



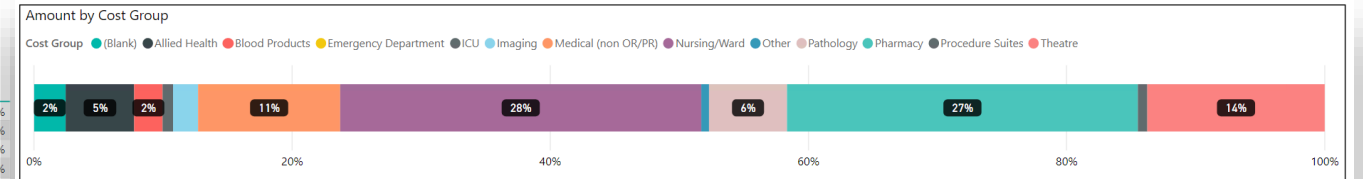
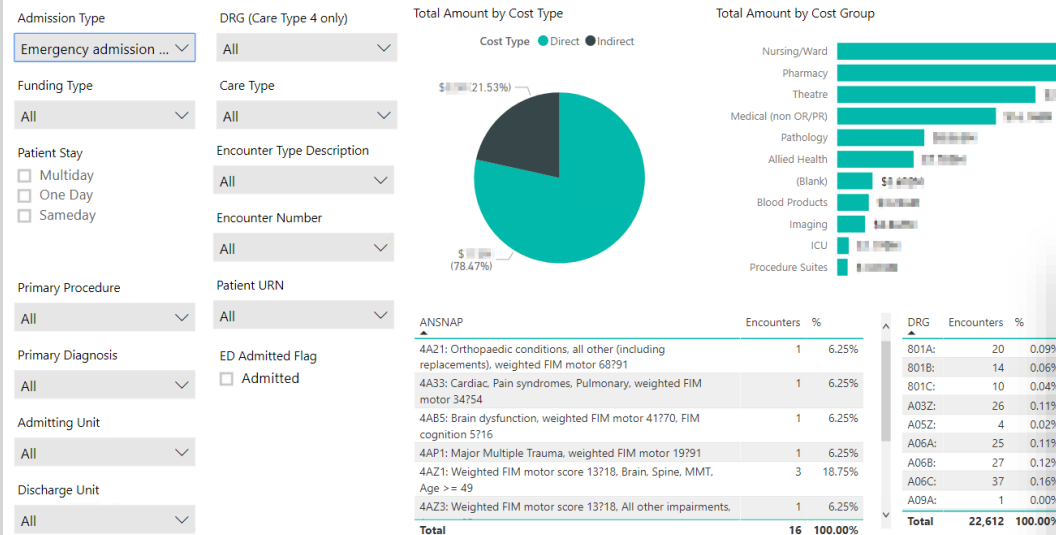
All Packages



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193649	Info	DWH_Incremental (v.10414)	Location_Load.dtsx	Succeeded	2019-08-02 08:51:02	2019-08-02 08:51:09	0.12	40	None
193648	Info	DWH_Incremental (v.10414)	Appointment_Fields_Load.dtsx	Succeeded	2019-08-02 08:51:01	2019-08-02 08:51:15	0.23	4	None
193647	Info	DWH_Incremental (v.10414)	Provider_Load.dtsx	Succeeded	2019-08-02 08:50:31	2019-08-02 08:50:58	0.45	None	None
193646	Info	DWH_Incremental (v.10414)	Episode_EventIP_Load.dtsx	Running	2019-08-02 08:50:06	None	None	112	None
193645	Info	DWH_Incremental (v.10414)	RefrenceData_Load.dtsx	Succeeded	2019-08-02 08:50:06	2019-08-02 08:50:28	0.37	75	None
193644	Info	DWH_Incremental (v.10414)	Orders_Medications_Fields_Admin.dtsx	Succeeded	2019-08-02 08:50:04	2019-08-02 08:50:58	0.90	None	None

3.47 Average LOS (Days)	83.33 Average LOS (Hrs)	4.97 ICU ALOS (Hrs)	0.15 HITH ALOS (Hrs)	 Total Cost	\$6,416 Average Cost Per Separation	22.86K Separations
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Total Encounter Cost Summary

Encounter Number	Allied Health	Blood Products	Emergency Department	ICU	Imaging	Medical (non OR/PR)	Nursing/Ward	Other	Pathology	Pharmacy	Procedure Suites	Theatre	Total
HLR190656	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR144988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR140484	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR167533	\$731	\$20,621	\$9,671	\$8,382	\$4,561	\$15,493	\$39,348	\$76	\$9,850	\$68,967	\$120,746	\$298,446	\$298,446
HLR223634	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR208617	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR160192	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR180687	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR226296	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$731	\$20,621	\$9,671	\$8,382	\$4,561	\$15,493	\$39,348	\$76	\$9,850	\$68,967	\$120,746	\$298,446	\$298,446

Indirect Encounter Cost Summary

Encounter Number	Allied Health	Blood Products	Emergency Department	ICU	Imaging	Medical (non OR/PR)	Nursing/Ward	Other	Pathology	Pharmacy	Procedure Suites	Theatre	Total
HLR188850	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR40484	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR44988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Direct Encounter Cost Summary

Encounter Number	Allied Health	Blood Products	Emergency Department	ICU	Imaging	Medical (non OR/PR)	Nursing/Ward	Other	Pathology	Pharmacy	Procedure Suites	Theatre	Total
HLR188850	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR40484	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HLR44988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Insights

- Total direct & indirect costs associated with patient episode & indepth data analysis available
 - Provides understanding of where budget is spent
 - Enables clinical & management staff to proactively focus on specific cohorts of patients to reduce overall cost & implement quality improvement initiatives
- Understanding relationship between health service expenditure & activity allows key patterns in expenditure to be discovered
- Conducting multivariate analysis of direct & indirect costs against different cost buckets provides further understanding of relationship between cost areas
- Predicting total cost of inpatient admission based on diagnosis & preliminary treatment plan useful in estimating costs of private / overseas patient admissions

Summary

Summary

- Streamlined access to data facilitates
 - Interrogation of clinical costing data to determine factors that influence behaviour & expenditure
 - Creation of opportunity to increase data literacy across organisation
 - Reduction in reliance on specialist staff to generate ad hoc reports on demand
- Exploits value of previously under utilised asset – DATA!

Thank you

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