


Independent Hospital Pricing Authority

HOSPITAL COSTING WORKSHOP

ABF Conference 2016

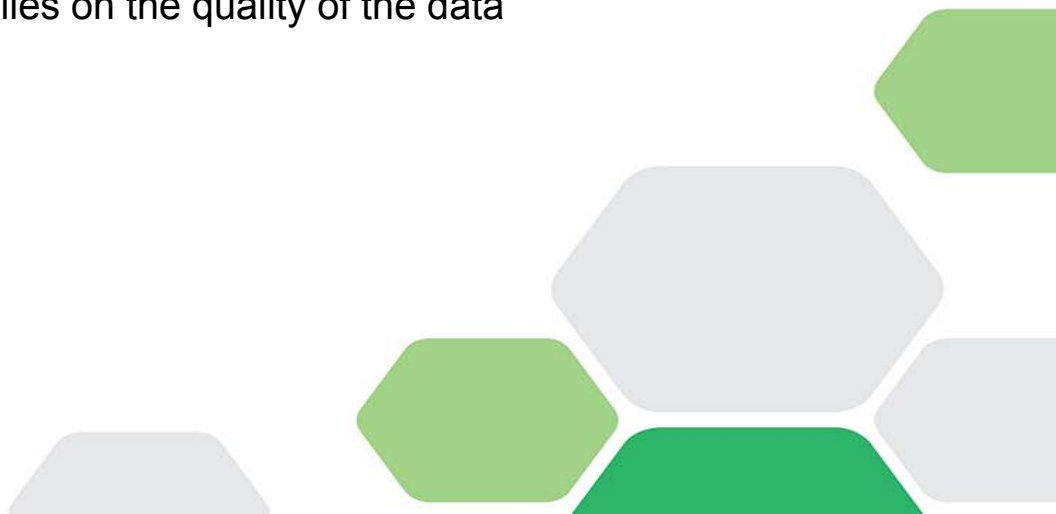


WHAT QUESTIONS ARE WE HOPING TO TACKLE IN THIS WORKSHOP?

- What is the National Hospital Cost Data Collection (NHCDC)?
 - What data is included in the NHCDC?
 - What can this data tell us about hospital costing practices in Australia?
 - What are the challenges involved in hospital costing?
- 



WHY IS THIS DISCUSSION IMPORTANT?

- We are aiming to increase awareness of the potential of the NHCDC as a tool for everyone, from clinicians to jurisdiction representatives
 - The NHCDC can help improve understanding of services and resource allocation throughout Australian hospitals
 - The power of the NHCDC as a tool relies on the quality of the data
 - Data quality relies on all of us
- 




STRUCTURE OF WORKSHOP

Session 1 - 1:30 to 3 pm

- Presentation
 - Cost collection in the NHCDC
 - Analysis of cost centre and line item data
 - Hopefully this will spark questions from the audience!

Session 2 - 3:30 to 5 pm

- Panel discussion
 - Panel of experts field question on challenges involved in Hospital costing
 - Audience participation – ask your questions!
- 



PANEL MEMBERS

- **Chair: Dr Prabhu Sivabalan**, Associate Professor, Management Accounting, UTS Business School
 - **Dr Michael Rabenschlag**, Director, The Department of Economics, InEK GmbH
 - **Julia Heberle**, NSW Health
 - **Joanne Siviloglou**, Vic, Dept. of Health & Human Serv.
 - **Marco Luthe**, Royal Melbourne Hospital
 - **Colin McCrow**, Qld Health
 - **Stathi Tsangaris**, Director of Hospital Costing, IHPA
 - **Presenter: Dr Myles Cover**, Hospital Costing Technical Manager, IHPA
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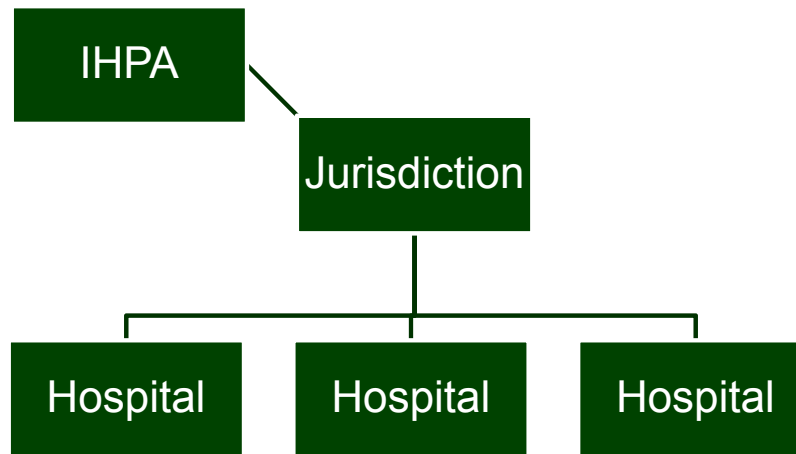
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WHAT IS THE
NATIONAL
HOSPITAL
COST
DATA
COLLECTION
(NHCDC)?

WHAT IS THE NHCDC?

- Voluntary collection of patient level cost data from Australian public hospitals
- Continuous collection over 19 years
 - First collected for financial year 1996-97
 - Currently collecting data for financial year 2014-15
- Currently contains data from
 - Admitted acute
 - Subacute
 - Non Admitted
 - Emergency Department
- Internationally unique and largest data set of its kind
 - 1 billion rows of data in Round 18

HOW IS THE NHCDC COLLECTED?



- From hospitals to jurisdictions to Commonwealth (currently IHPA)
- Costs are collected by episode, at the cost centre and line item level
- Matched with Activity Based Funding (ABF) activity data
- Best practice costing is set out in the Australian Hospital Patient Costing Standards (currently version 3.1)



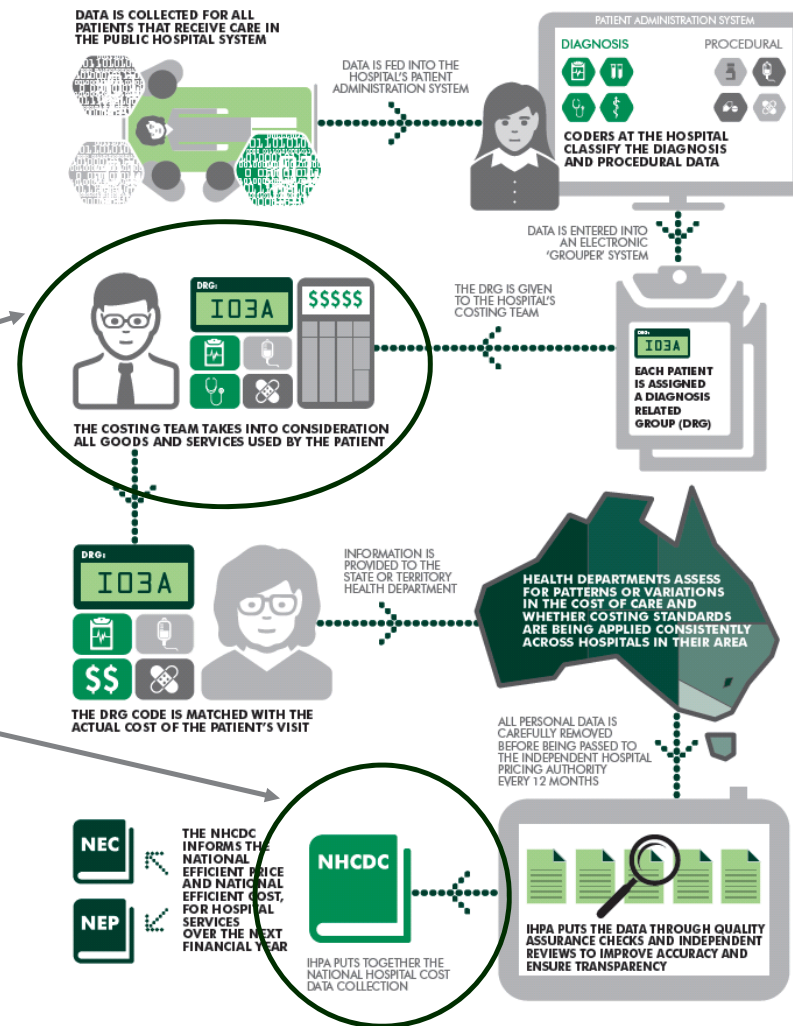
WHAT IS THE NHCDC USED FOR?

- Cost data summaries are publicly reported on through the NHCDC Cost Report
- Benchmarking information is provided through various data summaries such as the cost weight tables
- National Efficient Price and National Efficient Cost calculations use the NHCDC dataset

PATIENT COSTING PROCESS

How are costs allocated from the General Ledger to the patient level?

How are costs captured in the NHCDC?

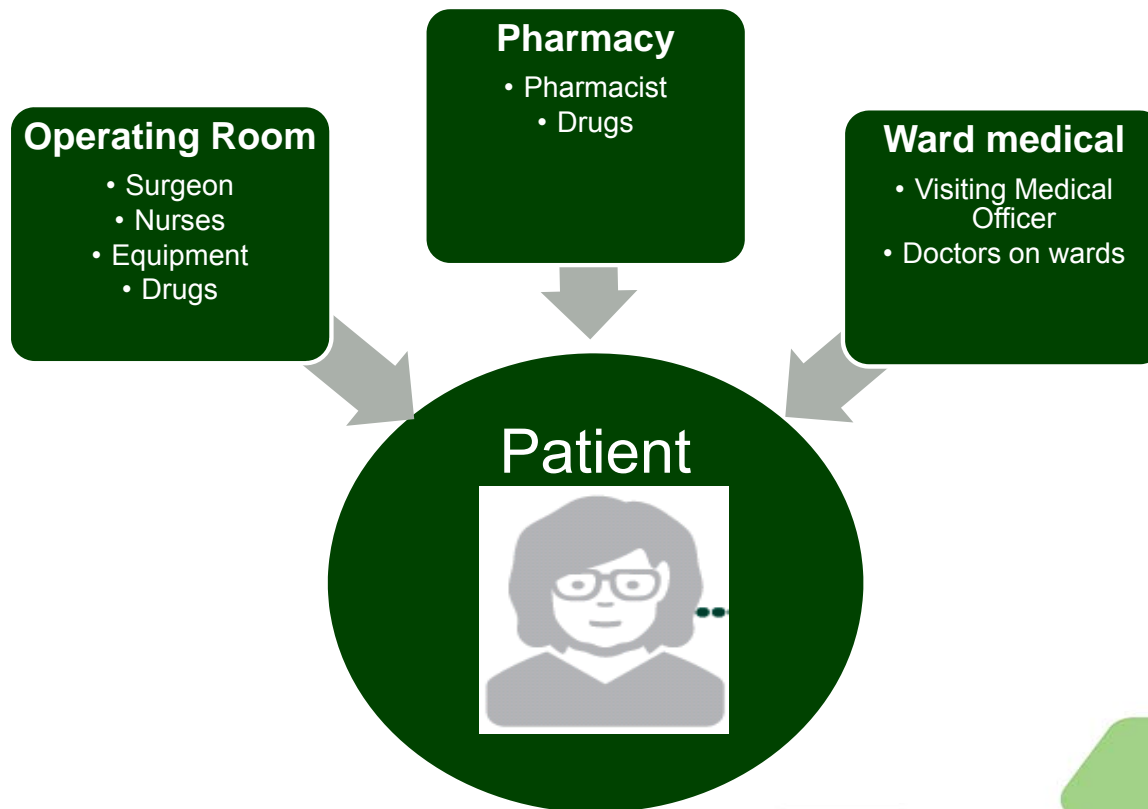




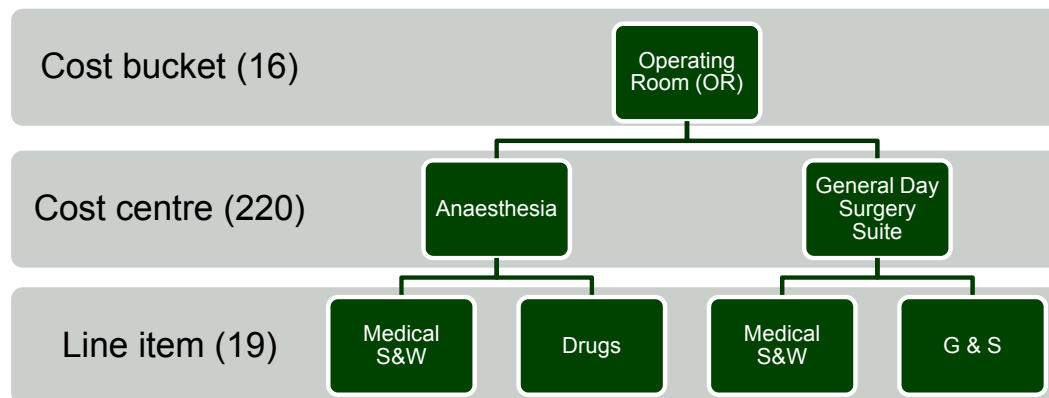
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WHAT DATA IS
INCLUDED IN
THE NHCDC?

COST BUCKETS



COST BUCKET



COST BUCKETS

- **Ward Medical**
- **Ward Nursing**
- **Non-Clinical**
- **Pathology**
- **Imaging**
- **Allied Health**
- **Pharmacy**
- **Critical**
- **OR**
- **ED**
- **Ward Supplies**
- **SPS**
- **Pros**
- **On Costs**
- **Hotel**
- **Depreciation**

COST BUCKET MATRIX

Cost Bucket Matrix		Line Items																				
		SW Nurs	SW Med	SW AH	SW Other	SW VMO	Oncsts	GS	MS	Imag	Pros	Path	Blood	Phrm N_PBS	Phrm PBS	Corp	Hotel	Dprc B	Dprc E	Lease	Cap	Excl
Cost Centre Group	Allied	Allied						Allied		Imag	Pros	Path		Phrm		Allied	Hotel	Dprc	Dprc	Lease	Cap	Excl
	Clinical	Ward Nurs	Ward Med	Allied	Non Clnc	Ward Med		Ward Spl		Imag		Path		Phrm		Ward Spl						
	Crtcl	Crtcl						Crtcl				Crtcl										
	Imag	Imag						Imag				Path		Imag								
	Path	Path					Oncsts	Path	Imag			Path		Path								
	OR	OR						OR				OR										
	Phrm	Phrm						Phrm				Phrm										
	ED	ED						ED				ED										
	SPS	SPS						SPS				SPS										
	Other Serv	Non Clnc						Non Clnc				Non Clnc										

COST CENTRES

- Cost centres (220)

- Physiotherapy
- SocialWork
- OccupatTher
- Audio
- Diab
- ...



- Cost groups (11)

- Allied
- Clinical
- Critical
- Imaging
- Pathology

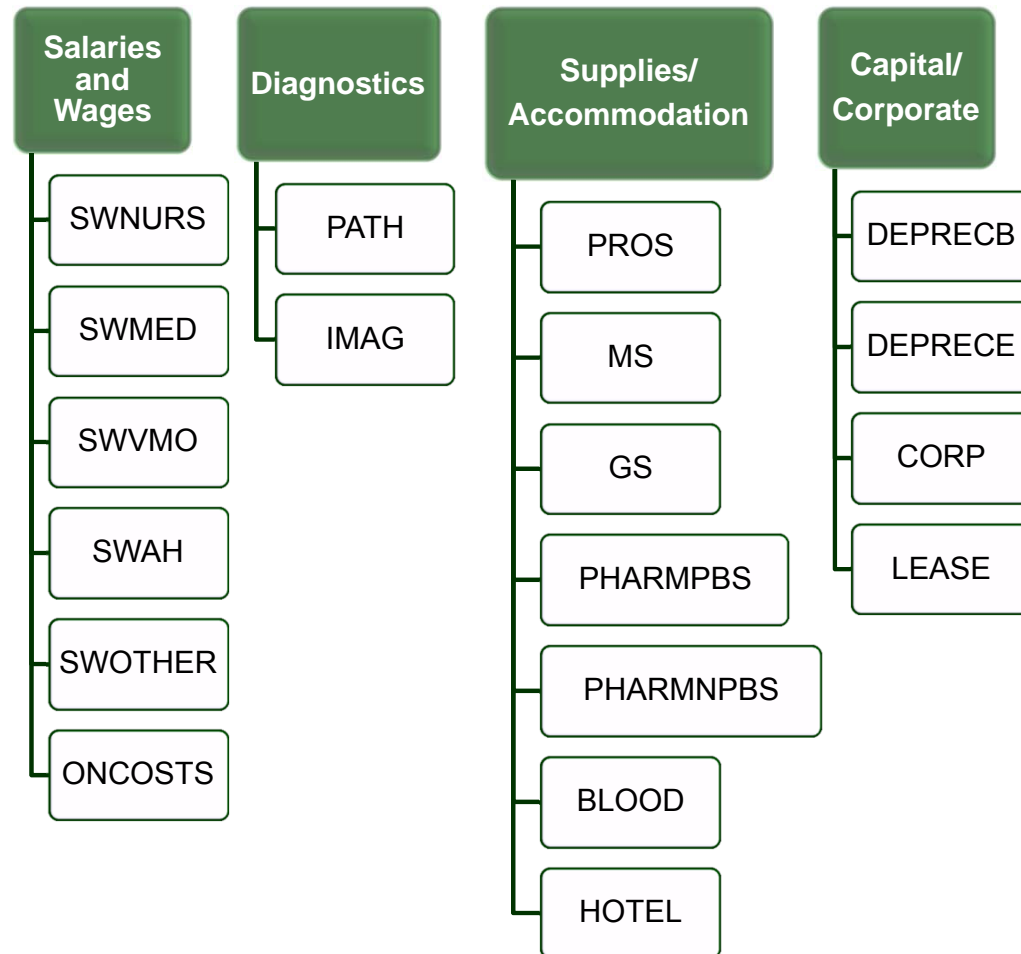
- OR
- Anaesth
- OtherOR
- RecoverRooms
- GenOr
- DaySurg
- ...



- OR
- Pharmacy
- ED
- SPS
- Other
- Hotel

LINE ITEMS

- Typically represent account codes (or groups of codes) from the general ledger
- Defined in the AHPCS
- 19 in-scope
- 2 are collected but currently out-of-scope for cost report and cost weight tables
 - Capital works
 - Excluded costs



COST BUCKET MATRIX

Cost Bucket Matrix		Line Items																				
		SW Nurs	SW Med	SW AH	SW Other	SW VMO	Oncsts	GS	MS	Imag	Pros	Path	Blood	Phrm N_PBS	Phrm PBS	Corp	Hotel	Dprc B	Dprc E	Lease	Cap	Excl
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	Crtcl	Crtcl						Crtcl				Crtcl										
	Imag	Imag						Imag		Imag		Path		Imag								
	Path	Path					Oncsts	Path	Imag			Path		Path								
	OR	OR						OR				OR										
	Phrm	Phrm						Phrm				Phrm										
	ED	ED						ED				ED										
	SPS	SPS						SPS				SPS										
	Other Serv	Non Clnc						Non Clnc				Non Clnc										



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APPLYING THE COST BUCKET MATRIX

NHCDC – COST C FILE

Each episode is submitted with multiple lines of cost centre and line item information.

Cost centre	Line item	Direct Cost (\$)	Overhead Cost (\$)
Anaesth	SWMedical	700	70
Anaesth	PhrmPBS	100	100
OR	SWNurse	200	50
OR	GS	50	10
OR	Pros	1500	100
Physiotherapy	GS	20	5
GenWard	SWNurse	100	10
GenPharm	SWMedical	50	5
GenWard	SWMedical	500	60
GenPharm	MS	120	10
Genpath	PhrmPBS	60	5
Physiotherapy	SWAH	100	15

NHCDC – COST C FILE

Cost centres are summarised to their cost groups

Cost centre	Cost Centre Group	Line item	Direct Cost (\$)	Overhead Cost (\$)
Anaesth	OR	SWMedical	700	70
Anaesth	OR	PhrmPBS	100	100
OR	OR	SWNurse	200	50
OR	OR	GS	50	10
OR	OR	Pros	1500	100
Physiotherapy	Allied	GS	20	5
GenWard	Clinical	SWNurse	100	10
GenPharm	Phrm	SWMedical	50	5
GenWard	Clinical	SWMedical	500	60
GenPharm	Phrm	MS	120	10
Genpath	Path	PhrmPBS	60	5
Physiotherapy	Allied	SWAH	100	15

COST BUCKET MATRIX

The cost bucket matrix is applied

Cost Bucket Matrix		Line Items																				
		SW Nurs	SW Med	SW AH	SW Other	SW VMO	Oncsts	GS	MS	Imag	Pros	Path	Blood	Phrm N_PBS	Phrm PBS	Corp	Hotel	Dprc B	Dprc E	Lease	Cap	Excl
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	Imag	Imag						Imag				Path		Imag								
	Path	Path					Oncsts	Path	Imag			Path		Path								
	OR	OR						OR				OR										
	Phrm	Phrm						Phrm				Phrm										
	ED	ED						ED				ED										
	SPS	SPS						SPS				SPS										
	Other Serv	Non Clnc						Non Clnc				Non Clnc										

NHCDC – COST C FILE

Using the Cost bucket matrix a cost bucket is identified

Cost centre	Cost Centre Group	Line item	Cost Bucket	Direct Cost (\$)	Overhead Cost (\$)
Anaesth	OR	SWMedical	OR	700	70
Anaesth	OR	PhrmPBS	OR	100	100
OR	OR	SWNurse	OR	200	50
OR	OR	GS	OR	50	10
OR	OR	Pros	Pros	1500	100
Physiotherapy	Allied	GS	Allied	20	5
GenWard	Clinical	SWNurse	Ward Nurs	100	10
GenPharm	Phrm	SWMedical	Phrm	50	5
GenWard	Clinical	SWMedical	Ward Med	500	60
GenPharm	Phrm	MS	Phrm	120	10
Genpath	Path	PhrmPBS	Path	60	5
Physiotherapy	Allied	SWAH	Allied	100	15

NHCDC – COST C FILE

Costs are summarised at the cost bucket level

Cost Bucket	Direct Cost (\$)	Overhead Cost (\$)
OR	1050	230
Pros	1500	100
Allied	120	20
Ward Nurs	100	10
Phrm	170	15
Ward Med	500	60
Path	60	5



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WHAT CAN THIS
DATA TELL US
ABOUT
HOSPITAL
COSTING
PRACTICES IN
AUSTRALIA?



COST CENTRE ANALYSIS

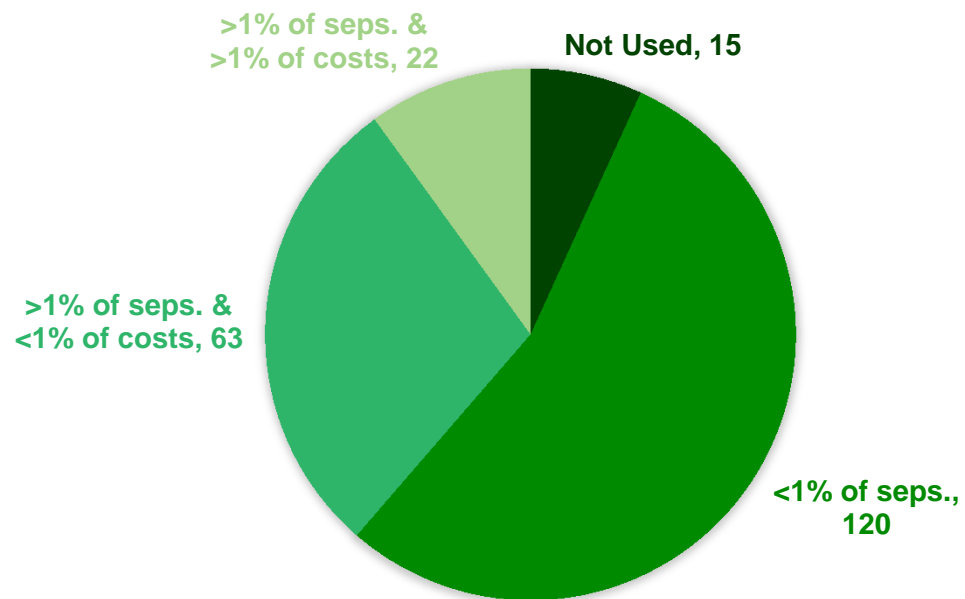
Round 18 (13/14) NHCDC
admitted acute

COST CENTRE MAPPING

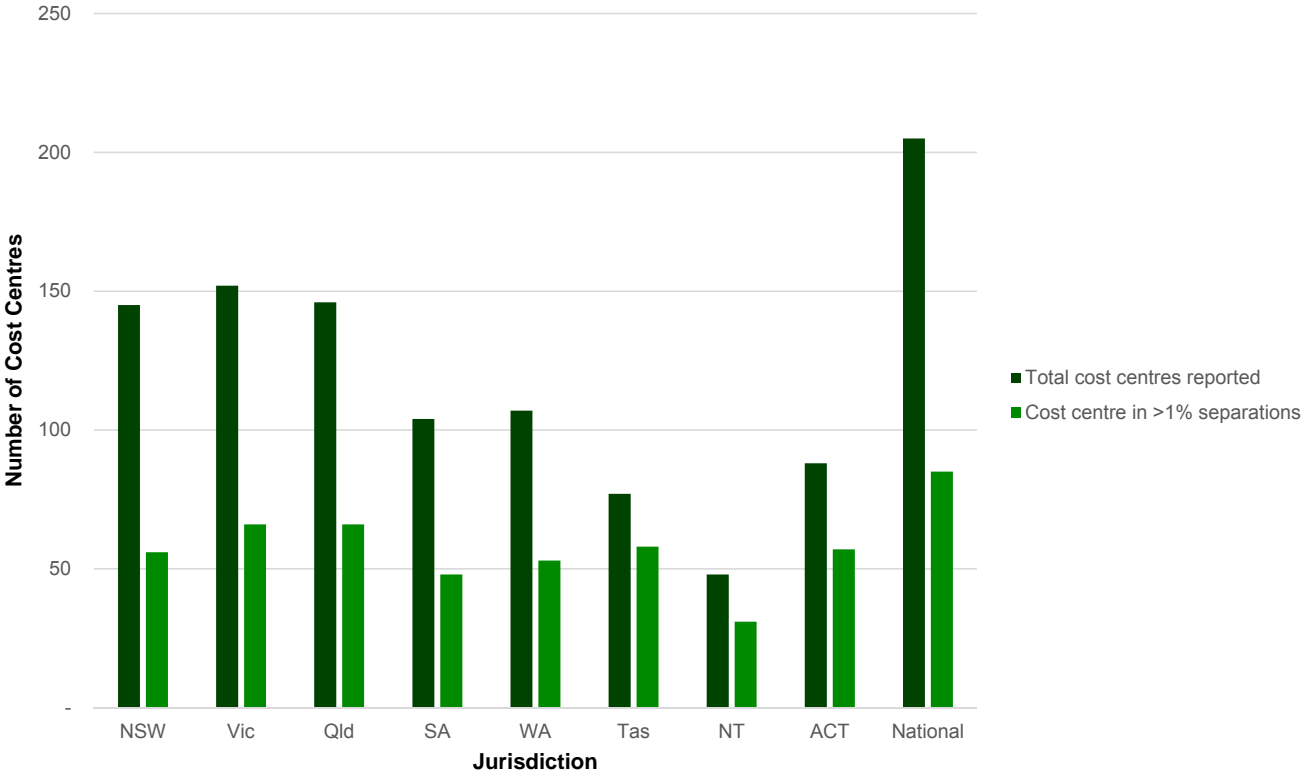
- Cost centre mapping is a complex procedure with 220 potential cost centres
- Consistent mapping of cost centres is vital as differences in cost centre mapping flow through to differences in cost bucket allocation
- Without consistent mapping, variation in cost centre utilisation could indicate real differences in hospital costs and activity or just differences in mapping methodology

COST CENTRE UTILISATION

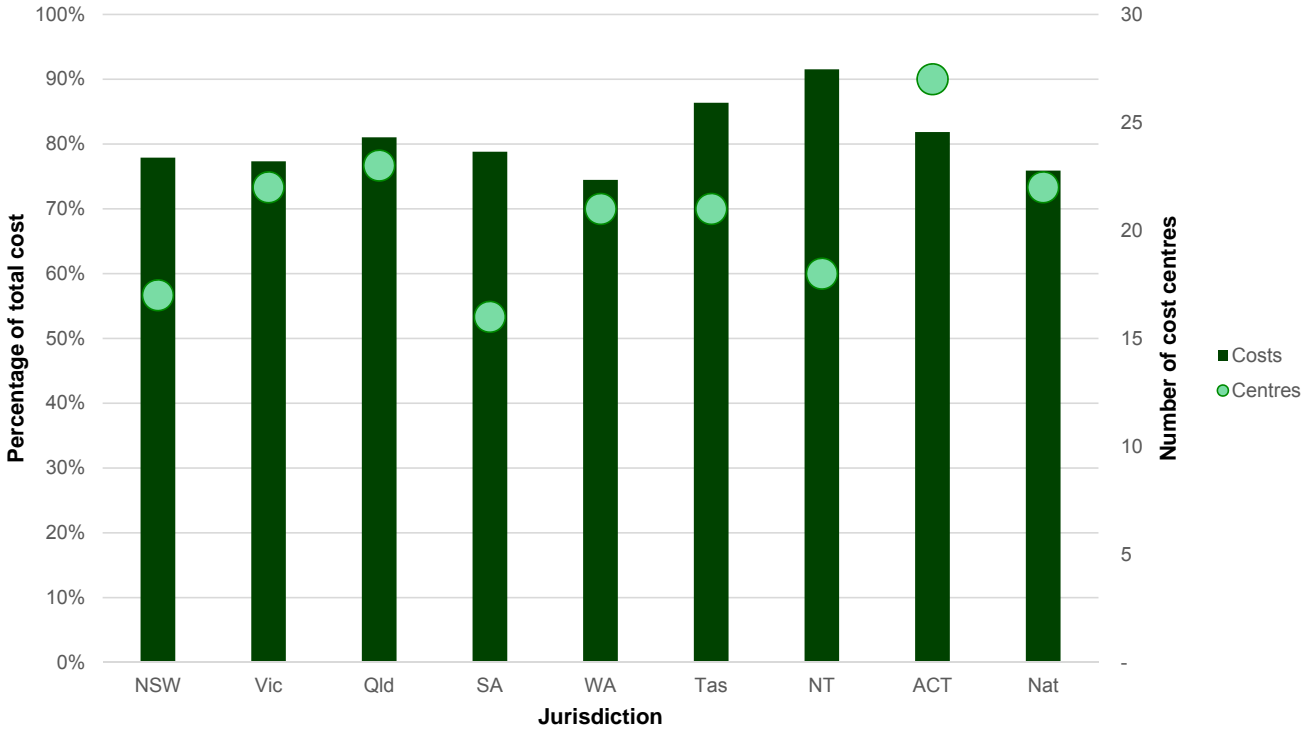
NATIONAL USE OF THE 220 COST CENTRES



NUMBER OF COST CENTRES USED




COST CENTRES WITH >1% COSTS ALLOCATED





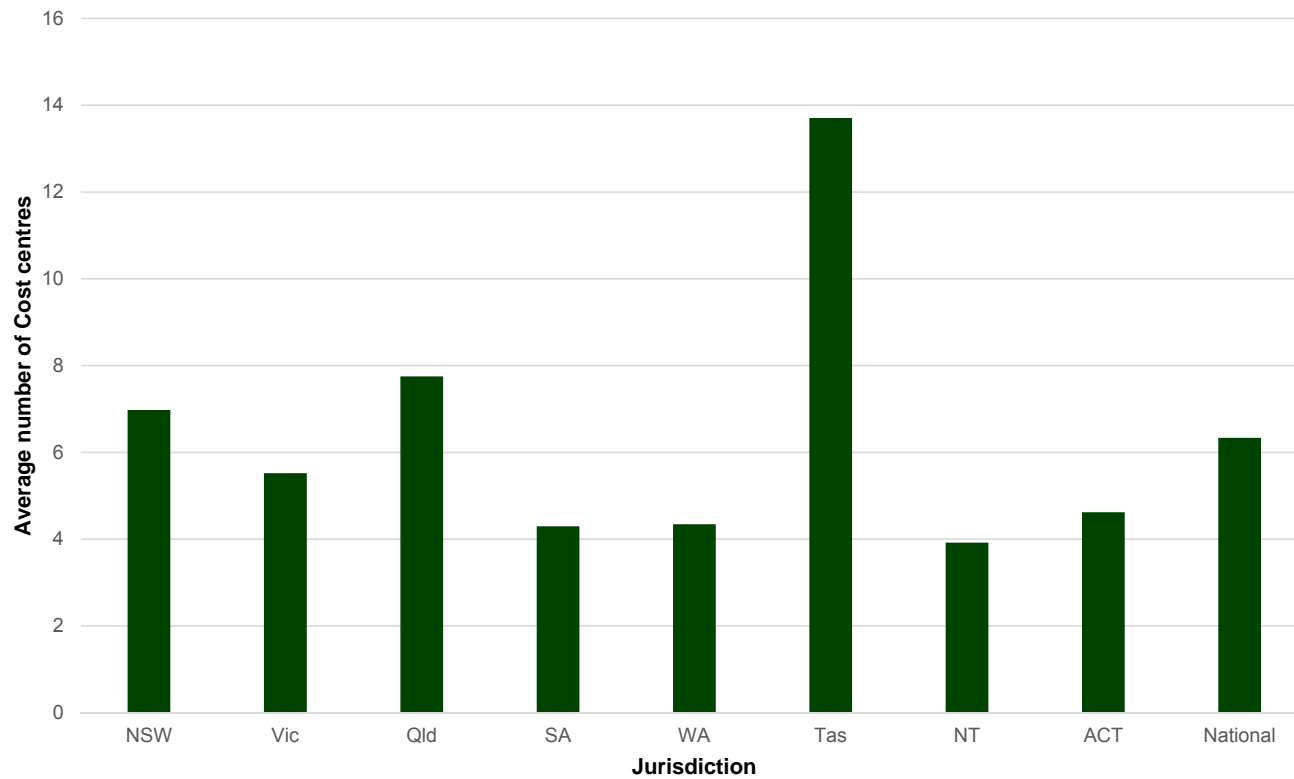
NUMBER OF COST CENTRES

- Most cost centres are used with 205 out of 220 cost centres reported
 - A core group of cost centres cover most hospital business
 - 85 cost centres were allocated to at least 1% of separations
 - 29 cost centres were allocated to at least 5% of separations
 - 22 cost centres were allocated at least 1% of totals costs
- 

"CORE" COST CENTRES

- GenWard
- GenMed
- OR
- GenSurg
- AICU
- Anaesth
- Psychiatry
- GenPath
- Specialty
- GenOr
- GenPharm
- Obstet
- Orthpaed
- GenImag
- Renal
- Prosthetics
- PaedGen
- ObsGynaeGen
- NICU
- Cardio
- Oncology
- EmergMed
- 22 cost centres were allocated at least 1% of national costs
- These 22 cost centres account for 75% of national costs

AVERAGE NUMBER OF COST CENTRES PER SEPARATION

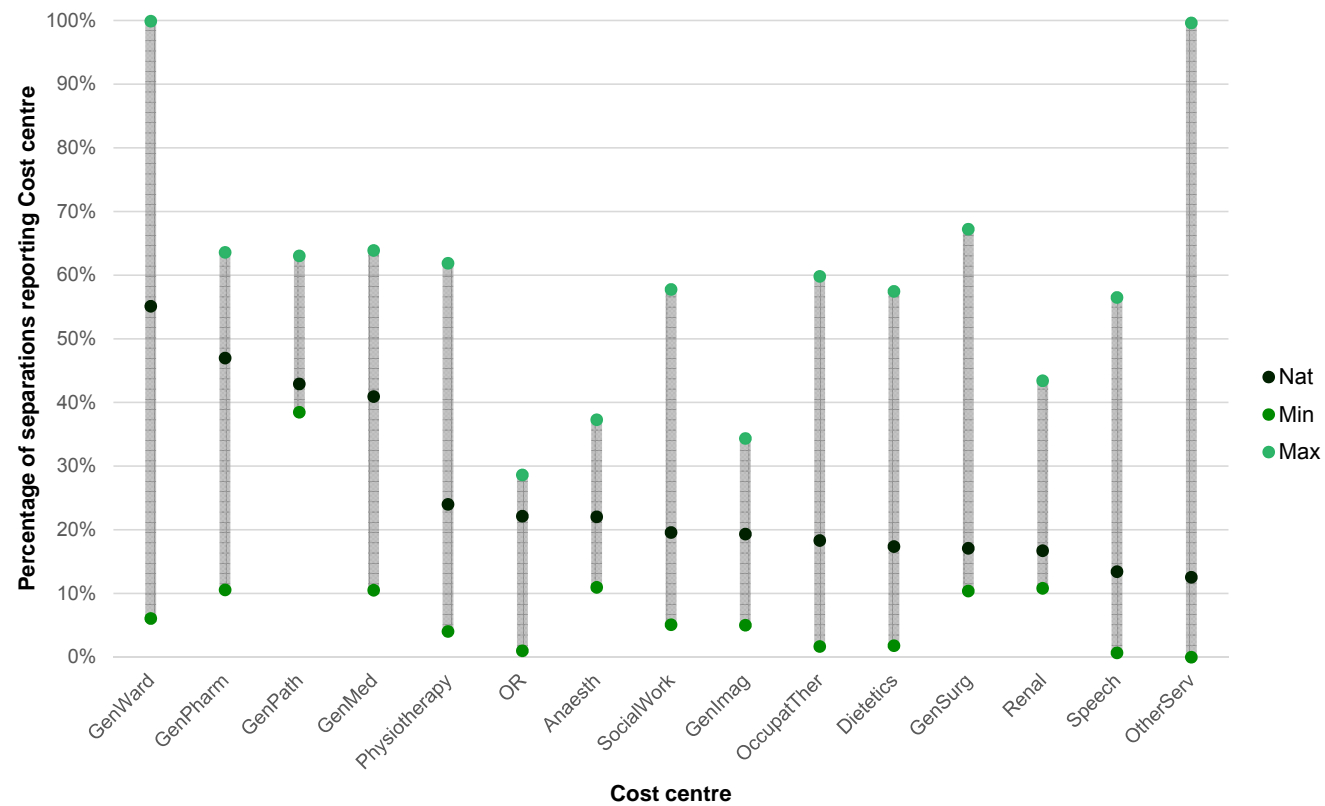


MOST COMMON AND HIGHEST COST, COST CENTRES

Jurisdiction	Most common cost centre	% of seps.	% of cost	Highest cost cost centre	% of cost	% of seps.
NSW	GenPharm	64%	1%	GenMed	14%	48%
Vic	GenWard	54%	5%	OR	15%	29%
Qld	GenWard	100%	18%	GenWard	18%	100%
SA	GenWard	48%	27%	GenWard	27%	48%
WA	GenMed	43%	11%	GenMed	11%	43%
Tas	OtherServ	100%	4%	GenOr	10%	32%
NT	RenalMed	51%	2%	GenWard	32%	32%
ACT	GenPath	63%	4%	AICU	9%	4%
National	GenWard	55%	12%	GenWard	12%	55%

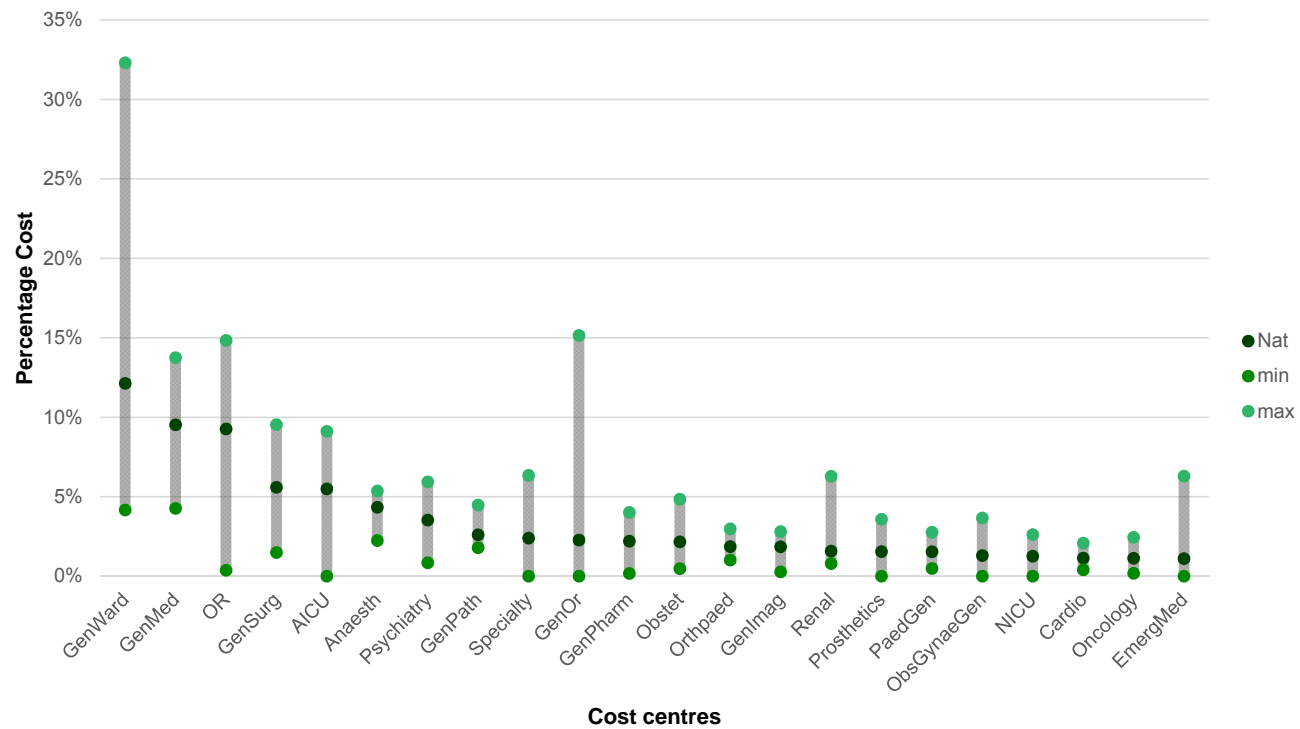
MOST COMMON COST CENTRES

WITH JURISDICTION VARIATION



COST CENTRES WITH HIGHEST COST

WITH JURISDICTION VARIATION

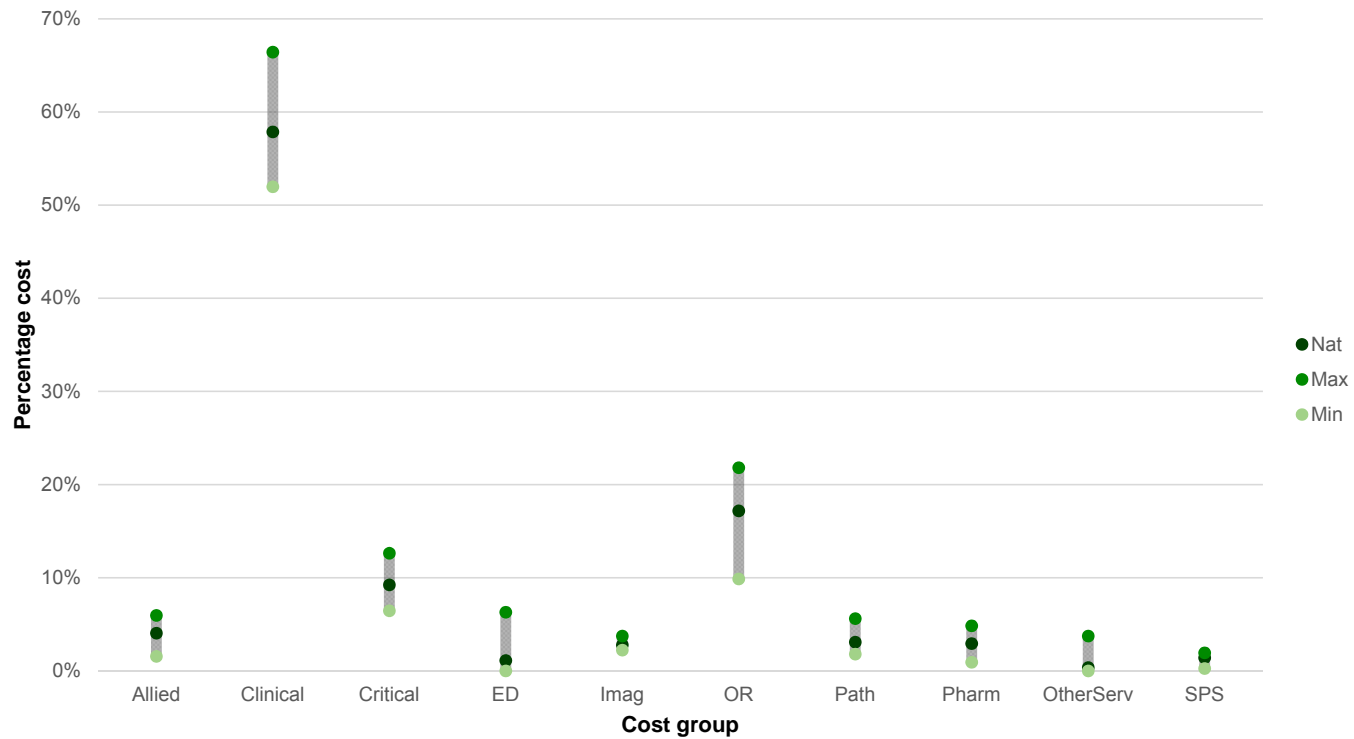


MOST COMMON COST CENTRES

- The “Gen” and OtherServ cost centres are widely used and account for a large portion of total costs.
 - Is there a risk that too much costs are allocated to these cost centres resulting in a loss of granularity?
- OR, GenOR and OtherOR could be duplicate cost centres.
 - How would you allocate costs across two seemingly duplicate cost centres?

COST ALLOCATION BY COST GROUP

WITH JURISDICTION VARIATION



COST GROUP EXAMPLE

NUMBER OF SEPARATIONS THAT ATTRACTED COSTS FROM PHARMACY COST CENTRES

Cost centre	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Nat
GenPharm	950,314	636,182	431,212	122,907	145,823	42,585	25,700	9,924	2,364,647
Dispense	271,039	62,795	-	-	-	-	-	28,749	362,583
HighDrugs	-	173,566	17	-	-	-	-	28,749	202,332
Imprest	2,799	54,439	-	-	-	-	-	-	57,238
Cytotoxic	-	3,678	-	-	-	-	-	-	3,678
OtherPharm	604	-	-	-	-	-	-	-	604
TPN	-	307	-	-	-	-	-	-	307



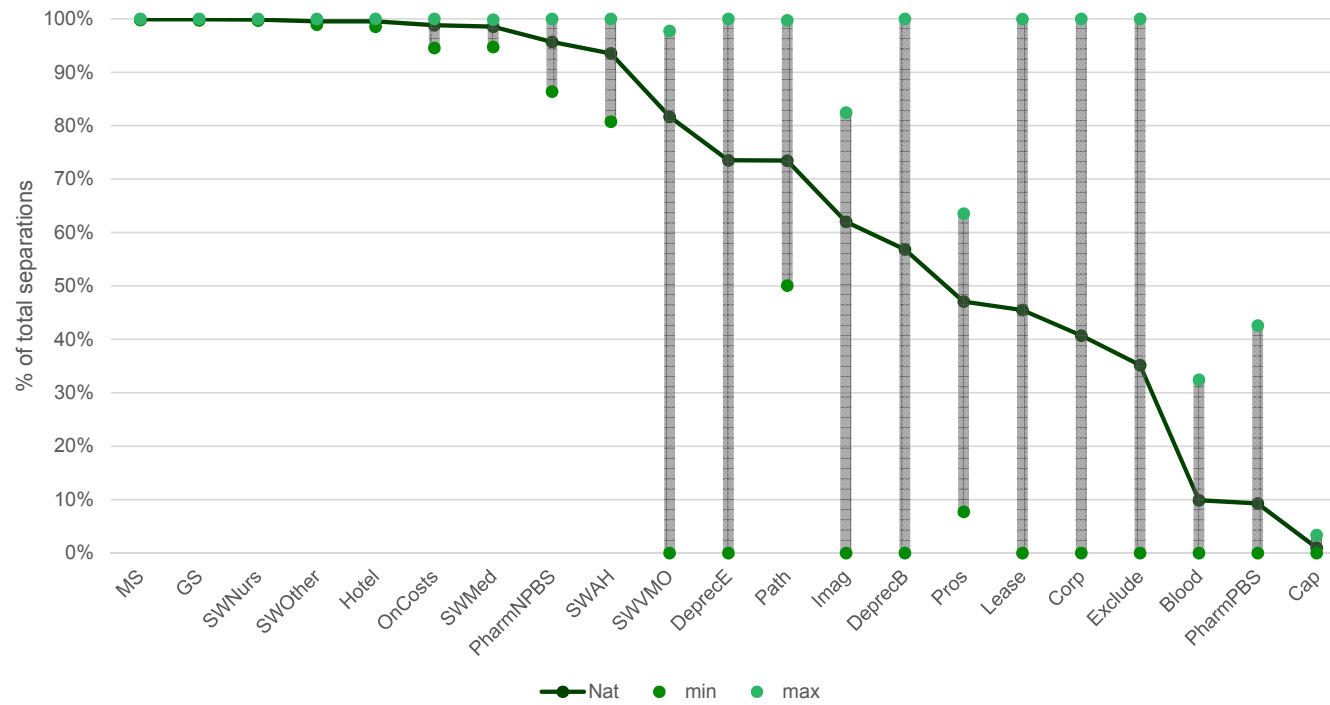
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LINE ITEM ANALYSIS

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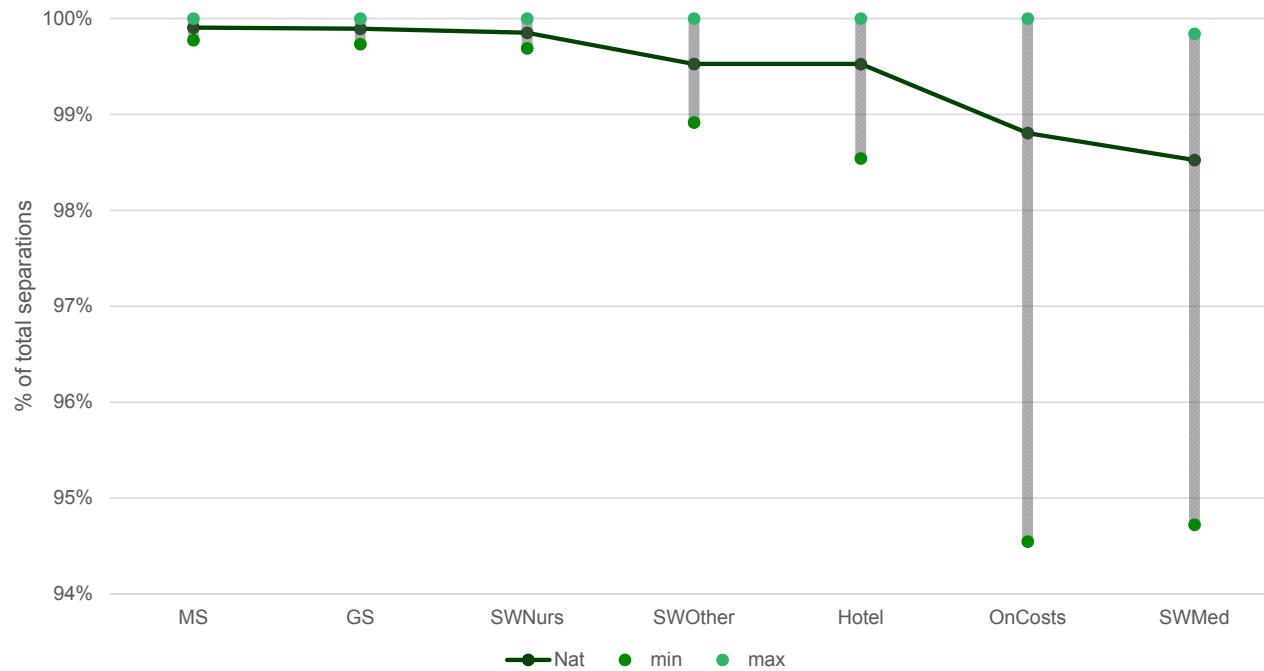
LINE ITEM ALLOCATION

WITH JURISDICTION VARIATION



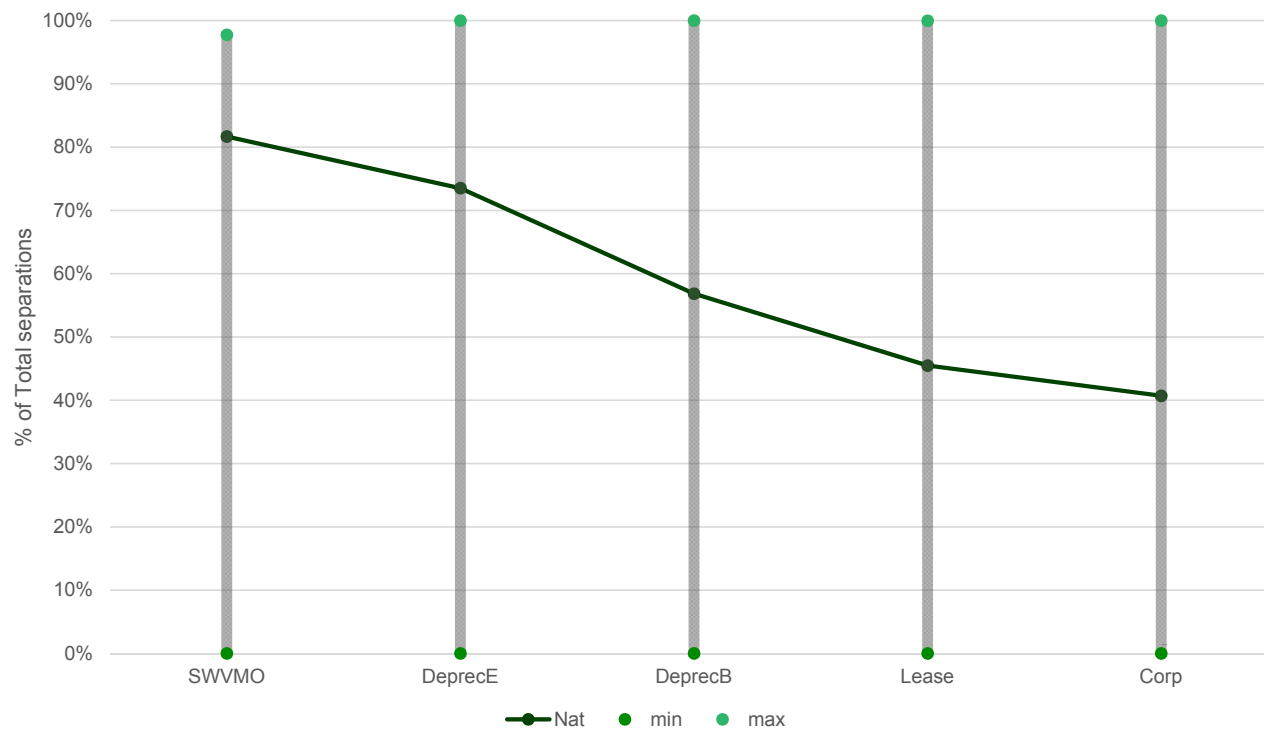
COMMON LINE ITEMS

WITH JURISDICTION VARIATION



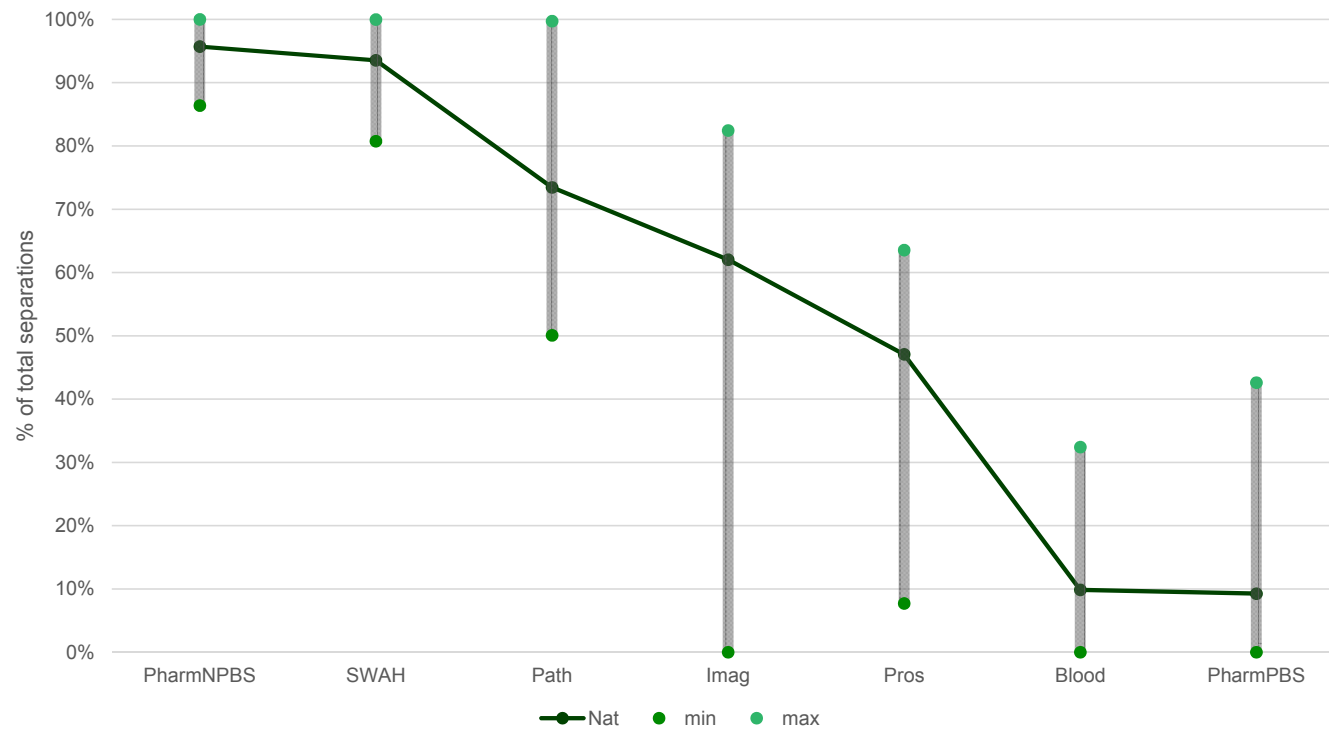
HIGHLY VARIABLE LINE ITEMS

WITH JURISDICTION VARIATION



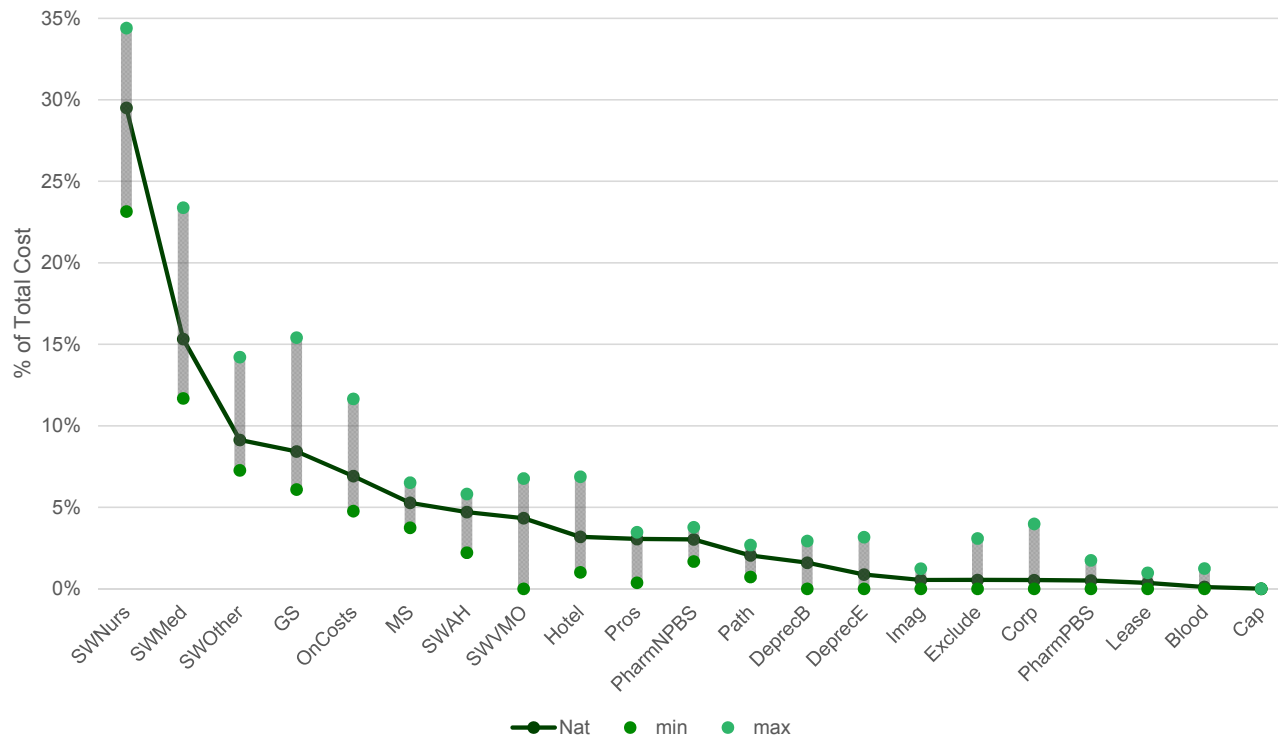
INFREQUENT LINE ITEMS

WITH JURISDICTION VARIATION



HIGH COST LINE ITEMS

WITH JURISDICTION VARIATION





COST BUCKET ANALYSIS

Round 18 (13/14) NHCDC
admitted acute

COST BUCKET MATRIX

Cost Bucket Matrix		Line Items																				
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	Clinical	Ward Nurs	Ward Med	Allied	Non Clnc	Ward Med		Ward Spls		Imag		Path		Phrm		Ward Spls						
	Crtcl	Crtcl						Crtcl				Crtcl										
	Imag	Imag						Imag		Imag		Path		Imag								
	Path	Path					Oncsts	Path	Imag			Path		Path								
	OR	OR						OR				OR										
	Phrm	Phrm						Phrm				Phrm										
	ED	ED						ED				ED										
	SPS	SPS						SPS				SPS										
	Other Serv	Non Clnc						Non Clnc				Non Clnc										

COST BUCKET ANALYSIS

- Variation in cost buckets stems from variation in Cost group/line item combination.
- An example of a procedure that shows this variation is hip replacements (I03A, I03B)
- Broadly, hip replacements have
 - Prosthetics costs
 - S&W costs

HIP REPLACEMENT (I03A, I03B)

Average National cost by line item and cost group

Cost Group	SWNurs	SWMed	SWAH	SWOther	SWVMO	OnCosts	GS	MS	Pros	Path	Imag	PharmNPBS	Hotel	Total
Allied	12	3	498	141	0	90	128	33	3,008	0	0	2	20	4,024
Clinical	2,835	1,242	86	789	657	568	592	288	431	6	2	111	379	8,226
Critical	216	68	4	32	11	38	33	24	0	0	0	12	11	468
Imag	13	34	69	27	14	18	33	10	1	0	72	2	4	324
Path	2	7	21	13	1	7	16	4	0	243	0	0	1	370
OR	1,144	961	166	365	424	327	487	891	2,296	3	1	148	113	7,525
Pharm	1	0	65	17	0	10	9	1	0	0	0	68	1	190
ED	11	8	1	5	0	4	4	1	0	0	0	1	2	39
SPS	11	0	1	58	0	3	4	13	19	0	0	0	1	113
OtherSer	2	2	1	8	0	2	16	0	102	0	0	0	0	135
Total	4,249	2,332	913	1,457	1,116	1,068	1,324	1,268	5,858	253	75	346	533	21,439

HIP REPLACEMENT (I03A, I03B) PROSTHETIC LINE ITEM

Average cost by Jurisdiction

Group	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Allied	6,062	0	5	2,671	6,213	1,929	155	2,981
Clinical	95	517	583	0	1,030	-	-	3,055
Critical	0	0	0	-	0	-	-	-
OR	9	4,976	4,492	2,958	19	-	-	-
OtherSer	0	-	0	-	-	3,909	-	-
Total	6,168	5,567	5,080	5,629	7,271	5,838	155	6,035

HIP REPLACEMENT (I03A, I03B) S&W LINE ITEMS

Average cost by Jurisdiction

Cost group	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Allied	774	545	1,123	616	585	755	925	930
Clinical	6,261	5,023	7,057	7,654	5,761	5,730	9,694	8,895
Critical	310	358	334	257	332	644	4,897	1,001
OR	2,863	3,672	3,704	4,256	3,067	3,080	3,671	4,592
OtherSer	6	0	38	0	-	208	0	-
Total	10,580	10,103	12,630	13,407	10,194	10,803	19,849	16,239



WHAT'S NEXT?

- Hopefully we have increased your understanding and interest in the NHCDC
- Together we need to continue this conversation
- Updating the AHPCS
- Round 19 NHCDC
- Now on to the panel...please ask questions!