

# VicRehab: the New Rehabilitation Funding System in Victoria



**Presentation by Terese Barton  
Senior Policy Analyst  
Funding Policy Unit, MH&ACS Division  
Department of Human Services  
14 October 2003**

# Rehabilitation



- Rehabilitation aims to:
  - improve a person's function or to prevent deterioration of function
  - bring about the highest possible level of independence, physically, psychologically, socially and economically,
  - to maximise quality of life, and to minimise the long-term health care needs
- Conditions treated include stroke, fractures, burns, spinal injury, complex disabilities, etc.

# VicRehab (CRAFT)



- Designed to reflect industry best practice for rehabilitation services across Acute Health and Aged Care programs
- Recognises all forms of rehabilitation; short-term; long-term; high and low intensity of care
- System developed over a number of years with clinical input and statistical data from all agencies
- Casemix Rehabilitation Funding Tree (CRAFT) is the classification model that underpins VicRehab

# Victorian Rehabilitation



- Designated Rehabilitation Units
  - Agencies are designated for Rehabilitation Units
    - 10 beds or more and must meet designation criteria
    - Paid by per diem grants (or for CRAFT agencies a mix of episode & per diem since 1999)
- Non-Designated
  - Payment through Casemix AN-DRG system by WIES

# Incentives for Developing VicRehab



- **Casemix funding introduced into Victoria in 1993**
- **Need to develop an appropriate classification system that would account for the variability in the cost of treating different types of Rehabilitation patients**
- **Previous studies undertaken both within Victoria and other states**
- **Victorian Studies**
  - Stage 1: 463 cases; 17 classes; use of Barthel change. Stage 2: 715 cases; 6 to 10 classes; FIM mapped & use of Barthel change.
  - Collection of cost data - DHS

# Incentives for Developing VicRehab



- Level 2 - Previously one category, rehabilitation – one funding rate, per diem irrespective of complexity
- Equitable funding across agencies
- Potential for service substitution (eg. RITH)
- Modest incentive for change with short inlier range

# CRAFT Development



- Objective to develop a casemix classification system for Rehabilitation patients which could be effectively adopted as a casemix funding method
- Important therefore that the model meet the following criteria:
  - Clinical similarity
  - Resource homogeneity
  - Administrative ease
  - Suitable for funding agencies

# Functional Status Issues



- Functional status is not used in other DRGs, but functional status is basic to rehabilitation practice, assessment and theory – so important to consider in a classification
- Three main issues with regard to functional status:
  - Choice of instrument
    - Barthel
    - FIM
    - Barthel was chosen originally by Clinical Panel of advisers for collection in Victoria. It can also be mapped to FIM

# Issues With Data



- Adjustments to data included:
  - Same days excluded-model looking at inliers only
  - Sequential one day episodes for same patient excluded-these to be subject to further research
  - Data trimmed to eliminate stays less than 4 days-not generally perceived as rehab
  - Data for one financial year; only episodes that started and concluded within that period included
  - Where cases had missing admission Barthel data, mean of remaining cases was allocated to maintain stable data

# Methodology/Analysis



- **Analysis**

- data was analysed using SPSS package and PC Grouper
- LOS used as a proxy for cost
- Variance reduction of at least 5% within groups; probability of less than 0.5; trimmed at 1% level for high outliers
- Judgements made by clinical staff with regard to Burns, Head Injury and Spine--low numbers, LOS varied, high cost, long stay

- **All Rehab Agencies in Victoria**

- Modelled data from 26 agencies -
- Comprising over 11,000 inpatient overnight cases
- Inpatient ALOS for state was 28 days (now 26.5)
- Inpatient average age for state was 73 years

# Results of Modelling



- **PC Grouper identified Barthel admission score as significant measure of dependance in the VAED, based on a low and high measure of Barthel**
- **Number of classes: 16**
- **Variance explained for tree: 14%**
  - higher within individual groups
  - Previous VIC studies for tree 6% to 17%; 30%
- **A short stay category was created for overnight stays less than 4 days (considered not true rehabilitation)**
- **Decision to apply CRAFT only to agencies with 20 beds or more – minimise provider risk**

# Craft Categories



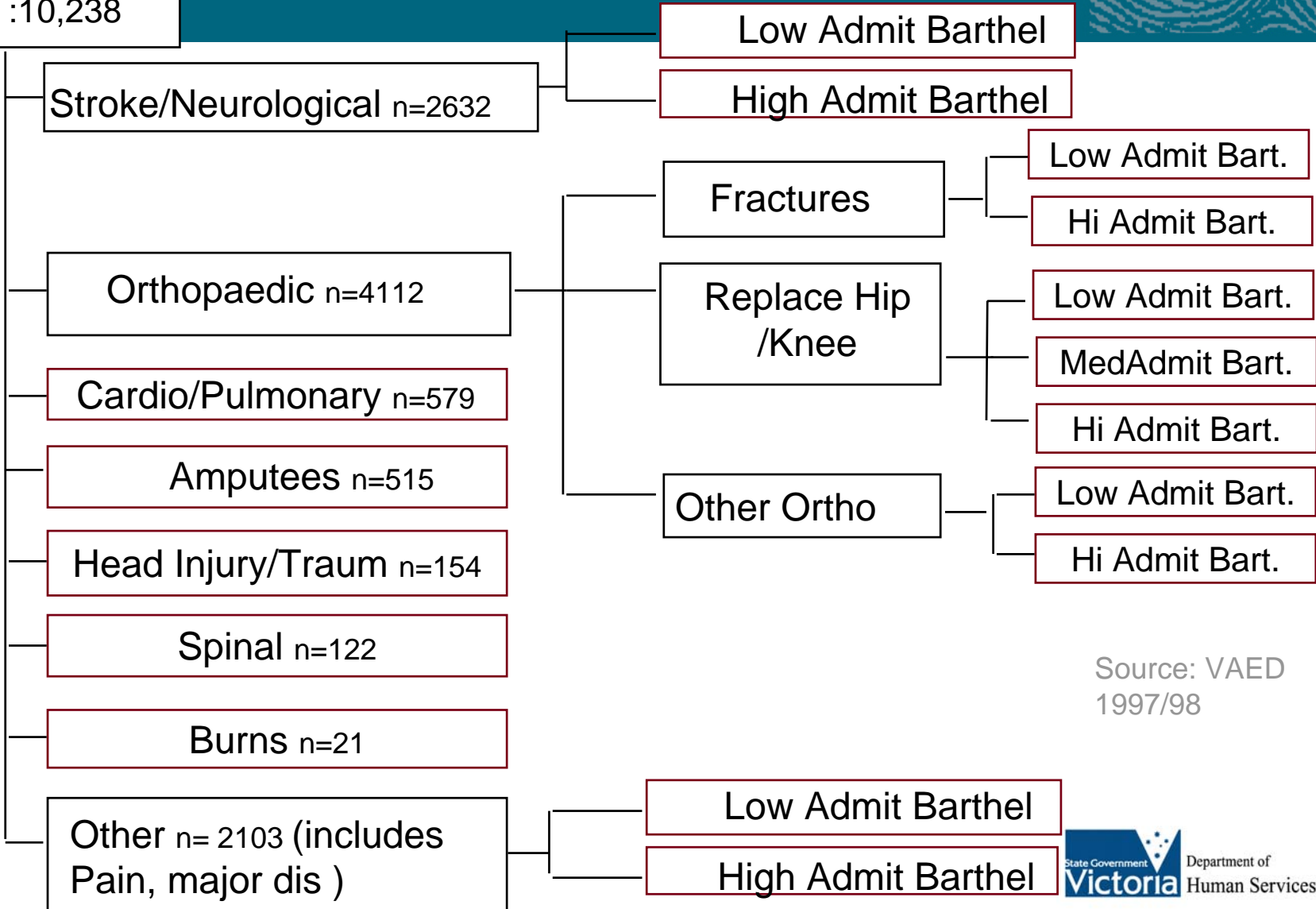
Short Stay (overnight stay 1-3 days)

- 1 Stroke/Neurological Admission Barthel score <60
- 2 Stroke/Neurological Admission Barthel score  $\geq 60$
- 3 Orthopaedic Fracture Admission Barthel score < 60
- 4 Orthopaedic Fracture Admission Barthel score  $\geq 60$
- 5 Orthopaedic Replace Hip/Knee Admission Barthel score < 60
- 6 Orthopaedic Replace Hip/Knee Admission Barthel score 60 - 79
- 7 Orthopaedic Replace Hip/Knee Admission Barthel score  $\geq 80$
- 8 Other Orthopaedic Admission Barthel score < 60
- 9 Other Orthopaedic Admission Barthel score  $\geq 60$
- 10 Cardio/Pulmonary
- 11 Amputation
- 12 Head Injury/Major Multiple Trauma
- 13 Spinal
- 14 Burns
- 15 Other Rehabilitation Admission Barthel score < 60
- 16 Other Rehabilitation Admission Barthel score  $\geq 60$



# Casemix Rehabilitation and Funding Tree (CRAFT)

All Cases :10,238



Source: VAED 1997/98

# Options for Funding



- **Episode Costs - Payment for an episode of care**
  - **Advantages:**
    - Promotes and rewards efficiencies and standard practice across agencies
    - Provides a clearer benchmark for units for planning, funding and the evaluation of services
  - **Disadvantages:** Variability in LOS
- **Per Diem Costs - Payment based on a day rate**
  - **Advantages:**
    - More closely approximates existing care
    - May better reflect service differences
  - **Disadvantages:**
    - Does not encourage efficiencies or standard practice across agencies
- **Consultations with field – episode preference**

# Average Length of Stay

O/night Patients (Lt 4 days)



Class	No. Cases	Average Length of Stay A L O S	Standard Deviation
<b>Stroke/Neurological</b>			
<b>A d m i t B a r t h e l L o w</b>	1,577	39	28
<b>A d m i t B a r t h e l H i g h</b>	1,055	19	15
<b>Orthopaedic</b>			
<b>Fractures</b>			
<b>A d m i t B a r t h e l L o w</b>	1,136	32	21
<b>A d m i t B a r t h e l H i g h</b>	509	21	14
<b>Replacement Hips/Knees</b>			
<b>A d m i t B a r t h e l L o w</b>	405	26	18
<b>A d m i t B a r t h e l M e d</b>	582	17	10
<b>A d m i t B a r t h e l H i g h</b>	404	13	8
<b>Other Orthopaedic</b>			
<b>A d m i t B a r t h e l L o w</b>	614	34	23
<b>A d m i t B a r t h e l H i g h</b>	462	22	16

Total Cases Overnight Stays Lt 4 days = 10,238

# Average Length of Stay

O/night Patients (Lt 4 days)



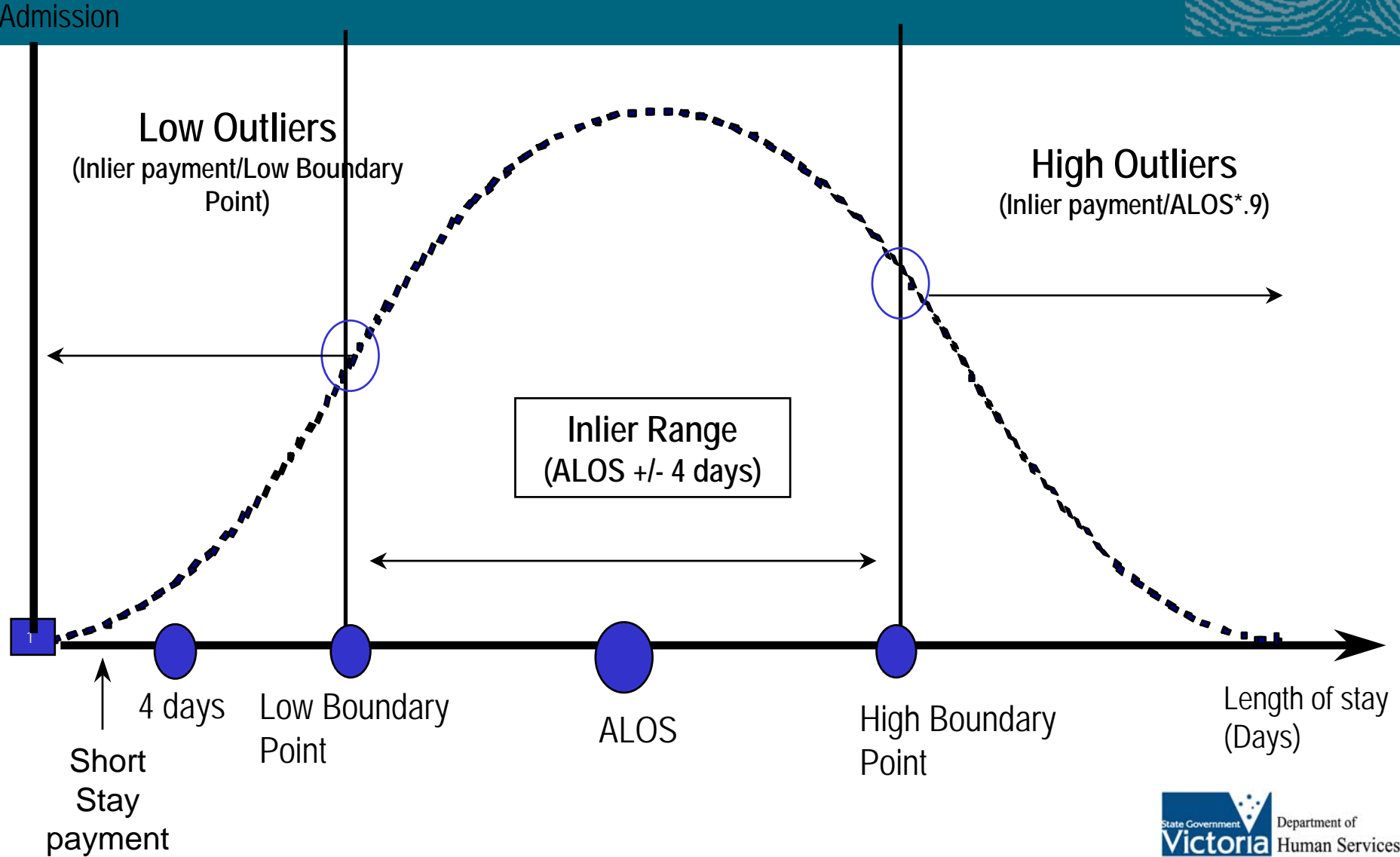
<b>Class</b>	<b>No. Cases</b>	<b>Average Length of Stay ALOS</b>	<b>Standard Deviation</b>
<b>Cardiac/Pulmonary</b>	579	20	15
<b>Amputees</b>	515	36	28
<b>Head Trauma</b>	154	27	23
<b>Spinal</b>	122	31	30
<b>Burns</b>	21	43	58
<b>Other Rehabilitation</b>			
<b>Admit Barthel Low</b>	1,102	27	20
<b>Admit Barthel High</b>	1,001	19	14
<b>Total Cases</b>	10,238	27	22

# Definition of an Inpatient Episode



- **Industry Committee formed to advise**
- **Short Stay: 1- 3 days overnight**
- **Outliers – low and high**
  - Acute Health model inappropriate (ALOS div/x 3)
  - Clinician/Industry resistance to lengthy inlier
    - e.g. +/- 14 or +/- 10 days
  - Final Definition of risk favoured industry: +/- 4 days
- **Inlier- episode therefore ALOS +/- 4 days**
  - Boundary points: low = ALOS-4; high = ALOS+4
- **Leave**
  - Readmissions (current DHS policy-within 7 days for same clinical sub-program same = episode)

# Episode Range for Rehabilitation



# Costing Issues



- **The use of clinical costing data from selected hospitals provides relativities based on ALOS and average total cost, i.e the Cost Weights (by 2004-05, 6 - 10 hospitals were providing costing data that is fully usable)**
- **These cost Weights are then applied to the VAED average lengths of stay for all CRAFT agencies**
- **These are converted into rehabilitation weighted units (RWU's) including outlier payments - then applied to VicRehab hospitals**

# Weights for CRAFT Categories



## VicRehab Units: 2003–04 Rehabilitation Weights

CRAFT Categories	Inlier Boundaries		DHS Average Length of Stay	Same Day Weight	Short Stay Weight	Low Outlier per Diem	Inlier Weight	High Outlier per Diem
	Low (days)	High (days)						
Short Stay (overnight)	1	3	2.04	0.0000	0.1158	0.0000	0.0000	0.0000
Stroke/Neuro Low Barthel	34	42	38.26	0.0351	0.1158	0.0502	1.6050	0.0394
Stroke/Neuro High Barthel	17	25	21.17	0.0301	0.1158	0.0430	0.6883	0.0302
Ortho Fracture Low Barthel	26	35	30.66	0.0323	0.1158	0.0461	1.1990	0.0353
Ortho Fracture High Barthel	16	25	20.97	0.0322	0.1158	0.0460	0.7812	0.0321
Ortho Replace Hip/Knee Low Barthel	16	25	20.61	0.0281	0.1158	0.0402	0.8433	0.0300
Ortho Replace Hip/Knee Medium Barthel	11	20	15.82	0.0396	0.1158	0.0565	0.6215	0.0352
Ortho Replace Hip/Knee High Barthel	9	17	13.48	0.0405	0.1158	0.0578	0.5780	0.0354
Other Ortho Low Barthel	25	34	29.91	0.0331	0.1158	0.0472	1.1810	0.0362
Other Ortho High Barthel	15	23	19.07	0.0315	0.1158	0.0451	0.6758	0.0320
Cardio/Pulmonary	17	25	21.04	0.0335	0.1158	0.0479	0.8147	0.0344
Other Low Barthel	22	31	26.63	0.0323	0.1158	0.0462	1.0616	0.0345
Other High Barthel	14	23	18.86	0.0369	0.1158	0.0527	0.7377	0.0354

# Summary of VicRehab



- Covers 16 designated units - 68% of units
- Funding model
  - 12 categories of episode payments (Rehabilitation Weighted Units) based on CRAFT - 65% of budget
  - Block grants for Level 1, special Level 2 and Veterans
  - Guaranteed funding levels for first 2 year introduction to maintain stability –(no longer applies)
- New directions by agencies
  - To facilitate changes from agency bed based to RITH; community care
  - Aim for moderate change
- Increasing collection of cost data
- New monitoring controls
  - audit; change & data

# Major Data Issues



- Data:
  - Accuracy of the data in general
    - time delays in re-submitting
    - benchmarking using data
  - Clinical sub-program in particular
    - massively important for classification
    - importance of clinicians role in ascribing to patient record
    - funding
  - FIM and Barthel
    - conversion and submission
    - importance to CRAFT classification
    - funding

# Major Data Issues



- Penalties and audit
  - increasingly important in submission of data
- Target setting
  - role of reliance on data to underpin target setting decisions
  - use of calendar year data to set targets
- Funding recall
  - use of financial year data for funding recall purposes

# Targets



**Table: Sub-Acute Throughput Targets 2003-2004: Beddays and Weighted Units**

	Rehabilitation Level 1 Beddays (Non DVA)	Rehabilitation Level 1 Beddays (DVA)	Rehabilitation Level 2 Beddays (Non DVA)	Rehabilitation Level 2 Beddays (DVA)	Rehab Level 2 (CRAFT) Rehab Wtd Units	Geriatric Evaluation and Management Beddays (Non DVA)	Geriatric Evaluation and Management Beddays (DVA)
<b>Metropolitan Health Service/ Hospital Campus</b>							
<b>Austin &amp; Repatriation Medical Centre</b>	6,950	200	731	2,300	796	11,872	1,900
Austin Campus - Repatriation Centre	0	0	481	1,800	363	11,872	1,900
Royal Talbot Rehabilitation Centre	6,950	200	250	500	433	0	0
<b>Bayside Health</b>	6,401	312	5,183	1,400	860	18,112	1,357
Caulfield General Medical Centre	6,401	312	5,183	1,400	860	18,112	1,357
<b>Eastern Health</b>	0	0	15,314	3,100	718	27,312	1,520
Angliss Health Service	0	0	13,526	100	0	7,603	120
Maroondah Hospital	0	0	0	0	0	8,942	300
Peter James Centre	0	0	1,788	3,000	718	10,767	1,100
<b>Northern Health</b>	0	0	10,302	1,050	322	24,637	2,050
Broadmeadows	0	0	10,302	300	0	9,716	850
Bundoora Extended Care Centre	0	0	0	750	322	14,921	1,200
<b>Peninsula Health</b>	2,400	200	240	4,000	1,030	19,097	2,700
Mt Eliza Aged Care & Rehab Service	2,400	200	240	4,000	1,030	19,097	2,700
<b>Melbourne Health</b>	3,400	200	545	400	657	27,702	2,000
Melb. Extended Care & R.S. (Inc.RMFH)	3,400	200	545	400	657	27,702	2,000

# Using the VAED Data



- Departmental use
  - funding
  - provision of data to commonwealth and comparison to other states
  - provision of information to agencies, eg. Monitoring data on median Barthel scores as measure of changes; comparative analysis, etc.
  - planning and distribution issues

# Using the VAED Data



- Agencies

- target monitoring - CRAFT report
- planning for both financial year and future,
- Benchmarking with other agencies
- Using with the Casemix Calculator to develop an ongoing database that provides both speedy and timely information to management, planners, project officers, etc.

# Importance of HIM's



- HIM's have a vital and critical role in ensuring that hospitals maximise their funding entitlements with accurate data, and a crucial role in ensuring DHS & their own agencies keep abreast of hospital activity
- HIM's can take a responsible role in agency self-monitoring, eg. monthly meetings
- The reporting of accurate, complete, timely data is very important to any funding system, but incredibly important for those systems depending on a casemix approach to paying hospitals