

INTRODUCTION

This information circular is the third in a series presenting the results of the KPMG Peat Marwick National Costing Study. The first in the series (An Introduction to Casemix and the National Costing Study, Information Circular No. 20) provided a general introduction to the development of Casemix in Australia and gave an overview of the study design. Some summary results of the findings of the study were also provided. The second (Analysis of Costs and Average Length of Stay for Selected Queensland Hospitals Compared to the National Average, Information Circular No. 24), compared the differences in length of stay and costs based on the Queensland caseload.

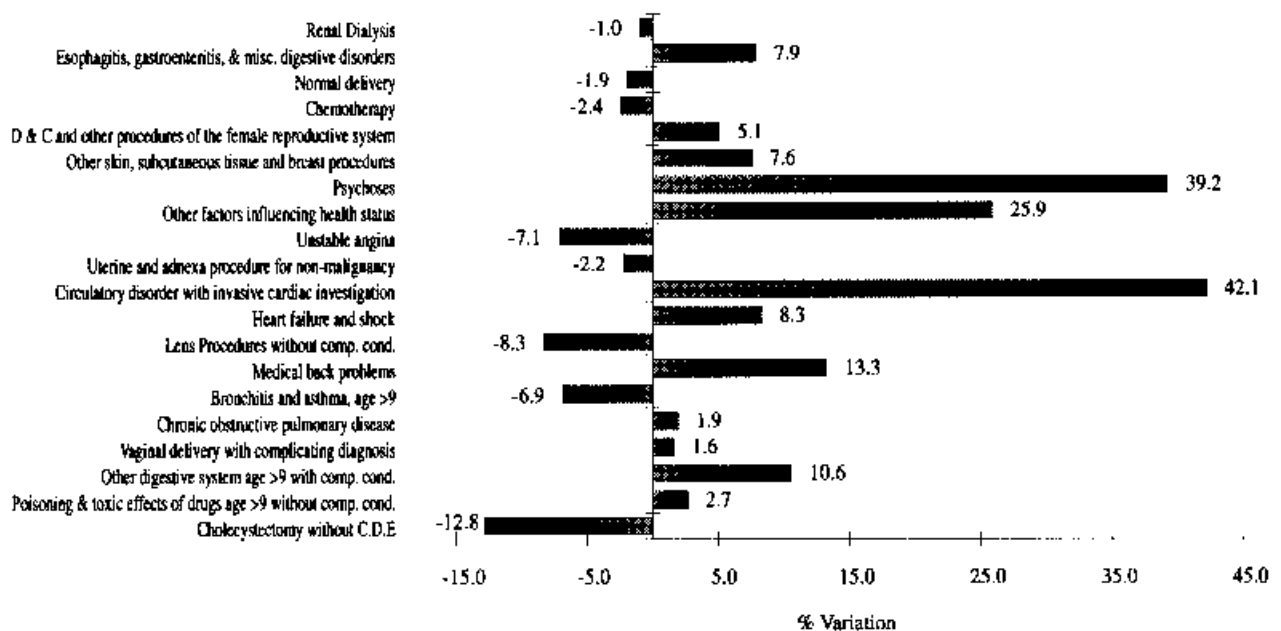
The data presented were from a sample of 100 hospitals with over 50 beds throughout Australia. Twelve hospitals from Queensland were represented in the study. The data are for the 6 month period 1 July 1992 to 31 December 1992 (For more detailed information on the sampling method used, see Information Circular number 20).

This information circular focuses on the variation in Average Length of Stay and Expenditure by component for the top 20 DRGs by volume for Queensland hospitals represented in the study compared to the national average. These accounted for 38.5 per cent of the 136,238 separations and 23.3 per cent of the total cost of separations for Queensland public hospitals included in the study.

AVERAGE LENGTH OF STAY

Twelve of the 20 DRGs had an average length of stay that was higher than the national average. "Psychoses" (39.2%), "Other factors influencing health status" (25.9%) and "Circulatory disorder with invasive cardiac investigation" (42.1%) had lengths of stay substantially higher than the national average.

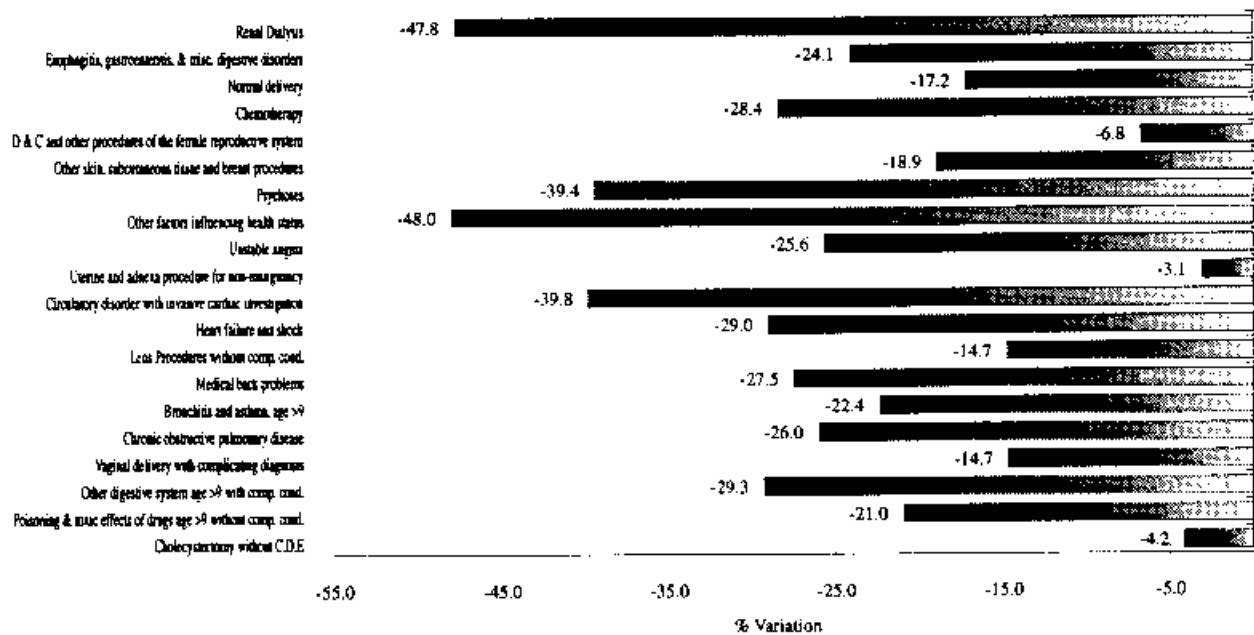
Figure 1. Percentage Variation in Av. LOS for QLD Public Hospitals from the National Average for Top 20 DRGs for QLD by Volume



COST PER SEPARATION AND COST PER BEDDAY

Overall costs for the top 20 DRGs for Queensland Hospitals were all below the national average, with 13 of the 20 being more than 20.0% less costly. Average costs per bedday exhibited a similar pattern.

Figure 2. Percentage Variation in Av. Cost Per Bedday for QLD Public Hospitals from the National Average for Top 20 DRGs for QLD by Volume



COSTS BY COMPONENT

The following graphs provide a summary of the characteristics for each of the top 20 DRGs for Queensland by volume. The accompanying comments highlight the salient features that have emerged from this analysis.

Medical costs

Medical costs for Queensland public hospitals represented in the study for all of the top 20 DRGs by volume were considerably lower than the national average in both absolute (\$) terms and as a proportion of total cost.

Nursing costs

Nursing costs were higher in absolute (\$) terms than the national average for only two of the top 20 DRGs ("Circulatory disorder with invasive cardiac investigation" and "Medical back problems"). However, nursing costs as a proportion of total costs were higher for 12 of the 20 DRGs.

Allied Health Costs

Allied health costs generally contributed a small proportion of the total costs for Queensland public hospitals represented in the study with the exception of "Medical back problems" and "Psychoses". For both these DRGs, the cost was below the national average.

Theatre Costs

For seven of the top 20 DRGs, theatre costs accounted for a substantial proportion of the total costs. With the exception of “Normal delivery” and “Vaginal delivery with complicating diagnosis”, theatre costs for Queensland public hospitals represented in the study were higher in absolute (\$) terms. As a proportion of total costs, all DRGs with a theatre cost component were higher with the exception of “normal delivery”.

Critical Care Costs

With the exception of “Unstable angina”, “Circulatory disorder with invasive cardiac investigation”, “Heart failure and shock” and “Poisoning and toxic effects of drugs without complicating conditions”, critical care accounted for a small proportion of total costs. Critical care costs for “Circulatory disorder with cardiac investigation” and “Poisoning and toxic effects of drugs without complicating conditions” were higher than the national average in both absolute (\$) terms and as a proportion of total cost.

Pathology Costs

Pathology costs for “Renal dialysis” and “Circulatory disorder with invasive cardiac investigation” were higher than the national average in both absolute (\$) terms and as a proportion of total cost.

Imaging Costs

Imaging costs with the exception of “Circulatory disorder with invasive cardiac investigation” accounted for a small proportion of total costs. While imaging costs for the above DRG were similar in absolute (\$) terms, they accounted for a higher proportion of total costs in Queensland than nationally.

Drug Costs

Drug costs for all top 20 DRGs for Queensland hospitals represented in the study were lower than the national average. As a proportion of total costs, drug costs for “Chemotherapy” accounted for 41.4% of the total cost compared to 36.8% nationally.

Medical and Surgical Supplies Cost

Expenditure on Medical and surgical supplies was lower in absolute (\$) terms for 17 of the top 20 DRGs. As a proportion of the total cost, expenditure was similar to the national average with the exception of “Circulatory disorder with invasive cardiac investigation” where costs were considerably lower.

Overheads Cost

Overhead costs include the costs of all hospital activity not directly involved in the provision of services to individual patients. Such activity would include for example, administration, housekeeping, laundry, maintenance and medical records.

With the exception of "Medical back problems", absolute (\$) costs ascribed to Overheads for the top 20 DRGs for Queensland hospitals represented in the study were below the national average. As a proportion of total costs, Overheads were below the national average for eight of the top 20 DRGs.

All Other Costs

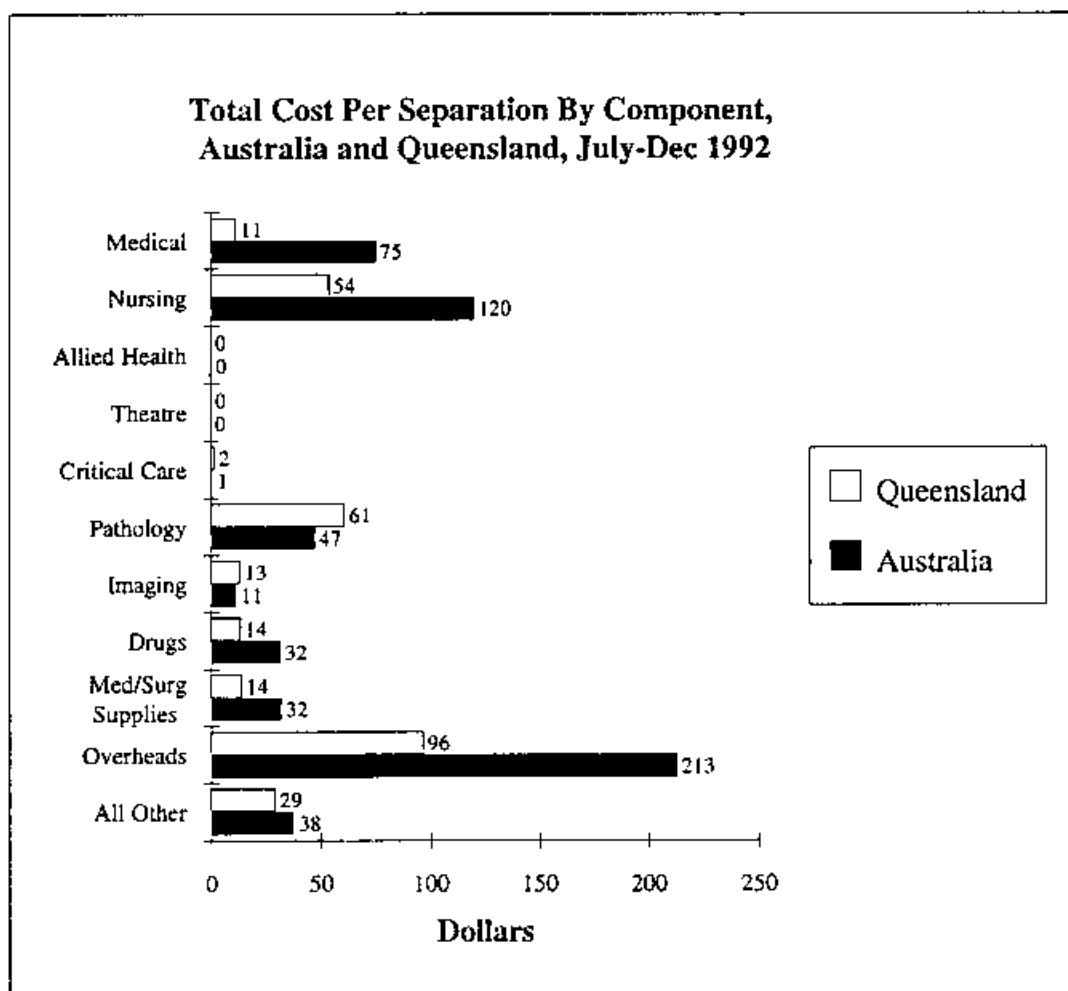
All other costs include the costs of services provided directly to patients which are not elsewhere specifically identified. Examples include: transportation costs, organ retrieval costs, accident and emergency costs to inpatients and central sterilisation costs.

Absolute (\$) costs ascribed to the "All other" category for selected Queensland hospitals were below the national average for all top 20 DRGs with the exception of "D & C and other procedures of the female reproductive system". As a proportion of total costs, all other costs were below the national average for 14 of the top 20 DRGs.

Renal Dialysis

AN-DRG 367

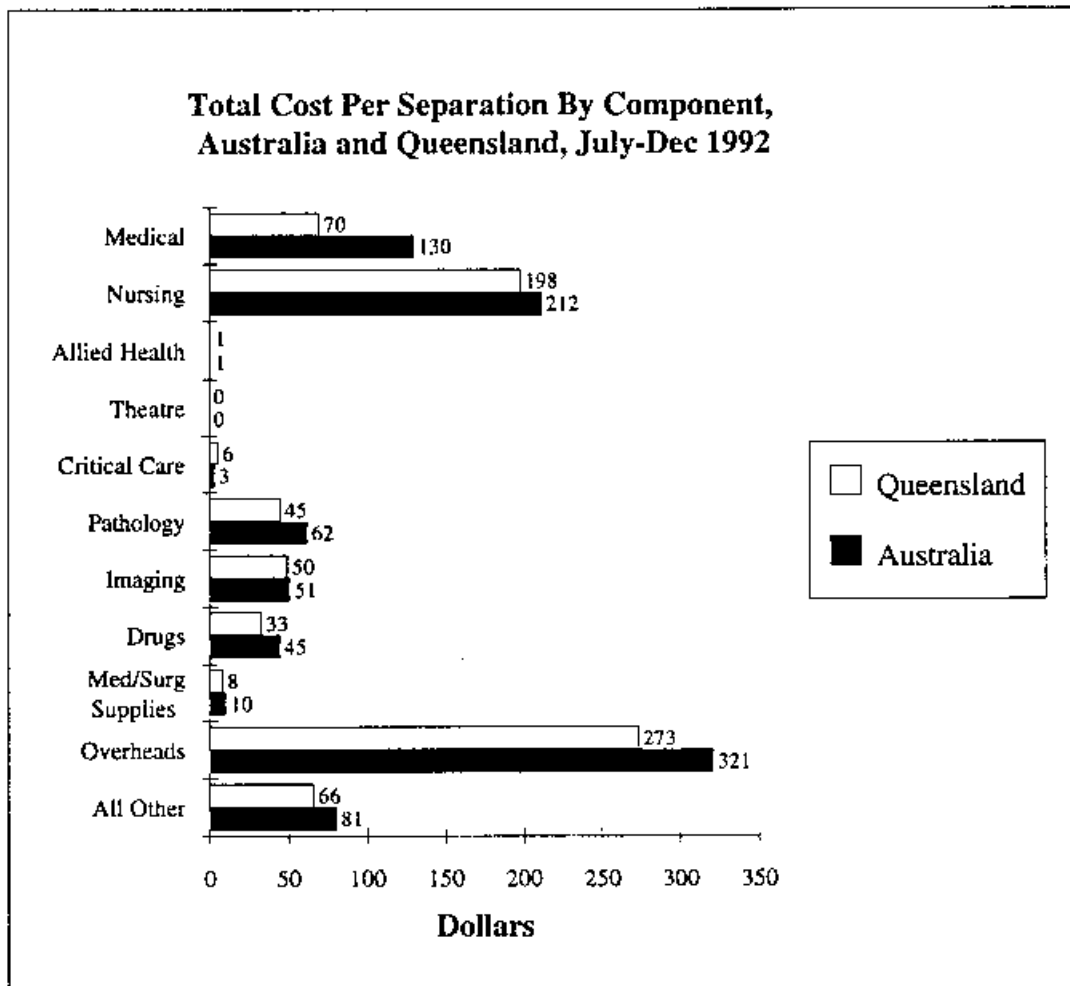
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	65,163	14,108	n.a.	n.a.
Total Cost per Separation	\$569	\$294	-\$275	-48.3%
Total Cost per Bedday	\$563	\$294	-\$269	-47.8%
Average Length of Stay (Days)	1.01	1	-0.01	-1.0%



Esophagitis, gastroenteritis, & misc. digestive disorders

AN-DRG 330

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	21,593	5,221	n.a.	n.a.
Total Cost per Separation	\$915	\$749	-\$165	-18.1%
Total Cost per Bedday	\$453	\$344	-\$109	-24.1%
Average Length of Stay (Days)	2.02	2.18	0.16	7.9%

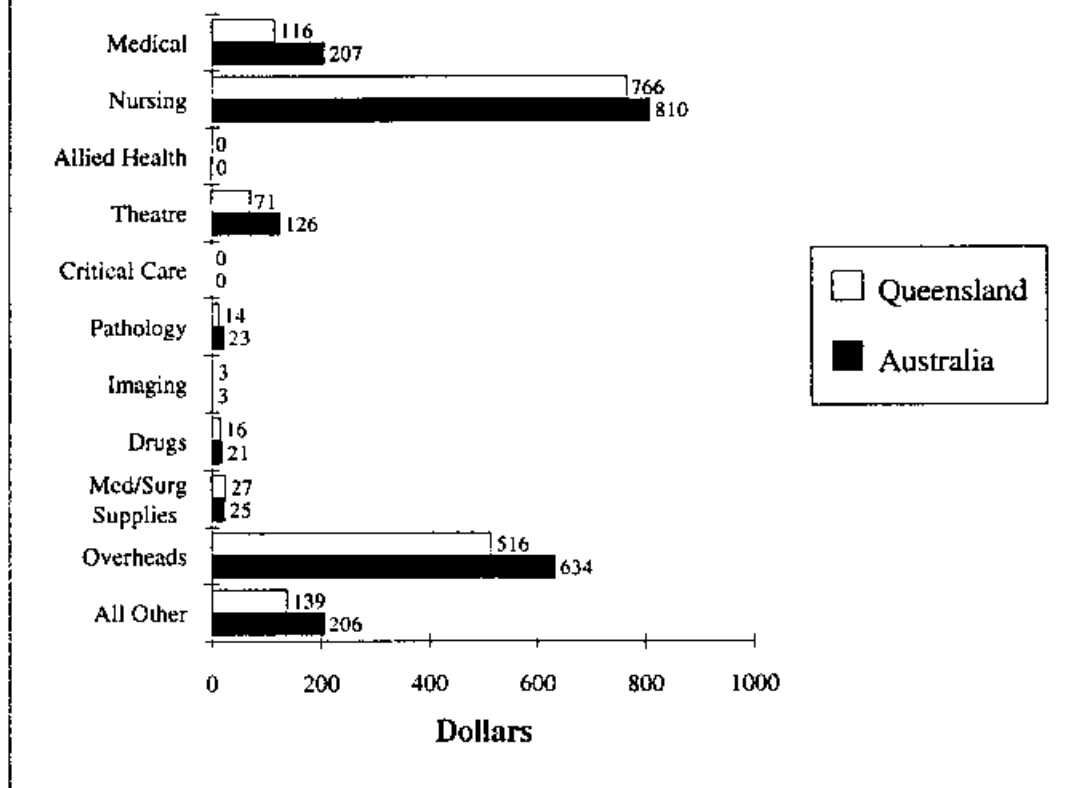


Normal delivery

AN-DRG 675

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	17,278	4,280	n.a.	n.a.
Total Cost per Separation	\$2,056	\$1,668	-\$387	-18.8%
Total Cost per Bedday	\$496	\$411	-\$86	-17.2%
Average Length of Stay (Days)	4.14	4.06	-0.08	-1.9%

**Total Cost Per Separation By Component,
Australia and Queensland, July-Dec 1992**

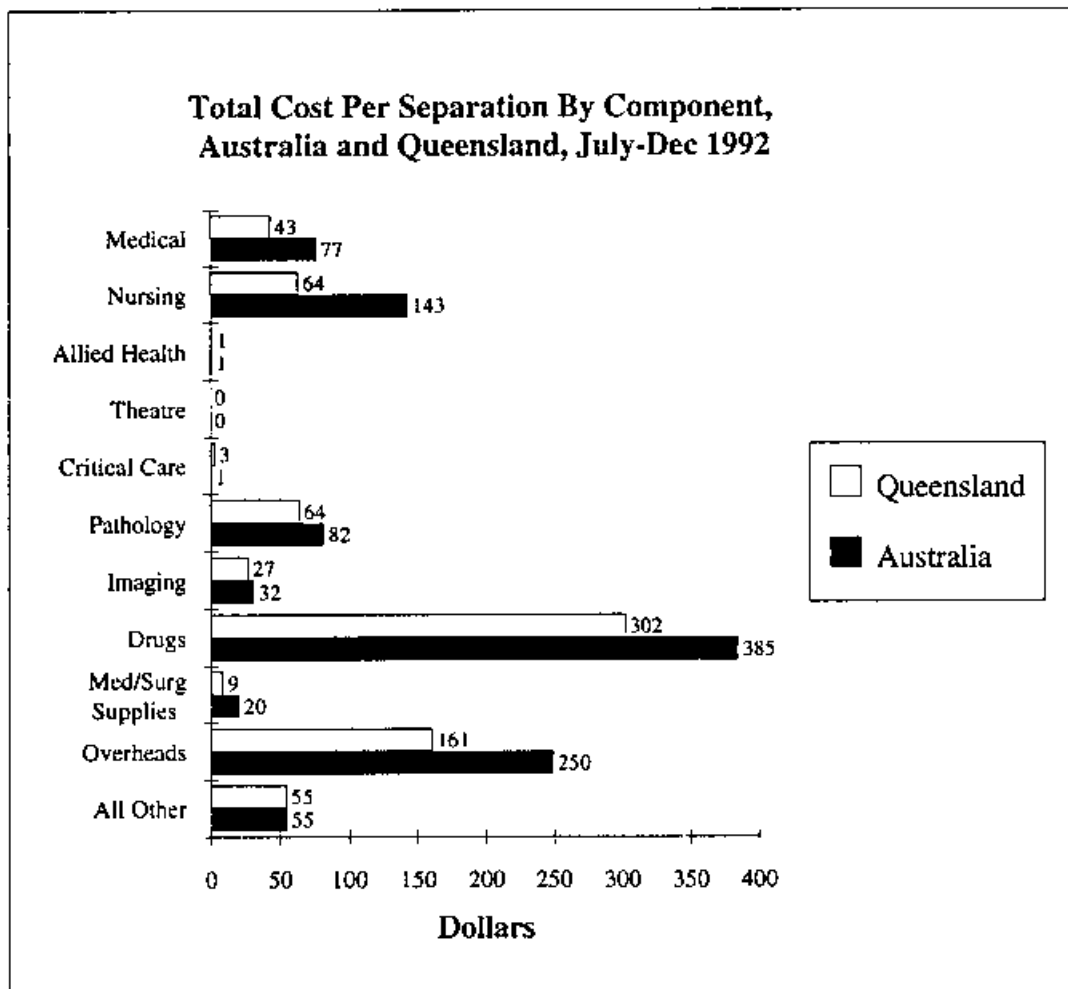


Chemotherapy

AN-DRG 780

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	26,664	4,140	n.a.	n.a.
Total Cost per Separation	\$1,046	\$731	-\$315	-30.1%
Total Cost per Bedday	\$837	\$599	-\$238	-28.4%
Average Length of Stay (Days)	1.25	1.22	-0.03	-2.4%

**Total Cost Per Separation By Component,
Australia and Queensland, July-Dec 1992**

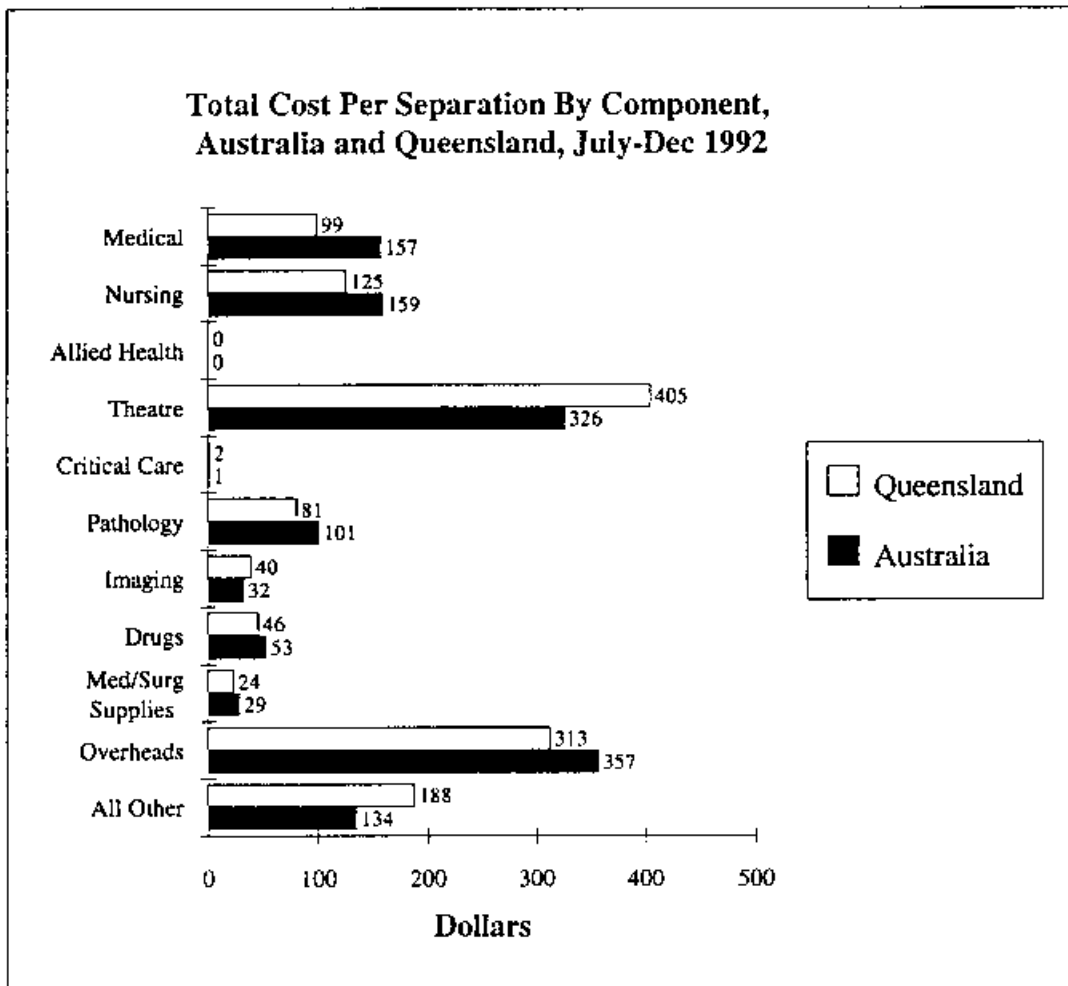


D & C and other procedures of the female reproductive system

AN-DRG 646

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	10,739	2,848	n.a.	n.a.
Total Cost per Separation	\$1,349	\$1,322	-\$27	-2.0%
Total Cost per Bedday	\$985	\$918	-\$67	-6.8%
Average Length of Stay (Days)	1.37	1.44	0.07	5.1%

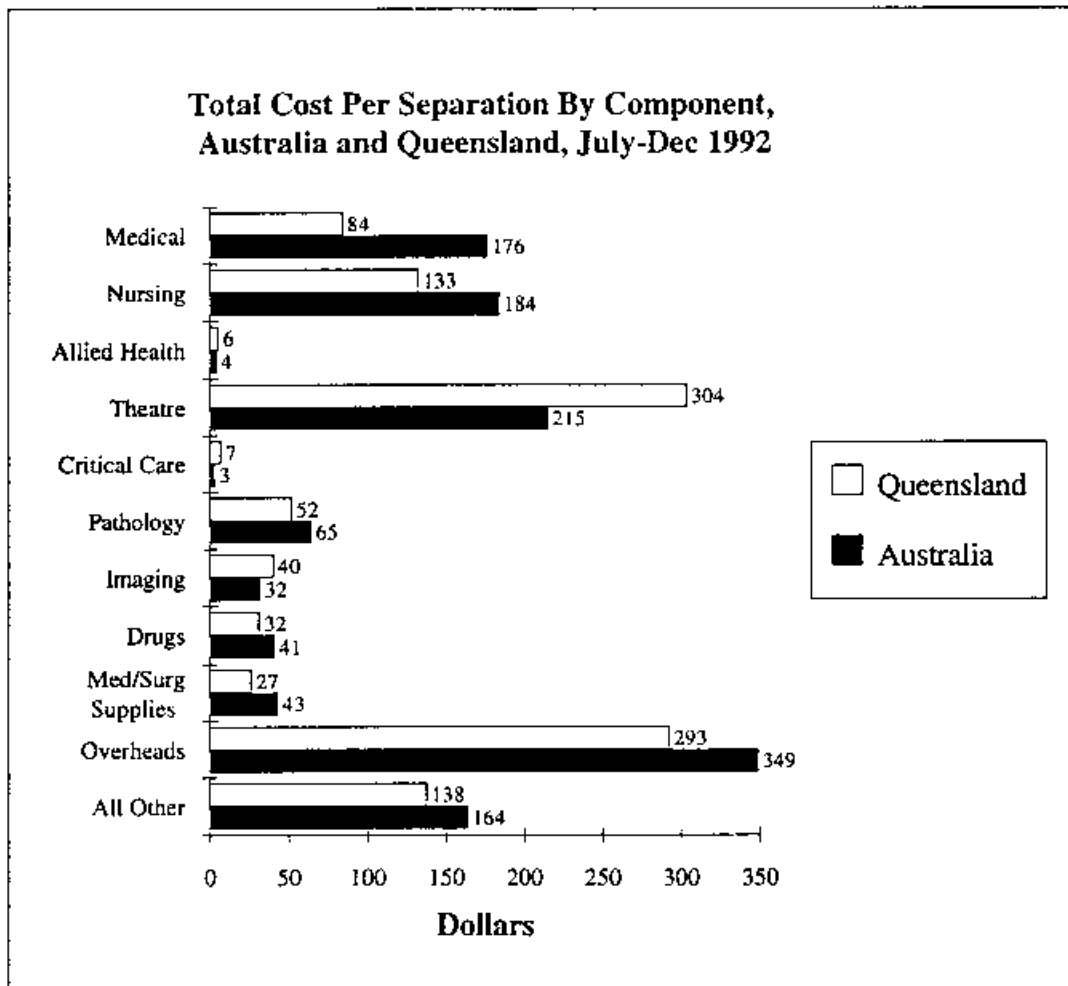
Total Cost Per Separation By Component, Australia and Queensland, July-Dec 1992



Other skin, subcutaneous tissue and breast procedures

AN-DRG 484

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	8,350	2,310	n.a.	n.a.
Total Cost per Separation	\$1,278	\$1,114	-\$163	-12.8%
Total Cost per Bedday	\$694	\$563	-\$131	-18.9%
Average Length of Stay (Days)	1.84	1.98	0.14	7.6%

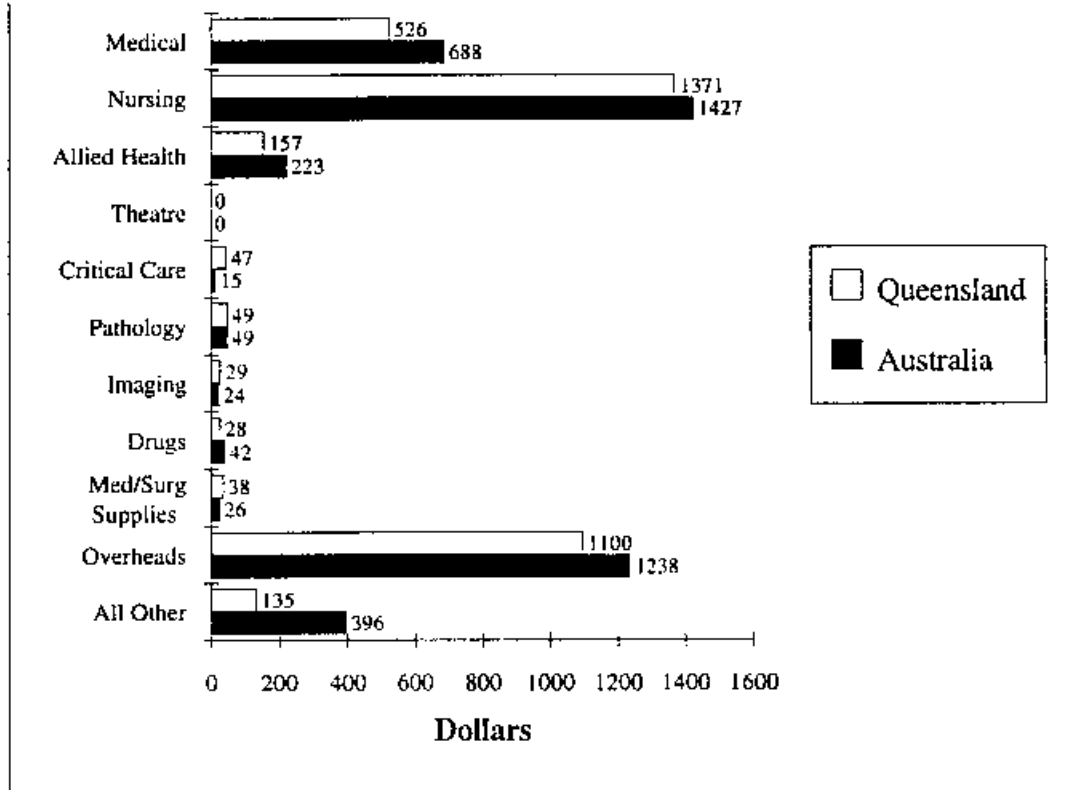


Psychoses

AN-DRG 836

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	7,611	2,090	n.a.	n.a.
Total Cost per Separation	\$4,128	\$3,481	-\$648	-15.7%
Total Cost per Bedday	\$273	\$166	-\$108	-39.4%
Average Length of Stay (Days)	15.11	21.03	5.92	39.2%

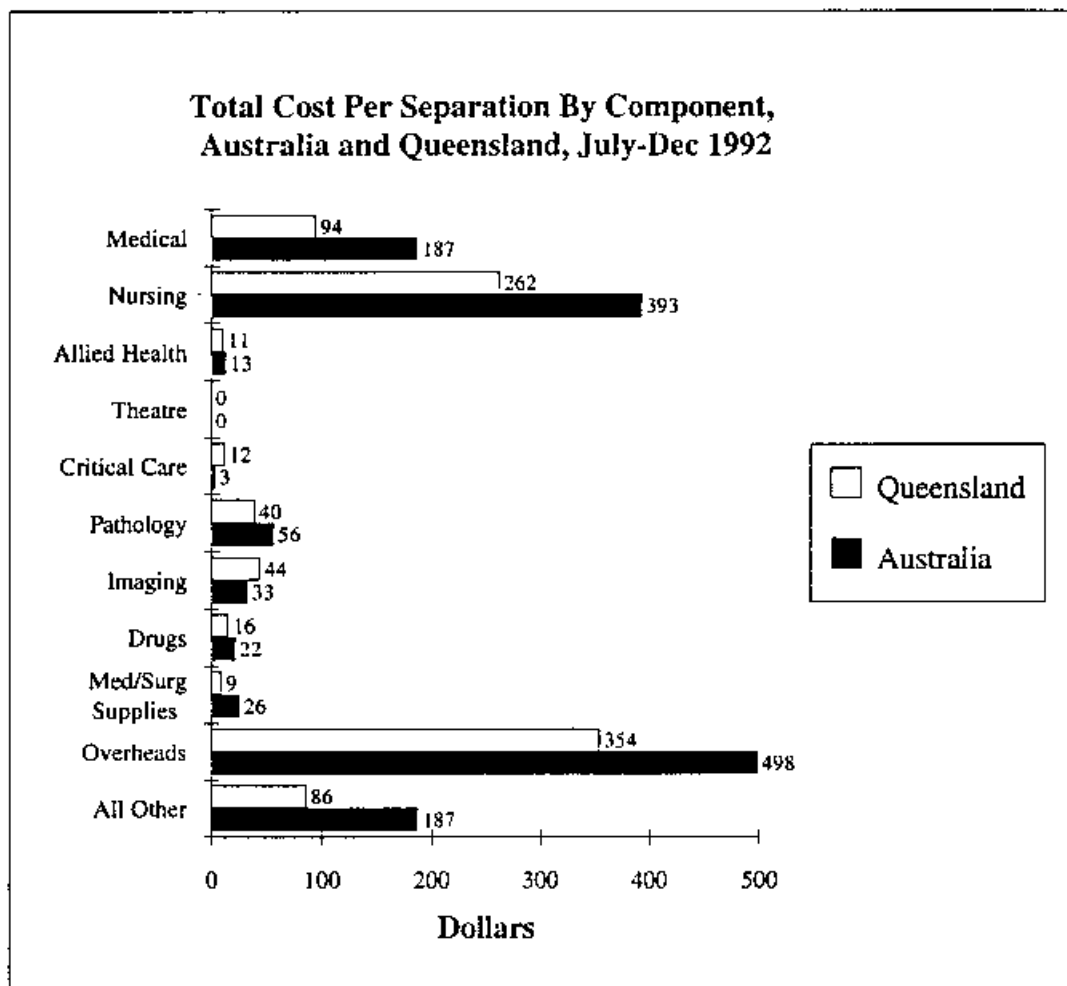
**Total Cost Per Separation By Component,
Australia and Queensland, July-Dec 1992**



Other factors influencing health status

AN-DRG 934

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	11,232	1,837	n.a.	n.a.
Total Cost per Separation	\$1,419	\$928	-\$490	-34.6%
Total Cost per Bedday	\$220	\$114	-\$105	-48.0%
Average Length of Stay (Days)	6.46	8.13	1.67	25.9%

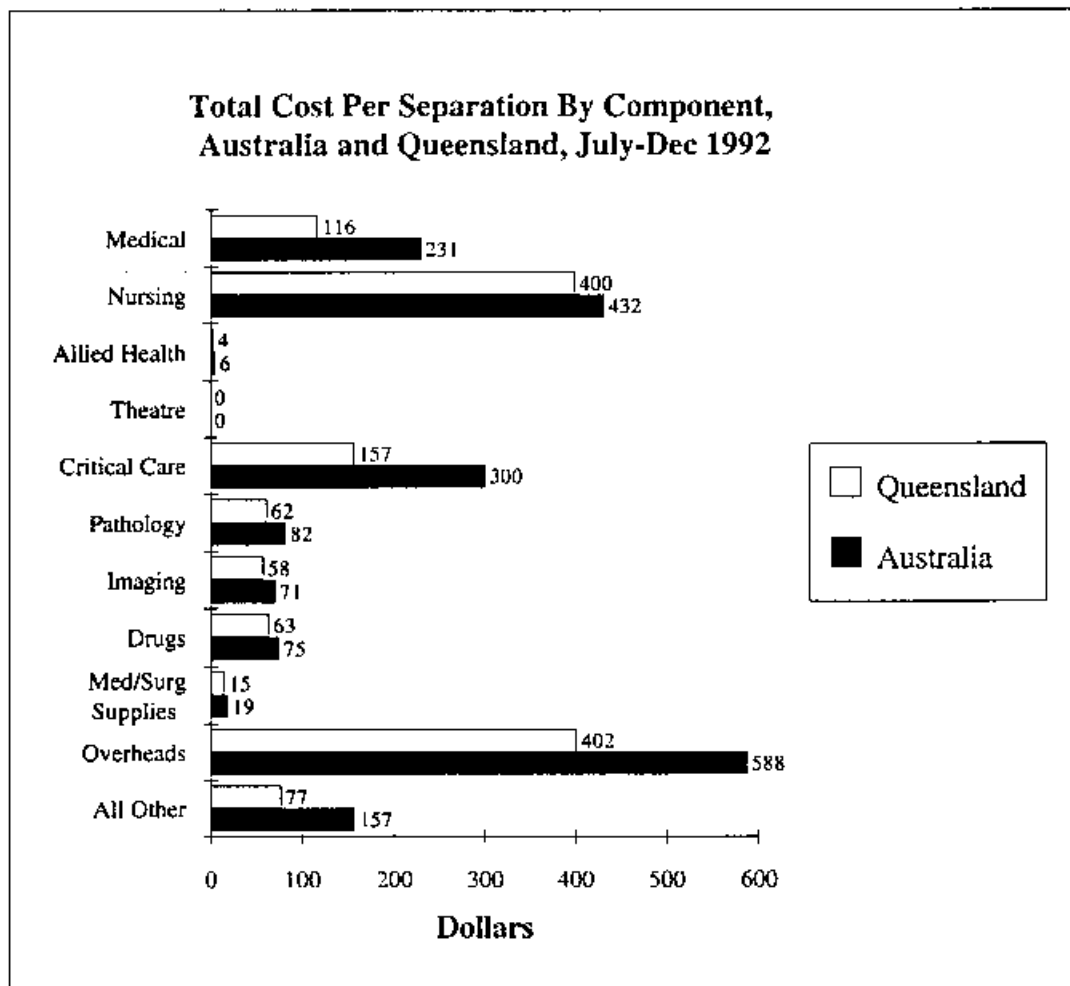


Unstable angina

AN-DRG 270

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	6,669	1,562	n.a.	n.a.
Total Cost per Separation	\$1,960	\$1,354	-\$606	-30.9%
Total Cost per Bedday	\$422	\$314	-\$108	-25.6%
Average Length of Stay (Days)	4.64	4.31	-0.33	-7.1%

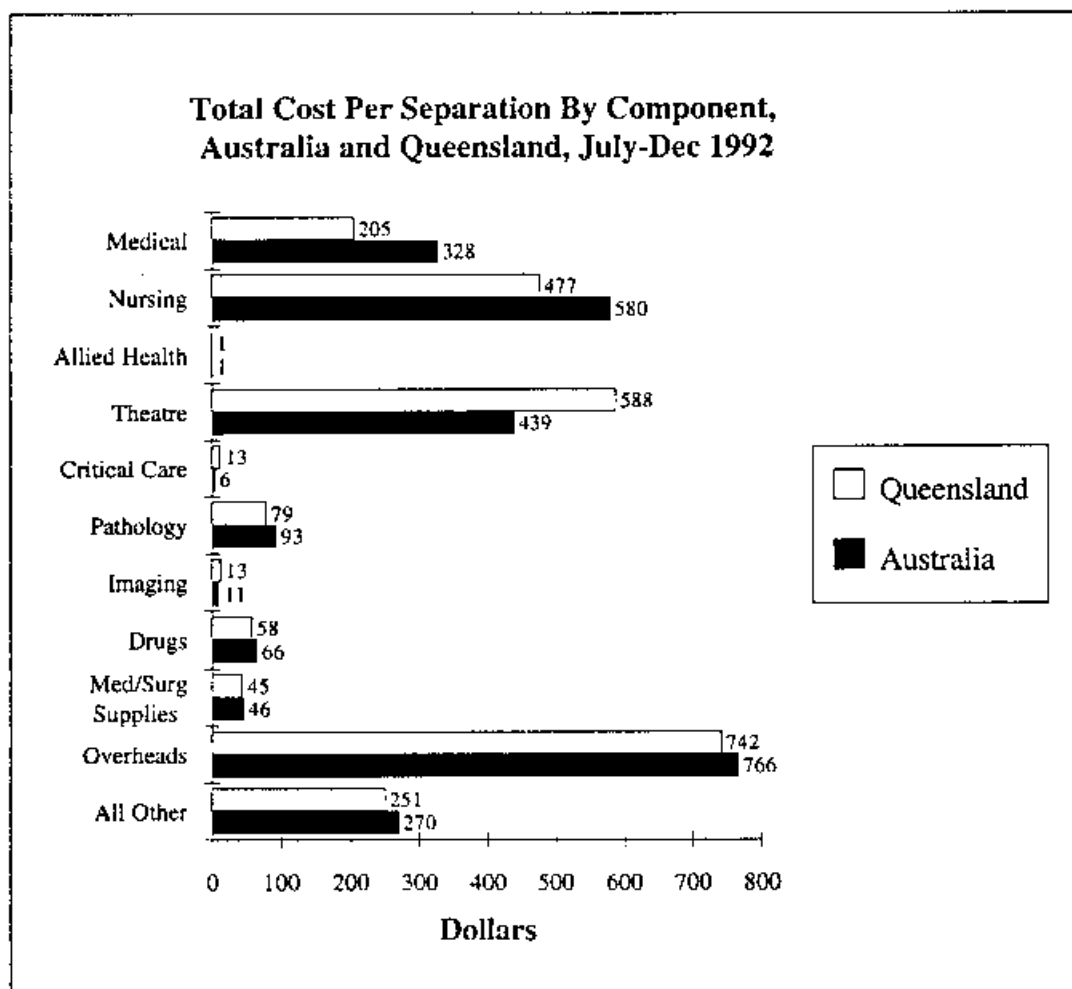
**Total Cost Per Separation By Component,
Australia and Queensland, July-Dec 1992**



Uterine and adnexa procedure for non-malignancy

AN-DRG 645

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	5,824	1,511	n.a.	n.a.
Total Cost per Separation	\$2,607	\$2,471	-\$136	-5.2%
Total Cost per Bedday	\$527	\$511	-\$16	-3.1%
Average Length of Stay (Days)	4.95	4.84	-0.11	-2.2%

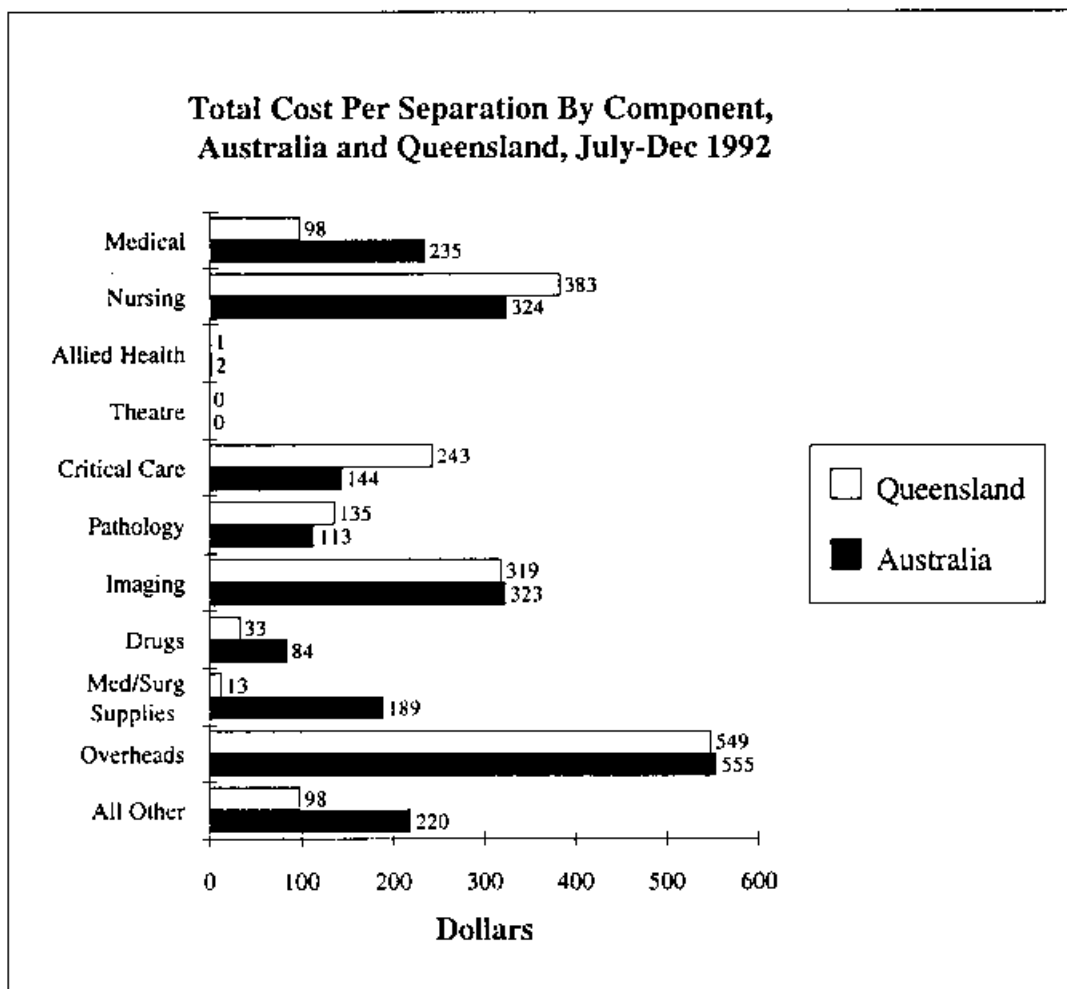


Circulatory disorder with invasive cardiac investigation

AN-DRG 250

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	11,081	1,510	n.a.	n.a.
Total Cost per Separation	\$2,189	\$1,873	-\$316	-14.4%
Total Cost per Bedday	\$732	\$441	-\$291	-39.8%
Average Length of Stay (Days)	2.99	4.25	1.26	42.1%

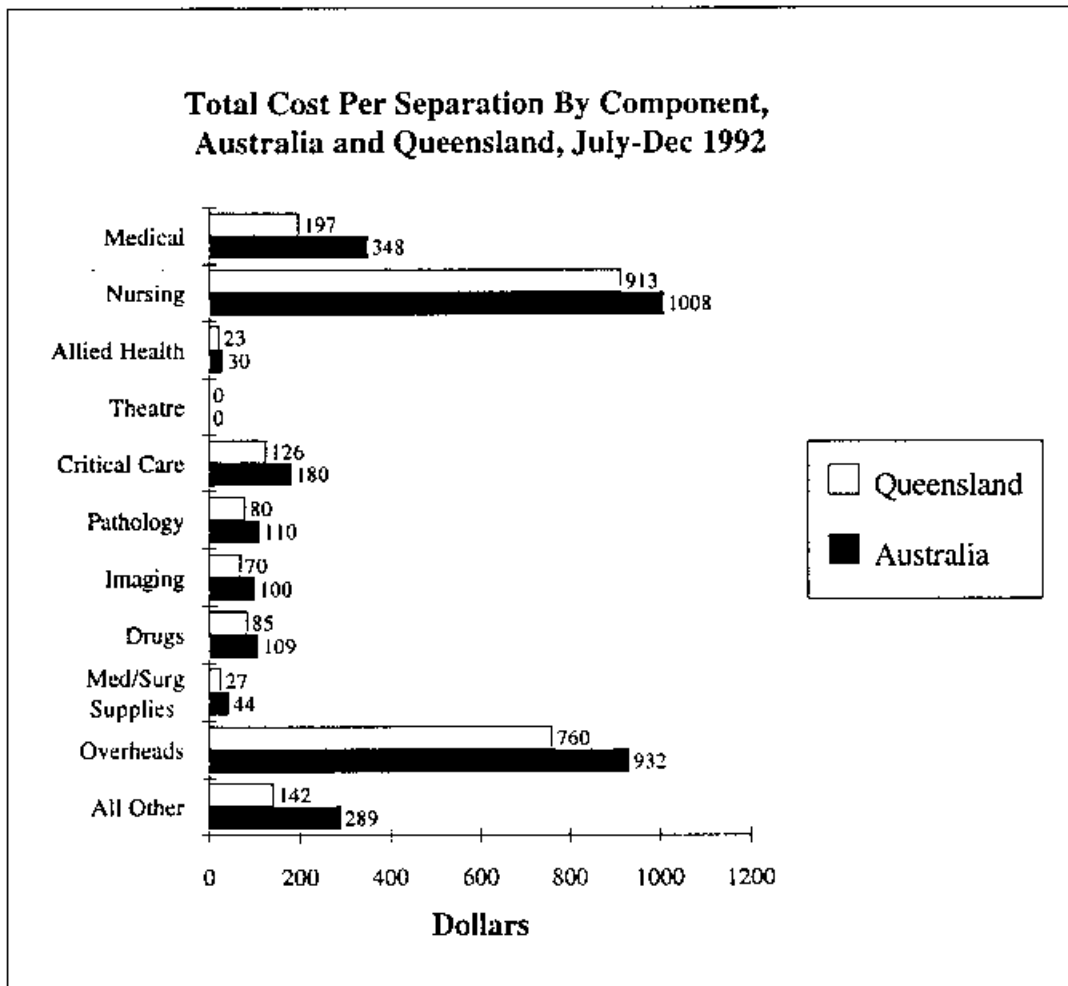
**Total Cost Per Separation By Component,
Australia and Queensland, July-Dec 1992**



Heart failure and shock

AN-DRG 252

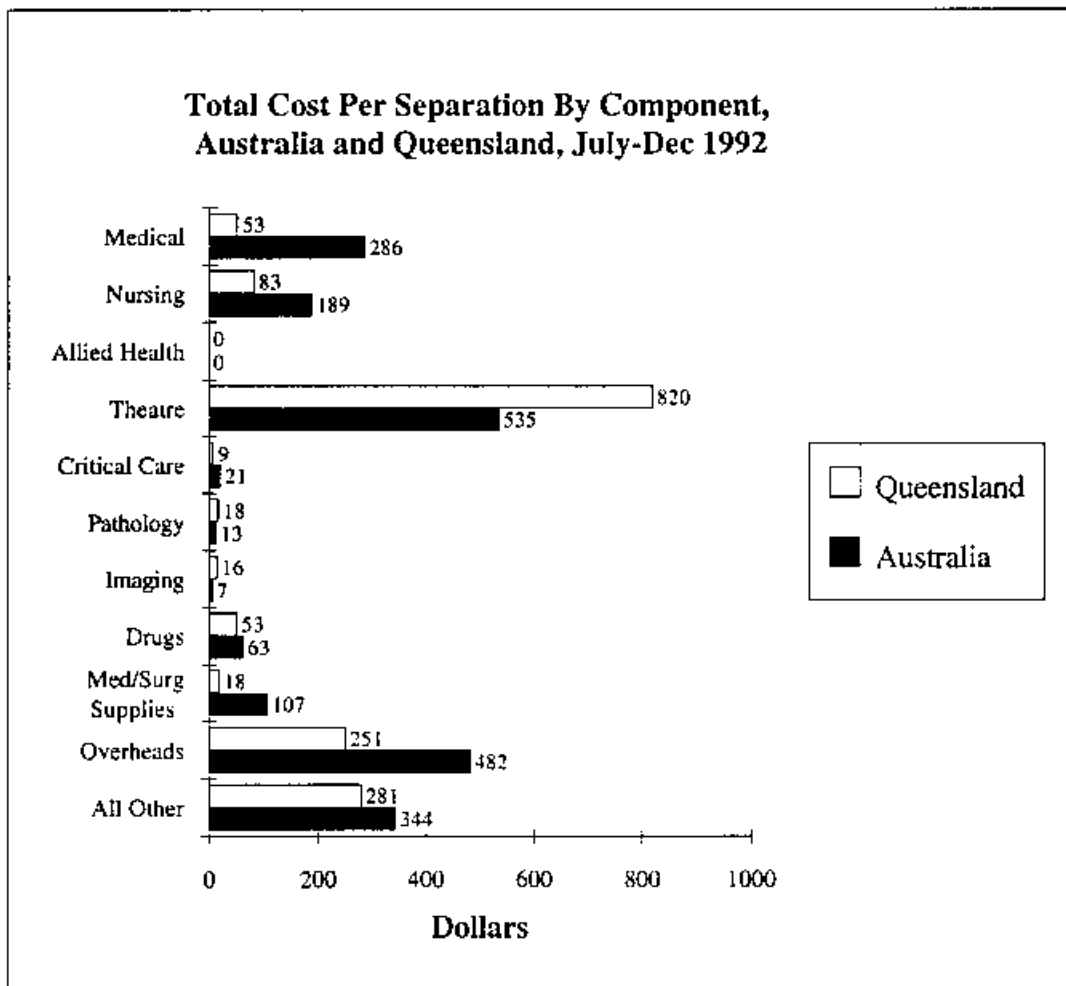
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	6,927	1,346	n.a.	n.a.
Total Cost per Separation	\$3,151	\$2,423	-\$728	-23.1%
Total Cost per Bedday	\$359	\$255	-\$104	-29.0%
Average Length of Stay (Days)	8.78	9.51	0.73	8.3%



Lens Procedures without comp. cond.

AN-DRG 74

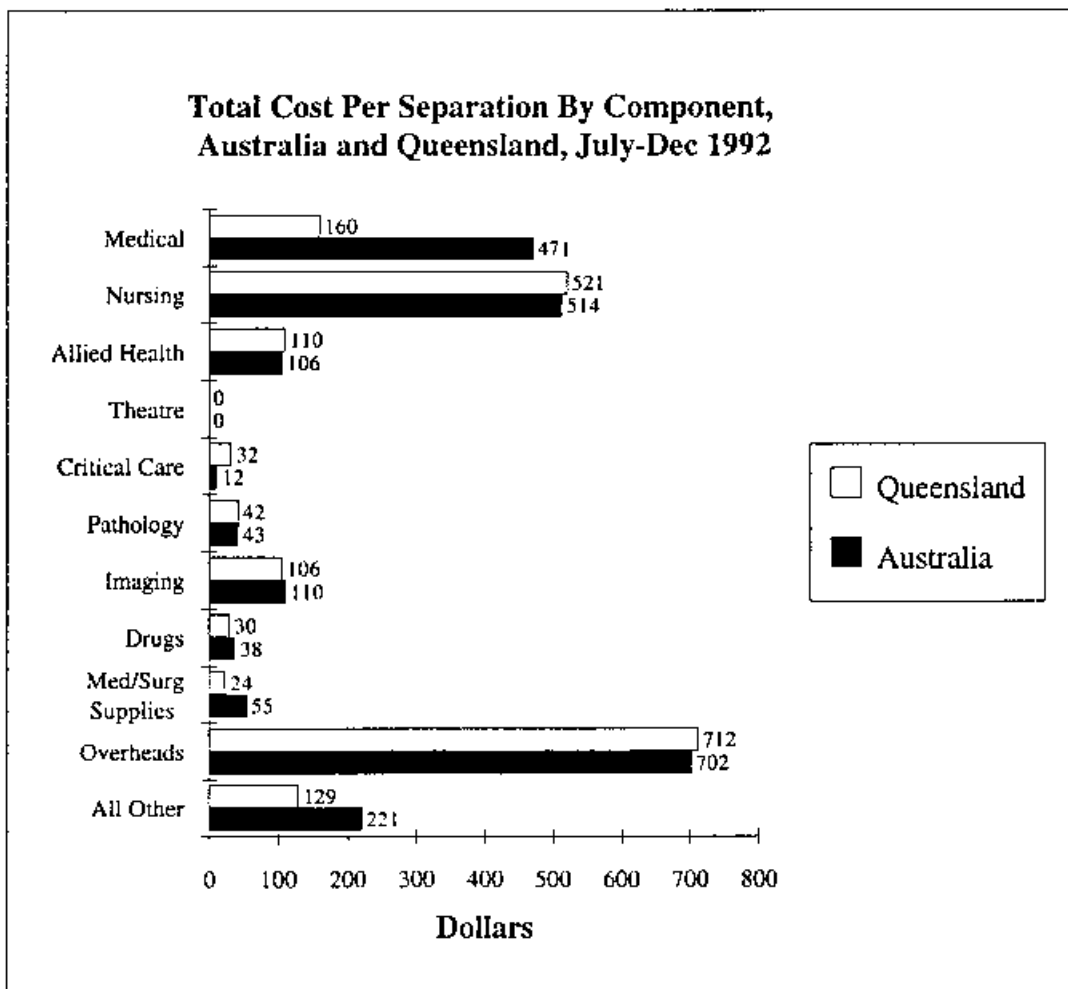
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	4,444	1,308	n.a.	n.a.
Total Cost per Separation	\$2,048	\$1,601	-\$447	-21.8%
Total Cost per Bedday	\$1,138	\$970	-\$168	-14.7%
Average Length of Stay (Days)	1.8	1.65	-0.15	-8.3%



Medical back problems

AN-DRG 432

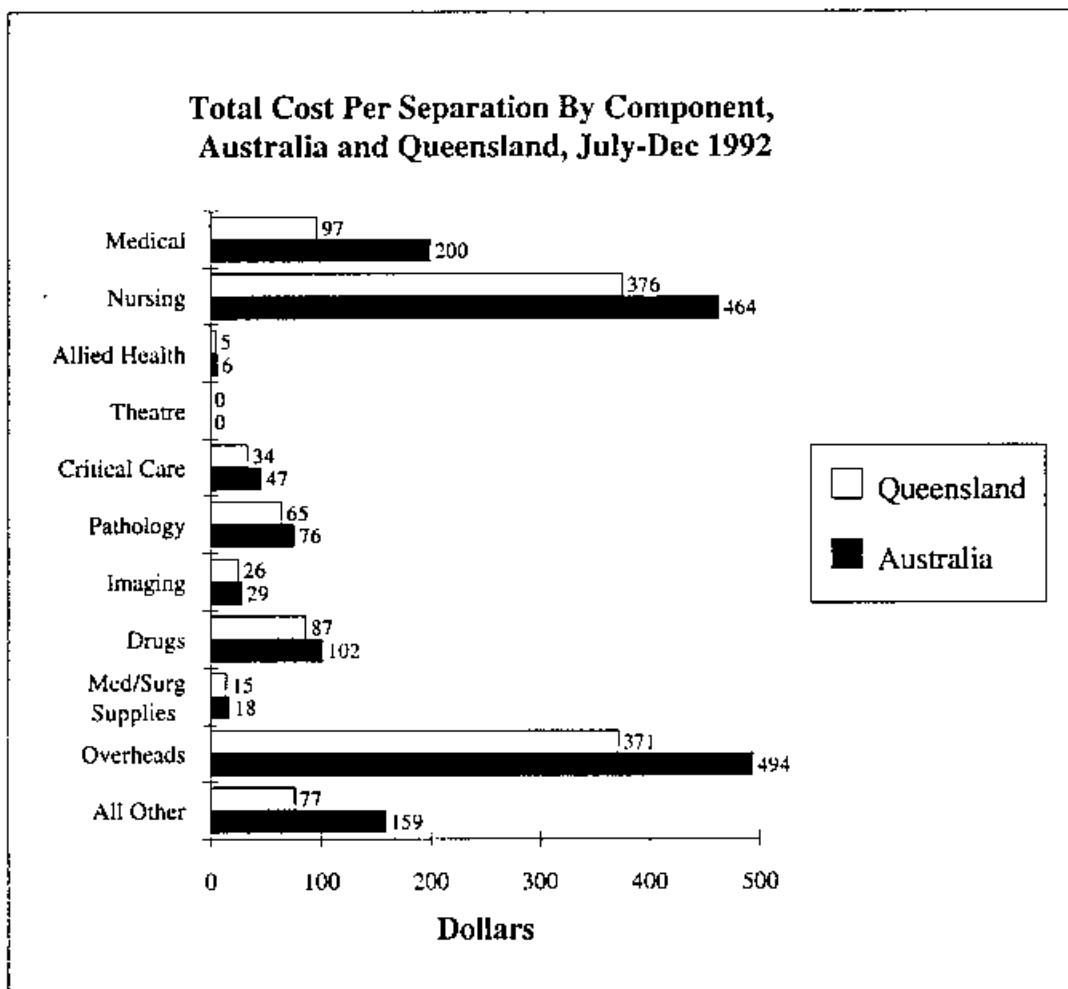
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	6,232	1,293	n.a.	n.a.
Total Cost per Separation	\$2,272	\$1,866	-\$405	-17.8%
Total Cost per Bedday	\$386	\$280	-\$106	-27.5%
Average Length of Stay (Days)	5.88	6.66	0.78	13.3%



Bronchitis and asthma, age >9

AN-DRG 185

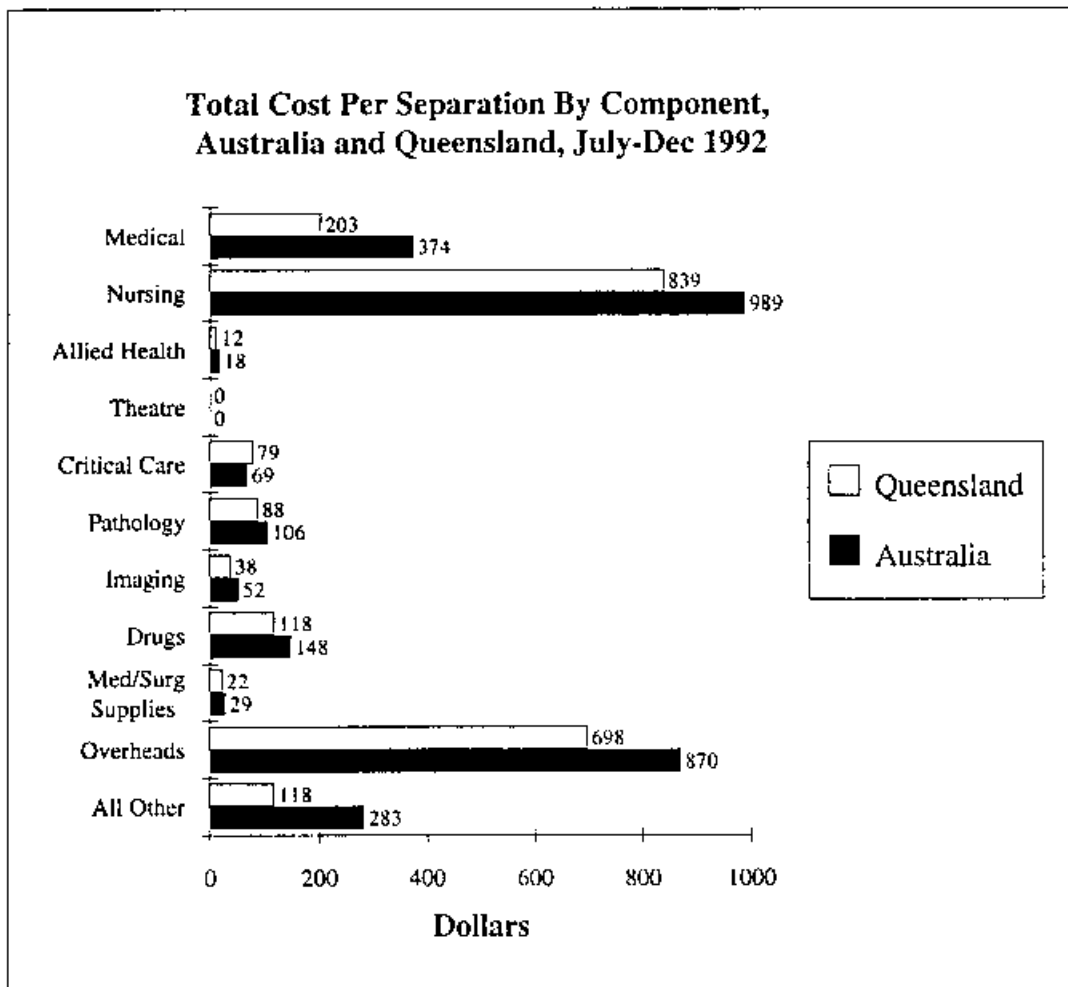
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	6,020	1,293	n.a.	n.a.
Total Cost per Separation	\$1,594	\$1,152	-\$442	-27.7%
Total Cost per Bedday	\$379	\$294	-\$85	-22.4%
Average Length of Stay (Days)	4.21	3.92	-0.29	-6.9%



Chronic obstructive pulmonary disease

AN-DRG 177

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	5,849	1,222	n.a.	n.a.
Total Cost per Separation	\$2,936	\$2,215	-\$722	-24.6%
Total Cost per Bedday	\$337	\$249	-\$88	-26.0%
Average Length of Stay (Days)	8.72	8.89	0.17	1.9%

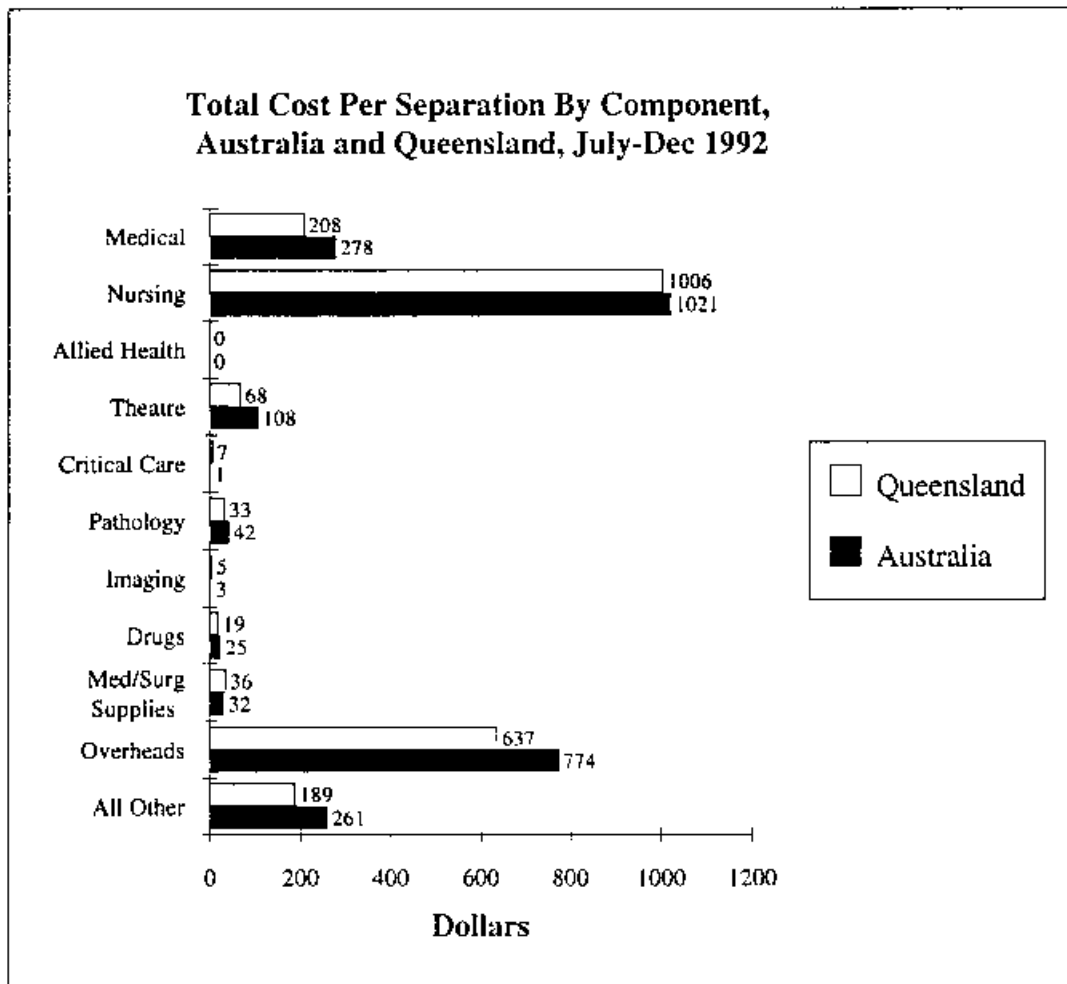


Vaginal delivery with complicating diagnosis

AN-DRG 674

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	7,218	1,147	n.a.	n.a.
Total Cost per Separation	\$2,545	\$2,207	-\$338	-13.3%
Total Cost per Bedday	\$459	\$391	-\$67	-14.7%
Average Length of Stay (Days)	5.55	5.64	0.09	1.6%

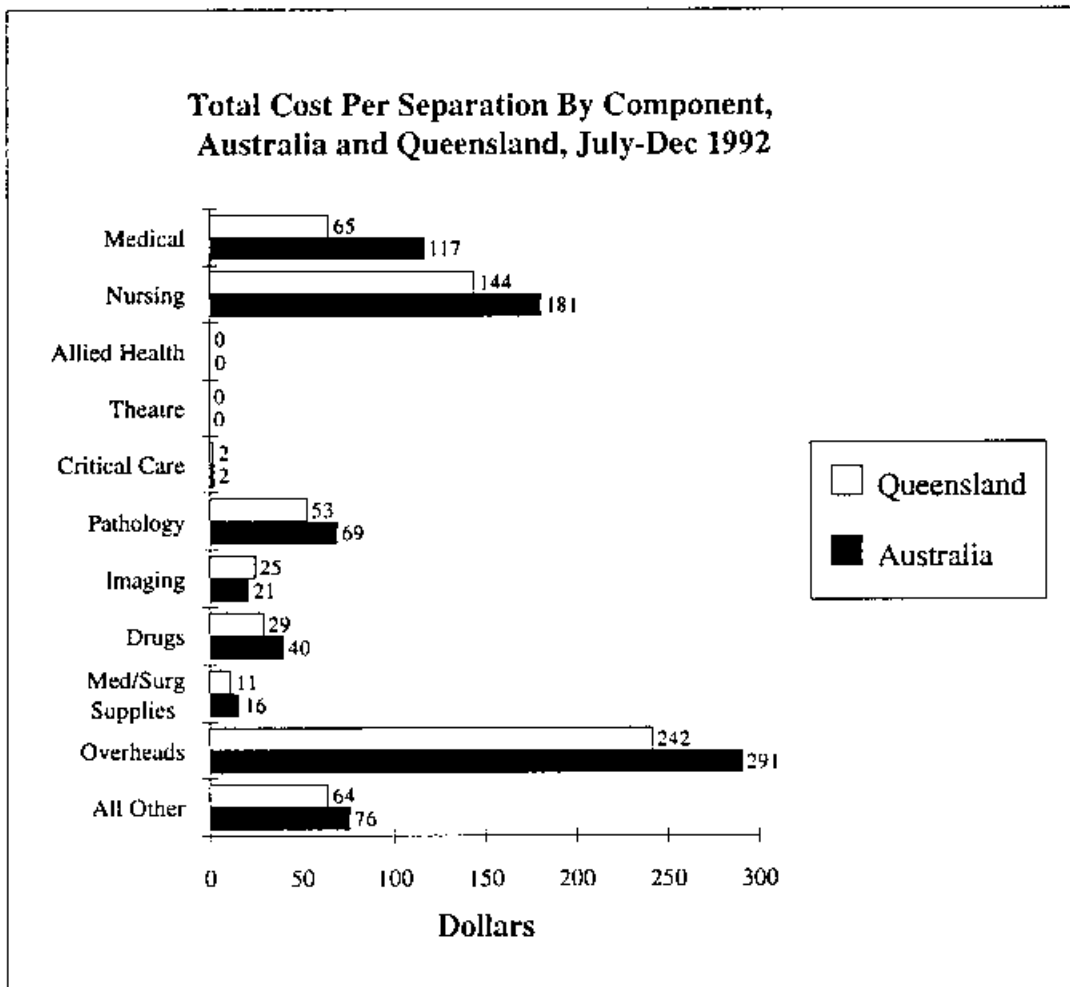
Total Cost Per Separation By Component, Australia and Queensland, July-Dec 1992



Other digestive system age >9 with comp. cond.

AN-DRG 333

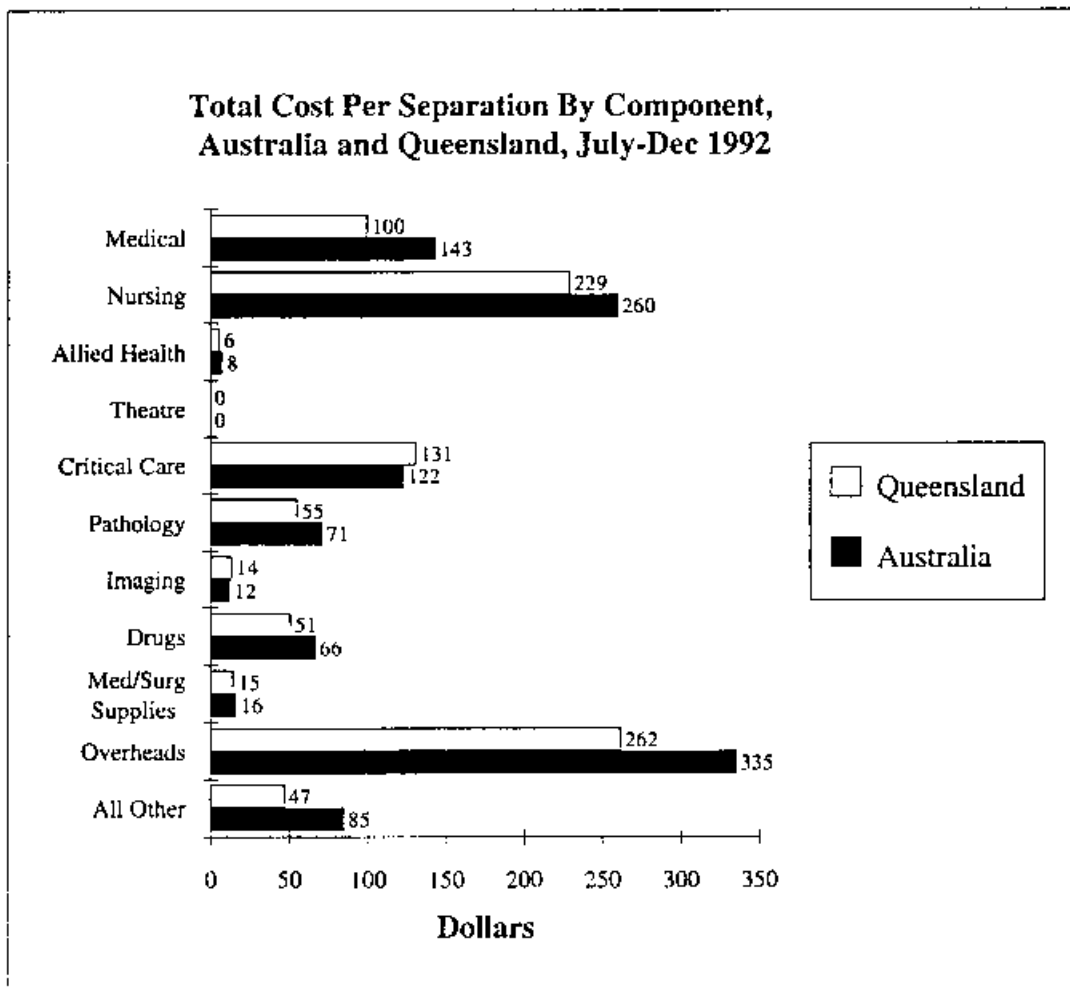
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	5,464	1,142	n.a.	n.a.
Total Cost per Separation	\$813	\$636	-\$177	-21.8%
Total Cost per Bedday	\$478	\$338	-\$140	-29.3%
Average Length of Stay (Days)	1.7	1.88	0.18	10.6%



Poisoning & toxic effects of drugs age >9 without comp. cond.

AN-DRG 889

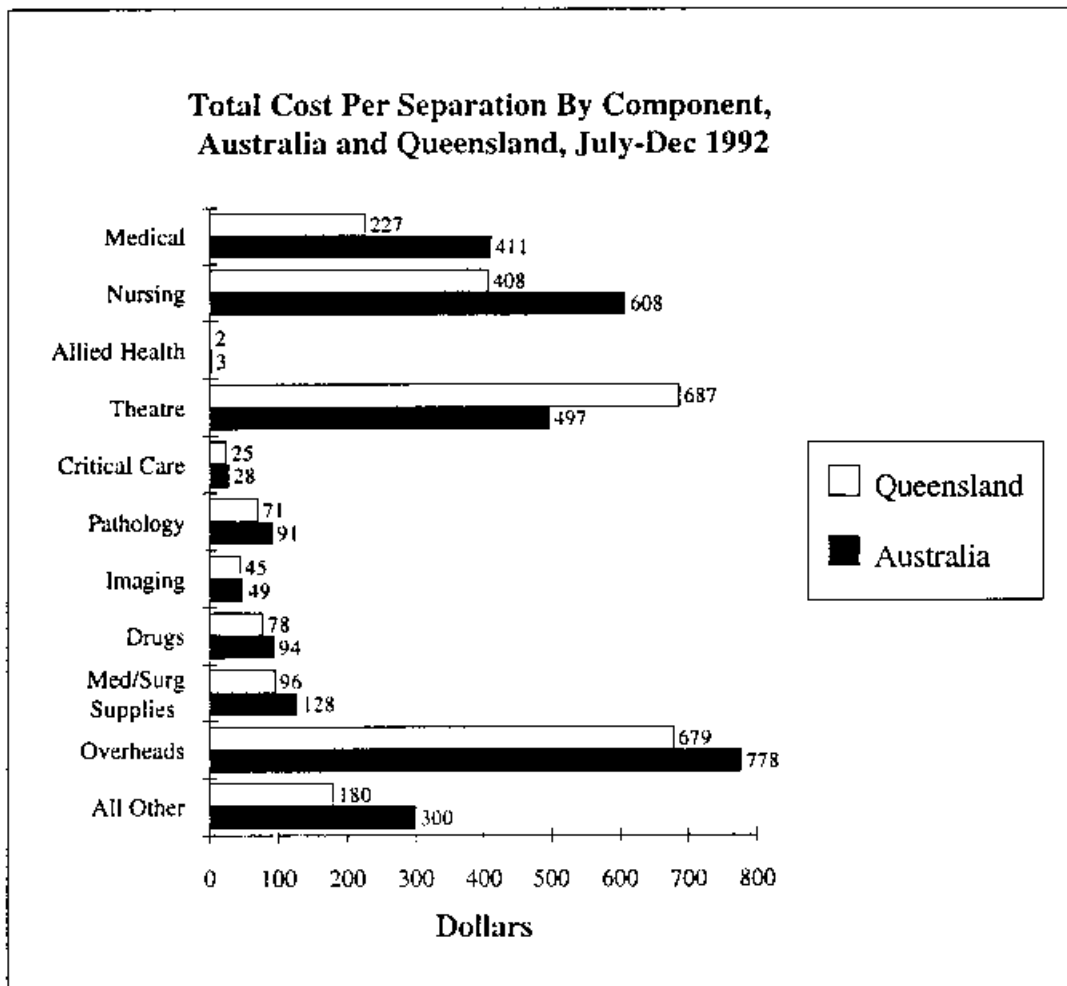
	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	4,154	1,113	n.a.	n.a.
Total Cost per Separation	\$1,119	\$908	-\$211	-18.8%
Total Cost per Bedday	\$502	\$397	-\$105	-21.0%
Average Length of Stay (Days)	2.23	2.29	0.06	2.7%



Cholecystectomy without C.D.E

AN-DRG 367

	Australia	Queensland	Absolute Difference	Percentage Difference
Number of Separations	4,553	1,109	n.a.	n.a.
Total Cost per Separation	\$2,988	\$2,497	-\$491	-16.4%
Total Cost per Bedday	\$563	\$539	-\$23	-4.2%
Average Length of Stay (Days)	5.31	4.63	-0.68	-12.8%



REFERENCES FOR FURTHER READING

AN INTRODUCTION TO CASEMIX AND THE NATIONAL COSTING STUDY: Information Circular Number 20, Epidemiology and Health Information Branch, Queensland Health

ANALYSIS OF COSTS AND AVERAGE LENGTH OF STAY FOR SELECTED QUEENSLAND PUBLIC HOSPITALS COMPARED TO THE NATIONAL AVERAGE: Information Circular No. 24, Epidemiology and Health Information Branch, Queensland Health

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HEALTH CARE FOR ALL AUSTRALIANS: 1992-93 Reforms, Budget Related Paper No. 8, Commonwealth Department of Health, Housing and Community Services.

QUEENSLAND COMMONWEALTH MEDICARE AGREEMENT: July 1993 - June 1998, February 1993.