Curative intent Treatments and Outcomes in Pancreatic Cancer: Comparison between Public and Private Hospitals

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PURPLE TRANSLATIONAL REGISTRY
PANCREATIC CANCER: UNDERSTANDING ROUTINE PRACTICE & LIFTING END RESULTS

Background

- In 2022, pancreatic cancer was the 8th most commonly diagnosed cancer in Australia, and the 4th most common cause of cancer-related death.[1]
- Pancreatic cancer remains an aggressive malignancy with an average 5-year relative survival rate of 12% compared to 70% for all cancers combined.[1,2]
- The impact of public versus private care provision on survival outcomes, as well as the differences in patient demographics and treatment characteristics across the two settings have not been fully evaluated.

Objectives

- To compare the outcomes of potentially resectable pancreatic ductal adenocarcinoma (PDAC) patients treated across public and private hospitals.
- To examine nuances and disparities in care for PDAC to identify the socioeconomic, demographic and clinicopathological characteristics to better understand the treatment landscape in Australia.

Methods

- Between January 2016 and May 2023, consecutive patients were identified from the PURPLE (**P**ancreatic cancer **U**nderstanding **R**outine **P**ractice & **L**ifting **E**nd results) Registry. This electronic web-based multi-center database collects prospective clinical data on patients with all stages of pancreatic cancer across Australia, Singapore and New Zealand.
- 690 patients were identified for this study: 453 patients received treatment at public hospitals and 237 patients at private hospitals.
- Patients were excluded if their disease was metastatic or locally advanced unresectable at the time of diagnosis.
- Chi-squared test and logistic regression were used for binary outcomes. Kaplan-Meier analyses was used to determine overall survival (OS) and recurrence free survival (RFS).

Figure 1: Proportional breakdown of Surgical Resectability at presentation

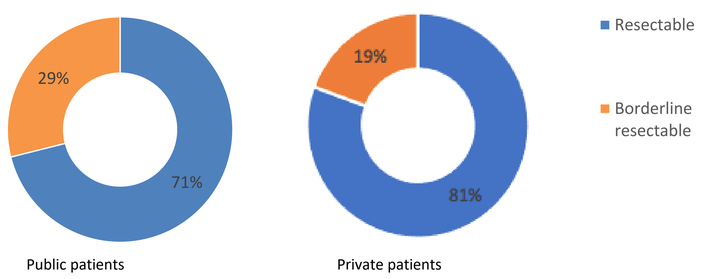
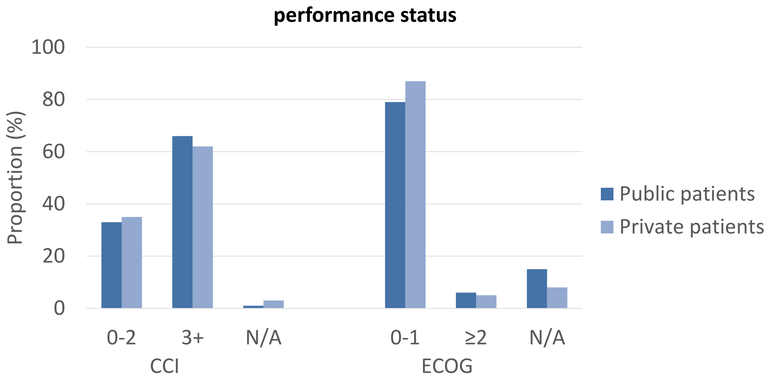


Figure 2: Bar chart of Patient demographics and Presenting performance status



ECOG= Eastern Cooperative Oncology Group Performance Status
A score which describes a patients functional status in terms of their ability to care for themselves, daily activity and physical capability. Ranging from 0 (fully active, no performance restrictions) to 4 (completely disabled, unable to self care).
CCI= Charlson Comorbidity Index
A weighted index to predict risk of mortality for patients with specific comorbid conditions; the higher the score the higher the predicted mortality.
IRSAD= Index of Relative Socioeconomic Advantage/ Disadvantage
A score which summarises information about the economic and social condition of people and households within an area ,including both relative advantage and disadvantage measures. A lower score indicates relatively greater disadvantage.

Figure 3: Bar chart of Patient SEIFA Socioeconomic Advantage/Disadvantage

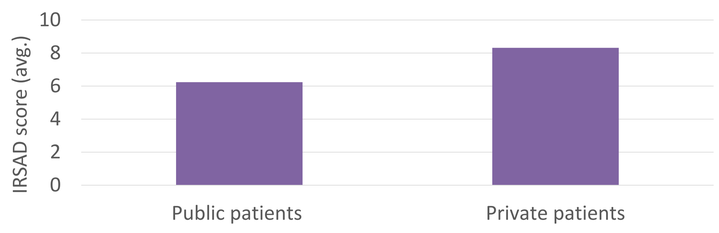


Figure 4: Breakdown of Treatment characteristics: Public hospital patients

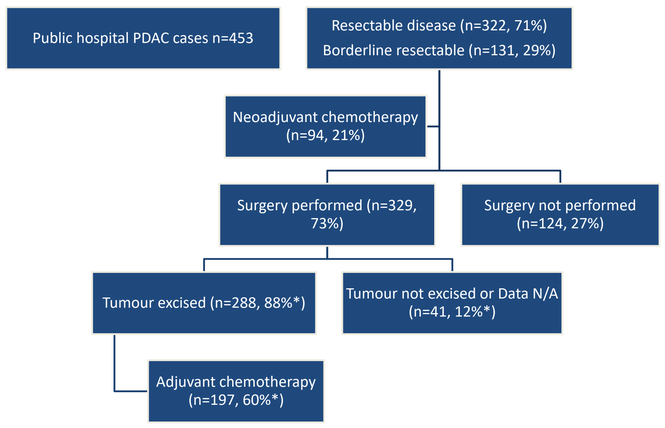


Figure 5: Breakdown of Treatment characteristics: Private hospital patients

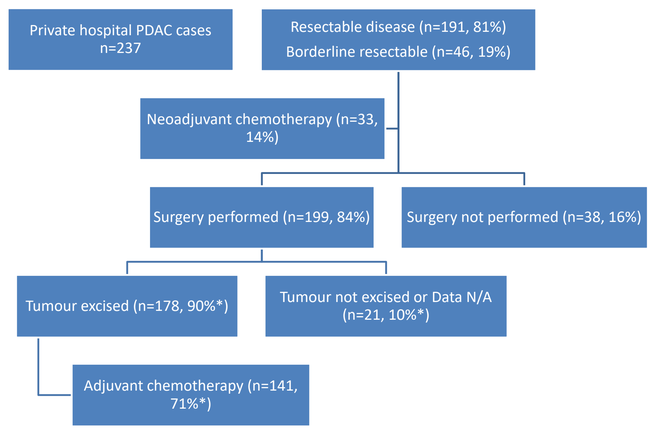


Table 1: Patient characteristics

	Public hospital patients (n=453)	Private hospital patients (n=237)	p value
Median age (yrs.)	67.0	68.7	0.06
Gender Male Female	 252 (56%) 201 (44%)	 107 (45%) 130 (55%)	0.01
ECOG 0-1 ≥2 Not reported	 356 (79%) 29 (6%) 68 (15%)	 206(87%) 11 (5%) 20 (8%)	0.02
CCI 0-2 ≥3 Not reported	 149 (33%) 298 (66%) 6 (1%)	 83 (35%) 148 (62%) 6 (3%)	0.46
IRSAD (mean)	6.24	8.32	<0.001
Surgical resectability Resectable Borderline resectable	 322 (71%) 131 (29%)	 191 (81%) 46 (19%)	0.007

Table 2: Treatment characteristics

	Public hospital patients (n=453)	Private hospital patients (n=237)	p value
Neoadjuvant chemotherapy received	94 (21%)	33 (14%)	0.03
Surgery performed	329 (73%)	199 (84%)	<0.001
Tumour excised	288 (88%)*	178 (90%)*	0.58
Resection rates R0 R1 R2 Rx &Not reported	 200 (70%)** 45 (15%) 6 (2%) 37 (13%)	 105 (59%)** 30 (17%) 9 (5%) 34 (19%)	0.05
Adjuvant chemotherapy received	197 (60%)*	141 (72%)*	0.01

**Of the patients who had surgery*
***Of the patients who had their tumour resected*

Figure 6: Kaplan- Meier Analysis of Overall Survival (OS)

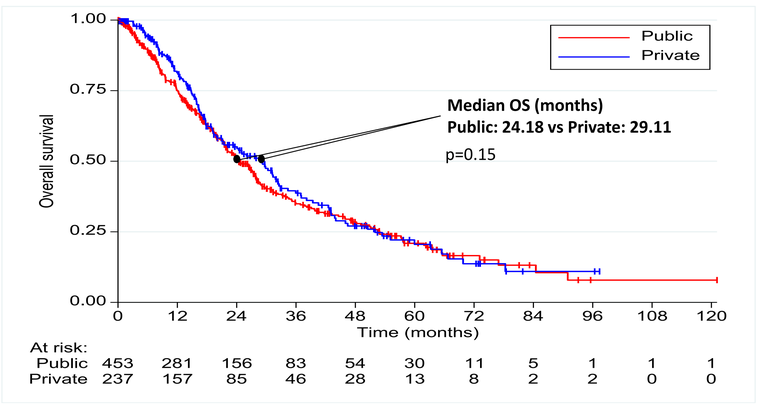


Figure 7: Kaplan- Meier Analysis of Recurrence Free Survival (RFS)

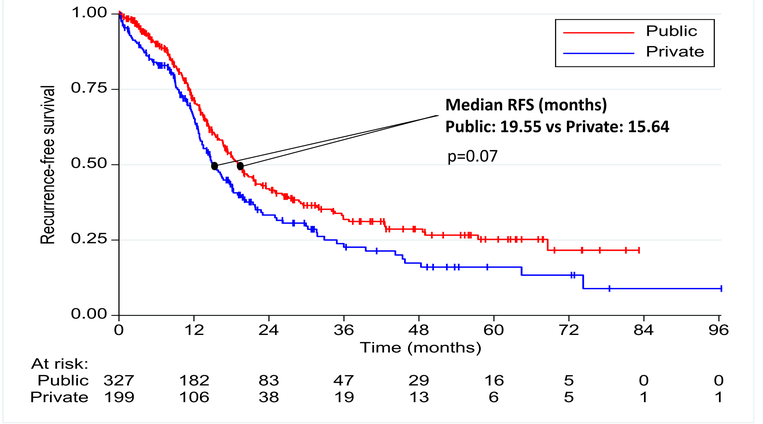


Table 3: Overall Survival and Recurrence Free Survival (Multivariate analysis)

	Public hospital patients (n=453)	Private hospital patients (n=237)	p value
Median OS (months)	24.18	29.11	0.15
Median RFS (months)	19.55	15.64	0.07

Results

- Comparing patient demographics, public and private patients with potentially curable PDAC were of similar age (p=0.06) and had similar levels of comorbidities (p=0.46).
- Public patients had a higher ECOG performance status (p=0.02) and lived in relative socio-economic disadvantage according to their average IRSAD score (p<0.001).
- At the time of diagnosis, more private hospital patients were considered surgically resectable (p=0.007) while a higher percentage of public patients received neoadjuvant chemotherapy (p=0.03) and were considered borderline resectable.
- A higher proportion of private hospital patients proceeded to surgery (p<0.001) and received adjuvant chemotherapy (p=0.01).
- During surgery, there were no significant differences between the proportion of public to private patients with tumour excised (p=0.58), however the R0 resection rates were higher in public hospital patients (p=0.05).
- Following multivariate analysis which adjusted for differences in ECOG and CCI, there were no statistical differences in median RFS (p=0.07) or median OS length (p=0.15) between the two hospital models.

Conclusions

- Many social determinants of health impact healthcare uptake and delivery.
- Patients with PDAC from public and private hospitals differ in their demographics and staging of cancer at presentation.
- Differences were observed in treatment characteristics with no difference in survival outcomes.

References: 1. Australian Institute of Health and Welfare. Cancer data in Australia. Canberra: AIHW ; 2023.
2. Cancer Australia NCCI. 5-year relative survival from diagnosis. Strawberry Hills: NCCI ; 2022.

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