RPA INSTITUTE OF ACADEMIC SURGERY

SOuRCe Surgical Outcomes Research Centre

PELVIC EXENTERATION PROGRAM

ANNUAL REPORT: 2022/23

ROYAL PRINCE ALFRED HOSPITAL

SYDNEY LOCAL HEALTH DISTRICT

NSW GOVERNMENT Sydney Local Health District

Acknowledgement of Country

Sydney Local Health District acknowledges that we are living and working on Aboriginal land. We recognise the strength, resilience and capacity of Aboriginal people on this land. We would like to acknowledge all of the traditional owners of the land and pay respect to Aboriginal Elders past and present.

Our District acknowledges ***Gadigal***, ***Wangal*** and ***Bediagal*** as the three clans within the boundaries of the Sydney Local Health District. There are about 29 clan groups within the Sydney metropolitan area, referred to collectively as the great ***Eora Nation***. *Always was and always will be Aboriginal Land.*

We want to build strong systems to have the healthiest Aboriginal community in Australia.

Together under the Sydney Metropolitan Partnership Agreement, including the Aboriginal Medical Service Redfern and in collaboration with the Metropolitan Local Aboriginal Land Council, Sydney Local Health District is committed to achieving equality to improve self-determination and lifestyle choices for our Aboriginal community.

Ngurang Dali Mana Burudi – A Place to Get Better

Ngurang Dali Mana Burudi — a place to get better, is a view of our whole community including health services, Aboriginal communities, families, individuals and organisations working in partnership.

Our story

Sydney Local Health District's Aboriginal Health story was created by the District's Aboriginal Health staff.

The map in the centre represents the boundaries of Sydney Local Health District. The blue lines on the map are the Parramatta River to the north and the Cooks River to the south which are two of the traditional boundaries.

The ***Gadigal***, ***Wangal*** and ***Bediagal*** are the three clans within the boundaries of Sydney Local Health District. They are three of the twenty-nine clans of the great ***Eora Nation***. The centre circle represents a pathway from the meeting place for Aboriginal people to gain better access to healthcare.

The Goanna or *Wirriga*
One of Australia's largest lizards, the goanna is found in the bush surrounding Sydney.

The Whale or *Gawura*
From June to October pods of humpback whales migrate along the eastern coastline of Australia to warmer northern waters, stopping off at Watsons Bay the traditional home of the Gadigal people.

The Eel or *Burra*
Short-finned freshwater eels and grey Moray eels were once plentiful in the Parramatta River inland fresh water lagoons.

Source: Sydney Language Dictionary

Artwork

Ngurang Dali Mana Burudi — a place to get better

The map was created by our Aboriginal Health staff telling the story of a cultural pathway for our community to gain better access to healthcare.

Artwork by Aboriginal artist Lee Hampton utilising our story.

Contents

1. Executive Summary

The purpose of this report is to provide a summary of the provision of the Pelvic Exenteration Program at Royal Prince Alfred (RPA) Hospital, Sydney Local Health District (SLHD) for the 2022/23 financial year.

During the 2022/23 financial year, the Pelvic Exenteration Program at RPA reviewed details of 218 patients referred for potential treatment through the multidisciplinary team (MDT) meeting. Over the 12 month reporting period, 79 pelvic exenteration procedures were undertaken, which included two patients who underwent a combined pelvic exenteration and cytoreductive surgery (CRS) with or without hyperthermic intraperitoneal chemotherapy (HIPEC). This was one of the largest number of cases ever performed in a financial year period in the history of the program.

From 1994 to June 2023, 1075 pelvic exenteration procedures have been performed at RPA on 1033 unique patients.

From 1994 to June 2023, 1075 pelvic exenteration procedures have been performed at RPA on 1033 unique patients. This is the largest cohort of patients treated by a single institution worldwide. As a result, the program has received international recognition for its success in incorporating a novel multidisciplinary approach, expertise from a variety of specialties, innovation in surgical techniques which have led to outstanding patient outcomes and high-quality scientific output. Its strength and success over more than 29 years are a testament to all of the many highly talented and dedicated medical, nursing, allied health and research teams who contribute to the program with the valued support of NSW Health, the SLHD and RPA senior management.

In the aftermath of the COVID-19 pandemic the program has resumed normal function and is continuing to thrive, taking all the lessons learned during these challenging times. Members of the Pelvic Exenteration Program should be commended for their ability to evolve and continue to expand. The Pelvic Exenteration Research Program has also continued their proliferation with 44 projects actively being pursued (39 in advanced stage and five in conceptual stage), examining the topics of surgical techniques, surgical outcomes, survival, prognosis, decision-making, quality of life, patient experience, patient education, nutrition, depression, anxiety, stress, exercise, 3D modelling, pain management and treatment cost. In addition, the pelvic exenteration team published 24 peer-reviewed research manuscripts in international peer-reviewed journals during this reporting period.

The development and future expansion of the service requires additional capacity and resources. This will need to continue to be taken into consideration in the new RPA redevelopment. The current patient demand continues to climb annually, with a further growth of 5% in activity anticipated for the upcoming financial year. This is in large part due to the enhanced recognition, both regionally and interstate, regarding the considerable patient benefits achieved by referring to a dedicated surgical centre with the experience, services and expertise in managing these highly complex patients. With patient outcomes remaining excellent, the development of novel decision making, and risk stratifying tools will be a new focus of the program, to continue advancing the delivery of care within this critical surgical oncological service.

2. Introduction

2.1 Purpose of this report

The purpose of this report is to provide a summary of the provision of the Pelvic Exenteration Program at RPA Hospital within SLHD for the 2022/23 financial year.

The first pelvic exenteration case was undertaken in RPA in 1994, this report covers the 29th year of operation for the program.

2.2 Funding arrangements

Due to the highly complex and specialised nature of the Pelvic Exenteration Program at RPA, including the number of interstate patients treated, support was granted by NSW Health in 2010 for RPA to apply for a federal National Funded Centre. Although this went to a full review including a site inspection at RPA in early 2011, the program was ultimately not successful in the application due to the heterogeneous nature and high volume of the tumour types able to be treated by this surgical procedure.

Despite this, NSW Health strongly supported the program and agreed to provide specialised program funding, which formally commenced in 2014. Overseen by the Highly Specialised Services Committee of NSW Health, the original funding agreement was set at 60 pelvic exenteration cases per financial year, which was increased to 75 cases annually in 2016/17. This activity is covered by a combination of activity based funding allocated through the National Weighted Activity Units per case and additional enhancement funding in recognition of the complexity of the program.

In the 2022/23 financial year, the specialised funding provided by NSW Health was based on the in-scope episodes completed within 2021/22 (excluding those patients not discharged on 30 June 2022), which was 73 patients.

3. Governance

3.1 Advanced Gastrointestinal Surgical Program

The Advanced Gastrointestinal Surgical Program (AGISP) is overseen by the RPA Institute of Academic Surgery (IAS) as one of the key programs within its Innovation, Value and Thought portfolio. This incorporates the management of the Pelvic Exenteration Program along with the Peritoneal Malignancy Program, Retroperitoneal Sarcoma Program and Advanced Upper Gastrointestinal Malignancy Program.

The overarching committee responsible for this program is the 'AGISP Steering Committee' which commenced in November 2016 and is co-chaired by Dr Teresa Anderson, Chief Executive SLHD, and Prof Michael Solomon, AGISP Director and Co-Chair of the IAS. The committee meets every second month and has representation from Heads of Department, key staff across all clinical departments and all areas involved in the Pelvic Exenteration, Peritoneal Malignancy, Retroperitoneal Sarcoma and Advanced Upper Gastrointestinal Malignancy Programs.

The governance structure is outlined in **Figure 1** and the clinical departments involved in the program are outlined in **Figure 2**.

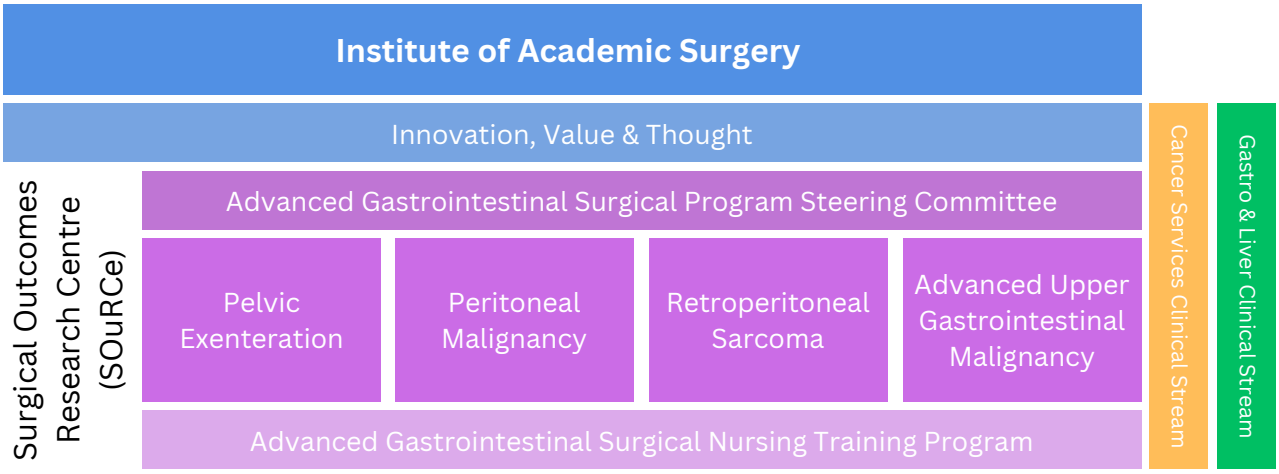


Figure 1. Advanced Gastrointestinal Surgical Program governance structure

Figure 2. Clinical departments involved in the AGISP at RPA

The AGISP Steering Committee is also used as an educational and communication platform whereby clinical departments are given the opportunity to present on their involvement with the complex group of advanced gastrointestinal surgical patients including the challenges they face, the research being undertaken, new models of care or treatments being implemented and future requirements.

The presentations made at the Committee in the 2022/23 financial year are outlined in **Table 1**.

Table 1. Presentations at the Advanced Gastrointestinal Surgical Program Steering Committee in the 2022/23 financial year

Meeting Date	Presentation Topic	Presenter(s)
3 August 2022	Nursing Training Program Updates	Ms Gaynor Beardsworth
12 October 2022	Acute Pain Service Update	Dr Charlotte Johnstone
7 December 2022	Overview of Psychiatry Services and Reports Service	Dr Fran Orr
1 February 2023	Overview of and Action Points Moving Forward – Brendan Moran	Dr Kate McBride
5 April 2023	Clinical Psychology Therapy Update	Ms Marine Salter
7 June 2023	Use of Custom 3D Printed Titanium Pelvic Implants: Improving Surgical Outcomes with Novel Approaches to Sacrectomy	Dr Kirk Austin & Dr Richard Boyle

The Pelvic Exenteration Surgical Research Program is governed by the Surgical Outcomes Research Centre (SOuRCe) in partnership with the IAS. SOuRCe is responsible for the collection of clinical data of all patients undergoing pelvic exenteration at RPA, including the consent of patients to a historical quality of life cohort study and collecting patient reported outcomes at 9 distinct time points from the preoperative period to five years post pelvic exenteration.

Pelvic exenteration research projects, new ideas and research collaborations are discussed during the Pelvic Exenteration Research Meeting. These collaborative meetings include several multidisciplinary clinical and academic personnel and are held bimonthly.

3.2 Staffing

The delivery of the Pelvic Exenteration Program at RPA would not be possible without the ongoing commitment and dedication of the many clinical teams and individual staff involved. Their contribution to ensuring the highest level of care is provided to our patients is greatly appreciated.

The list of key staff involved in the program are outlined in **Appendix 1**.

4. Patient Care Pathway & Review

4.1 Multidisciplinary team (MDT) meeting

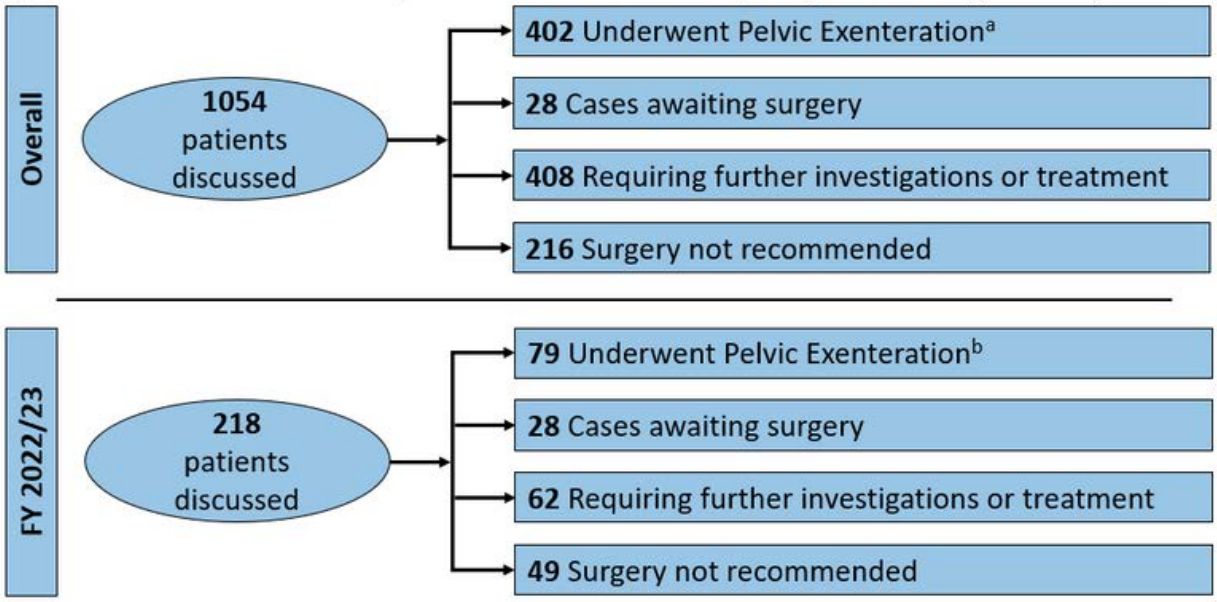
The Pelvic Exenteration Program at RPA holds a fortnightly MDT meeting. The MDT meeting is a critical step in the patient care pathway. The meeting is chaired by Prof Michael Solomon and coordinated by Dr Kirk Austin, Program Lead and Ms Sophie Hatcher, Pelvic Exenteration clinical nurse consultant (CNC). All patients referred to RPA for consideration of pelvic exenteration are discussed at this meeting. Referrals are received from specialists all over NSW, interstate and overseas. Information is collated and prioritised by the CNC and Program Lead. Cases are presented with a range of clinical information including clinical presentation and history, radiology (MRI, PET & CT scanning) and histopathology reports. The radiologist then outlines the findings on the relevant imaging and a discussion takes place to determine patient suitability for pelvic exenteration. Decisions made at the MDT meeting are based on indications and evidence outlined by national and international publications.

The discussion and decisions relating to the proposed treatment plan for the patients are documented in the form of an MDT letter, signed by the Program Lead and CNC and sent back to the referring clinician. Data collection from this meeting commenced in July 2018.

Over the last five financial years, 1054 patients were referred and discussed at the RPA pelvic exenteration MDT meeting. Of these, 402 (38%) patients underwent pelvic exenteration, 408 (39%) required further investigations, 28 (3%) are awaiting surgery and for 216 (20%) patients, surgery was not recommended. On average, 18 new patients were referred and reviewed each month at the RPA pelvic exenteration MDT meeting.

During the 2022/23 financial year, 218 patients were discussed at the RPA pelvic exenteration MDT, with 79 (36%) patients undergoing surgery, 62 (28%) requiring further investigation, 28 (13%) awaiting surgery and for 49 (23%) patients, pelvic exenteration was not recommended (**Figure 3**).

Figure 3. Recommendations of the pelvic exenteration multidisciplinary team meeting since July 2018

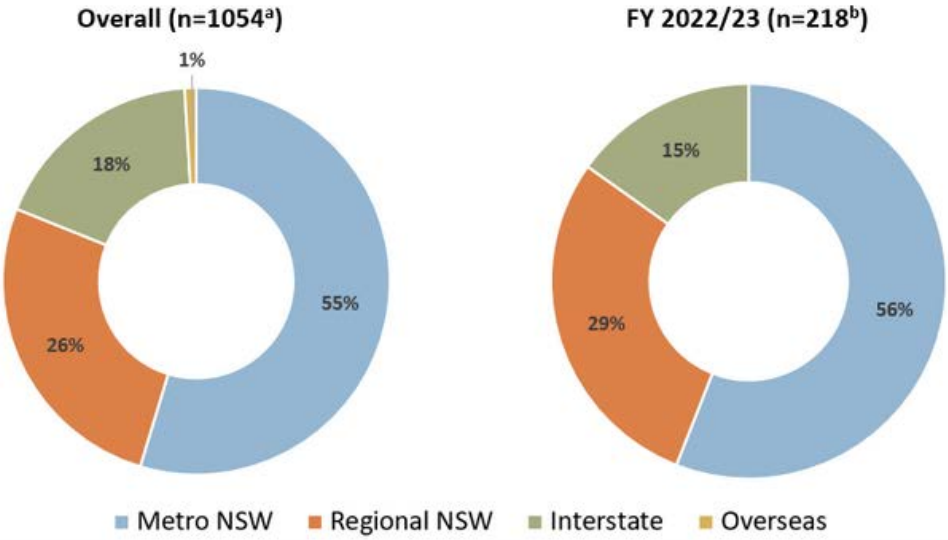


[a]Includes patients that underwent redo Pelvic Exenteration (n=7) and combined Pelvic Exenteration and CRS with or without HIPEC (n=15). [b]Includes patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2).

4.2 Patient geographical location

Overall, most patients referred to and discussed at the pelvic exenteration MDT were from metropolitan NSW (55%), with 26% from regional NSW and 19% from interstate or overseas. During the 2022/23 financial year, similar patterns were observed with 56% of the patients from metro NSW, 29% from regional NSW and 15% were living interstate (**Figure 4**).

Figure 4. Residential location of patients referred to the Pelvic Exenteration Program since July 2018



[a]Includes patients that underwent redo Pelvic Exenteration (n=7) and combined Pelvic Exenteration and CRS with or without HIPEC (n=15). [b]Includes patients that combined Pelvic Exenteration and CRS with or without HIPEC (n=2).

5. Program Activity and Patient Outcomes

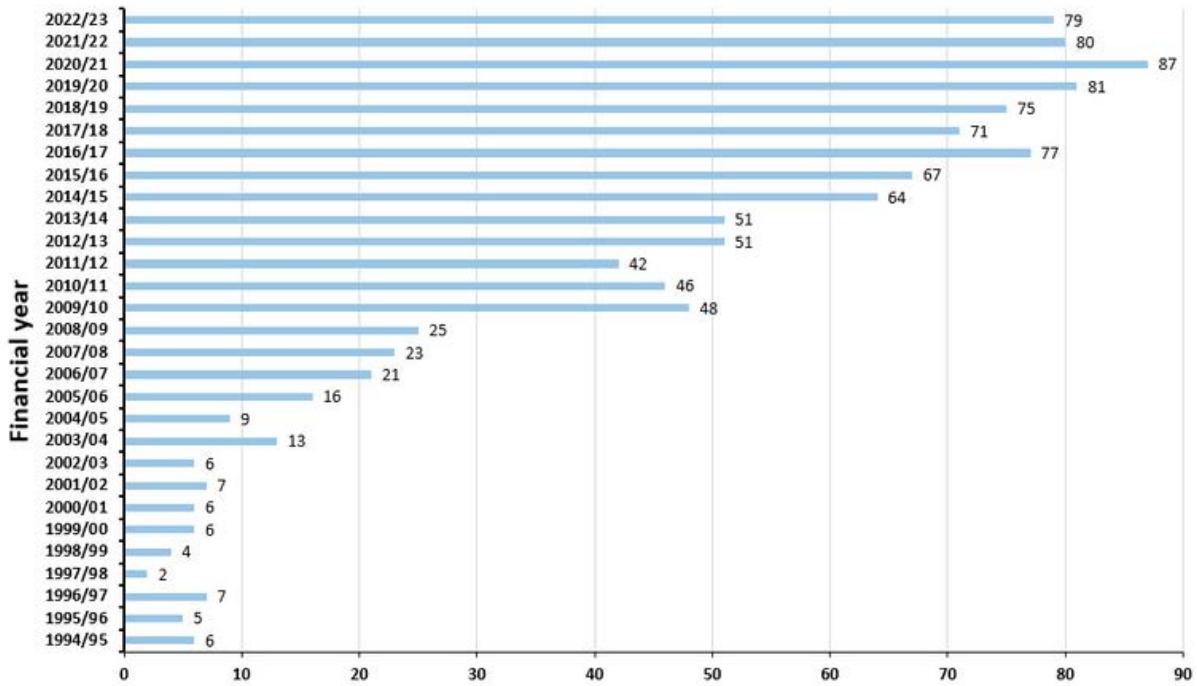
5.1 Program activity

From September 1994 to June 2023, 1075 pelvic exenteration procedures have been performed at RPA on 1033 patients in total. Of these 1033 patients, 18 underwent a combined pelvic exenteration and CRS with or without HIPEC.

During the 2022/23 financial year, 79 cases were performed with two combined pelvic exenteration and CRS with or without HIPEC, resulting in an average of approximately seven cases per month (**Figure 5**). Continuing to achieve a high level of productivity within the financial year period.

The Collaborative Care Agreement (CCA) between Chris O'Brien Lifehouse Hospital (COBLH) and RPA from the COVID-19 pandemic was maintained in this financial year reporting period. Within the Pelvic Exenteration Program this involved post-operative ward care, inclusive of Intensive Care Unit stays for one patient.

Figure 5. RPA Pelvic Exenteration Program case load: September 1994 to June 2023 (n=1075[a])



[a]Includes patients that underwent redo Pelvic Exenteration (n=42) and combined Pelvic Exenteration and CRS with or without HIPEC (n=18).

5.2 Patient characteristics

Overall, 46% of the patients undergoing pelvic exenteration at RPA were female with a median age of 61.0 years. The most common tumours were recurrent rectal (31%), primary rectal (30%) and recurrent other (20%). Only 3% of the patients underwent pelvic exenteration due to non-cancer conditions.

In the 2022/23 financial year, a slight shift was seen where the most common tumour was primary rectal (41%), followed by recurrent rectal (21%) and recurrent other (17%) (**Table 3**).

Table 3. Characteristics of patients undergoing pelvic exenteration

Characteristics	Overall (n=1015[a])	FY 2022/23 (n=77[b])
Age, years	61.0 (52.0 to 69.0)	62.0 (52.0 to 67.0)
Sex, female	468 (46.1%)	32 (41.6%)
Neoadjuvant therapy	529 (52.3%[c])	30 (41.7%)
Tumour type		
Primary rectal	307 (30.2%)	32 (41.5%)
Recurrent rectal	320 (31.5%)	16 (20.8%)
Primary other	152 (15.0%)	11 (14.3%)
Recurrent other	202 (19.9%)	13 (16.9%)
Non-cancer	34 (3.4%)	5 (6.5%)

Data presented as frequency (percentage) or median (Interquartile range).[a]Patients that underwent a redo Pelvic Exenteration (n=42) or a combined Pelvic Exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis. [c]Due to unstated values (n=1012).

5.3 Surgical outcomes

The surgical outcomes for the overall cohort and for the 2022/23 financial year period are presented in **Table 4**. Overall, pelvic exenteration was performed in 9.1 hours, and patients stayed in the intensive care unit for 3.0 days and in hospital for 21.0 days. When compared to the overall cohort, there was a slight increase in surgery time, overall length of hospital stay required and blood transfusion required, and a slight decrease in length of intensive care unit stay in the 2022/23 financial year.

Table 4. Surgical outcomes following pelvic exenteration

Surgical Outcomes	Overall (n=1015[a])	FY 2022/23 (n=77[b])
Surgery time, hours	9.1 (6.8 to 11.2)	9.4 (8.1 to 10.8)
Length of ICU stay, days	3.0 (2.0 to 5.0)	2.9 (2.0 to 5.3)
Length of hospital stay, days	21.0 (15.0 to 31.0)	23.0 (15.0 to 37.0)
Blood loss, mL	2000.0 (900.0 to 3912.5)	2000.0 (1200.0 to 3700.0)
Blood transfusion required	741 (74.2%[c])	67 (89.3%[d])

Data presented as frequency (percentage) or median (Interquartile range). [a]Patients that underwent a redo Pelvic Exenteration (n=42) or a combined Pelvic Exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis. [c]Due to unstated values (n=998). [d]Due to unstated values (n=75).

5.4 Extent of pelvic exenteration

The extent of pelvic exenteration is presented in **Table 5**. Overall, slightly more patients underwent partial pelvic exenteration (53%). In the 2022/23 financial year, most patients underwent complete pelvic exenteration (55%) (**Table 5**).

Table 5. Extent of pelvic exenteration

Tumour type	Overall (n=1015[a])		FY 2022/23 (n=77[b])	
	Partial (n=533)	Complete (n=482)	Partial (n=35)	Complete (n=42)
Primary rectal	160 (52.1%)	147 (47.9%)	16 (50.0%)	16 (50.0%)
Recurrent rectal	156 (48.7%)	164 (51.3%)	7 (43.7%)	9 (56.3%)
Primary other	98 (64.5%)	54 (35.5%)	7 (63.6%)	4 (36.4%)
Recurrent other	98 (48.5%)	104 (51.5%)	4 (30.8%)	9 (69.2%)
Non-cancer	21 (61.8%)	13 (38.2%)	1 (20.0%)	4 (80.0%)

Data presented as frequency (percentage). [a]Patients that underwent a redo Pelvic Exenteration (n=42) or a combined pelvic exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis.

Overall, 49% of patients had bony pelvis, 32% major nerve and 9% major vascular resection (**Table 6**). A fairly similar finding was observed in the 2022/23 financial year. Interestingly, an increased trend towards a higher rate of lateral compartment excisions (86%) was observed compared to the 2021/22 financial year (78%). There was also a slightly increased rate of sacrectomies (49%) and ileal conduit reconstructions (53%) performed this financial year, compared to the overall program.

Table 6. Number of major bone, vascular and nerve resections

Resections	Overall (n=1015[a])	FY 2022/23 (n=77[b])
Pubic bone	98 (9.7%)	8 (10.4%)
Ischial bone	123 (12.1%)	9 (11.7%)
Sacrectomy	442 (43.5%)	38 (49.4%)
L4	1 (0.2%)	-
L5	11 (2.5%)	1 (2.6%)
S1	60 (13.6%)	5 (13.2%)
S2	75 (17.0%)	6 (15.8%)
S3	162 (36.7%)	13 (34.2%)
S4	118 (26.7%)	11 (28.9%)
S5	13 (2.9%)	2 (5.3%)
Unstated	2 (0.4%)	-
Bony pelvis	496 (48.8%)	41 (53.2%)
Major nerve resection	321 (31.6%)	23 (29.9%)
Major vascular resection	89 (8.8%)	4 (5.2%)
Lateral compartment excision	673 (66.3%)	66 (85.7%)
Ileal conduit reconstruction	439 (43.3%)	41 (53.2%)

Data presented as frequency (percentage). [a]Patients that underwent a redo pelvic exenteration (n=42) or a combined pelvic exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis.

5.5 Surgical margins

Surgical margin rates are presented in **Table 7**. Overall, a clear surgical margin (R0) was achieved in most pelvic exenterations performed at RPA (77%), with patients undergoing pelvic exenteration due to primary rectal cancer presenting a higher likelihood of R0 surgical margin (88%). In the 2022/23 financial year, the rate of clear margins was lower for primary (81%) and recurrent (69%) rectal cancers, but higher for primary (83%) and recurrent (80%) other cancers compared to the overall program.

Table 7. Surgical margin following pelvic exenteration

Tumour type	Overall (n=968[a,b])		FY 2022/23 (n=69[c,d])	
	R0 (n=748)	R1-2 (n=220)	R0 (n=54)	R1-2 (n=15)
Primary rectal	270 (88.2%)	36 (11.8%)	25 (80.6%)	6 (19.4%)
Recurrent rectal	229 (72.7%)	85 (27.3%)	11 (68.8%)	5 (31.2%)
Primary other	112 (74.2%)	39 (25.8%)	10 (83.3%)	2 (16.7%)
Recurrent other	137 (69.5%)	60 (30.5%)	8 (80.0%)	2 (20.0%)

Data presented as frequency (percentage). [a]Patients that underwent a redo Pelvic Exenteration (n=42), a combined Pelvic Exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Due to exclusion of non-cancer patients, unstated values and non-assessable specimens (n=968). [c]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis. [d]Due to exclusion of non-cancer patients and non-assessable specimens (n=69).

5.6 Complications

In-hospital postoperative complications and mortality outcomes are presented in **Table 8.** Overall, 86% of the patients undergoing pelvic exenteration had at least one postoperative complication. The most common complications were gastrointestinal (40%) and sepsis (40%). No intraoperative mortality was observed and overall less than 1% of the patients died within 30 days postoperatively.

In the 2022/23 financial year specifically, 81% of the patients presented at least one postoperative complication. However, no intraoperative mortality was observed, and no patients died within 30 days of their procedure.

Table 8. Complications following pelvic exenteration

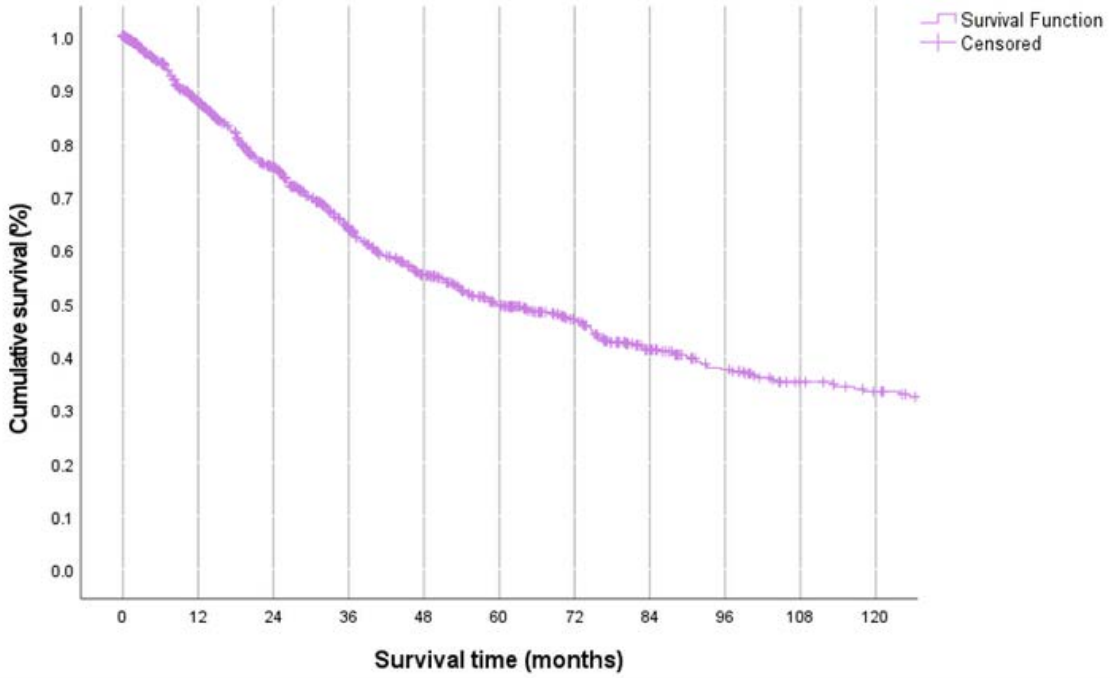
Complications	Overall (n=1007[a,b])	FY 2022/23 (n=70[c,d])
Postoperative complication rate[e]	861 (85.5%)	57 (81.4%)
Wound	269 (31.2%)	15 (26.3%)
Gastrointestinal	406 (47.1%)	32 (56.1%)
Stoma	221 (25.7%)	2 (3.5%)
Neurological	142 (16.5%)	-
Cardiovascular	193 (22.4%)	10 (17.5%)
Urological	209 (24.3%)	7 (12.3%)
Respiratory	225 (26.1%)	4 (7.0%)
Sepsis	402 (46.7%)	23 (40.4%)
Other	552 (64.1%)	17 (29.8%)
Intraoperative mortality	-	-
30-day mortality	7 (0.7%)	-

Data presented as frequency (percentage). [a]Patients that underwent a redo Pelvic Exenteration (n=42) or a combined Pelvic Exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis. [b]Due to inpatients and unstated values at time of reporting (n=1007). [c]Patients that underwent combined Pelvic Exenteration and CRS with or without HIPEC (n=2) were excluded from analysis. [d]Due to inpatients and unstated values at time of reporting (n=70). [e]Some patients had multiple complications.

5.7 Survival outcomes

The mean overall survival for the whole cohort was 59.3 months. The 60 months survival was 50% and the 120 months survival was 33%. The overall survival curve is presented in **Figure 6**.

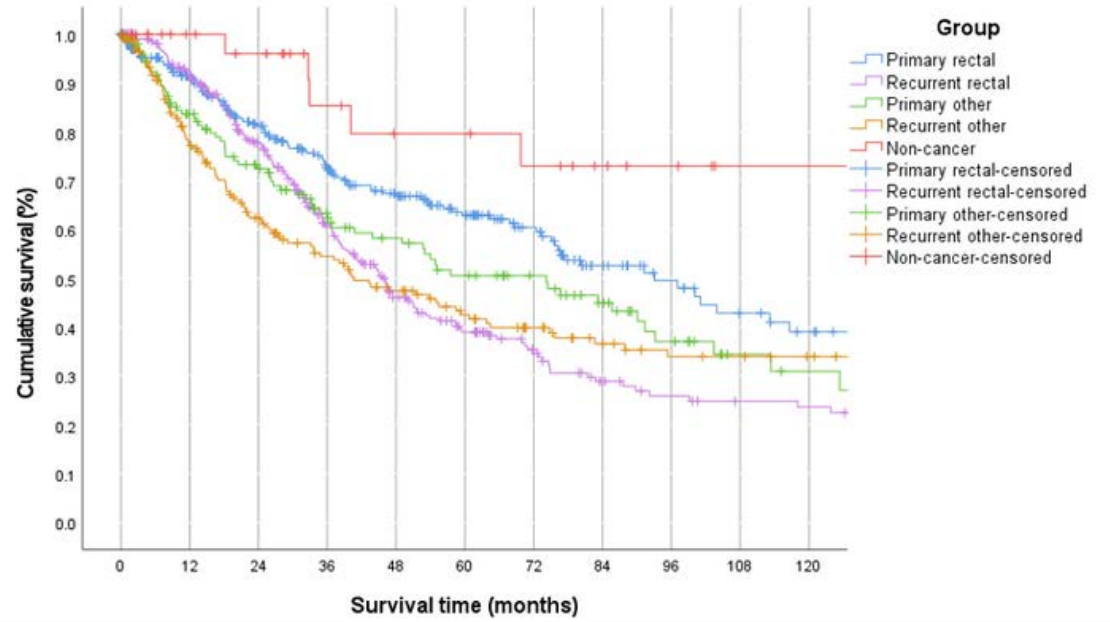
Figure 6. Overall survival following pelvic exenteration (n=1015[a])



[a]*Patients that underwent a redo pelvic exenteration (n=42) or a combined pelvic exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis.*

Overall, an increase in survivorship was seen across all primary pathologies (**Figure 7**). The mean overall survival according to primary tumour type was 103.9 months for primary rectal cancers, 76.6 months for primary other cancers, 49.8 months for recurrent rectal cancers and 46.9 months for recurrent other cancers (**Table 9**).

Figure 7. Survival curves following pelvic exenteration based on type of tumour (n=1015[a])



[a]*Patients that underwent a redo pelvic exenteration (n=42) or a combined pelvic exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis.*

The survival rate at 120 months was 46% for primary rectal cancers, 39% for primary other cancers, 31% for recurrent rectal cancers and 36% for recurrent other cancers.

Table 9. Survival outcomes following pelvic exenteration (n=1015[a])

Survival (%)	60 months	120 months	Mean survival
Primary rectal (n=307)	64.7%	45.8%	103.9 months
Recurrent rectal (n=320)	43.9%	31.0%	49.8 months
Primary other (n=152)	52.8%	39.2%	76.6 months
Recurrent other (n=202)	44.7%	36.3%	46.9 months
Non-cancer (n=34)	82.0%	75.7%	-

[a]Patients that underwent a redo pelvic exenteration (n=42) or a combined Pelvic Exenteration and CRS with or without HIPEC (n=18) were excluded from the analysis.

5.8 Quality of life outcomes

Quality of life measures are collected at nine different time points including preoperative (Baseline), 6, 12, 18, 24, 30, 36, 48 and 60 months postoperatively, using the Short-Form 36 (SF-36) and Functional Assessment of Cancer Therapy-Colorectal cancer (FACT-C) surveys. This information has been collected since the start of the prospective quality of life cohort study in 2008.

To date, 725 patients consented to report their quality of life outcomes, with 679 returning at least one of the surveys. Of the 79 patients that underwent pelvic exenteration during the 2022/23 financial year, 71 (90%) consented to the quality of life study.

Overall, there is a decline in the physical component scores within the early postoperative period, with scores returning to baseline levels at 12 months follow-up, and increasing slightly thereafter. The mental component score increases within the first 18 months postoperative, maintaining stable thereafter (**Figure 8**).

Similarly, the disease specific quality of life score increase within the first 18 months postoperatively, maintaining thereafter (**Figure 8**).

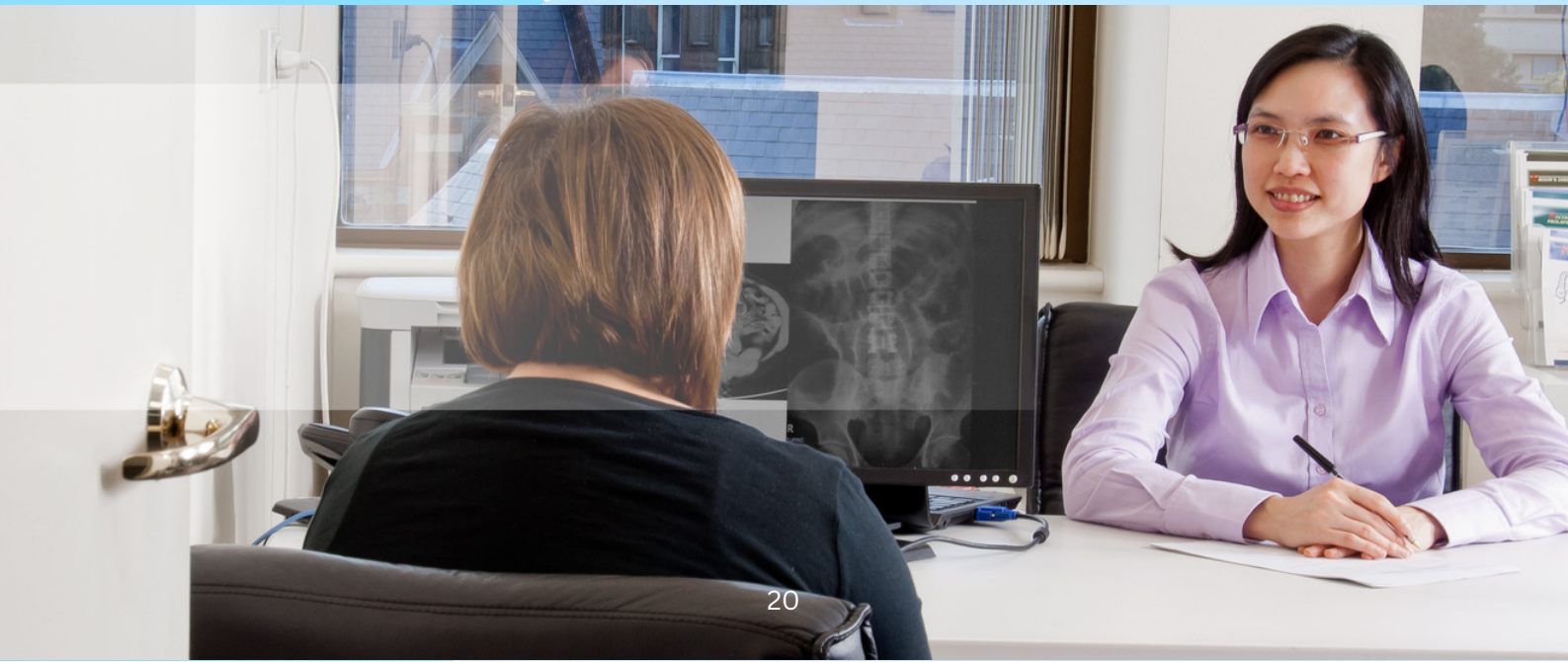
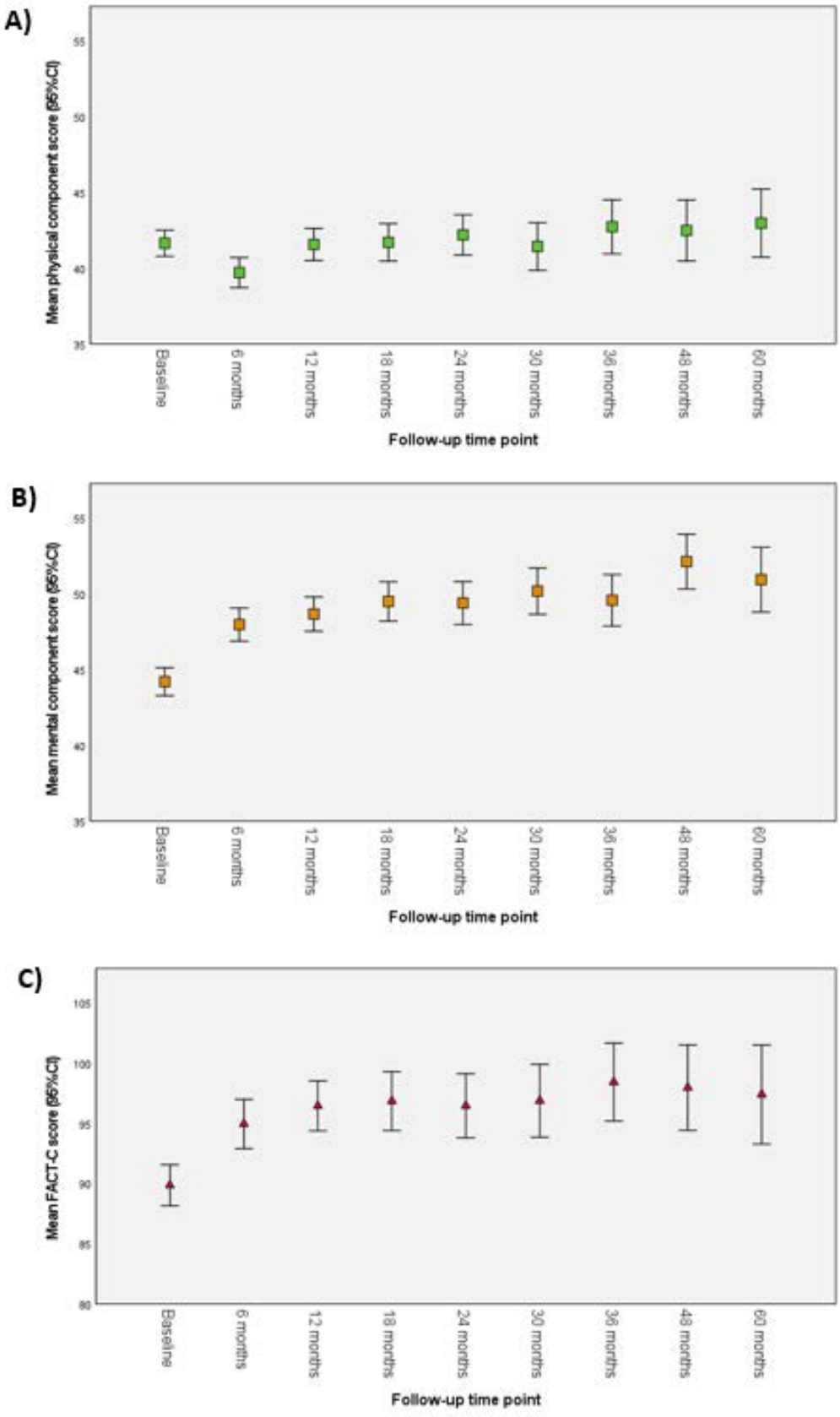


Figure 8. Quality of life outcomes following pelvic exenteration (n=679)



A) Physical component score and B) Mental component score: (SF-36v2; possible score range from 0 to 100, higher score represents better quality of life). C) Functional Assessment of Cancer Therapy – Colorectal (FACT-C; possible score range from 0 to 136, higher score represent better quality of life).

6. Research

6.1 Current research studies

The Pelvic Exenteration Research Program led by Prof Michael Solomon is one of the busiest surgical research programs within the SLHD and is well recognised nationally and internationally for its high scientific output.

A number of research studies are currently being conducted in a wide range of areas including surgical techniques, surgical outcomes, survival, prognosis, decision-making, quality of life, patient experience, patient education, nutrition, depression, anxiety, stress, exercise, 3D modelling, pain management and treatment cost. Currently the program has 39 projects being pursued that are either recruiting participants or in final write-up stage, and another five in a conceptual stage.

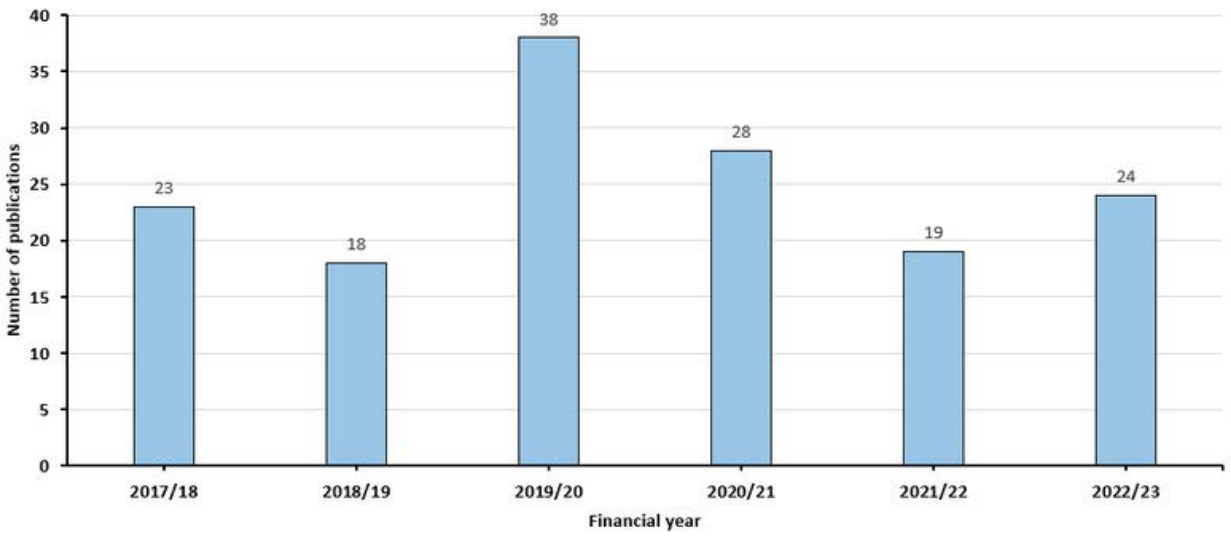
Highlights of the studies being conducted are:

- **Pelvic exenteration surgical database**: This is the largest prospective surgical database of pelvic exenterations in the world, centralising data from all surgeries performed within the program over the last 29 years. It has collected surgical outcomes from over 1033 consecutive individual patients and has contributed to quality improvement activities at RPA and several peer-reviewed publications.
- **Quality of life outcomes following pelvic exenteration**: This is a large prospective cohort study collecting quality of life data from patients undergoing pelvic exenteration from preoperation to five years postoperation. Initial funding was attained through a peer reviewed grant from the NSW Cancer Institute. Currently, this study has recruited over 725 participants and has generated several peer-reviewed publications.
- **PRIORITY Trial**: A multicentre randomised controlled trial investigating the effectiveness and cost effectiveness of a preoperative exercise program and education for patients undergoing major gastrointestinal cancer surgery. This trial received external funds from the National Health and Medical Research Council and is expected to complete recruitment by December 2023.
- **RoboSTER:** A prospective cohort trial investigating the outcomes of patients following robotic removal of pelvic tumours and attached organs during multivisceral complete soft tissue extended resections. This trial aims to assess the safety and feasibility of the approach, as well as evaluate if it confers better patient outcomes. This trial commenced recruitment in 2023.

6.2 Publications

Overall, the Pelvic Exenteration Research Program has published a total of 24 articles peer-reviewed publications in the 2022/23 financial year (**Figure 9**).

Figure 9. Number of peer-reviewed publications within the Pelvic Exenteration Program



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6.3 Conference presentations / posters

Lee P. Surgical approach to the lateral pelvis: The RPAH experience in pelvic exenteration surgery. Penang General Hospital Pelvic Exenteration Workshop and Live Surgeries. 2022 Jun 29-Jul 1; Penang, Malaysia.

Solomon M. Surgical Outcomes Research Centre (SOuRCe): The first twenty years. SOuRCe 20 Year Symposium. 2022 Aug 19; Sydney, Australia.

Lim C, Young J, Solomon M, Steffens D, Koh C, Ansari N, Yeo D, Blinman P, Butow P, Laidsaar-Powell R. Quality of life and survivorship experiences of advanced colorectal cancer: A large qualitative study. 23rd International Psycho-Oncology Society (IPOS) World Congress. 2022 Aug 29-Sep 1; Toronto, Canada.

Lee P. Lateral pelvic compartment excision and nerve resection. International Colorectal Research Society Scientific Meeting. 2022 Sep 3-4; Seoul, Korea.

Solomon M. Locally advanced and recurrent anorectal cancer. Surgical Grand Rounds. 2022 Sep 8; Ravenna, Italy.

Bartyn J, Karunaratne S, Koh C, Solomon M, Chen T, Steffens D. Does preoperative and postoperative factors predict days alive and at home within 30 days following surgery? NSW Cancer Conference. 2022 Sep 15-16; Sydney, Australia.

O'Dell M, Steffens D, Koh C. Chronic use of opioids for ongoing pain following pelvic exenteration for locally recurrent rectal cancer. NSW Cancer Conference. 2022 Sep 15-16; Sydney, Australia.

Steffens D, McBride K, Carey S. The role of preoperative optimisation in patients undergoing cancer surgery. Royal Prince Alfred 140th Celebration; 2022 Sep 20; Sydney, Australia.

Lee P. Pelvic exenteration and extended resections for retroperitoneal sarcoma. General Surgeons Australia Annual Scientific Meeting; 2022 Oct 7-9; Sydney, Australia.

Risbey C. Patterns of DNA mismatch repair protein expression for primary and recurrent colorectal cancer at an advanced surgical unit: a retrospective review. General Surgeons Australia Annual Scientific Meeting; 2022 Oct 7-9; Sydney, Australia.

Paredes S, Taylor K, Karunaratne S, Solomon M, Steffens D, Lee P. Extended resections for pelvic and abdominal retroperitoneal sarcoma. Australia and New Zealand Sarcoma Association Annual Scientific Meeting; 2022 Nov 4-5; Sydney, Australia.

Lee P. The utility of robotics in advanced rectal malignancies. 2nd Asian Summit on Robotic Surgery; 2022 Nov 12; Singapore, Singapore.

Lee P. Evolution and innovations in pelvic exenteration: The RPAH experience and live surgeries. 2022 Nov 14-18; Saudi Arabia.

Lee P. Evolution and technical innovations in pelvic exenteration: The RPA experience. 2nd International Surgical Oncology Symposium. 2022 Nov 23-24; Singapore, Singapore.

Koh C, Shin J-S. Surgical margins for peritoneal malignancy and recurrent rectal cancers. RPAH Sydney and Penang Surgical Group. 2022 Dec 12; Virtual.

Lee P. Pelvic exenteration: Are we doing too much or too little? Annual Scientific Congress of the Malaysian Society of Colorectal Surgeons. Coloproctology. 2023 Mar 3-5; Kuching, Malaysia.

Lee P. Robotic surgery for advanced colorectal Malignancy. Annual Scientific Congress of the Malaysian Society of Colorectal Surgeons. Coloproctology. 2023 Mar 3-5; Kuching, Malaysia.

Koh C. Reflections on research: a panel discussion. The Jobson Symposium. 2023 Mar 4; Sydney, Australia.

Lee P. Penang General Hospital Pelvic Exenteration Workshop and Live Surgeries. 2023 Mar 6-8; Penang, Malaysia.

Palma C, Van Kessel C, Solomon M, Leslie S, Jeffery N, Lee P, Austin K. Functional outcomes and quality of life of patients undergoing partial cystectomy as part of pelvic exenteration. The 38th Annual European Association of Urology Congress (EAU). 2023 Mar 10-13; Milan, Italy.

Combes A, March B, McCarthy A, Austin K, Lee P, Solomon M, Eisinger D, Jeffery N. Ureteric reconstruction during posterior or lateral pelvic exenteration for locally advanced and recurrent malignancy. The 38th Annual European Association of Urology Congress (EAU). 2023 Mar 10-13; Milan, Italy.

Caridad Bongat M, Porges T, Mendes C, Koh C, Solomon M, Taylor K, Karunaratne S, Steffens D, Gortazar S. The influence of pre-operative stomas on quality of life following pelvic exenteration. 43rd Australian Association of Stomal Therapy Nurses & 10th Asia Pacific Enterostomal Therapy Nurses Association Conference. 2023 Apr 13-16; Fremantle, Australia.

Koh C. Future of research in the field. Pelvic Exenteration 1000th Case Symposium. 2023 Apr 28; Sydney, Australia.

Solomon M. The evolution of Pelvic Exenteration Surgery at RPA. Pelvic Exenteration 1000th Case Symposium. 2023 Apr 28; Sydney, Australia.

Koh C. What is a clear resection margin (R0) in patients with locally recurrent rectal cancer undergoing pelvic exenteration? Royal Australian College of Surgeons 91st Annual Scientific Congress. 2023 May 1-5; Adelaide, Australia.

Koh C. Patient decision making in pelvic exenteration. Results from a mixed methods study. Royal Australian College of Surgeons 91st Annual Scientific Congress. 2023 May 1-5; Adelaide, Australia.

Koh C. Management of locally recurrent rectal cancer. Royal Australian College of Surgeons 91st Annual Scientific Congress. 2023 May 1-5; Adelaide, Australia.

Jiang W. Randomised controlled trials on prehabilitation in cancer patients - quantity does not equal quality. Royal Australian College of Surgeons 91st Annual Scientific Congress. 2023 May 1-5; Adelaide, Australia.

Solomon M. Rectum cancer: complex scenarios. Round Table. XXVI National Congress, Spanish Association of Coloproctology Congress, Spanish Association of Coloproctology (AECP). 2023 May 17-19; Madrid, Spain.

Brown K. Pelvic exenteration for anal squamous cell carcinoma: oncological, morbidity and quality of life outcomes. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA [Awarded: The Canadian Society of Colon & Rectal Surgeons Award (Surgical Resident/Podium)].

Garrett C. The health-related quality of life of early-onset colorectal cancer patients. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA.

Garrett C. The current landscape of early-onset colorectal cancer. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA.

Garrett C. The postoperative outcomes and survival of early-onset colorectal cancer patients. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA.

Maker P, Koh C, Solomon MJ, Ansari N, Pillinger N, Denehy L, Riedel B, Edbrooke L, Crowe J, Wijeysundera D, Cuthbertson B, Ismail H, Steffens D. Reference Values for six-minute walk test from patients with abdominal and pelvic cancers undergoing surgical resection. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA.

Waller J, Van Kessel C, Solomon M, Austin K, Lee P, Steffens D. Outcomes following pelvic exenteration with en bloc sacretomy for recurrent rectal cancer. American Society of Colon & Rectal Surgeons Annual Scientific Meeting. 2023 Jun 3-6; Seattle, USA.

Koh C. Physiotherapist and prehabilitation in pelvic exenteration. PelvEx Collaborative Annual Meeting. 2023 Jun 29-30; Bordeaux, France.

6.4 Current higher degree by research candidates

6.4.1 Doctor of Philosophy (PhD)

Dr Kilian Brown: Addressing treatment decision-making variation in patients with locally advanced and recurrent rectal cancer.

6.4.2. Master of Philosophy (MPhil)

Mr Nehemias de la Cruz: Patient-reported importance of pre-operative education regarding post-operative erectile function in men undergoing pelvic exenteration surgery.

Dr Celine Garrett: Early onset colorectal cancer epidemiology surgical outcomes survival and quality of life after surgery.

Dr Charlotte Johnstone: The management of pain for patients undergoing pelvic exenteration.

Dr Jacob Waller: Outcomes following pelvic exenteration with sacrectomy for recurrent rectal cancer.

6.4.3 Doctor of Medicine (MD)

Mr James Lockhart: The use of post-operative computer tomography in the identification of complications following pelvic exenteration.

Ms Mathilde Mairin O'Dell: Chronic use of opiates following pelvic exenteration surgery.

Ms Jennifer Vu: Priorities of patients and carers when undergoing cancer surgery: A Delphi study.

7. Education & Training

7.1 Advanced Gastrointestinal Surgical Nursing Training Program

The Advanced Gastrointestinal Surgical Nursing Training Program has been operational since August 2017 and is now in its' 6th year of operation. It is a clinically focused, rotational based program where participants rotate through seven different specialties within the AGISP, including pelvic exenteration, peritoneal malignancy, retroperitoneal sarcoma, advanced upper gastrointestinal surgery, stomal therapy, inflammatory bowel disease, and anorectal. Over a two-year period, these trainees are mentored by a clinical nurse consultant (CNC) who assists with orienting them to the various roles and activities required of the clinical area.

The trainees work in the clinical environment alongside the CNCs, gradually taking on their own patients, coordinating care for patients and families throughout their hospital journey. This covers preadmission clinics, outpatient clinics, inpatient wards, ICU, extensive discharge planning and post discharge follow up by phone or at outpatient visits. The trainees also learn to coordinate the pivotal and complex multidisciplinary team meetings (MDT), where timely treatment decisions are made. The CNCs and trainees have now resumed regular ward in-services for post graduate nurses and junior medical officers, following reduction due to restrictions post COVID-19.

Trainees are also asked to pursue individual research projects under the supervision of research experts within the IAS. To facilitate the identification of projects of interest, a bank of research questions and topics have been established with the assistance of SOuRCe, the IAS and the CNCs. The pursuit of these projects are facilitated through the allocation of learning time every fortnight, where they are able to access assistance. A few current project topics include:

- Nurses' perceptions versus patient experience of pain after laparoscopic cholecystectomy
- Severity and symptoms of male patients presenting to the Anorectal Department for biofeedback
- Dysmotility management in the intestinal failure units across Australia
- Patient reported experience measures and how these may help identify areas for improvement for inpatients undergoing these extensive surgeries.

Trainees are also enrolled in a Post Graduate Certificate of Acute Care Nursing with the University of Tasmania (UTAS), which is 75% funded as part of an agreement with UTAS and SLHD. The Nurse Training Program celebrated the graduation of two registered nurses in January 2023, one of which is now acting in a clinical nurse consultant role within SLHD. Since the program began, nine nurses have successfully completed the program, with five graduates working in CNC roles within SLHD. These roles are as the Direct Access Colonoscopy CNC, two CNC roles in the GPCanShare team, Acting CNC of Retroperitoneal Sarcoma, and Acting Liver Hepatocellular Carcinoma CNC. Three trainees are expected to complete the training program in January 2024.

7.2 Overseas clinician visitors and surgical observership

Over the past financial year, the program has welcomed visitors from all over the world to showcase the overall running and processes that have led to such a successful program. While these visits had been halted during the COVID-19 pandemic, the emergence from this period has allowed medical consultants, other health professionals and industry to attend Royal Prince Alfred Hospital. Of particular note have been visitors from New Zealand, Korea, Spain, USA, UK, Chile and India, who have observed the program for a month or more periods. These visits allow for skill transfer and strengthening of the program's knowledge, whilst also increasing the reputation and notoriety of the program on a global scale.

7.3 Assisting other programs to establish pelvic exenteration programs

Over the past 29 years of performing pelvic exenterations and similar number of years running the Pelvic Exenteration Research Program, many challenges have been overcome to establish this highly effective service. As a result, multiple institutions have approached the team to advise and educate them on approaches to creating their own programs, to replicate this success. Over the past financial year, members of the team have supported Royal Brisbane Women's Hospital, Brisbane with their establishment of a pelvic exenteration program. The main ideas and discussions with these institutions have been primarily regarding effective leadership and strong governance protocols, integrating a multidisciplinary clinical team, underlying funding structures, centralised research database formation and dissemination of experiences and findings. Through these activities, ongoing relationships and knowledge exchange can be maintained to benefit patients at both institutions.

7.4 Royal Prince Alfred Hospital international exenteration centres webinar collective

Over the years, many national and almost 30 international surgeons have been trained under the supervision of the pelvic exenteration team. Many of these RPA trained surgeons are now working at high volume international exenteration centres. The aim of the RPA International Exenteration Centres Webinar Collective is to strengthen the collaboration amongst the RPA trained surgeons and alumni by giving case and technical presentations.

7.5 1000th pelvic exenteration education day

RPA was the first hospital in the world to reach 1000 patients treated and has maintained its standing as performing the largest number of cases by a single institution worldwide. This milestone was celebrated internally in July 2022. The Pelvic Exenteration Education Day was held on 28th April 2023. This event was attended by members of the treating team (including surgeons, anaesthetists, medical consultants, nursing and allied health staff), past patients, external partners and key stakeholders. During this day, presentations focussing on the evolution and future plans for the service were delivered by members of the treating team and the hospital Executive. A dedicated patient session was also facilitated by the RPA Community Participation Coordinator and was a moving account of four patients' experience having undergone pelvic exenteration. This was a wonderful opportunity to acknowledge the hard work and dedication of the team in providing high quality care to these patients that undergo surgery at RPA.

7.6 Royal Prince Alfred Hospital surgical medihotel pilot

The Surgical Medihotel was piloted from 8th August 2022, which the Pelvic Exenteration Program has continued to participate in. The program aimed to enhance the post-operative transition from RPA to a home-like environment. Patients remained supported by specialist community nursing teams and a virtual multi-disciplinary team. Pelvic exenteration patients, many of whom access the service from outside the SLHD, were found to benefit from this innovative model of care in terms of easing their transition back home and reducing acute hospital length of stay. The pilot was developed in collaboration with the Special Health Accommodation, RPA Virtual Hospital, IAS, Digital Health and Innovation, the Criteria Led Discharge Team and the Surgical and Pharmacy Departments at RPA.

8. Service Development & Future Plans

8.1 Future directions for the Advanced Gastrointestinal Surgical Nursing Training Program

The program is subject to regular review and is constantly evolving based on executive and participant feedback. To ensure the Nurse Training Program delivers the education and training it was designed to do, a review of the program, including the Post Graduate Certificate with UTAS, will start in January 2024. This will be achieved through consultation with SLHD's Sydney Education and utilisation of feedback from the trainees, CNCs, the surgical team and the leadership team.

Further to this re-evaluation, the senior nursing team/mentors will attend various workshops and training opportunities such as the 'Communication and Mentorship Workshop' that was held in September 2022 and June 2023. The senior nursing team are attending further workshops focusing on:

- Working with others: different learning styles/understanding how people learn
- Circles of influence and concern: what learners need to start doing, stop doing, do more of, do less of
- Coaching and feedback principles
- Helping other be their best self in clinical environments
- Developing your learner's strengths, self-awareness and helping others develop
- Creating appropriate development plans

Program improvement activities will also include formal coaching opportunities directed towards CNCs and other senior staff to support their ongoing growth and development.

The recruitment of an MDT Coordinator in March 2023 has allowed the CNCs to work towards establishing a structured colorectal ward nursing support program. The impetus from implementing this program was based on quality improvement activities, including surveys, which identified an increasingly junior workforce with ongoing issues with staff retention, particularly in regard to retaining new graduate staff. As a result, this program is aimed at providing increased education opportunities, support and guidance for nursing staff, and encouraging interest amongst the staff in the specialised approaches to caring for patients undergoing these surgeries. A pre- and post-implementation assessment will be integrated into the review process of the proposed program.

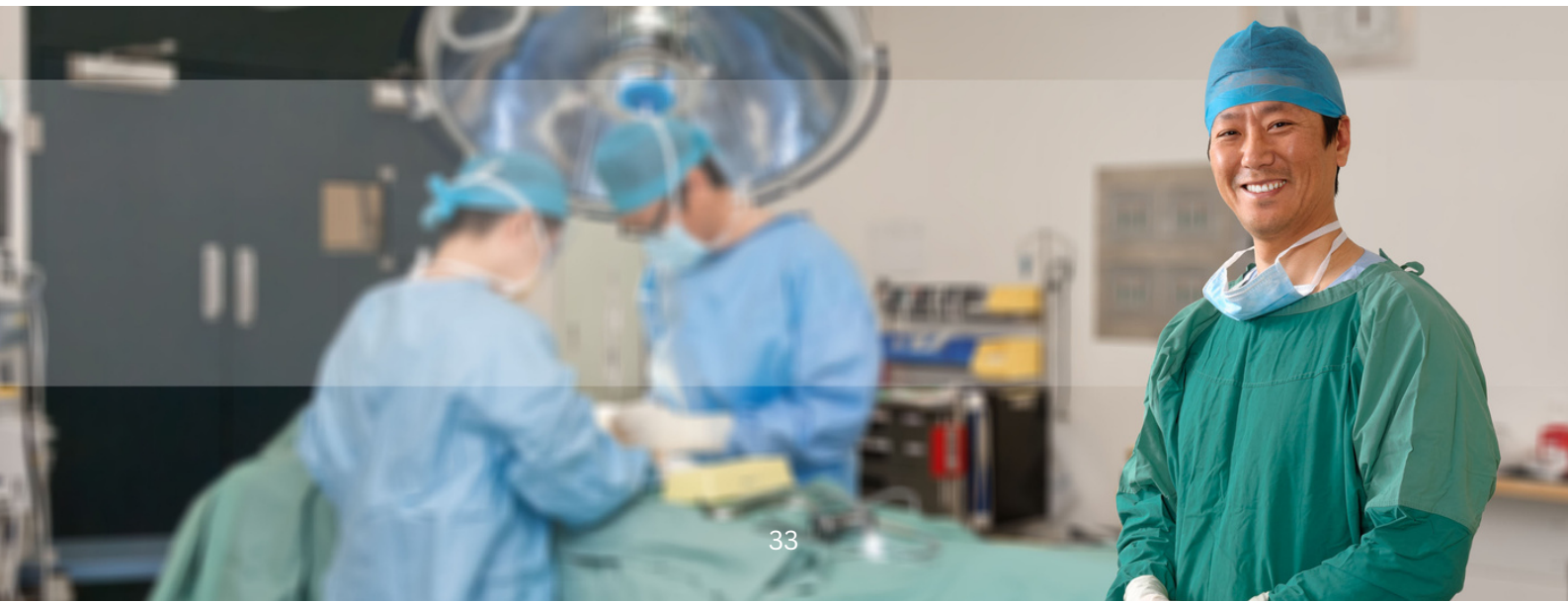
Given the close monitoring required for the patients under care, participants of the Nursing Training Program are uniquely positioned to evaluate their patient's recovery journey from an inpatient and outpatient perspective. These patients undergo extensive and often complex surgeries, and understanding the facilitators and barriers to their recovery is paramount in delivering the most effective care. During the upcoming financial year, patient reported experience measures (PREMs) will be collected through an existing outpatient feedback survey and a tailored inpatient feedback survey to facilitate this process. It is intended that these results will be rigorously analysed, and results published with the assistance of SOuRCe.

8.2 Evidence based surgical tool

Unwarranted variation in treatment decision making have drastic implications for the outcomes of patients undergoing pelvic exenteration. To address this, the RPA team is working on an innovative project that will develop a risk prediction and evidence-based surgical decision-making (EviSurg) tool, using individual patient data collected from the Pelvic Exenteration Research Program, to standardise treatment decision-making and improve patient outcomes. EviSurg will empower clinicians, patients and carers with timely access to evidence-based information, which incorporates patient views and preferences, guiding informed discussions about whether to pursue radical surgery. This work is in the preliminary stages and will commence in earnest over the 2023/24 financial year, with Dr Kilian Brown undertaking a PhD in this subject.

8.3 Data evaluation and research planning meeting

The Pelvic Exenteration Program is supported by a comprehensive database (PESQI) that centralises information surrounding the clinical and patient-reported outcomes of patients who engage with this service. This database has provided ongoing information to facilitate audits, reporting and research. As part of the routine quality assurance and program planning activities, a program wide Data Evaluation and Research Planning meeting will take place in the first half of the 2023/24 financial year. In this meeting, an overarching summary of the collected data will be presented for review and critique by the team. Given the scope of clinical outcomes and maturity of long term patient follow-up collected in this database, a stimulating discussion is expected. The team will be able to reflect on the experience of the program and the questions that the data raises to generate an action plan to disseminate the knowledge gained and the future research questions that need to be answered. From this, the collected data variables will also be re-examined, and plans will be made to ensure future data collection reflects the needs of the program.



8.4 Royal Prince Alfred Hospital redevelopment

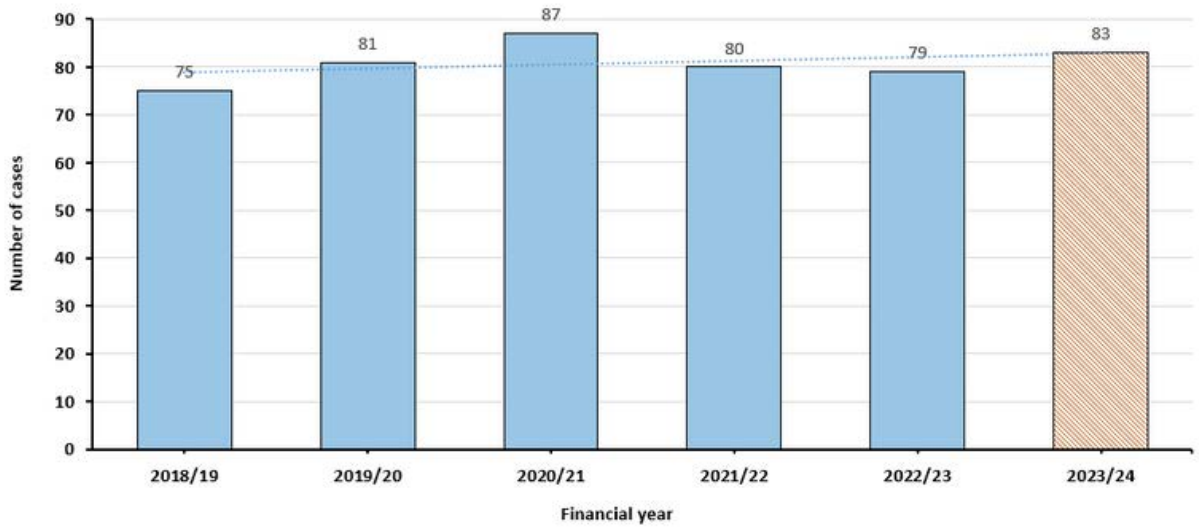
The NSW Government has committed $750 million to redevelop the RPA Hospital. The scope of the project includes expanded and enhanced Emergency Department and Intensive Care Units, state of the art operating theatres, expanded and improved adult inpatient accommodation, increased interventional and imaging services, facilities and capabilities for integrated research, education and training, and additional adult inpatient beds.

The redevelopment will ensure larger operating theatre sizes to accommodate the surgical teams involved for pelvic exenteration procedures. It is anticipated the program's capacity will increase with the redevelopments.

8.5 Program activity projections

The number of pelvic exenteration surgeries at RPA are generally progressively increasing each financial year. This is in line with the growing recognition from both regional and interstate clinicians that considerable patient benefits can be achieved by referring complex cancer patients to dedicated surgical centres, along with other factors including population growth and the reputation of the service at RPA allowing equity of access to complex cancer treatment. Based on the number of cases performed in the previous five financial years, it is anticipated a 5% increase in the number of pelvic exenteration cases will occur in 2023/24 bringing the total to approximately 83 cases, which is an average of seven cases per month (**Figure 10**). It is also anticipated the effect of the pandemic with delays in the diagnosis of cancers including pelvic malignancy will see a shift in the presentation of more advanced disease which will likely have an added 5-10% increase in referrals per year for the next two years.

Figure 10. Predicted number of pelvic exenteration cases at RPA for 2023/24 financial year



9. Conclusion

The pelvic exenteration program at RPA continues to be one of the most internationally renowned surgical programs pioneered within Australia, and its strength and success over more than 29 years are a testament to the support of NSW Health, the SLHD and RPA senior management and to all of the many highly talented and dedicated medical, nursing, allied health and research teams who contribute to the program.

In the aftermath of the COVID-19 global pandemic, RPA has continued to maintain a very high standard of care by actively engaging in and fostering multidisciplinary models of care for pelvic exenteration patients, having close collaborative ties with other departments such as medical and radiation oncology, radiology, pathology, intensive care, anaesthetics, psychiatry, and allied health (nursing, physiotherapy, dietetics, psychology). Regular MDT meetings, allied health service meetings, quality assurance activities (morbidity and mortality meetings, case discussions, and education seminars) have all provided the platforms where such models of care can be discussed. The impacts on the delivery of services have been largely ameliorated thanks to executive decisions to support the service and members of the team pulling together to ensure the ongoing delivery of complex cancer care.

The development and future expansion of the service requires additional capacity and resources. This will continue to need to be taken into consideration in the RPA redevelopment plans, with the current patient demand continuing to appropriately climb annually as a result of the enhanced recognition, both regionally and interstate, regarding the considerable patient benefits achieved by referring patients to a dedicated complex surgical centre. With patient outcomes remaining excellent, the development of novel decision making, and risk stratifying tools will be a new focus of the program, to continue advancing the delivery of care within this critical surgical oncological service. The AGISP, supported by the IAS and SOuRCe, provides the ideal platform to meet these future demands through education programs, development of clinical pathways, research, and through collaboration with national and international centres also involved in pelvic exenteration surgery.

10. Appendices

10.1 Current staff involved in the Pelvic Exenteration Program at Royal Prince Alfred Hospital from the 2022/23 financial year

Management	
Prof Michael Solomon	Co-Chair, IAS and AGISP Program Director
Dr Kirk Austin	Pelvic Exenteration Program Lead
A/Prof Chris Byrne	Head of Department, Colorectal
Dr Kate McBride	Director Surgical Program & Academia, SLHD
Dr Sophie Hogan	Director, IAS
A/Prof Daniel Steffens	Director, SOuRCe
Prof Geoff McCaughan	Clinical Director, Gastro & Liver Clinical Stream
Ms Skye Cooke	Clinical Manager, Gastro & Liver Clinical Stream
A/Prof Ilona Cunningham	Clinical Director, Cancer Services Clinical Stream
Ms Eleanor Romney	Clinical Manager, Cancer Services Clinical Stream
Ms Gaynor Beardsworth	AGISP Program Manager
Dr Martin McGee-Collett	Program Director Surgery, SLHD
Dr Peter Lee	Director of Surgery, RPA
Consultant Surgeons	
Dr Kirk Austin	Colorectal Surgeon
A/Prof Chris Byrne	Colorectal Surgeon
Dr Peter Lee	Colorectal Surgeon
Prof Michael Solomon	Colorectal Surgeon
Dr David Eisinger	Urological Surgeon and Head of Department
Dr Nicola Jeffrey	Urological Surgeon
Dr Scott Leslie	Urological Surgeon
A/Prof Paul Sved	Urological Surgeon
Dr Arthur Vasilaras	Urological Surgeon
Dr Richard Boyle	Orthopaedic Surgeon
Dr Daniel Franks	Orthopaedic Surgeon
Dr Steven Dubenec	Vascular Surgeon and Head of Department
Dr Jacky Loa	Vascular Surgeon
Dr Raffi Qasabian	Vascular Surgeon
Dr David Robinson	Vascular Surgeon
Dr Tim Shiraev	Vascular Surgeon
Dr Roger Haddad	Plastics and Reconstructive Surgeon
Dr Ilias Kotronakis	Plastics and Reconstructive Surgeon
Dr Alex Phoon	Plastics and Reconstructive Surgeon
A/Prof Charbel Sandroussi	Upper Gastrointestinal Surgeon and Head of Department
Dr David Yeo	Upper Gastrointestinal Surgeon

Consultant Anaesthetists	
Dr Nicole Phillips	Anaesthetist and Head of Department
Dr Jonathan Byrne	Anaesthetist
Dr Paul Drakeford	Anaesthetist
Dr Gordon Fowler	Anaesthetist
Dr Wilson Huynh	Anaesthetist
Dr Priya Kumaradeva	Anaesthetist
Dr Jessica Lim	Anaesthetist
Dr Benjamin McAlpin	Anaesthetist
Dr Rebecca McNamara	Anaesthetist
Dr Michael Paleologos	Anaesthetist
Dr Ian Sherratt	Anaesthetist
Dr Jacques Van Westing	Anaesthetist
Dr John Wynter	Anaesthetist
Medical Consultants and Fellows	
Dr Sarah Sutherland	Medical Oncologist
A/Prof Kate Mahon	Medical Oncologist
Dr Regina Tse	Radiation Oncologist
Dr Raymond Wu	Radiation Oncologist
Dr Wendy Brown	Radiologist
Dr Eric Lai	Radiologist
Dr Richard Totaro	Intensive Care Specialist and Head of Department
Dr Heike Koelzow	Intensive Care Specialist
Dr Paul Phipps	Intensive Care Specialist
Dr Charlotte Johnstone	Pain Specialist
Dr Anthoulla Mohamudally	Palliative Care and Pain Specialist and Head of Department
Dr Alix Dumitrescu	Palliative Care and Pain Specialist
Dr Lynn Na Lim	Palliative Care Specialist
Dr Corey Lau	Palliative Care Specialist
Prof James Kench	Pathologist and Head of Department
A/Prof Joo-Shik Shin	Pathologist
Dr Suzanna Goodison	Psychiatrist
Specialist Nursing	
Ms Sophie Hatcher	Pelvic Exenteration Clinical Nurse Consultant
Ms Lily Whitehead	Nursing Unit Manager 7E2
Ms Stella Pillai	Nurse Manager JL Theatres
Mr Anthony Lee	Nursing Unit Manager POD 3 JL Theatres
Mr Hayden Tran	Nurse Manager Intensive Care
Ms Liz Beyer	Total Parenteral Nutrition Clinical Nurse Consultant
Ms Colleen Mendes	Stomal Therapy Clinical Nurse Consultant
Ms Maria Bongat	Stomal Therapy Nurse Specialist
Ms Aycan Gonkur	Stomal Therapy Nurse Specialist

Allied Health	
Ms Marine Salter	Clinical Psychologist
Ms Briana Shailer	Clinical Psychologist
Prof Sharon Carey	Dietitian and Head of Department
Ms Kathryn Cherry	Dietitian
Ms Lauren Reece	Dietitian
Ms Claire Jennings	Physiotherapist
Ms Olivia Dwyer	Social Worker
Research Team	
A/Prof Daniel Steffens	Director, SOuRCe
A/Prof Cherry Koh	Associate Professor Surgical Outcomes, SOuRCe
Mr Sascha Karunaratne	Research Manager, SOuRCe
Ms Kiera Taylor	Pelvic Exenteration Research Officer, SOuRCe
Ms Ruby Cole	PRIORITY Research Officer, SOuRCe

10.2 RPA Pelvic Exenteration Program timeline