RPA INSTITUTE OF ACADEMIC SURGERY

SOuRCe Surgical Outcomes Research Centre

PERITONEAL MALIGNANCY 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 cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS and HIPEC) within the Peritoneal Malignancy 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 Peritoneal Malignancy Program at RPA reviewed details of 235 patients referred for potential treatment through the multidisciplinary team (MDT) meeting. Overall, 74 procedures were undertaken, which included four patients who underwent redo surgeries and two patients who underwent a combined CRS and HIPEC and pelvic exenteration procedure.

From April 2017 to June 2023, the program treated 417 patients with CRS and HIPEC, averaging approximately six procedures per month. Within the 2022/23 financial year, the monthly average of CRS and HIPEC procedures was maintained at approximately six cases. The CRS and HIPEC program is achieving outcomes on par with other international centres and the 400th case was performed in April 2023.

From April 2017 to June 2023, the program treated 417 patients with CRS and HIPEC, averaging approximately six procedures per month.

The team continued to benefit from the expertise of internationally renowned peritoneal malignancy specialist and proctor, Professor Brendan Moran, who played an active role in the program throughout the years providing advice, guidance and support on the delivery of patient care, research and governance.

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 Peritoneal Malignancy Program should be applauded for their ability to evolve and continue to expand. The Peritoneal Malignancy Research Program has also continued their proliferation with 34 research projects (32 in advanced stage and two in conceptual stage) currently being conducted. These studies incorporate surgical outcomes, survival rates, quality of life, nutrition, depression, anxiety, stress, physical activity, treatment, health services utilisation and costs. The team has also published eight peer-reviewed research manuscripts in the last financial year.

Indeed, the RPA Peritoneal Malignancy Program continues to be the fastest expanding service ever developed and is a tribute to the vision and support of NSW Health, the expertise and “can-do” approach of SLHD and RPA senior management and the skill of medical, nursing, allied health and research teams.

The development and future expansion of the service requires additional capacity and resources, particularly as demand climbs annually, with a further growth of 10% in activity anticipated for the upcoming financial year. Patient outcomes and novel quality of life evidence, along with data on the effectiveness and cost-effectiveness of CRS and HIPEC, continue to be a focus of 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 Peritoneal Malignancy Program at Royal Prince Alfred (RPA) Hospital within Sydney Local Health District (SLHD) for the 2022/23 financial year.

With the first CRS and HIPEC case undertaken at RPA in April 2017, this report covers the sixth full year of operation for the program.

2.2 Funding Arrangements

Following a 'Request for Proposal' issued by the System Purchasing Branch of NSW Health, the second statewide CRS and HIPEC service for NSW was awarded to RPA in October 2016.

The funding for the program is overseen by the Highly Specialised Services Committee of NSW Health with the original funding agreement determined for RPA to undertake 60 CRS and HIPEC cases per financial year. This activity is covered by a combination of activity-based funding (ABF) allocated through the National Weighted Activity Units (NWAU) 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 71 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 Peritoneal Malignancy Program, along with Pelvic Exenteration, Retroperitoneal Sarcoma 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 Peritoneal Malignancy, Pelvic Exenteration, 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**.

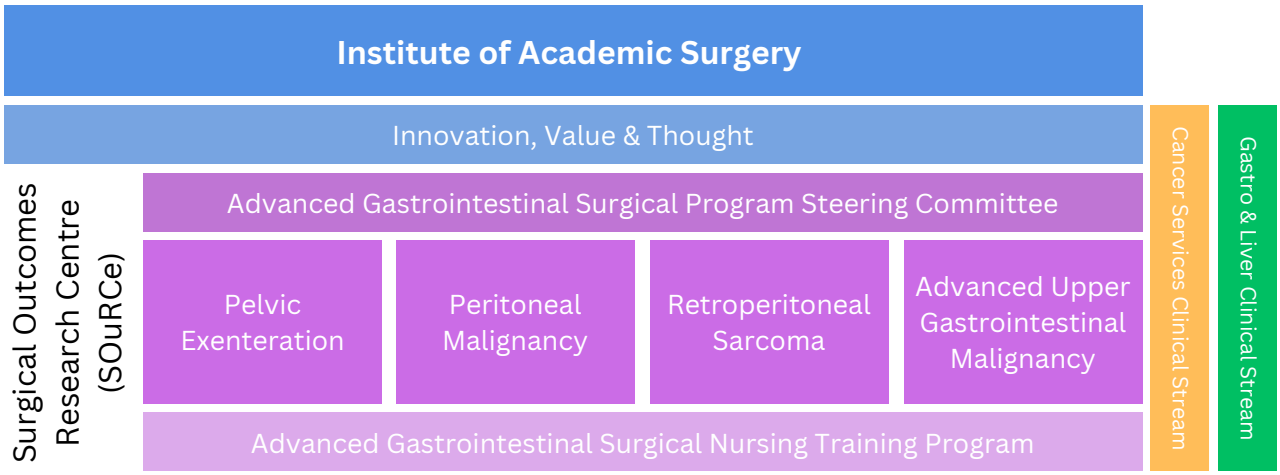


Figure 1. Advanced Gastrointestinal Surgical Program governance structure

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
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 Peritoneal Malignancy 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 CRS and HIPEC at RPA, including the consent of patients to a historical quality of life cohort study and collecting patient reported outcomes at 11 distinct time points from the preoperative period to five years post CRS and HIPEC.

Peritoneal malignancy research projects, new ideas and research collaborations are discussed in the Peritoneal Malignancy Research Meeting. This collaborative meeting includes several multidisciplinary clinical and academic personnel and is held bimonthly.

3.2 Staffing

The delivery of the Peritoneal Malignancy 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**.

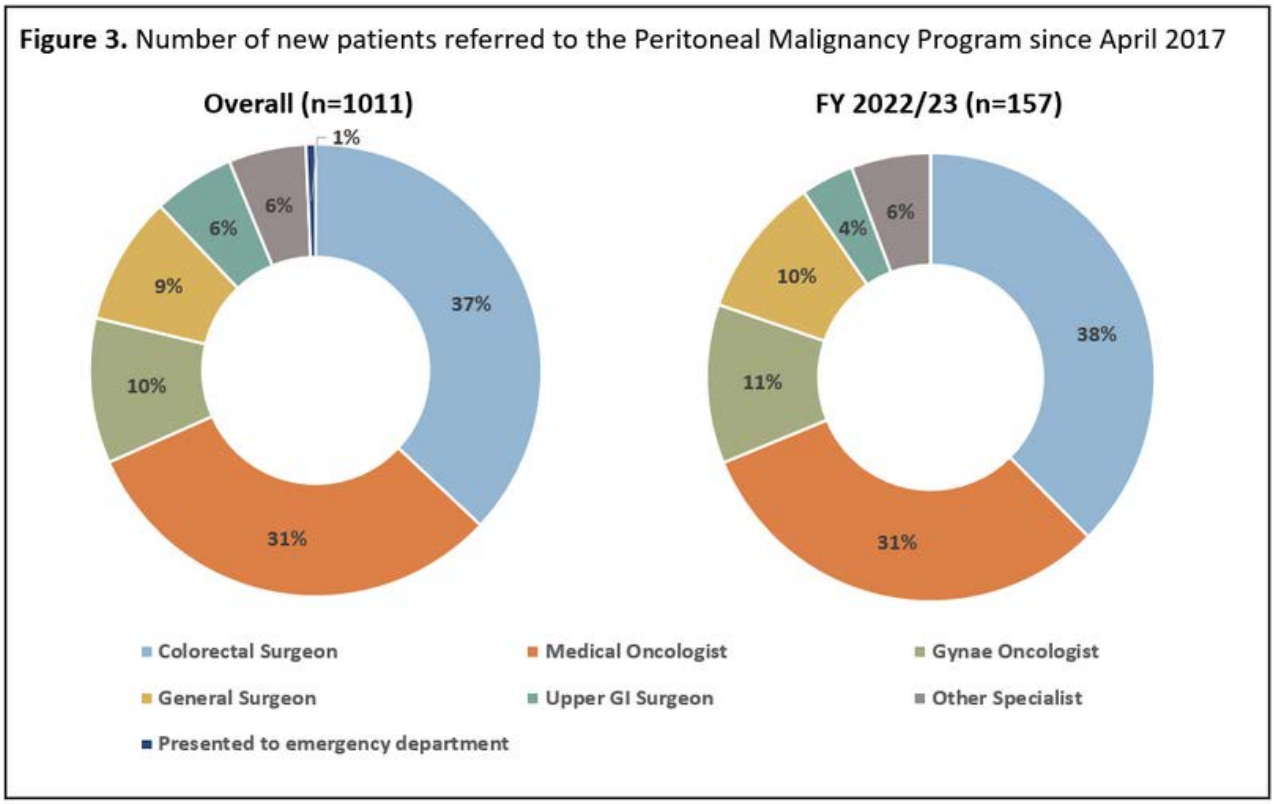
4. Patient Care Pathway & Review

4.1 Referral of new patients

Since its establishment in April 2017, the specialised peritoneal malignancy MDT at RPA has received 1011 new patient referrals (**Figure 3**). On average, over 13 new patients were referred each month.

During the 2022/23 financial year, there were 157 new patients referred and discussed at the peritoneal malignancy MDT meeting (**Figure 3**). Of these, most were referred by colorectal surgeons (38%), medical oncologists (31%) and gynae oncologists (11%).

Figure 3. Number of new patients referred to the Peritoneal Malignancy Program since April 2017



4.2 Multidisciplinary team meeting

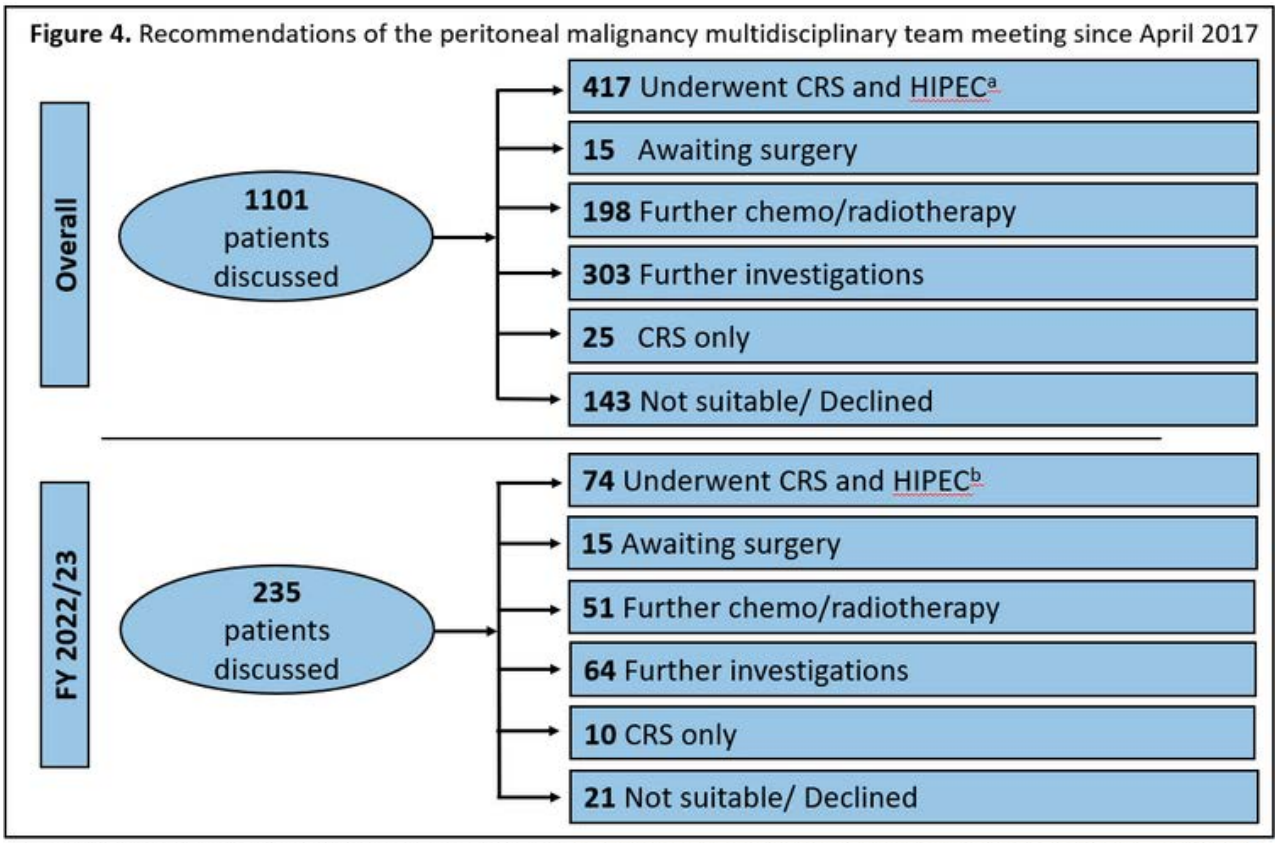
The Peritoneal Malignancy Program at RPA holds a fortnightly MDT meeting. The MDT meeting is a critical step in the patient care pathway. The meeting is chaired by program Lead, Dr Nabila Ansari. All patients referred to RPA for consideration of CRS and HIPEC are discussed at this meeting. Referrals are received from specialists all over NSW and interstate. Information is collated and prioritised by the CNC and the Chair. Cases are presented with a range of clinical information including clinical presentation and history, radiology (PET and CT scans) and histopathology reports. The radiologist then outlines the findings on the relevant imaging and a discussion takes place to determine patient suitability for CRS and HIPEC. Decisions made at the MDT meeting are based on indications discussed and agreed upon by the ANZ Peritoneal Malignancy Collaboration and those outlined in the Reid Report.

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 Chair and sent back to the referring consultant.

In terms of overall program activity, of the 1101 patients discussed at the specialised MDT meetings, 417 (38%) underwent CRS and HIPEC, 303 (28%) are currently under further investigation, 198 (18%) were referred for further chemotherapy or radiotherapy, 25 (3%) underwent CRS only without HIPEC and 143 (13%) were not suitable for or declined surgery.

During the 2022/23 financial year, 235 patients were discussed, of which 74 (31%) underwent CRS and HIPEC and 15 (7%) patients were awaiting surgery. Of the remaining patients, 64 (27%) are currently under further investigation, 51 (22%) were referred for further chemotherapy or radiotherapy, 10 (4%) underwent CRS without HIPEC and 21 (9%) were not suitable for or declined surgery (**Figure 4**).

Figure 4. Recommendations of the peritoneal malignancy multidisciplinary team meeting since April 2017



[a]Includes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Includes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

4.3 NSW Statewide Enhanced Multidisciplinary Team meeting

The Peritoneal Malignancy Program at RPA participates in a state-wide "Enhanced Multidisciplinary Team (EMDT)" meeting with St George Hospital, in line with the recommendations made by the NSW Peritonectomy Service Planning Report. The meeting is chaired by Prof Anthony Eyers and occurs fortnightly via video conference. This meeting enables ongoing productive discussions regarding the selection of patients, decision making processes, and facilitates cross learning between the two complementary sites. This group concluded its combined meeting at the end of 2022.

The membership of the statewide EMDT included the following members from the RPA service listed below:

- Prof Michael Solomon – AGISP program director
- Dr Nabila Ansari – Peritoneal Malignancy Program lead and colorectal surgeon
- Dr Nima Ahmadi – Colorectal surgeon
- A/Prof Cherry Koh – Peritoneal malignancy & colorectal surgeon
- Dr Kate Mahon – Medical oncologist COBLH
- Ms Annie Tang – Peritoneal malignancy clinical nurse consultant
- Ms Gaynor Beardsworth – AGISP program manager

The number of patients discussed at the EMDT is outlined in Table 4. In the first half of the 2022/23 financial year, RPA discussed 43 patients and St George Hospital discussed 63 patients. Following advice to the Ministry of Health in December 2022, meeting between St George Hospital and Royal Prince Alfred Hospital would be continued at longer intervals as both programs have now been well established. Meetings in the 2023/24 financial year will focus on refinement of case selection and further collaboration in the research space.

Table 4. Number of patients discussed at the Statewide Enhanced Multidisciplinary Team meeting

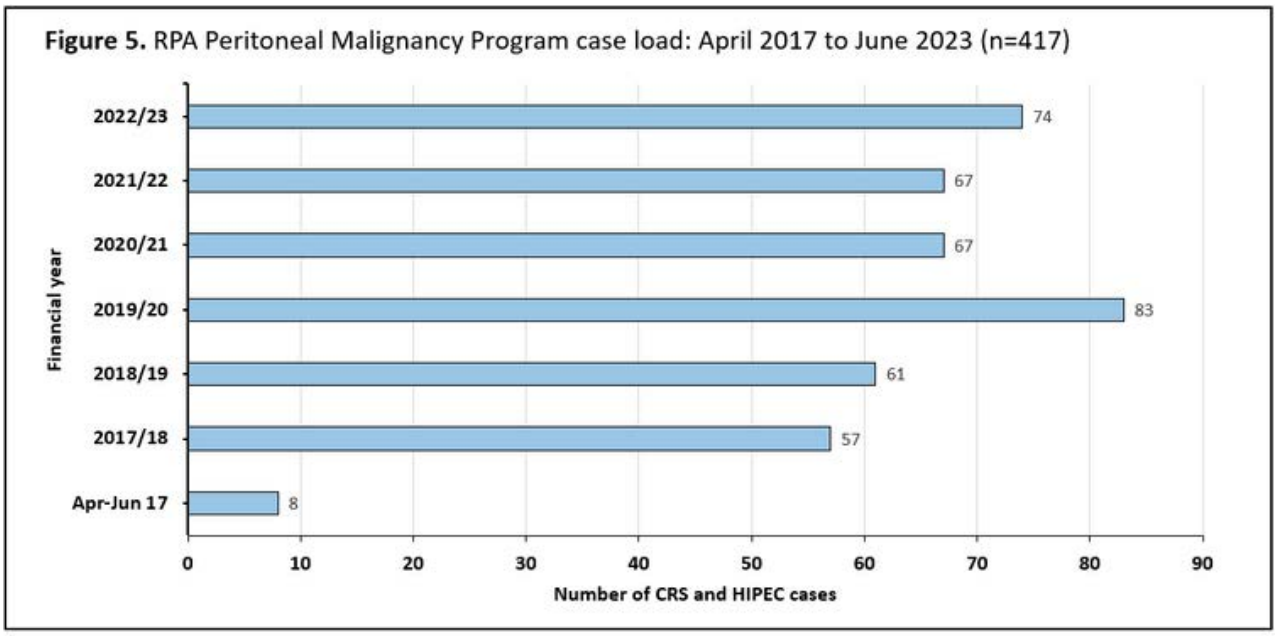
Hospital	Overall	FY 2021/22	FY 2022/23
Royal Prince Alfred Hospital	491	79	43
St George Hospital	707	107	63

5. Program Activity and Patient Outcomes

5.1 Program activity

From April 2017 to June 2023, 417 cases were performed at RPA, including 398 individual patients having CRS and HIPEC for the first time. The additional 19 patients underwent a redo CRS and HIPEC and overall, 15 patients underwent a combined CRS and HIPEC and pelvic exenteration. The program has therefore treated 384 patients with CRS and HIPEC for the first time without concurrent major GI surgery.

Over the entire program period, an average of 68 patients have been treated with CRS and HIPEC per financial year. Over the last three financial years numbers have been 67 (2020/21), 67 (2021/22) and 74 (2022/23) CRS/HIPEC cases performed. Of the 74 cases performed in the 2022/23 financial year, four cases were re-operations on patients who had previous CRS and HIPEC in RPA and two patients who underwent combined CRS and HIPEC and pelvic exenteration. Therefore, during this period, the program treated 68 patients with CRS and HIPEC for the first time without concurrent major GI surgery. This averaged approximately six cases per month, which is a slight increase as compared to the average monthly number of cases performed over the whole program (**Figure 5**).

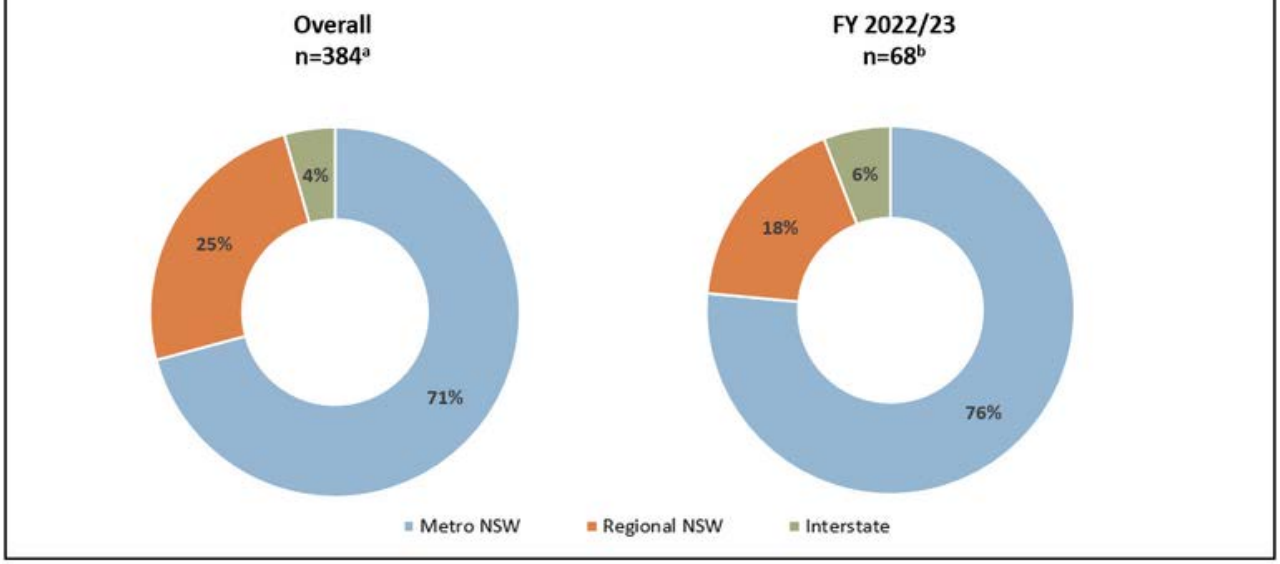


Includes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15).

5.2 Patient geographic location

Overall, most of the patients that underwent CRS and HIPEC were based in metropolitan NSW (71%), with 25% living in regional NSW and 4% living interstate. During the 2022/23 financial year, 76% of patients were from metropolitan NSW, 18% were from regional areas and 6% were living in another state (**Figure 6**).

Figure 6. Residential location of patients who underwent CRS and HIPEC since April 2017



[a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.3 Patient characteristics

Overall, 57% of patients were female with a median age of 55.0 years. The most common primary tumours were colorectal (44%), appendix adenocarcinoma (22%) and pseudomyxoma peritonei (17%).

In the 2022/23 financial year, similar patient characteristics were observed, although there was a slight increase in the number of female patients (60%) and increase in patients presenting with colorectal cancer (49%) undergoing CRS and HIPEC (**Table 5**).

Table 5. Characteristics of patients undergoing CRS and HIPEC

Characteristics	Overall (n=384[a])	FY 2022/23 (n=68[b])
Age, years	55.0 (45.0 to 64.0)	52.0 (43.8 to 65.0)
Sex, female	218 (56.8%)	41 (60.3%)
Tumour Type		
Colorectal	170 (44.3%)	33 (48.5%)
Appendix adenocarcinoma	85 (22.1%)	14 (20.6%)
Pseudomyxoma peritonei	65 (17.0%)	10 (14.7%)
Ovarian	30 (7.8%)	7 (10.3%)
Peritoneal mesothelioma	20 (5.3%)	2 (2.9%)
Small bowel adenocarcinoma	7 (1.8%)	1 (1.5%)
Other	7 (1.8%)	1 (1.5%)

Data presented as frequency (percentage) or median (IQR). [a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.4 Surgical outcomes

The surgical outcomes for the overall cohort and for the 2022/23 financial year are presented in **Table 6**. There was a large increase in blood transfusion required; small increase in surgical time and Completeness of Cytoreduction (CC) score; and a small decrease in Peritoneal Cancer Index (PCI) score in the 2022/23 financial year compared to the overall program. These are highly complex surgeries, and it is pleasing to see that a high clearance of disease is achieved.

Table 6. Surgical outcomes following CRS and HIPEC

Surgical Outcomes	Overall (n=384[a])	FY 2022/23 (n=68[b])
Surgery time, hours	9.3 (7.8 to 10.7)	10.1 (9.0 to 11.6)
Length of ICU stay, days	5.0 (4.0 to 6.0)	5.3 (4.7 to 6.0)
Length of hospital stay, days	17.0 (13.0 to 23.0)	14.0 (12.0 to 19.0)
Blood loss, mL	1200.0 (800.0 to 2000.0)	1500.0 (1000.0 to 2325.0)
Blood transfusion required	232 (60.4%)	58 (85.3%)
PCI score	12.0 (6.0 to 21.3)	11.0 (5.8 to 16.5)
CC score		
CC0	329 (85.7%)	58 (85.3%)
CC1	44 (11.4%)	9 (13.2%)
CC2/CC3	11 (2.9%)	1 (1.5%)

Data presented as frequency (percentage) or median (IQR). [a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15); [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.5 Hyperthermic intraperitoneal chemotherapy agent

Overall, the most common HIPEC agent used was mitomycin (72%) followed by oxaliplatin (12%). During the 2022/23 financial year, all patients presenting with colorectal cancer, appendix adenocarcinoma, pseudomyxoma peritonei and small bowel adenocarcinoma were treated with mitomycin alone. At least half of patients presenting with peritoneal mesothelioma (50%), ovarian (71%) and other (100%) were treated with cisplatin (**Table 7)**.

Table 7. Hyperthermic intraperitoneal chemotherapy agent

Overall (n=384[a])	Oxaliplatin	Mitomycin	Cisplatin	Mitomycin/ Cisplatin	Total
Colorectal	31 (19.5%)	128 (80.5%)	-	-	159 (100%)
Appendix adenocarcinoma	10 (12.4%)	70 (86.4%)	1 (1.2%)	-	81 (100%)
Peritoneal mesothelioma	-	3 (15.0%)	1 (5.0%)	32 (80.0%)	36 (100%)
Pseudomyxoma peritonei	-	64 (100%)	-	-	64 (100%)
Ovarian	2 (6.9%)	3 (10.3%)	22 (75.9%)	2 (6.9%)	29 (100%)
Small bowel adenocarcinoma	2 (28.6%)	5 (71.4%)	-	-	7 (100%)
Other	-	3 (42.9%)	3 (42.9%)	2 (14.2%)	8 (100%)
Total	**45 (11.7%)**	**276 (71.9%)**	**27 (7.0%)**	**36 (9.4%)**	**384 (100%)**

FY 2022/23 (n=68[b])	Oxaliplatin	Mitomycin	Cisplatin	Mitomycin/ Cisplatin	Total
Colorectal	-	33 (100%)	-	-	33 (100%)
Appendix adenocarcinoma	-	14 (100%)	-	-	14 (100%)
Peritoneal mesothelioma	-	1 (50.0%)	-	1 (50.0%)	2 (100%)
Pseudomyxoma peritonei	-	10 (100%)	-	-	10 (100%)
Ovarian	-	2 (28.6%)	5 (71.4%)	-	7 (100%)
Small bowel adenocarcinoma	-	1 (100%)	-	-	1 (100%)
Other	-	--	1 (100%)	-	1 (100%)
Total	**-**	**61 (89.7%)**	**6 (8.8%)**	**1 (1.5%)**	**68 (100%)**

Data presented as frequency (percentage). [a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15); [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.6 Peritoneal Cancer Index at CRS and HIPEC

The overall median PCI score over the course of this program ranged from 8.0 (other) to 29.0 (pseudomyxoma peritonei) (**Table 8**). A similar finding was observed in the 2022/23 financial year, although there was a slight drop in the PCI score of colorectal tumours (7.0) and pseudomyxoma peritonei (24.0) treated. This was compared to a large increase in PCI for appendix adenocarcinomas (22.5) and peritoneal mesothelioma (39.0) treated.

Table 8. Median Peritoneal Cancer Index score according to tumour type

Tumour type	Overall (n=384[a])		FY 2022/23 (n=68[b])	
	Median (IQR)	n	Median (IQR)	n
Colorectal	10.0 (6.0 to 13.0)	170	7.0 (5.0 to 11.0)	33
Appendix adenocarcinoma	13.0 (5.0 to 27.0)	85	22.5 (4.3 to 31.0)	14
Peritoneal mesothelioma	27.5 (20.5 to 32.8)	20	39.0 (39.0 to 39.0)	2
Pseudomyxoma peritonei	29.0 (15.0 to 33.5)	55	24.0 (18.0 to 32.3)	10
Ovarian	15.0 (10.5 to 21.0)	30	14.0 (11.5 to 15.0)	7
Small bowel adenocarcinoma	8.5 (8.0 to 9.0)	7	12.0 (12.0 to 12.0)	1
Other	8.0 (6.3 to 10.5)	7	15.0 (15.0 to 15.0)	1
Overall	**12.0 (6.0 to 22.0)**	**384**	**12.0 (5.8 to 18.0)**	**68**

[a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.7 Completeness of Cytoreduction score

Overall, clear margins (CC0-1 score) were achieved in most patients, with CC0-1 scores ranging from 94% (appendix adenocarcinoma and pseudomyxoma peritonei) to 100% (ovarian, small bowel adenocarcinoma and other cancer types) (**Table 9**). The CC score improved in the 2022/23 financial year, with most patients (98%) achieving clear margins (CC0-1).

Table 9. Completeness of Cytoreduction scores following CRS and HIPEC

Tumour type	Overall (n=384[a])		FY 2022/23 (n=68[b])	
	CC0-1	CC2-3	CC0-1	CC2-3
Colorectal	169 (99.4%)	1 (0.6%)	33 (100%)	-
Appendix adenocarcinoma	80 (94.1%)	5 (5.9%)	13 (92.9%)	1 (7.1%)
Peritoneal mesothelioma	19 (95.0%)	1 (5.0%)	2 (100%)	-
Pseudomyxoma peritonei	61 (93.8%)	4 (6.2%)	10 (100%)	-
Ovarian	30 (100%)	-	7 (100%)	-
Small bowel adenocarcinoma	7 (100%)	-	1 (100%)	-
Other	7 (100%)	-	1 (100.0%)	-
Overall	**373 (97.1%)**	**11 (2.9%)**	**67 (98.5%)**	**1 (1.5%)**

Data presented as frequency (percentage). [a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.8 Complications

Overall, 72% of patients experienced at least one postoperative complication. However, most of the complications were classified as Grade I-II (65%) using the Clavien-Dindo Classification system. The overall in-hospital mortality rate was under 2% (n=4) (**Table 10**). Post-operative complications in the 2022/23 financial year were similar to overall trends. Although, no in-hospital mortality was observed.

Table 10. Complications following CRS and HIPEC

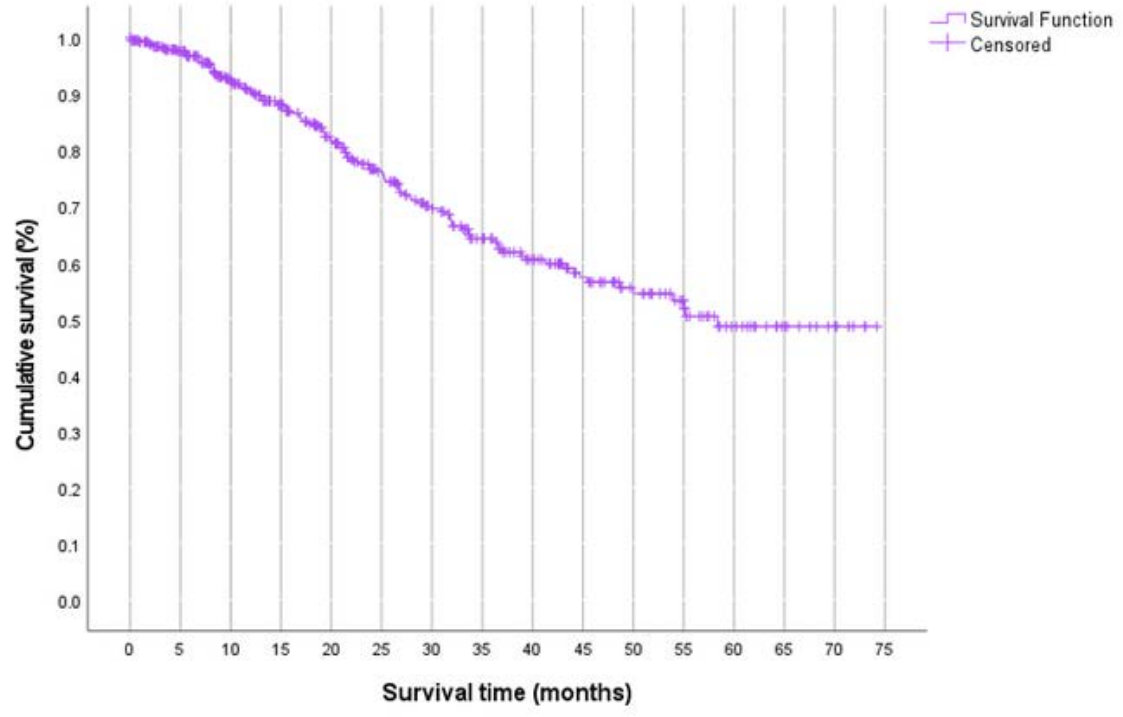
Complications	Overall (n=373[a,b])	FY 2022/23 (n=57[b,c])
Postoperative complication	270 (72.3%)	38 (76.9%)
Clavien-Dindo Classification		
Grade I-II	176 (65.2%)	23 (60.5%)
Grade III-IV	90 (33.3%)	15 (39.5%)
Grade V	4 (1.5%)	-
30-day mortality	3 (1.0%)	-

Data presented as frequency (percentage). [a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15). [b]Overall (n=373) and financial year (n=57) due to unstated values. [c]Excludes patients that underwent redo CRS and HIPEC (n=4) and combined CRS and HIPEC and Pelvic Exenteration (n=2).

5.9 Survival outcomes

The mean overall survival for the whole cohort was 50.3 months. The 12 months survival was 90% and the 24 months survival was 77%. The overall survival curve is presented in **Figure 7**.

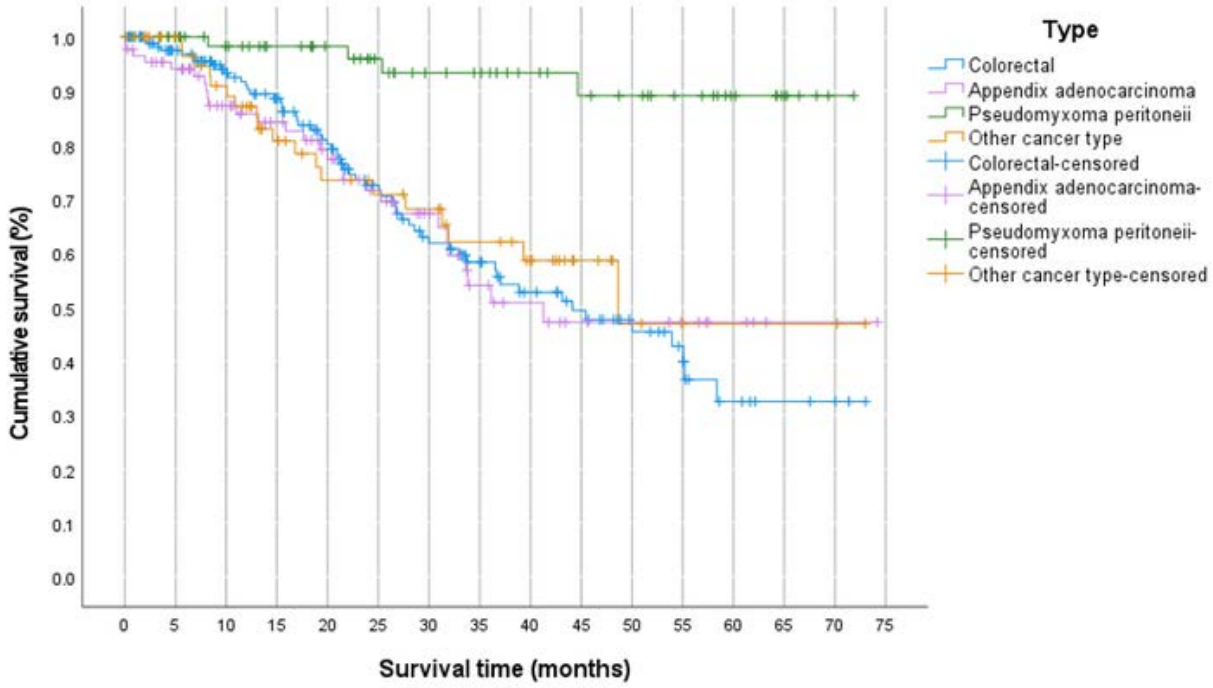
Figure 7. Overall survival following CRS and HIPEC (n=384[a])



[a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15).

Overall, an increase in survivorship was seen across all primary pathologies (**Figure 8**). The most frequent primary pathology in patients with peritoneal malignancy were colorectal cancer (n=169), appendix adenocarcinoma (n=86) and pseudomyxoma peritonei (n=65). There were 64 patients with other less common cancer types. The mean overall survival according to primary tumour type was 44.6 months for colorectal cancer, 46.6 months for appendix adenocarcinoma, 67.2 months for patients with pseudomyxoma peritonei, and 47.8 months for other less common cancer types (**Table 11**). The survival rate at 24 months was 72% for colorectal cancer, 72% for appendix adenocarcinoma, 96% for pseudomyxoma peritonei and 73% for other less common cancers.

Figure 8. Survival curves following CRS and HIPEC based on the type of tumour (n=384[a])



[a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15).

Table 11. Survival outcomes following CRS and HIPEC (n=384[a])

Survival (%)	12 months	24 months	Mean survival
Colorectal (n=169)	90.9%	72.5%	44.6 months
Appendix adenocarcinoma (n=86)	85.7%	71.6%	46.6 months
Pseudomyxoma peritonei (n=65)	98.2%	95.9%	67.2 months
Other cancer types (n=64)	87.1%	73.5%	47.8 months

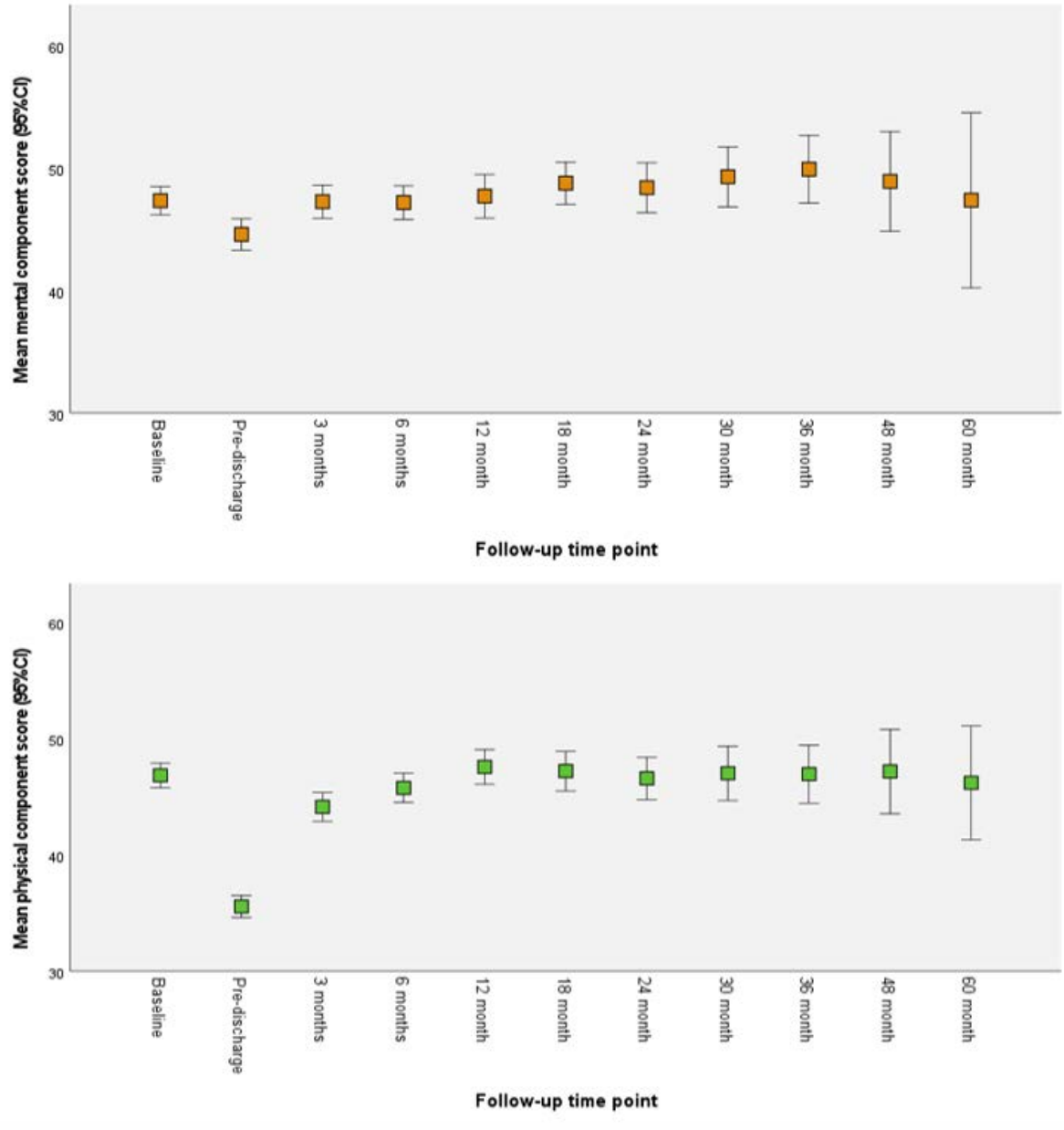
[a]Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15).

5.10 Quality of life outcomes

Patient reported outcomes, including quality of life measures, are collected at 11 different time points including preoperative, pre-discharge from hospital, and 3, 6, 12, 18, 24, 30, 36, 48 and 60 months postoperatively.

Out of the 384 individual patients who underwent CRS and HIPEC, 363 (95%) consented to report their quality of life outcomes. Overall, there is a decline in the physical and mental component scores during the early postoperative period, although the physical and mental component scores return to baseline scores within 6 months postoperatively (**Figure 9**).

Figure 9. Quality of life outcomes following CRS and HIPEC (n=363[a])



[a]*Excludes patients that underwent redo CRS and HIPEC (n=19) and combined CRS and HIPEC and Pelvic Exenteration (n=15).*

5.11 Allied health care inputs to service

The Peritoneal Malignancy Program involves a large number of allied health personnel that are responsible for the care of the CRS and HIPEC patients during the preoperative, in-hospital and postoperative periods. This includes physiotherapy, social work, psychology, dietetics, pharmacy and stomal therapy. The documentation of inputs of service for the individual allied health professionals are listed below in **Table 12**.

Table 12. Allied health occasion of services

Overall	Preoperative	In-hospital	3 months	6 months	12 months
Physiotherapy	365	4380	38	30	133
Social Work	231	618	53	3	9
Psychology	441	1187	114	74	27
Dietetics	497	2175	299	123	95
Pharmacy	241	813	44	10	27
Stomal Therapy	389	922	126	22	24
FY 2022/23	**Preoperative**	**In-hospital**	**3 months**	**6 months**	**12 months**
Physiotherapy	35	588	0	0	0
Social Work	0	178	21	0	0
Psychology	93	265	10	0	0
Dietetics	156	655	48	0	3
Pharmacy	63	0	6	0	1
Stomal Therapy	73	299	24	9	24

6. Research

6.1 Current research studies

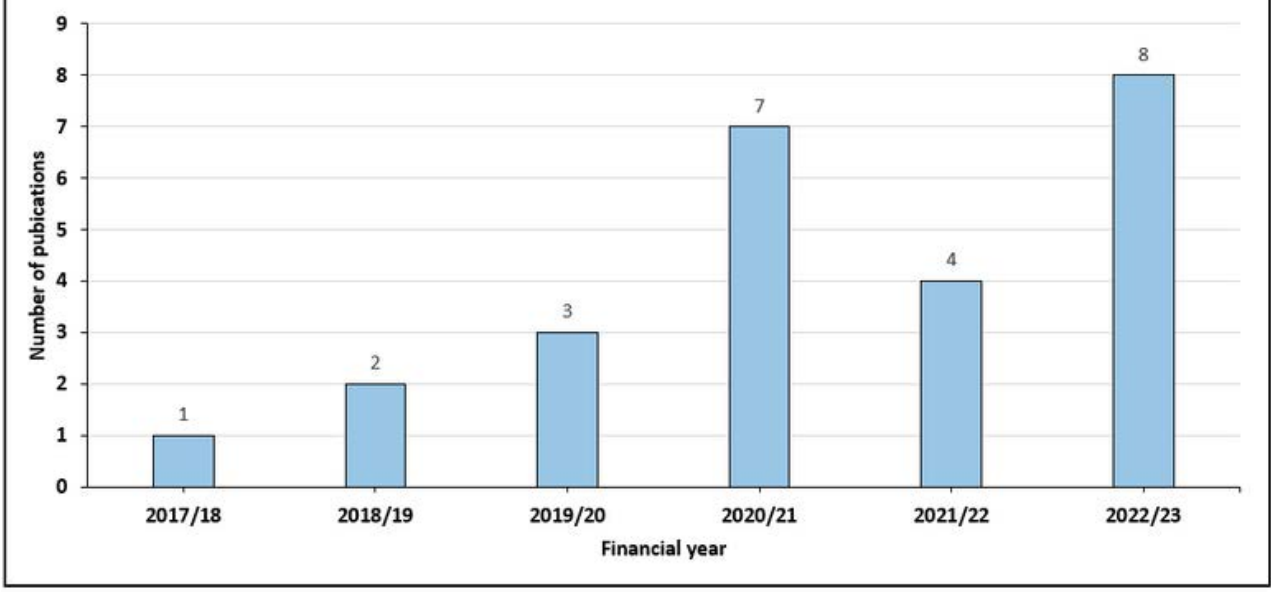
The Peritoneal Malignancy Research Program has evolved since service inception in April 2017. A number of research studies are currently being conducted in a wide range of areas including surgical outcomes, survival rates, quality of life, nutrition, depression, anxiety, stress, physical activity, treatment, health services utilisation and costs. Currently there are 32 studies that are either recruiting participants or in final write-up stage, and there are another two in the conceptual stage. Highlights of the studies being conducted are:

- **AUS-UK QoL**: An international cohort study investigating quality of life outcomes following CRS and HIPEC in patients with colorectal peritoneal metastases. This prospective study is the first international collaboration and involves RPA and Basingstoke Hospital from the UK. This study recruited 100 patients in each site and is currently completing the follow-up surveys.
- **ReLaPSeD Trial**: A large multicentre randomised controlled trial investigating overall survival in patients managed with routine second look laparoscopy versus standard follow-up following curative resection for high-risk colorectal cancer. This trial has now completed recruitment of the required sample and is currently acquiring the remaining long-term outcomes.
- **HyNOVA**: A multicentre randomised study comparing hyperthermic and normothermic intraperitoneal chemotherapy following interval cytoreductive surgery for stage III epithelial ovarian, fallopian tube and primary peritoneal cancer. This trial received external funds from the Medical Research Future Fund and is currently recruiting participants.
- **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.

6.2 Publications

Overall, the CRS and HIPEC program has published a total of 25 peer-reviewed publications. In the 2022/23 financial year, eight scientific articles were published (**Figure 10**).

Figure 10. Number of peer-reviewed publications within the CRS and HIPEC Program



Garrett C, Steffens D, Solomon M, Koh C. Early-onset colorectal cancer: Why it should be high on our list of differentials. ANZ J Surg. 2022 Jul;92(7-8):1638-1643. doi: 10.1111/ans.17698.

Makker PGS, Koh CE, Solomon MJ, Steffens D. Preoperative functional capacity and postoperative outcomes following abdominal and pelvic cancer surgery: A systematic review and meta-analysis. ANZ J Surg. 2022 Jul;92(7-8):1658-1667. doi: 10.1111/ans.17577.

Makker PGS, Koh CE, Ansari N, Gonzaga N, Bartyn J, Solomon M, Steffens D. ASO Visual Abstract: Functional outcomes of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: A prospective cohort study. Ann Surg Oncol. 2023 Jan;30(1):461. doi: 10.1245/s10434-022-12801-9.

Makker PGS, Koh CE, Ansari N, Gonzaga N, Bartyn J, Solomon M, Steffens D. Functional outcomes following cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: A prospective cohort study. Ann Surg Oncol. 2023 Jan;30(1):447-458. doi: 10.1245/s10434-022-12691-x.

Makker PGS, Koh C, Steffens D. ASO Author Reflections: Pre-operative function status predicts post-operative outcomes in patients undergoing cytoreductive surgery and hyperthermic intraperitoneal chemotherapy. Ann Surg Oncol. 2023 Jan;30(1):459-460. doi: 10.1245/s10434-022-12750-3.

Oswald A, McBride K, Seif S, Koh C, Ansari N, Steffens D. Depression, Anxiety, stress and distress following cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: Results of a prospective cohort study. J Clin Psychol Med Settings. 2022 Nov 7. doi: 10.1007/s10880-022-09918-0.

Steffens D, Pocovi NC, Bartyn J, Delbaere K, Hancock MJ, Koh C, Denehy L, van Schooten KS, Solomon M, on behalf of the PRIORITY Trial Collaboration. Feasibility, reliability, and safety of remote five times sit to stand test in patients with gastrointestinal cancer. Cancers (Basel). 2023 Apr 24;15(9):2434. doi: 10.3390/cancers15092434.

Lim CYS, Laidsaar-Powell RC, Young JM, Steffens D, Ansari N, Joshy G, Butow P; Advanced-CRC survivorship Authorship Group. Healthcare experiences of people with advanced colorectal cancer: A qualitative study. Eur J Oncol Nurs. 2023 Apr;63:102265. doi: 10.1016/j.ejon.2022.102265.

6.3 Conference presentations and posters

Koh C. Haemorrhoids and faecal incontinence. NSW State Education & Activities Committee of the Continence Foundation of Australia. 2022 Aug 26; Sydney, Australia.

Lim C, Young J, Solomon MJ, 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. International Psycho-Oncology Society (IPOS) World Congress. 2022 Aug 29-Sep 1; Toronto, Canada.

Solomon MJ. Locally advanced and recurrent anorectal cancer. Surgical Grand Rounds, Bologna University. 2022 Sep 8; Bologna, Italy.

Strach M, Yeung N, Apostolov E, Lin H-M, Nagaraju R T, Ansari N, Koh C, Shin J-S, Kench J, Aziz O, Swarbrick A, Horvath L, Barriuso J, Mahan K. Single-cell transcriptomic analysis of appendiceal cancer peritoneal disease. ESMO (European Society for Medical Oncology) Scientific Meeting. 2022 Sep 9-13; Paris, France.

Bartyn J, Karunaratne S, Koh C, Solomon M, Chen TY, 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.

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.

Koh C. Appendiceal tumours. General Surgeons Australia (GSA) Annual Scientific Meeting. 2022 Oct 7-9; Sydney, Australia.

Ganhewa AD, Rawson R, Koh C, Anderson L. Malignant STK11 tumour in a patient with Peutz-Jeghers Syndrome: A first Australian case report of a newly described entity. 34th International Congress of the International Academy of Pathology. 2022 Oct 13-15; Sydney, Australia.

Solomon MJ. How to interpret trial evidence in minimally invasive colorectal cancer surgery. The Asian Pacific Digestive Week 2022/22nd Congress of Gastroenterology China. 2022 Nov 17-20; Virtual.

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

Strach MC, Yeung N, Lin HM, Ansari N, Koh C, Shin JS, Kench J, Horvath L, Mahon KL. Characteristics of immune-infiltrating cells in the tumor microenvironment of appendiceal cancer with peritoneal disease. ASCO Gastrointestinal Cancers Symposium. 2023 Jan 19-21; San Francisco, USA.

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

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

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

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

6.4 Higher degree research studies

Master of Philosophy (MPhil)

1. **Dr Adrian Siu**: Is the measurement of sarcopenia associated with the extent of gastro-intestinal oncological disease.
2. **Dr Celine Garrett**: Early onset colorectal cancer: Epidemiology, survival, quality of life after surgery and surgical outcomes.
3. **Dr Pratik Maneesh Raichurkar**: Developing a core outcome set for cytoreductive surgery for colorectal cancer with peritoneal metastases.

Doctor of Medicine (MD)

1. **Mr Younggi Lim**: Grading complications following cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS and HIPEC).
2. **Mr Ho Ting Lau**: Preoperative assessment of Peritoneal Cancer Index (PCI) with laparoscopy in patients undergoing cytoreductive surgery (CRS).
3. **Ms Sarah Jarrar**: Examining the relationship between total cost and postoperative complications of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy.
4. **Mr Bernard Le**: Diaphragmatic stripping ± resection in peritoneal malignancy, and its effect on pleural effusion.
5. **Ms Nishka Pinto**: The effect of adjuvant and neoadjuvant treatment on patients undergoing cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS and HIPEC).
6. **Ms Jennifer Vu**: Priorities of patients and carers when undergoing cancer surgery: A Delphi study.

7. Education & Training

7.1 Advanced GI 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 the 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 CNC 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 Mentorship in establishing peritoneal malignancy programs

Over the past six full years running the Peritoneal Malignancy 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. Of note, the team has supported the establishment of peritoneal malignancy services at Auckland City Hospital, Auckland, New Zealand and at Penang General Hospital, Malaysia. Over the past financial year, members of the team from Auckland City Hospital have visited and observed theatres, MDT and ward systems and processes in July 2022 prior to returning for the first CRS and HIPEC case in Auckland. Furthermore, the team from RPA visited Penang General Hospital in June 2023 to review their peritoneal malignancy program. Relationships with the two hospitals continue with support in surgical decision making at their MDTs. Through these activities, ongoing relationships and knowledge exchange can be maintained to benefit patients at both institutions.

7.4 Royal Prince Alfred Hospital Surgical Medihotel pilot

The Surgical Medihotel was piloted from 8th August 2022, which the Peritoneal Malignancy 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. Peritoneal malignancy 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 Peritoneal malignancy education day

After establishing the service in 2017, the RPA Peritoneal Malignancy team has overcome a range of challenges and passed many milestones. In celebration of this, the program will be holding an Education Day planned for October 2023. This event will focus on providing ongoing education to staff members within RPA including medical and surgical specialties, allied health and nursing and research staff. This event will also acknowledge the milestone of five years since the establishment of the Peritoneal Malignancy service at RPA. Widespread interest has already been identified in the target audience including members of specialties within the treating team (including surgeons, anaesthetists, medical consultants, nursing and allied health staff), past patients, external partners and key stakeholders. 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.

8.3 Australia & New Zealand Peritoneal Malignancy Collaboration

When the service was established in 2017, the Australia and New Zealand Peritoneal Malignancy Collaboration (ANZ PMC) was formed. This collaboration included all seven peritoneal malignancy centres across Australia and New Zealand with an aim to foster collaboration and multi-centre research. A meeting of the ANZ PMC is planned to be hosted at the IAS, RPA in October 2023 to discuss future directions of the group. This meeting will follow the international Peritoneal Surface Oncology Group conference in Venice, Italy which will be attended by a number of members of the team. This provides an exceptional opportunity to discuss the implementation of key ideas and address pertinent issues facing this area in future research. It is therefore expected that discussion surrounding these opportunities will be one of the main focuses of this meeting.

8.4 Establishing biobanking capabilities

A $300,000 Sydney Cancers Partner grant, led by medical oncology, was awarded in February 2023. This has accelerated development of the Peritoneal Malignancy Biobank, creating a unique opportunity to more deeply investigate the histopathological outcomes of this group of patients. The grant will also help fund translation of lab-based research (e.g. identifying biomarkers) that are likely to aid clinical decision making and develop tumour models to test new therapies in patients with peritoneal metastases arising from colon and appendiceal cancers.

8.5 Data evaluation and research planning meeting

The Peritoneal Malignancy Program is supported by a comprehensive database (PREMIER) 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.

8.6 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.

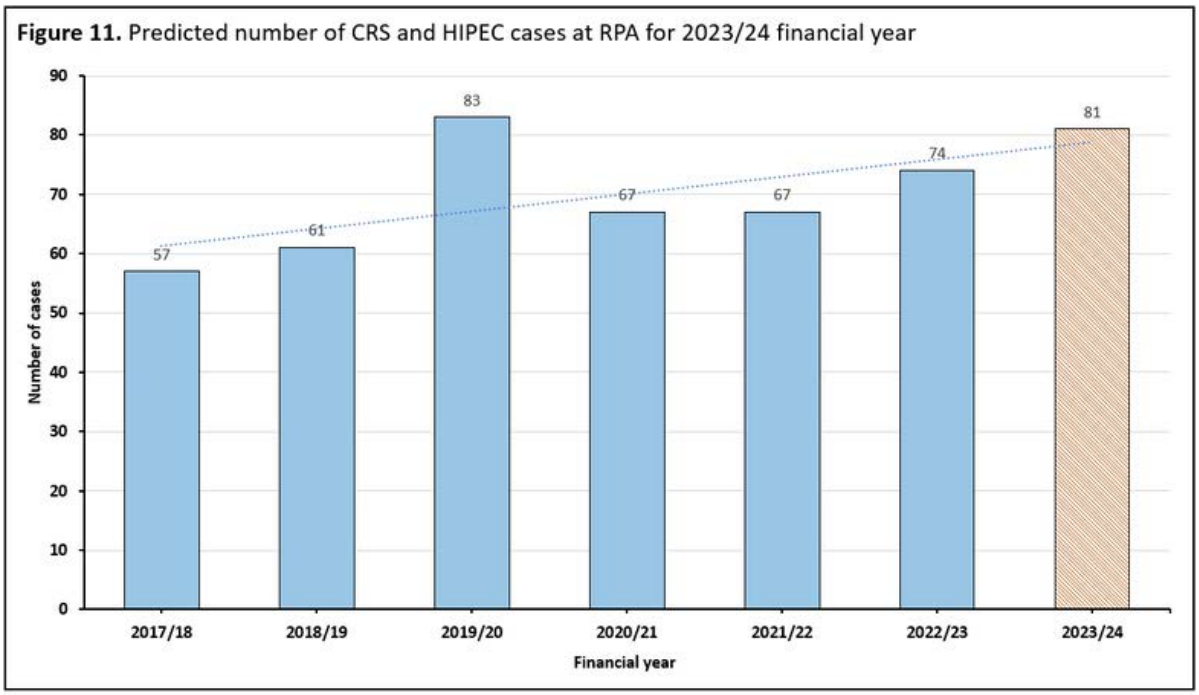
The redevelopment will ensure larger operating theatre sizes to accommodate the surgical teams involved for peritoneal malignancy procedures.It is anticipated the program's capacity will increase with the redevelopments.

8.7 Program activity projections

The number of CRS and HIPEC cases at RPA are expected to progressively increase each financial year. Future growth is expected in line with the growing recognition from referring specialists that considerable patient benefits can be achieved for selected patients, by referring complex cancer patients to dedicated surgical centres. Other factors including population growth and the reputation of the service at RPA allowing equity of access to complex cancer treatment are also contributory.

Based on the number of cases performed in the previous financial year, it is anticipated a 10% increase in the number of CRS and HIPEC cases will occur in 2023/24 bringing the total to approximately 81 cases, which is an average of approximately 7 cases per month (**Figure 11**).

Figure 11. Predicted number of CRS and HIPEC cases at RPA for 2023/24 financial year



9. Conclusion

The RPA Peritoneal Malignancy Program continues to expand and is a tribute to the vision and support of NSW Health, the expertise and “can-do” approach of SLHD and RPA senior management and the skill of medical, nursing, allied health, and research teams.

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 peritoneal malignancy patients, having close collaborative ties with other departments that create the service. 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. Patient outcomes are excellent and novel quality of life evidence along with data on the effectiveness and cost-effectiveness of CRS and HIPEC continue to be a focus of this complex 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 other centres involved in treating peritoneal malignancy cases.

10. Appendices

10.1 Current staff involved in the Peritoneal Malignancy Program at RPA from the 2022/23 financial year

Management	
Prof Michael Solomon	Co-Chair IAS and AGISP Program Director
Prof Brendan Moran	Proctor and Senior Advisor
Dr Nabila Ansari	Peritoneal Malignancy Program Lead
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 Nabila Ansari	Peritoneal Malignancy MDT Chair & Program Lead
A/Prof Cherry Koh	Colorectal Research Lead and SOuRCe Director
Dr Nima Ahmadi	Colorectal Surgeon
A/Prof Rhonda Farrell	Gynae Oncologist
A/Prof Charbel Sandroussi	Upper Gastrointestinal Surgeon
A/Prof Jerome Laurence	Upper Gastrointestinal Surgeon
Dr David Yeo	Upper Gastrointestinal Surgeon
Consultant Anaesthetists	
Dr Rebecca McNamara	Anaesthetist
Dr Neil Pillinger	Anaesthetist
Dr Paul Drakeford	Anaesthetist
Dr David Zalcberg	Anaesthetist
Medical Consultants and Fellows	
Prof Kate Mahon	Medical Oncologist
Dr Sarah Sutherland	Medical Oncologist
Dr Heike Koelzow	Intensive Care Specialist
Dr Tim Brake	Pain Specialist
Dr Alix Dumitrescu	Palliative Care and Pain Specialist
Dr Lynn Na Lim	Palliative Care Specialist
Dr Suzanna Goodison	Psychiatrist
Dr Sarita Parmar	Radiologist
Dr Samer Ghattas	Radiologist

Specialist Nursing	
Ms Mae Arispe	AGISP MDT Coordinator
Ms Annie Tang	Peritoneal Malignancy Care Coordinator
Ms Vanessa Leung	Nursing Unit Manager 7E1
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 Lauren Reece	Dietitian
Ms Kathryn Cherry	Dietitian
Ms Kimberley Bostock	Dietitian
Ms Aveline Chan	Physiotherapist
Ms Alana Hutchings	Social Worker
Ms Simarjit Kaur	Pharmacist
Research Team	
A/Prof Daniel Steffens	Director, SOuRCe
A/Prof Cherry Koh	Associate Professor Surgical Outcomes, SOuRCe
Mr Sascha Karunaratne	Research Manager, SOuRCe
Ms Henna Solanki	Peritoneal Malignancy Research Officer, SOuRCe
Ms Ruby Cole	PRIORITY Research Officer, SOuRCe

10.2 RPA Peritoneal Malignancy Program Implementation Timeline