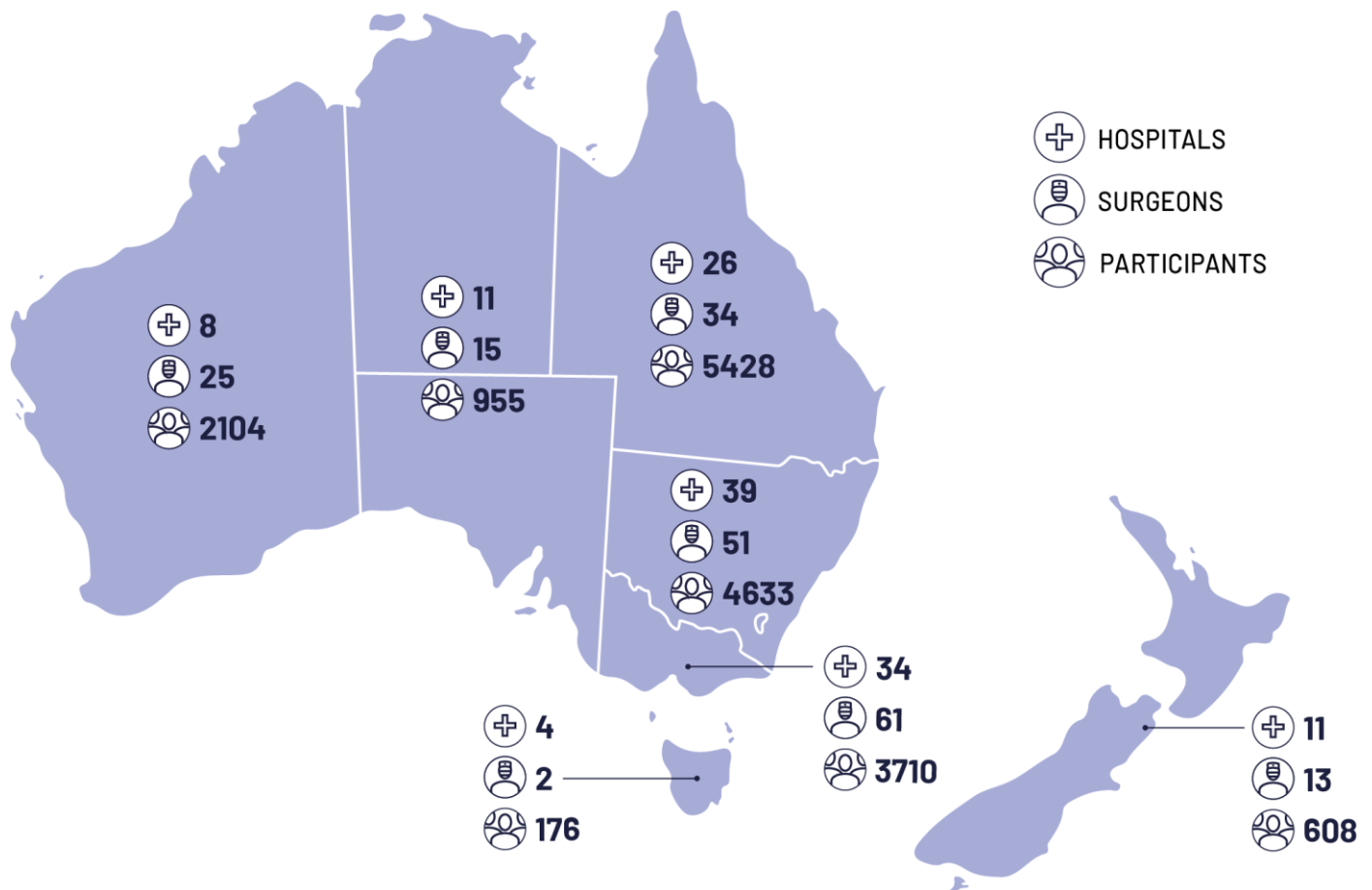


Bariatric Surgery Registry Releases 8th Annual Report 2019/2020



Reporting by Nation and Procedure

Eight years of data capture and a maturing dataset allows for an exciting update to the report's format. To start, the report presents the Registry as a whole, showcasing the hospital site and surgeon coverage across Australia and New Zealand, and the total number of participants enrolled as at 30 June 2020. Following this, for the first time, the outcomes of bariatric surgery performed in each nation are presented separately. In addition, the report presents data specific to the most commonly performed procedures: the adjustable gastric band, sleeve gastrectomy, bypasses (one anastomosis gastric bypass and Roux-en-Y gastric bypass).

2019/2020 Milestones

The reporting period for the Registry is in line with the financial year of Australia and New Zealand. When COVID-19 reared its ugly head in the last quarter of the period, it brought restrictions on elective surgery and lockdowns across both countries, slowing the progress of the Registry. Nonetheless, milestones have still been achieved including:

- 90,457 participants as at 30 June 2020
- The addition of 19,489 new participants
- 197 surgeons participating from 134 hospitals (as illustrated in the above image)
- 70% MBS capture achieved to date
- Commencement of the Registry's Patient Reported Outcome Measures (PROMs) project

Summary of 8th Annual Report 2019/2020

The annual report is a review of the data captured regarding operations performed in the period 1 July 2019-30 June 2020 (FY19/20), fulfilling the reporting requirements of the agreement with the Commonwealth's Department of Health. Data collected from this period is shown in comparison to the registry's complete dataset. The report demonstrates that the Registry is reaching population-level data capture, which is essential for critical review of the data. It should be noted that definitive conclusions cannot be made regarding the safety and quality of bariatric surgery from this type of report.

AUS and NZ Participation

The number of hospitals represented in the registry grew by nearly 14% over the period to a new high of 133, from where 197 surgeons contributed data about their procedures. The participating hospitals for this period are listed on page 5 of this newsletter.

The Registry's Cohort

The number of bariatric patients taking part in the Registry grew by **24.1%** to **90,457**. The opt out rate fell below 3% for the first time over this period, and was at 2.72%. Only 2,533 bariatric patients have chosen not to be included since the study began in 2012.

Australia 2019/2020 Cohort

- 13,719 persons who had their first bariatric operation included:
 - 11,221 had a sleeve gastrectomy
 - 78% were female and 22% male
 - Their average age was 42.4 years
- 3,810 revision procedures included
 - Females had more revisions than males (84% compared to 16%)

New Zealand 2019/2020 Cohort

- 576 persons who had their first bariatric operation included:
 - 363 had a sleeve gastrectomy
 - 79.5% were female and 20.1% male
 - Their average age was 45.8 years
- 45 revision procedures included

2019/2020 Procedures Collected

Australian surgeons added 17,529 procedures performed in FY19/20 in time to be included in the report, accounting for 70% of the procedures from the Medicare Benefits Scheme (MBS). The addition of these operations brought the total number of procedures in the Registry to 97,007 from 88,938 of the Registry's participants. The breakdown of the most common bariatric procedures collected is:

Gastric Band=360
➢ Primary = 271
➢ Revision= 89
Sleeve Gastrectomy=11,843
➢ Primary = 11,221
➢ Revision= 622
Roux-en-Y Gastric Bypass=1,983
➢ Primary = 1051
➢ Revision= 932
One Anastomosis Gastric Bypass=1,568
➢ Primary = 1,116
➢ Revision= 452
Surgical Reversal of Gastric Band=1,157

New Zealand surgeons added another 621 procedures to the Registry, bringing the number of NZ operations in the Registry to 1,553 from 1,519 participants. The breakdown of their common procedures is:

Sleeve Gastrectomy=364
➢ Primary = 363
➢ Revision= 1
Roux-en-Y Gastric Bypass=203
➢ Primary = 179
➢ Revision= 24
One Anastomosis Gastric Bypass=35
➢ Primary = 34
➢ Revision= 1
Surgical Reversal of Gastric Band=1

Private/Public Cases in the Registry

Of the procedures collected in Australia for FY19/20, 94.5% of primary procedures and 90.9% of revision procedures were done in private hospitals. Victoria reported more publicly performed procedures than other states and territories. (Refer to page 21.)

More primary procedures (77.4%) were also reported from private hospitals in New Zealand, whereas the number of revision procedures came from an almost equal distribution of private (48.9%) and public sites (51.1%). (Refer to page 41.)

What the Follow-up Data Demonstrates

The main aim of the Bariatric Surgery Registry is to demonstrate the quality and safety outcomes of the procedures undertaken. This can only be demonstrated with the submission of follow-up data.

All procedures, whether a primary or revision, are to have their 90-day outcomes, referred to as 'peri-operative follow-up' submitted to the Registry. Primary bariatric procedures are followed up annually ('annual follow-up'), for up to 10 years.

Various members of the bariatric surgical teams of participating surgeons are attributed with the collection and submission of this data. That which they are unable to collect, is left to the Registry's Call Centre Team (based in Melbourne). As a result of their efforts, the current completion rates of the follow-up data, as well as the number completed, are as follows:

Follow up Data Completion (AUS)

Perioperative: 87.8% (85,155)
Year 1: 87.8% (85,155)
Year 2: 64.4% (24,102)
Year 3: 61.2% (11,799)
Year 4: 60.9% (5,583)
Year 5: 60.2% (2,040)
Year 6: 66.8% (709)
Year 7: 56.5% (252)
Year 8: 24.6% (58)

Follow up Data Completion (NZ)

Perioperative: 85.2% (1,321)
Year 1: 52.3% (480)
Year 2: 14.9% (25)

(Refer to pages 36 and 46.)

Quality Outcomes *(refer to page 24)*

The Registry monitors the quality of bariatric procedures by whether or not subsequent procedures or operative interventions were required following a primary operation.

Amongst the 73,013 primary operations collected from Australian surgeons, 3.2% required one or more subsequent procedure. The incidence was greater following a gastric band procedure, compared to a sleeve gastrectomy or bypass procedure. (See table 11, page 24.)

Operations amongst participants enrolled with a revision procedure ('legacy' participants), were more likely to have a subsequent procedure submitted to

the Registry. This could be explained due to the number of participants enrolled with a band reversal who then have a sleeve or bypass submitted, or, due to the nature of many revision procedures being more complicated than primary ones. (Refer to pager 25.)

Safety Outcomes

The data collected by the Registry which relates to the outcomes in the 90-days after a procedure is referred to as 'peri-operative follow-up'. This follow-up data is to be collected for every procedure submitted to the Registry.

The Registry monitors the following defined adverse events (DAE) in the peri-operative period: unplanned return to theatre; unplanned admission to ICU; or unplanned re-admission to hospital. More than one DAE can be recorded per procedure. The percentage of procedures performed in Australia and New Zealand in FY19/20 as having at least one DAE reported to the Registry is illustrated here.

(Refer to Tables 15 and 16 on page 26, and Tables 30 and 31 page 42.)

Reported DAE (AUS)

Primary Ops: 2.1%
Revision Ops: 9.3%

Reported DAE (NZ)

Primary Ops: 6.9%
Revision Ops: 22.6%

Reported reasons for DAE

The most commonly stated reasons for a defined adverse event for FY19/20 procedures were (refer to figure 13, page 27):

1. Leak
2. Abdominal pain
3. Dehydration/electrolyte imbalance
4. Anastomotic Stricture
5. Vomiting

Deaths Reported

Being a longitudinal study, deaths amongst participants will eventuate, with the Registry seeking to determine whether or not a death could have been related to the participant having had a bariatric procedure.

Amongst the Registry's cohort, 100 deaths have been reported amongst the Australian cohort to date. This represents 0.1% of the total number of participants. Of these, 52 deaths are confirmed as not related to the procedure, whilst 11 were determined as likely to be related to the deceased having had a bariatric procedure. (Refer to page 28.)

No deaths have been reported amongst the NZ cohort.

Summary of Weight Outcomes One Year After Primary Bariatric Operation

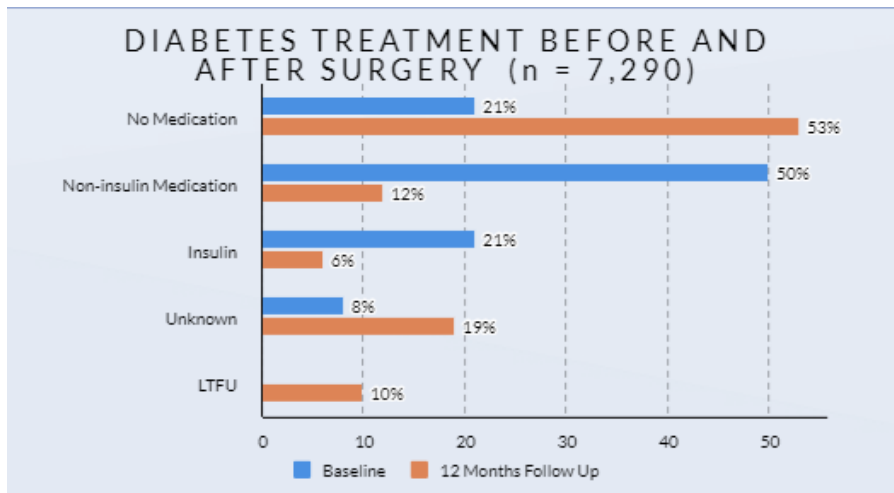
Mean Start BMI and Day of Surgery BMI (AUS)
(by primary procedure)
 Gastric Band: 35.89
 Sleeve Gastrectomy: 30.62
 Bypass: 30.72
 (See page 30)

Mean BMI at One Year (AUS)
(by primary procedure)
 Gastric Band: 35.89
 Sleeve Gastrectomy: 30.62
 Bypass: 30.72
 (See page 30)

Mean Start BMI and Day of Surgery BMI (NZ)
(by primary procedure)
 Sleeve Gastrectomy: 43.9/41.2
 Bypass: 46.0/42.0
 (See page 44)

Mean BMI at One Year (NZ)
(by primary procedures)
 Sleeve Gastrectomy: 30.94
 Bypass: 29.16
 (See page 44)

Summary of Diabetes Outcomes One Year After Primary Bariatric Operation (Australia only)



Conclusions of the Report

The data reported to the Registry to date confirms the safety and efficacy of bariatric surgery although data must be interpreted with caution until the entire population is captured.

Despite the challenges presented in the second part of the FY19/20 reporting period, the numbers of procedures submitted from surgeons in Australia and New Zealand to the Registry continued to grow. As such, it is more critical than ever that surgical outcomes continue to be monitored in order to improve the care provided to the Registry's current and future participants.

Hospitals Represented in 8th Annual Report

Australia

NSW

Albury-Wodonga Private Hospital
 Baringa Private Hospital
 Brisbane Waters Private Hospital
 Calvary Riverina Hospital
 Campbelltown Private Hospital
 Concord Repatriation
 General Hospital
 Delmar Private Hospital
 Dubbo Private Hospital
 Dudley Private Hospital
 Gosford Hospital
 Gosford Private Hospital
 Holroyd Private Hospital
 Hurstville Private Hospital
 Kareena Private Hospital
 Lake Macquarie Private Hospital
 Lakeview Private Hospital
 Lingard Private Hospital
 Mater Hospital Sydney
 Nepean Private Hospital
 Newcastle Private Hospital
 North Shore Private Hospital
 Norwest Private Hospital
 Nowra Private Hospital
 Port Macquarie Private Hospital
 Prince of Wales Private Hospital
 Royal North Shore Hospital
 Royal Prince Alfred Hospital
 Southern Highlands Private Hospital
 St George Private Hospital
 St Vincent's Lismore
 Strathfield Private Hospital
 Sydney Adventist Hospital
 Sydney Southwest Private Hospital
 Tuggerah Lakes Private Hospital
 Wagga Wagga Base Hospital
 Westmead Private Hospital
 Woolongong Private Hospital

VIC

Austin Hospital
 Box Hill Hospital
 Cabrini Brighton Hospital
 Cabrini Malvern Hospital
 Epworth Eastern
 Epworth Freemasons
 Epworth Geelong
 Epworth Richmond
 Glen Iris Private
 Hamilton Base Hospital
 Heidelberg Repatriation Hospital
 Holmesglen Private Hospital
 Jessie McPherson Private Hospital
 John Fawcner Hospital
 Knox Private Hospital
 Latrobe Regional Hospital
 Maryvale Private Hospital
 Mildura Health Private Hospital
 Monash Medical Centre
 Mulgrave Private Hospital
 Northpark Private Hospital
 Peninsula Private Hospital
 Shepparton Private Hospital

St John of God Ballarat Hospital
 St John of God Berwick Hospital
 St John of God Geelong Hospital
 St John of God Warrnambool Hospital
 St Vincent's Hospital Melbourne
 St Vincent's Private Hospital Fitzroy
 The Alfred Hospital
 The Avenue Private Hospital
 Wangaratta Private Hospital
 Warringal Private Hospital
 Western Private Hospital

QLD

Buderim Private Hospital
 Cairns Private Hospital
 Gold Coast Private Hospital
 Greenslopes Private Hospital
 Hillcrest Rockhampton Private Hospital
 Ipswich General Hospital
 John Flynn Private Hospital
 Kawana Private Hospital
 Mater Hospital Brisbane
 Mater Private Hospital Brisbane
 Mater Private Hospital Pimlico
 Mater Private Hospital Rockhampton
 Noosa Private Hospital
 North West Private Hospital (Brisbane)
 Pindara Private Hospital
 Princess Alexandra Hospital
 Queen Elizabeth II Jubilee Hospital
 Royal Brisbane and Women's Hospital
 St Andrew's War Memorial Hospital
 St Andrew's-Ipswich Private Hospital
 St Vincent's Private Hospital Northside
 St Vincent's Private Hospital Toowoomba
 Sunnybank Private Hospital
 Sunshine Coast University Private Hospital
 The Wesley

SA

Ashford Private Hospital
 Calvary Adelaide Hospital
 Calvary Central Districts Hospital
 Calvary North Adelaide Hospital
 Calvary Wakefield Hospital
 Flinders Medical Centre
 Flinders Private Hospital
 Royal Adelaide Hospital
 The Queen Elizabeth Hospital
 Western Hospital

WA

Hollywood Private Hospital
 Joondalup Health Campus
 Mount Hospital
 St John of God Bunbury Hospital
 St John of God Mt Lawley Hospital
 St John of God Murdoch Hospital
 St John of God Subiaco Hospital
 Waikiki Private Hospital

TAS

Calvary St Vincent's Hospital Launceston
 Hobart Private Hospital
 Launceston General Hospital
 Royal Hobart Hospital

NT

Darwin Private Hospital

ACT

Calvary Bruce Private Hospital
 National Capital Private Hospital

New Zealand

Auckland City Hospital
 Chelsea Hospital Trust
 Gisborne Hospital
 Grace Hospital
 Mercy Hospital Dunedin
 Middlemore Hospital
 Ormiston Hospital
 Southern Cross
 Hospital Christchurch
 Southern Cross Hospital Hamilton
 Southern Cross Hospital North Harbour
 Southern Cross Hospital Wellington
 Southland Hospital
 St George's Hospital
 Tauranga Hospital
 Waikato Hospital

ACKNOWLEDGEMENT

The Bariatric Surgery Registry recognises the commitment of its participating surgeons. Their involvement demonstrates the very essence of being a health professional with their commitment to integrity, a high standard of performance, and the public whom they serve. These surgeons and their dedicated support teams make time to regularly submit vital information to this study, willingly sharing their successes and the management of their patients' complications.

With their data, the Registry is able to offer the confidence necessary for making decisions about the provision of bariatric surgery in Australia and New Zealand to the benefit of all stakeholders, but most importantly for those afflicted with obesity who may be considering their treatment options. By taking part in the Bariatric Surgery Registry, participating surgeons are ensuring a high standard of care for bariatric patients. They are owed a debt of sincere gratitude.

Data Requests and Collaborations

The Registry welcomes the use of its data for the purpose of research, and seeks collaboration with interested parties. For information, please contact the Programme Manager, Brooke Backman, by emailing brooke.backman@monash.edu.

Are you a bariatric surgeon or gastroenterologist in Australia or New Zealand who wants to get involved in this vital health initiative? Contact the Customer Relationship Manager, Jenifer Cottrell, by emailing Jenifer.cottrell@monash.edu

For funding and sponsoring the Bariatric Surgery Registry, contact Brooke.backman@monash.edu.

Registry Webinar Training Available

If you or your team would like training in the Bariatric Surgery Registry, webinar training can be conducted at a time that suits you. This offer is made to anyone interested in Australia or New Zealand.

Training can be tailored to your practice and may include:

- your requirements for notifying your patients about taking part in the registry project;
- how to provide operation and follow-up data;
- how to enter information directly into the BSR-i, or
- how to address outstanding (missing) data.

If you are interested, please email jenifer.cottrell@monash.edu.

FUNDING PARTNERS

The Bariatric Surgery Registry received funding in the last 12 months from the Commonwealth Government of Australia and the following supporters:



The Registry also looks forward to welcoming Johnson&Johnson in the 2020/2021 financial year as Platinum Sponsors.

The Bariatric Surgery Registry acknowledges the Traditional Land Custodians of Australia and pay our respects to ancestors and Elders, past, present and future for the Aboriginal and Torres Strait Islander peoples of Australia. We welcome all Aboriginal and Torres Strait Islander peoples to our Registry.

The Bariatric Surgery Registry acknowledges Māori as Tangata Whenua of Aotearoa New Zealand and as Treaty partners with the Crown.

The Registry collects, stores and uses health data of Indigenous participants with the upmost respect and integrity.