



# COVID-19 and cancer services

Working report on the impact of COVID-19 on cancer services for the period ending September 2021

**Released November 2021**

# ACKNOWLEDGEMENTS

With thanks to the technical support from the Ministry of Health Data Management team.

With thanks to members of the COVID-19 Data Response Advisory Group: Professor Diana Sarfati, Alex Dunn, Dr John Fountain, Dr Elinor Millar, John Manderson, Michelle Mako, Dr Shaun Costello, Michelle Liu, Dr Liz Dennett, Gabrielle Nicholson, Dawn Wilson, Jan Smith, Cushla Lucas, Angela Pidd, Christine Fowler, Dr Nina Scott, Associate Professor Bridget Robson, Dr Jason Gurney, Dr Chris Jackson, and Richard Hamblin.

# CONTENTS

Acknowledgements .....	2
Contents.....	3
Summary of findings.....	4
Introduction .....	6
Auckland Regional Snapshot.....	8
Cancer Registrations .....	12
Gastrointestinal endoscopy .....	16
Bronchoscopy .....	18
Faster cancer treatment .....	20
Combined curative cancer surgery .....	22
Colorectal cancer surgery .....	24
Lung cancer surgery.....	26
Prostate cancer surgery .....	28
Medical oncology.....	30
Radiation oncology .....	34
Haematology.....	38
Appendix 1: NZCR data information .....	42
Appendix 2: NZCR registrations by DHB .....	43
Appendix 3: Diagnosis and treatment data by DHB .....	46
Appendix 4: Surgical procedure codes .....	57

# SUMMARY OF FINDINGS

## Impact of COVID-19 on cancer diagnosis and treatment

Overall, publicly funded cancer treatment services continued during the 2021 COVID-19 lockdown. The dip in cancer registrations seen during August 2021 has resolved, with an increase in new diagnoses of cancer in September 2021. There was some disruption to diagnostic procedures, most notably in the Auckland region. However, the overall impact of COVID-19 on diagnoses is considerably smaller and shorter-lived than the disruption seen in April and May 2020, demonstrating a health system that is learning how to safely deliver cancer services in the context of COVID-19. To date, COVID-19 does not appear to have increased inequities in access to cancer services for Māori.

## Background and data

- The purpose of this report is to provide a rapid assessment of the impact of COVID-19 on cancer services during the 2021 COVID-19 Delta outbreak. It includes data up until 30 September 2021.
- The report focuses on the aspects of the cancer care pathway for which we have readily available data and does not capture all aspects of cancer care.
- We acknowledge individuals with cancer may have been impacted in significant way by COVID-19, including by changes to the way care has been delivered.
- The previous COVID-19 and Cancer reports, published in 2020, compared 2020 data directly with 2019 data. Given the disruption to health services in 2020, this report uses an average of observed numbers seen in 2018/19 as the comparator for numbers seen in 2021. For the purposes of this report, we have not added an adjustment for changes in incidence over time.

## Auckland regional snapshot

- The Auckland region has been the most impacted by COVID-19 in 2021, remaining in Alert Level 4 for three weeks and Alert Level 3 for one week during September 2021.
- There was an initial decrease in new cancer diagnoses in August 2021 compared to August 2018/19 across all three Auckland DHBs. However, this increased in September 2021, and there has been an overall increase in diagnoses for the year to date compared to 2018/19.
- COVID-19 caused a disruption to the delivery of diagnostics services in both August and September, with a decrease in gastrointestinal endoscopies across the region in 2021 compared to 2018/19.
- Publicly funded cancer treatment – including surgery, IV chemotherapy and radiation therapy – continued across the Auckland region in August and September 2021.

## Cancer diagnosis

### Registrations

- Provisionally, there have been 241 more cancer registrations in September 2021, compared to September 2018/19 (a 12% increase). This increase was seen across all ethnic groups.
- For the year to date there has been a 7% increase in the number of cancer registrations in 2021 compared to 2018/19, with the largest increases for Asian (22%) and Māori (12%).

## Diagnostics

- COVID-19 appears to have had a minimal impact on the number of referrals to secondary care with a high suspicion of cancer. A similar proportion of people are meeting the 62-day target time frame as pre-COVID-19<sup>1</sup>.
- **Gastrointestinal endoscopies:** there was a 9% decrease in gastrointestinal endoscopies performed in September 2021, compared to September 2018/19 (a smaller decrease to the 31% decrease seen in August 2021). The decrease was smallest for Māori (1%) compared to non-Māori/non-Pacific (10%) and largest for Pacific peoples (20%). The decrease in endoscopies during September appears largely driven by the disruption to services in the Auckland region.
- **Bronchoscopies:** there was a 13% decrease in the number of bronchoscopies performed in September 2021 compared to September 2018/19. Overall, there has been 5% fewer bronchoscopies performed for the year to date compared to same time period in 2018/19. This decrease was similar for Māori (5%) and for non-Māori/non-Pacific (4%).

## Cancer Treatment

### Surgery

- Curative cancer surgeries (for prostate, lung and colorectal cancer) continued during September 2021. Overall, for the year to date the number of surgeries in 2021 has been in line with the number of surgeries in 2018/19 and 2020.

### Chemotherapy and radiotherapy

- **Medical oncology:** there was a 25% increase in attendances for medical oncology FSAs in September 2021 compared to September 2018/19. The increase was similar across all ethnic groups. Attendances for IV chemotherapy remained stable over September 2021. There has been an overall 8% increase in the number of attendances for the year to date in 2021 compared to the same time period in 2018/19, with a larger increase for Māori (25%) and Pacific peoples (33%) than for non-Māori/non-Pacific (4%).
- **Radiation oncology:** attendances for radiation oncology FSAs remained stable in September 2021. For the year to date there has been a 9% increase in radiation oncology FSAs; however, there has been a decrease in attendances for radiotherapy in 2021 compared to 2018/19. The decrease in attendances for radiotherapy has been seen throughout the year and likely reflects increased utilisation of hypofractionation. The decrease in attendances in 2021 is less notable for Māori, which may reflect stage at diagnosis, with hypofractionation more likely to be utilised for early-stage cancer.
- **Haematology:** attendances for haematology FSAs and IV chemotherapy remained stable during September 2021. For the year to date there has been an overall 6% increase in the number of haematology attendances for IV chemotherapy compared to the same time period in 2018/19.

---

<sup>1</sup> Data relate to the 62-day pathway and includes patients with a high-suspicion of cancer and a need to be seen within two weeks. These patients should receive their first treatment within 62-day of receipt of referral.

# INTRODUCTION

## Background

In 2020, Te Aho o Te Kahu released a series of reports outlining the impact of COVID-19 on cancer services in New Zealand<sup>2</sup>. These reports showed that cancer treatment services – surgery, medical oncology, radiation oncology and haematology – continued during the COVID-19 pandemic. Following an initial drop in new cancer registrations during the April 2020 lockdown, the number of cancer registrations in 2020 increased steadily in the following months and, by the end of September, had caught up to the number seen in 2019.

As the COVID-19 situation and disruptions to health care settled, Te Aho o Te Kahu stopped regular COVID-19 and cancer reporting at the end of 2020. With the re-emergence of COVID-19 in the community in August 2021 and the return of lockdown restrictions, Te Aho o Te Kahu have re-instated monitoring related to COVID-19 in September 2021.

## Purpose

This is the second report looking at the impact of COVID-19 on cancer services during the 2021 COVID-19, Delta outbreak. It includes data up until the end of September 2021. The aim of this work is to rapidly collate evidence on any delays to cancer diagnosis and treatment to support policy development and recovery and response planning.

The report focuses on the aspects of the cancer care pathway for which we have readily available data and does not capture all aspects of the care. Critical aspects of cancer care, including access to primary health care, radiology, palliative care and patient experience, are not measured in this report. While the report focuses on the impact of COVID-19 on overall cancer diagnosis and treatment, we acknowledge that individuals with cancer may have been impacted in significant way by COVID-19, including by changes to the way care has been delivered.

## Data and analysis

The data in this report come from Ministry of Health national data collections. Each section of the report includes information on where the data is from and any limitations associated with the data. Of note Taranaki DHB and Southern DHB non-surgical cancer treatment data is not included due to incomplete data for the July 2021 and August 2021 period. Both DHBs are actively working on resolving this issue for the next report. Numbers in this report may not match the previous report exactly, due to exclusion of incomplete data and delayed coding/submission of data.

The purpose of the analysis is to rapidly measure the impact of COVID-19 and the recovery on cancer services, therefore the analysis does not consider pre-existing unmet need. The report also makes direct comparisons between 2021 and previous years and does not consider any increase in cancer diagnoses over time.

## Comparator for this report

The previous COVID-19 and Cancer reports, published in 2020, compared 2020 data directly with 2019 data. Given the disruption COVID-19 caused to health services in 2020, 2020 was not considered an appropriate comparator. To improve the stability of the baseline for comparison, an average of observed numbers in

---

<sup>2</sup> Reports available here: <https://teaho.govt.nz/reports/cancer-care>  
Te Aho o Te Kahu, Cancer Control Agency

2018 and 2019 is used as a comparator for numbers seen in 2021 in this report. All graphs include data from 2021, 2020 and an average from 2018/19.

## Key dates

Key dates in relation to COVID-19, up until the end of September 2021, that may be of use when reviewing the report include:

- 17 August 2021: all of New Zealand moves to Alert Level 4
- 31 August 2021: all of New Zealand south of Auckland moves to Alert Level 3, Auckland and Northland remain at Alert Level 4.
- 2 September 2021: Northland moves to Alert Level 3. All of New Zealand (except Auckland) at Alert Level 3
- 7 September 2021: New Zealand (except Auckland) moves to Alert Level 2.
- 21 September 2021: Auckland and Upper Hauraki move to Alert Level 3.
- 25 September 2021: Upper Hauraki moves to Alert Level 2.

Key dates in relation to COVID-19 in 2020 include:

- 23 March 2020: all of New Zealand moves to Alert Level 3
- 26 March 2020: all of New Zealand moves to Alert Level 4
- 28 April 2020: all of New Zealand moves to Alert Level 3
- 14 May 2020: all of New Zealand moves to Alert Level 2
- 9 June 2020: all of New Zealand moves to Alert Level 1
- 12 August 2020: Auckland moves to Alert Level 3, the rest of New Zealand moves to Alert Level 2
- 30 September 2020: Auckland moves to Alert Level 2.5, the rest of New Zealand stays at Alert Level 2
- 22 September 2020: all regions, except Auckland, move to Alert Level 1
- 8 November 2020: Auckland moves to Alert Level 2, without extra restrictions on travel and gatherings
- 8 October 2020: all of New Zealand moves to Alert Level 1.

## Ongoing reporting

Te Aho o Te Kahu will continue to monitor the impact of COVID-19 and lockdown on cancer services, with the next report (looking at data to the end of October) released in December 2021.

# AUCKLAND REGIONAL SNAPSHOT

## Key points

- The Auckland region has been the most impacted by COVID-19 in 2021, remaining in Alert Level 4 for three weeks and Alert Level 3 for one week during September 2021.
- There was an initial decrease in new cancer diagnoses in August 2021 compared to August 2018/19 across all three Auckland DHBs. However, this increased in September 2021, and there has been an overall increase in diagnoses for the year to date compared to 2018/19.
- COVID-19 caused a disruption to diagnostics services in both August and September, with a decrease in gastrointestinal endoscopies across the region in 2021 compared to 2018/19 (noting these procedures are completed for several indications, not just cancer related)
- Publicly funded cancer treatment – including surgery, chemotherapy and radiation therapy – continued across the Auckland region in August and September 2021.
- Radiation therapy volumes in the Auckland region follow a similar pattern to that seen across New Zealand, with an overall decrease in volumes in 2021 likely related to increased utilisation of hypofractionation (see *Radiation oncology page 34*).

## Cancer diagnosis and treatment

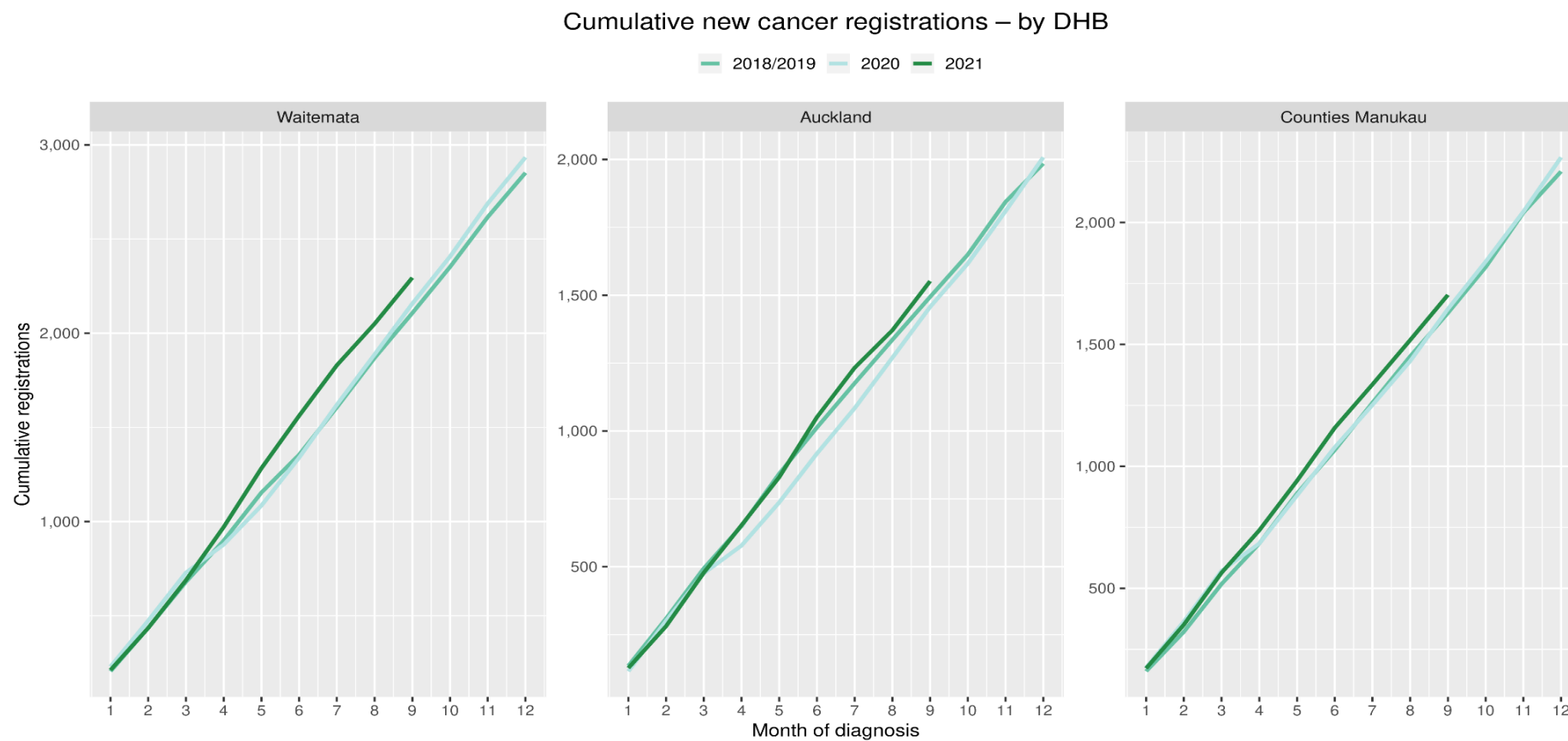
### Registrations

**Table 1: Number of provisional cancer registrations and percentage change in 2021 compared to the 2018/19 average, by month and cumulative year to date, by DHB**

DHB	July			August			September			Cumulative January-September		
	2018/19 average	2021	% change	2018/19 average	2021	% change	2018/19 average	2021	% change	2018/20 average	2021	% change
Waitematā	252	268	7%	262	220	-16%	238	245	3%	2,106	2,295	9%
Auckland	163	182	12%	160	138	-13%	158	181	15%	1,492	1,552	4%
Counties Manukau	194	178	-8%	190	182	-4%	178	185	4%	1,627	1,703	5%

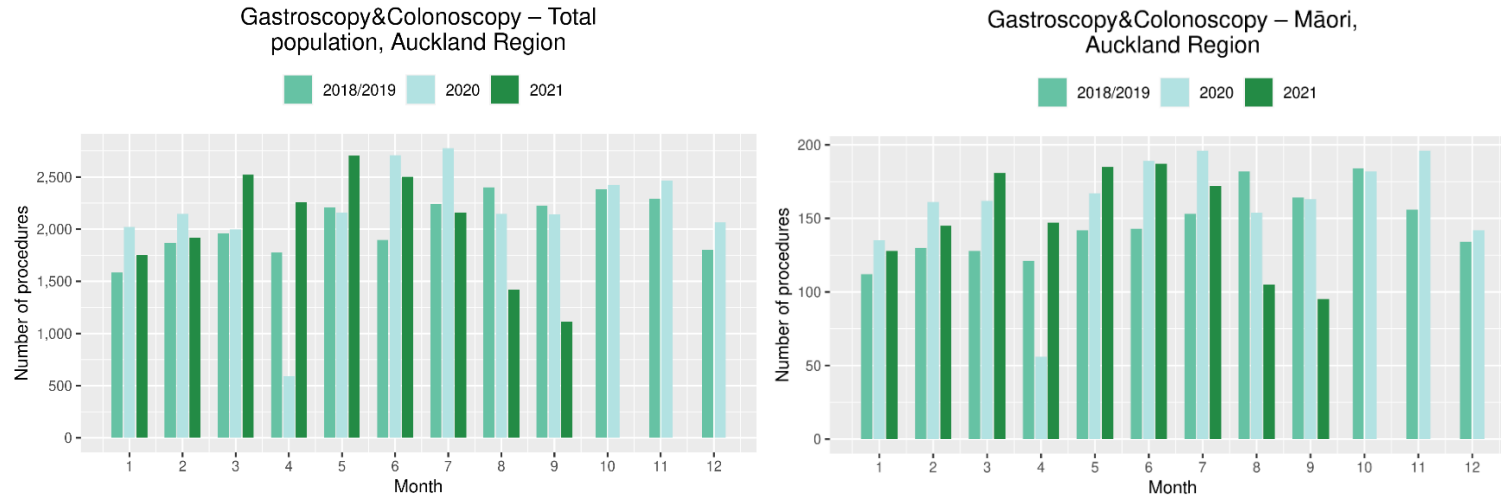


**Figure 1: Cumulative number of cancer registrations by month, 2018/19 average, 2020 and 2021, for the Auckland region, by DHB**



## Gastrointestinal endoscopies

**Figure 2: Number of gastrointestinal endoscopy procedures by month, 2018/19 average, 2020 and 2021, for the Auckland region**



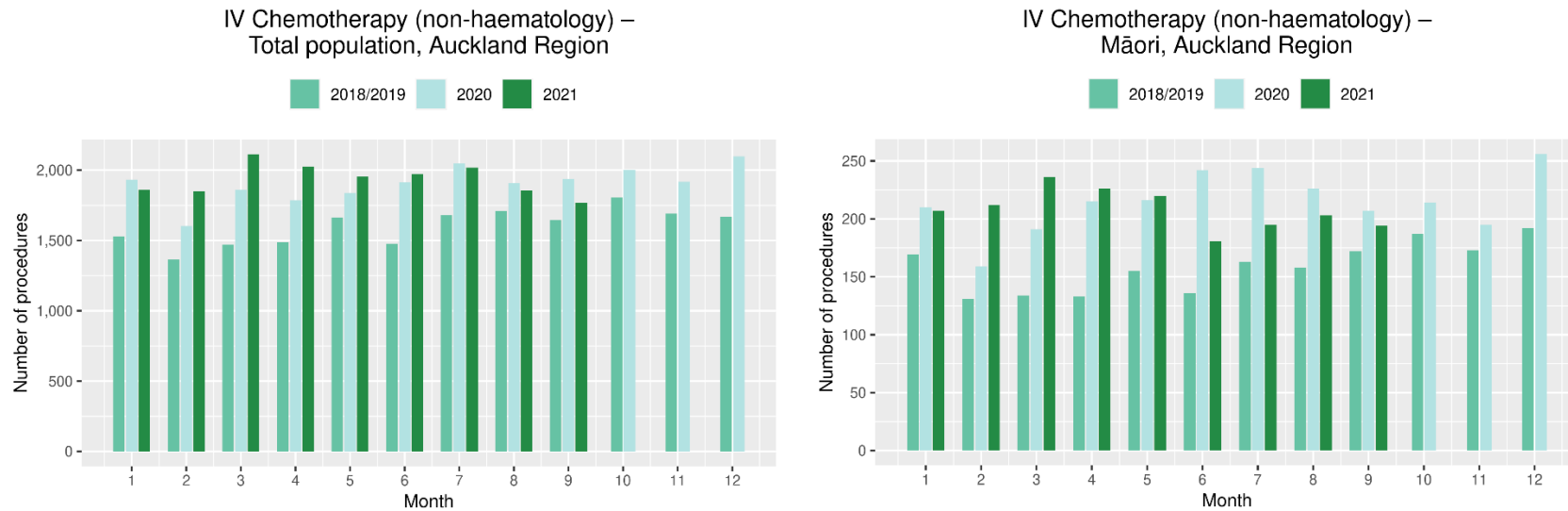
## Cancer surgery

**Figure 3: Number of curative cancer surgeries (prostate, colorectal, lung) by month, 2018/19 average, 2020 and 2021, for the Auckland region**

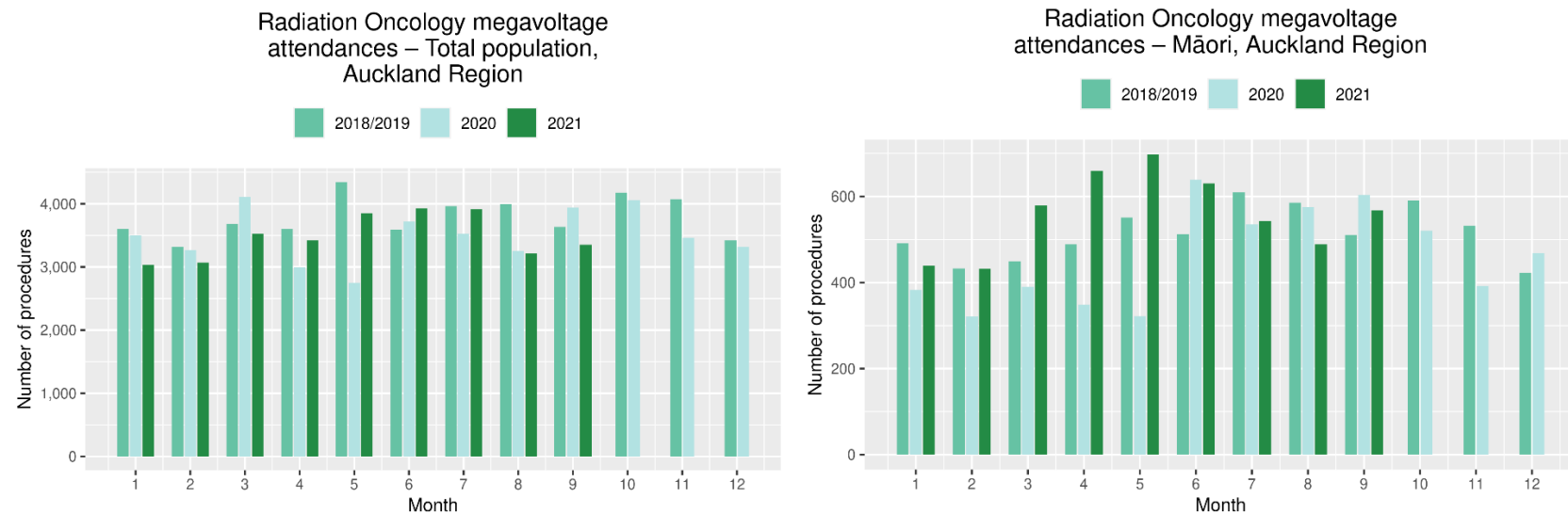


# Non-surgical treatments

**Figure 4: Number of IV chemotherapy attendances by month, 2018/19 average, 2020 and 2021, for the Auckland region**



**Figure 5: Number of radiation therapy attendances by month, 2018/19 average, 2020 and 2021, for the Auckland region**



# NATIONAL DATA

## CANCER REGISTRATIONS

### Notes on data

- The data in this report come from laboratory reports to the New Zealand Cancer Register (NZCR). Cancers diagnosed without haematology or pathology, for example radiology alone, will not be counted in this analysis. Further information on these data is included in Appendix 1.
- Data included in this report are provisional, and exact numbers will change as data are finalised. Data were extracted from NZCR on 11 November 2021.
- 'Date' is date of diagnosis on the NZCR – usually the date the specimen was taken from the person and sent to the laboratory. Analyses include all new provisional and registered cancer events based on pathology and haematology reports.
- The extract used for this report excludes carcinoma in situ for breast and cervical, meaning the numbers are lower than in the 2020 COVID-19 and Cancer reports.

### Key points

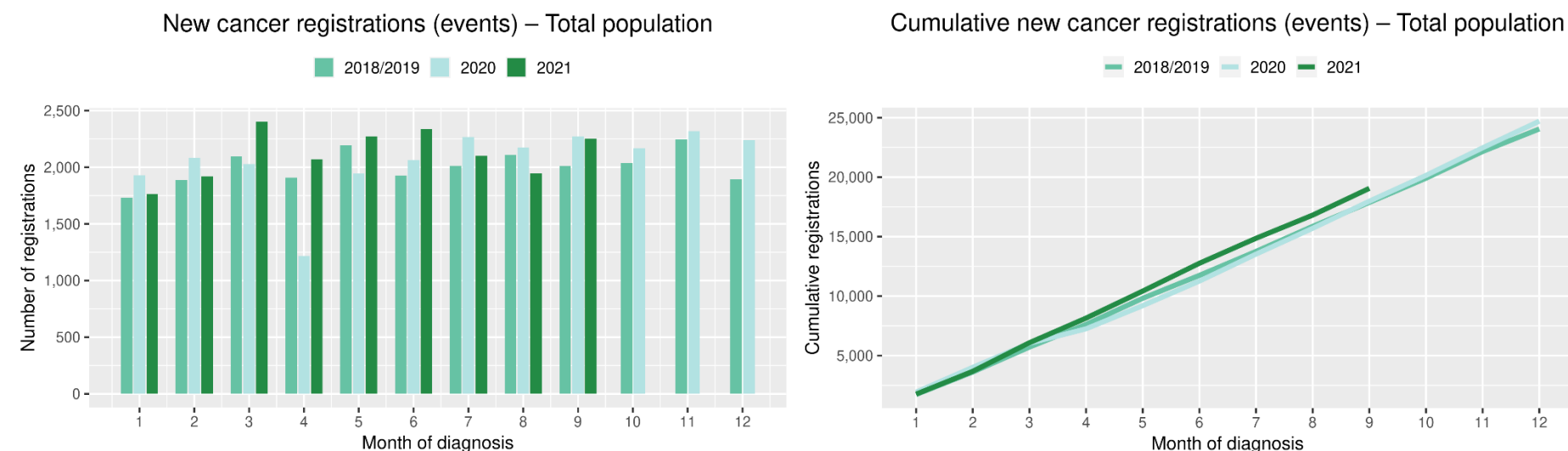
- Provisionally, there have been 241 more cancer registrations in September 2021, compared to September 2018/19 (a 12% increase). This increase was seen across all ethnic groups.
- For the year to date there has been a 7% increase in the number of cancer registrations in 2021 compared to 2018/19, with the largest increases for Asian (22%) and Māori (12%).
- The pattern appears slightly varied by tumour group, with the largest impact over the year appearing to be for melanoma/non-melanoma skin cancer (see cumulative Figure 7). This may reflect the shift towards virtual consultations in primary care at high alert levels and delay of minor procedures.

# Results

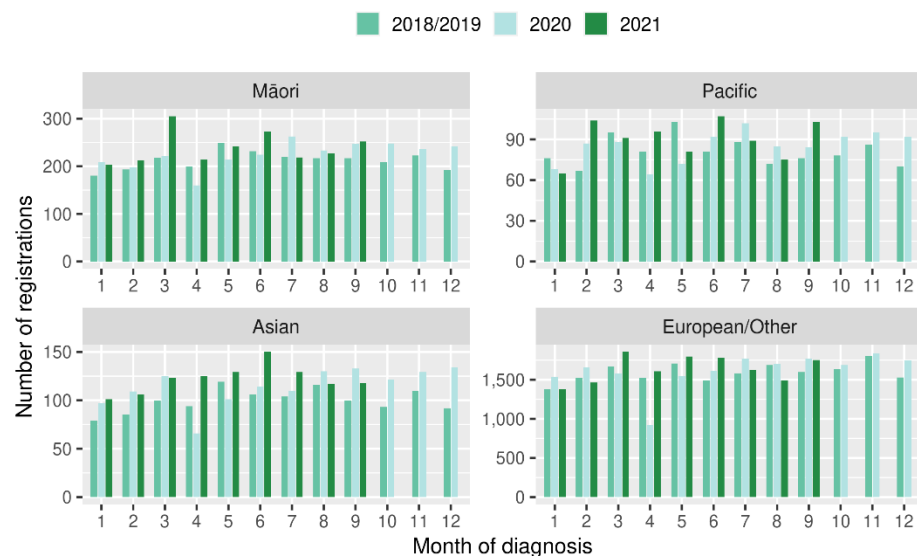
**Table 2: Number of provisional cancer registrations and percentage change in 2021 compared to the 2018/19 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	220	219	0%	217	227	5%	217	252	16%	1,924	2,147	12%
Pacific peoples	88	89	1%	72	75	4%	76	103	36%	739	811	10%
Asian	104	129	24%	116	117	1%	100	118	19%	901	1,098	22%
European/Other	1,601	1,664	4%	1,705	1,529	-10%	1,617	1,777	10%	14,311	15,004	5%
Total population	2,013	2,101	4%	2,109	1,948	-8%	2,009	2,250	12%	17,874	19,060	7%

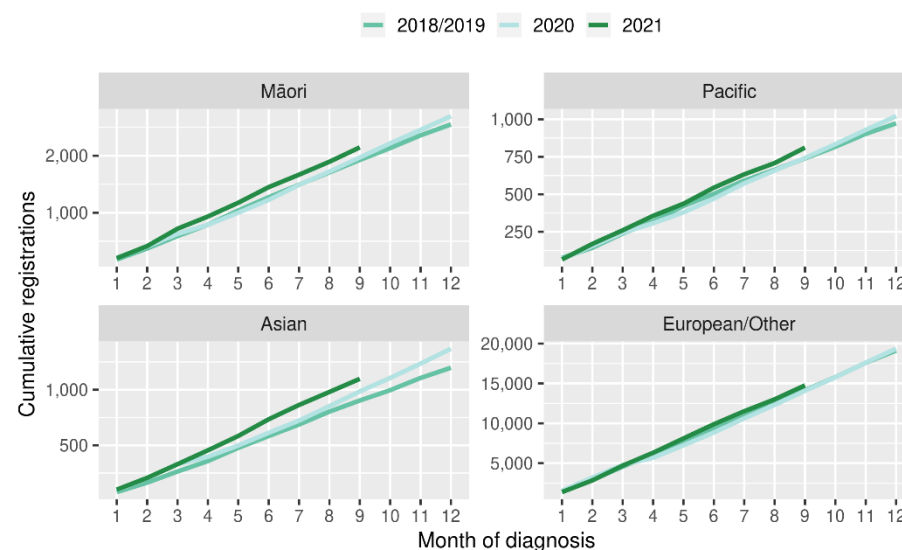
**Figure 6: Number of cancer registrations by month, 2018/19 average, 2020 and 2021, total population and by ethnicity**



New cancer registrations – by ethnicity



Cumulative new cancer registrations – by ethnicity

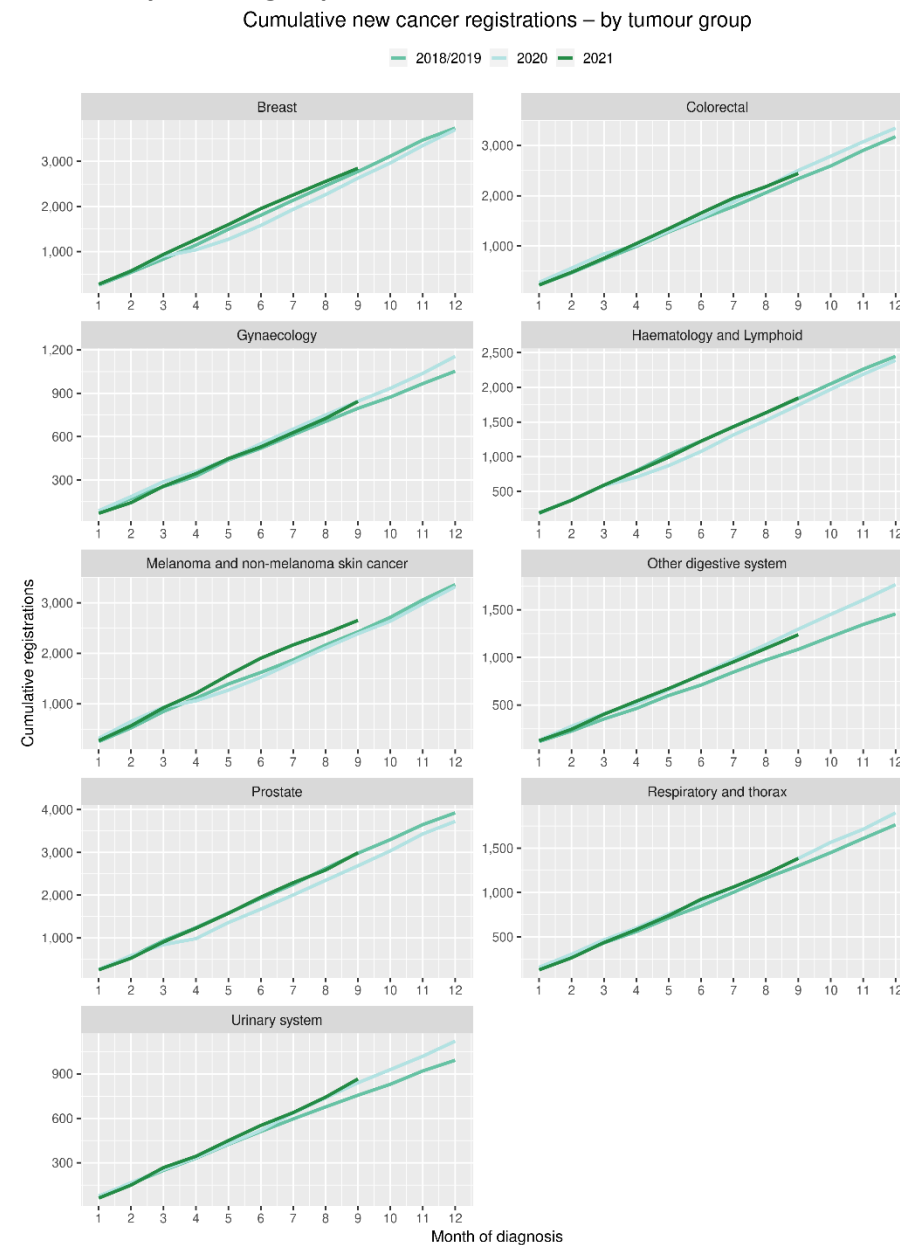


**Table 3: Number of provisional cancer registrations and percentage change in 2021 compared to the 2018/19 average, by month and cumulative year to date, by tumour group**

Tumour group	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Breast	332	304	-8%	322	300	-7%	315	292	-7%	2,772	2,848	3%
Colorectal	247	297	20%	275	229	-17%	278	262	-6%	2,338	2,444	5%
Gynaecology	94	99	5%	92	98	7%	91	118	30%	795	844	6%
Haematology and Lymphoid	212	208	-2%	197	203	3%	207	212	2%	1,838	1,847	1%
Melanoma and non-melanoma skin	249	263	6%	294	228	-22%	260	257	-1%	2,424	2,652	9%
Other digestive system	136	137	1%	127	142	12%	112	144	29%	1,084	1,239	14%
Prostate	326	338	4%	374	295	-21%	357	406	14%	2,981	2,993	0%
Respiratory and thorax	154	139	-10%	160	148	-8%	138	174	27%	1,299	1,385	7%
Urinary system	85	87	2%	81	104	29%	79	123	56%	753	866	15%

\*This analysis uses provisional data for the 2021 registrations, some cancers may initially be classified as 'non-specified' and subsequently be re-classified into one of the cancer groups as more information becomes available.

**Figure 7: Number of cancer registrations by month, 2018/19 average, 2020 and 2021, by tumour group**



# GASTROINTESTINAL ENDOSCOPY

## Notes on data

- Gastrointestinal endoscopy data were extracted from the National Non-admitted Patient Collection (NNPAC) and National Minimum Dataset (NMDs) on 8 November 2021.
- Includes colonoscopies and gastroscopies for all indications – not just cancer.
- Technical information: gastroscopies (Purchase Unit Code: MS02005), colonoscopies (Purchase Unit Code: MS02007), combined gastroscopies and colonoscopies (Purchase Unit Code: MS02014).

## Key points

- There was a decrease in gastrointestinal endoscopies performed in September 2021, compared to September 2018/19. This decrease (9%) was smaller than the decrease in August 2021, compared to August 2018/19 (31%).
- The decrease in endoscopies was seen across all ethnic groups but was smaller for Māori (1%) compared to non-Māori/non-Pacific (10%). The decrease was largest for Pacific peoples (20%).
- The decrease in endoscopies during September appears largely driven by the disruption to services in the Auckland region (see Figure 2).
- Overall, for the year to date there has been an increase in the number of gastrointestinal endoscopies performed in 2021 compared to 2018/19 across all ethnic groups.

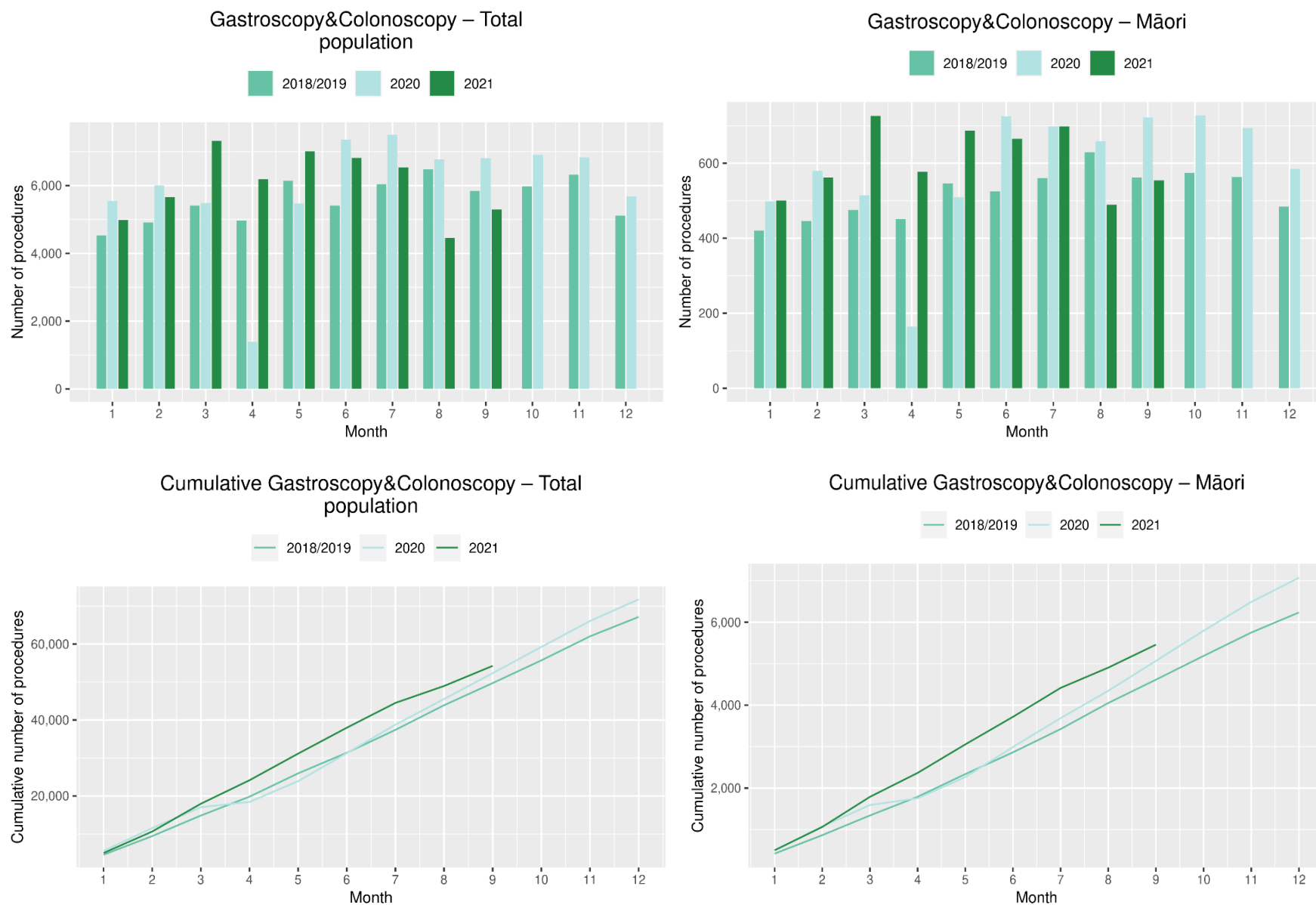
## Results

**Table 4: Number of colonoscopy and gastroscopy procedures and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	561	698	24%	629	489	-22%	562	554	-1%	4,613	5,459	18%
Pacific peoples	230	247	8%	238	171	-28%	205	165	-20%	1,807	2,057	14%
Non-Māori/non-Pacific	5,244	5,591	7%	5,615	3,794	-32%	5,068	4,580	-10%	43,302	46,740	8%
Total population	6,035	6,536	8%	6,482	4,454	-31%	5,835	5,299	-9%	49,722	54,256	9%



**Figure 8: Number of gastrointestinal endoscopy procedures by month, 2018/19 average, 2020 and 2021, total population and Māori**



# BRONCHOSCOPY

## Notes on data

- Bronchoscopy data were extracted from NNPAC and NMDS on 8 November 2021.
- These data include bronchoscopies for all indications, not solely cancer related procedures.
- Technical information: bronchoscopies (Purchase Unit Code - MS02003).

## Key points

- There was a 13% decrease in the number of bronchoscopies performed in September 2021 compared to September 2018/19.
- Overall, there has been 5% fewer bronchoscopies performed for the year to date compared to same time period in 2018/19. This decrease was smaller for Māori (5%) and non-Māori/non-Pacific (4%), than for Pacific peoples (28%, noting small numbers).

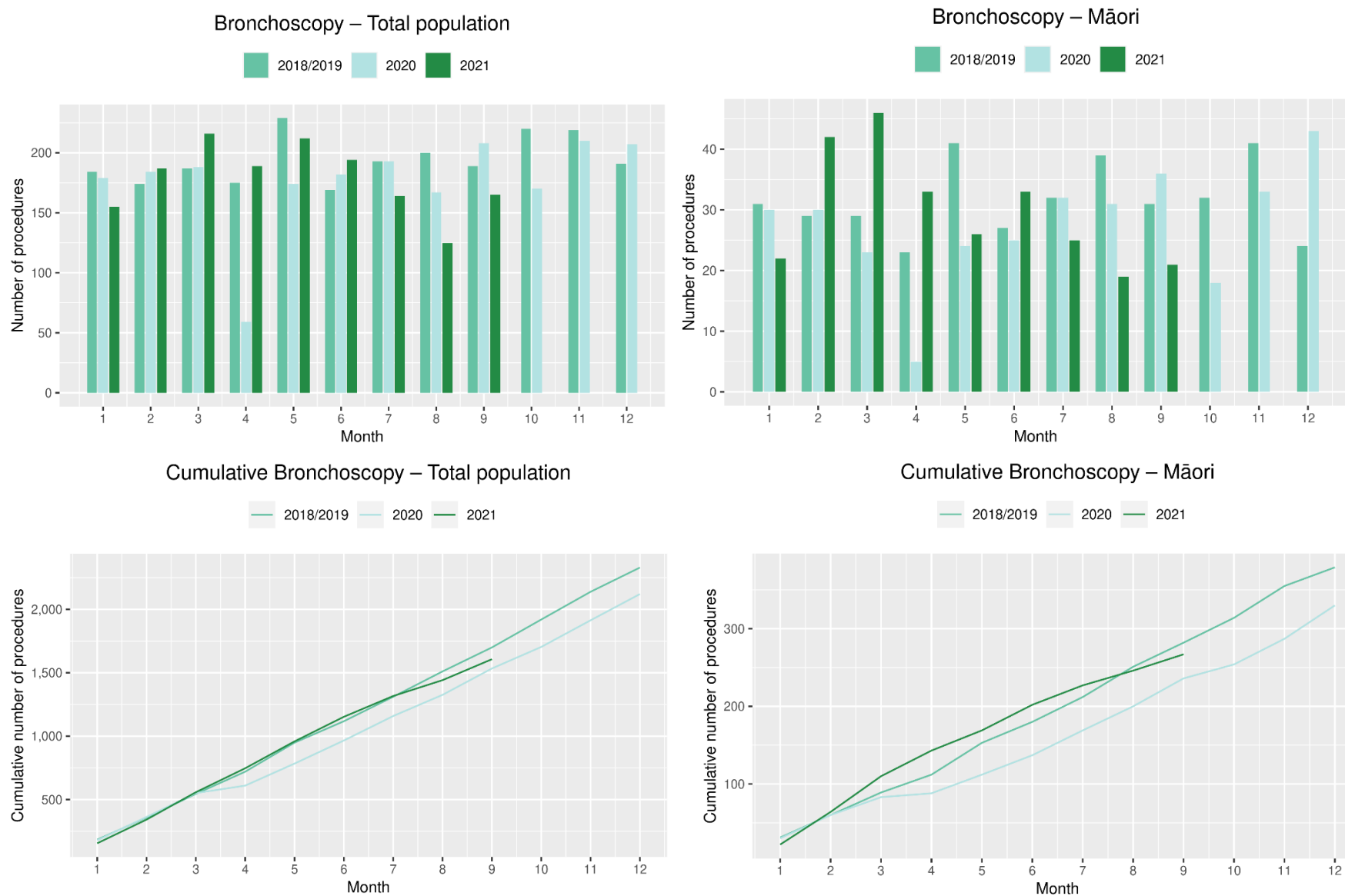
## Results

**Table 5: Number of bronchoscopies and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori*	-	-	-	-	-	-	-	-	-	282	267	-5%
Pacific peoples*	-	-	-	-	-	-	-	-	-	86	62	-28%
Non-Māori/Non-Pacific	151	133	-12%	147	100	-32%	147	140	-5%	1,331	1,278	-4%
Total population	193	164	-15%	200	125	-37%	189	165	-13%	1,699	1,607	-5%

\*Due to small numbers, monthly figures have not been included for Māori and Pacific peoples

**Figure 9: Number of bronchoscopies by month, 2018/19 average, 2020 and 2021, total population and Māori**



# FASTER CANCER TREATMENT

## Notes on data

- The data were extracted from the Faster Cancer Treatment database on 10 November 2021. Fast Cancer Treatment Data is reported quarterly.
- These data aim to capture a broader part of the diagnostic and referral pathway; however, they only include a subset of people being investigated for cancer.
- Data relate to the 62-day pathway and includes patients with a high-suspicion of cancer and a need to be seen within two weeks. These patients should receive their first treatment within 62-day of receipt of referral. The target is 90% and Te Aho o Te Kahu has an escalation pathway for monitoring the performance of DHBs against the 62-day measure. Escalation includes regular meetings with service teams and CE to CE discussions against recovery planning and actions.
- Analysis includes all referrals onto the 62-day pathway.

## Key points

- Overall, the COVID-19 Delta outbreak appears to have had a minimal impact on the number of referrals with a high suspicion of cancer, with volumes in August and September similar to the preceding four months.
- The proportion of referrals meeting the 62-day target (patients receiving their first treatment within 62 days of receipt of referral) has remained stable in 2021.
- The FCT data suggest that people who presented to their GP with signs/symptoms highly suspicious of cancer are still being referred through to secondary care. There are a similar number being referred as pre-COVID-19 and these people are being seen within a similar time frame.

## Results

**Table 6: Number of referrals for patients with a high-suspicion of cancer, in 2021 by month, and cumulative year to date**

	Apr	May	Jun	Jul	Aug	Sept	Total Jan-Sept
Māori	44	41	41	42	59	36	263
Non-Māori/Non-Pacific	266	314	366	292	306	299	1,843
Total population	321	373	425	355	383	346	2,203

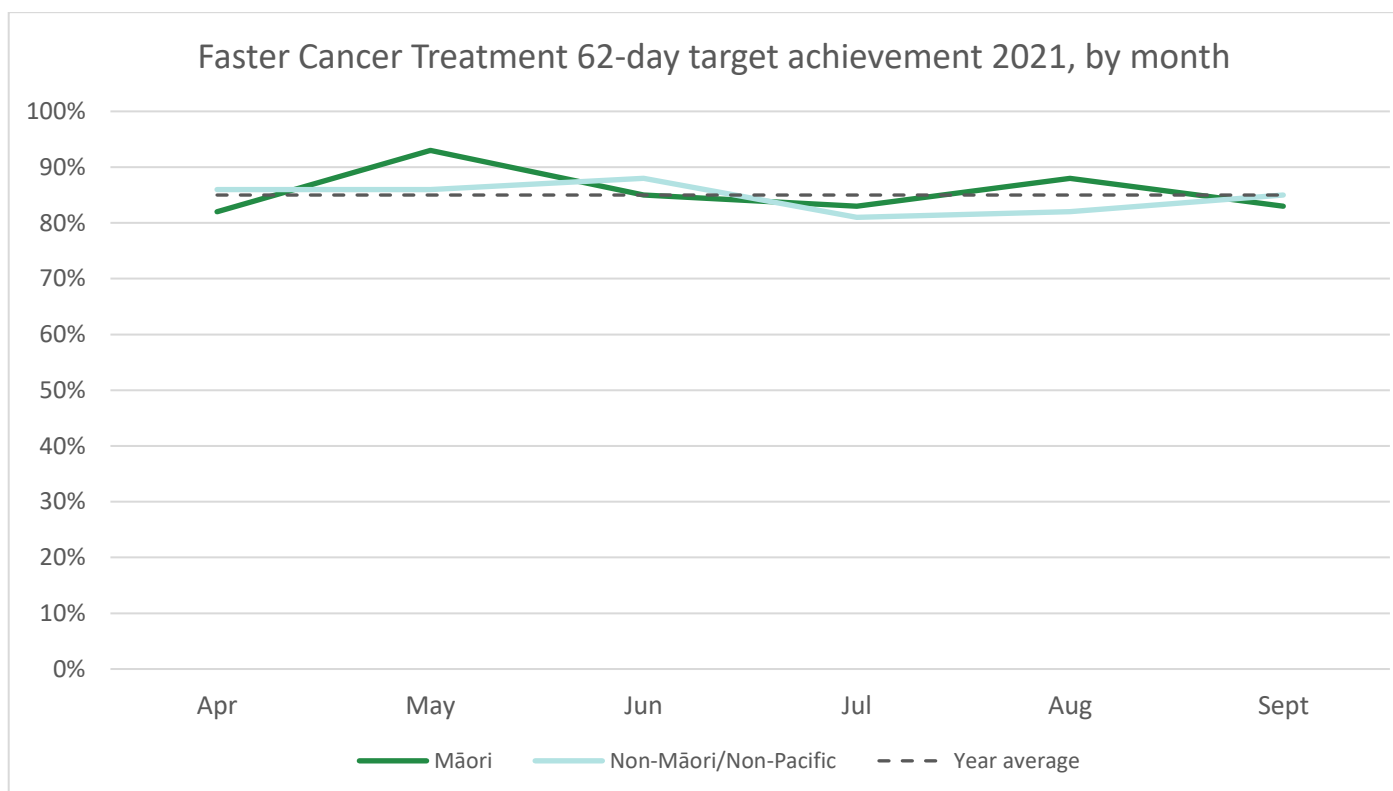
\*Due to small numbers, volumes have not been included for Pacific peoples

**Table 7: Proportion of patients with a high-suspicion of cancer and a need to be seen within 2-weeks receiving their first treatment within 62 day of receipt of referral, in 2021 by month, and average for the year to date**

	Apr	May	Jun	Jul	Aug	Sept	Total Jan- Sept
Māori	82%	93%	85%	83%	88%	83%	86%
Non-Māori/Non-Pacific	86%	86%	88%	81%	82%	85%	85%
Total Population	86%	86%	88%	82%	83%	84%	85%

\*Due to small numbers, volumes have not been included for Pacific peoples

**Figure 10: Proportion of patients with a high-suspicion of cancer and a need to be seen within 2-weeks receiving their first treatment within 62 day of receipt of referral, in 2020 by month**



# COMBINED CURATIVE CANCER SURGERY

## Notes on data

- This report includes data on curative surgery for colorectal, lung and prostate cancer. These cancers were chosen because Te Aho o Te Kahu already has a pre-validated list of surgical procedure codes for these cancers, agreed on as part of the quality performance indicator (QPI) work programme. These three cancers are therefore used as case studies for cancer surgery more generally. The surgical procedure codes are listed in Appendix 4.
- The data were extracted from the NMDS on 8 November 2021.

## Key points

- There was a 6% increase in the number of curative cancer surgeries (prostate, lung and colorectal) performed in September 2021 compared to September 2018/19. For the year to date there has been a 4% increase in these surgeries compared to the same time period in 2018/19.
- The increase in surgery for the year to date is most notable for Māori (30% increase) and Pacific peoples (37% increase, noting small numbers).

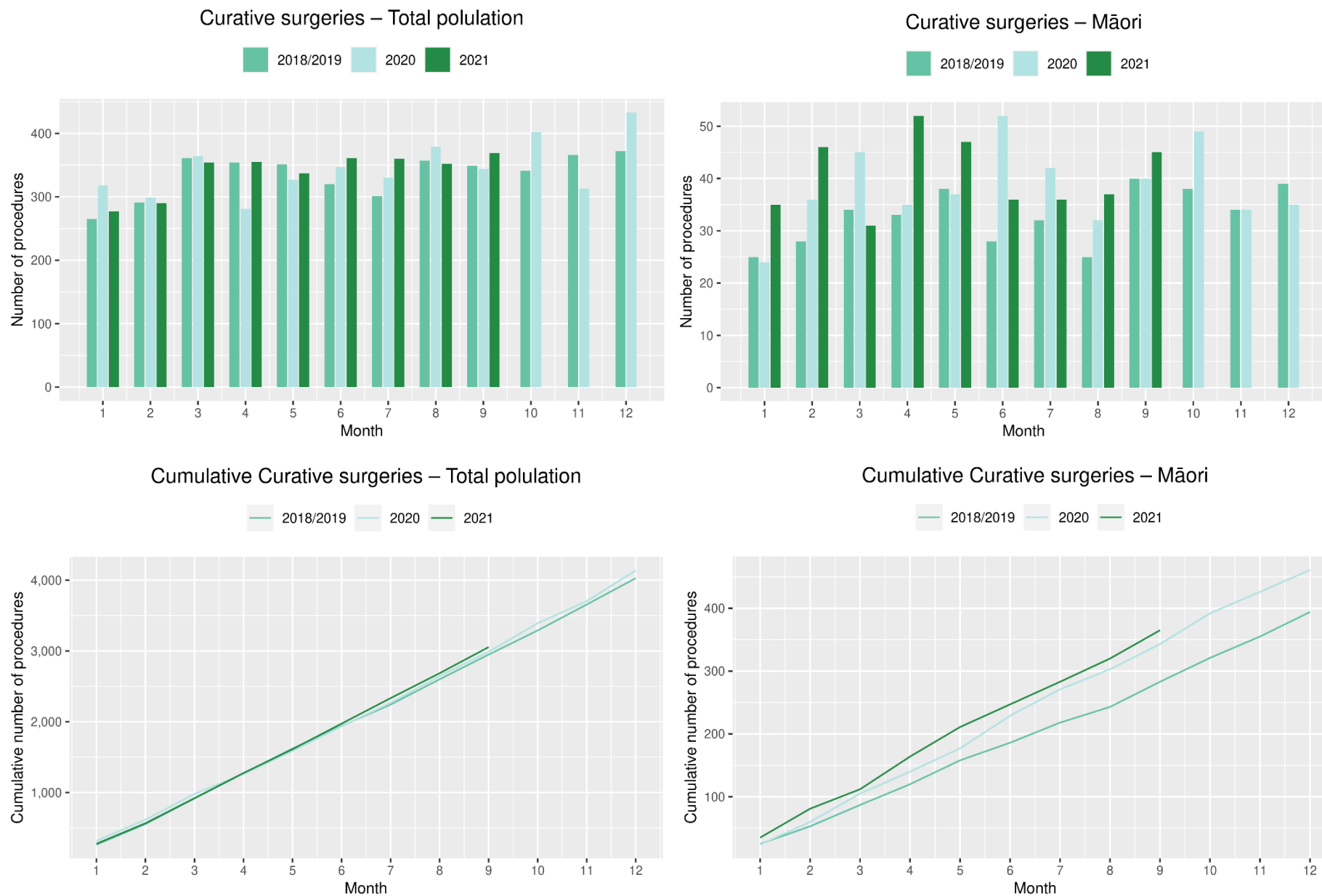
## Results

**Table 8: Number of curative cancer surgeries (prostate, colorectal, lung) and percentage difference in 2021 compared to 2018/2019 average by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	32	36	14%	25	37	48%	40	45	14%	282	365	30%
Pacific peoples*	-	-	-	-	-	-	-	-	-	90	123	37%
Non-Māori/Non-Pacific	259	306	18%	319	305	-4%	298	310	4%	2,577	2,567	0%
Total population	301	360	20%	357	352	-1%	349	369	6%	2,948	3,055	4%

\*Due to small numbers, monthly figures have not been included for Pacific peoples

**Figure 11: Number of curative cancer surgeries (prostate, colorectal, lung) by month, 2018/19 average, 2020 and 2021, total population and Māori**



# COLORECTAL CANCER SURGERY

## Notes on data

- The surgical procedure codes used for analysing colorectal cancer are listed in Appendix 4.
- The data were extracted from the NMDS on 8 November 2021.

## Key points

- There has been a similar number of curative colorectal cancer surgeries performed in 2021 as were performed in 2018/19, with the number of surgeries performed in September 2021 the same as September 2018/19.
- In general, people with colorectal cancer would expect to receive surgery within a month of colonoscopy. The decrease in gastrointestinal endoscopies seen in August 2021 (see Figure 8) has not resulted in a decrease in colorectal cancer surgeries in September.

## Results

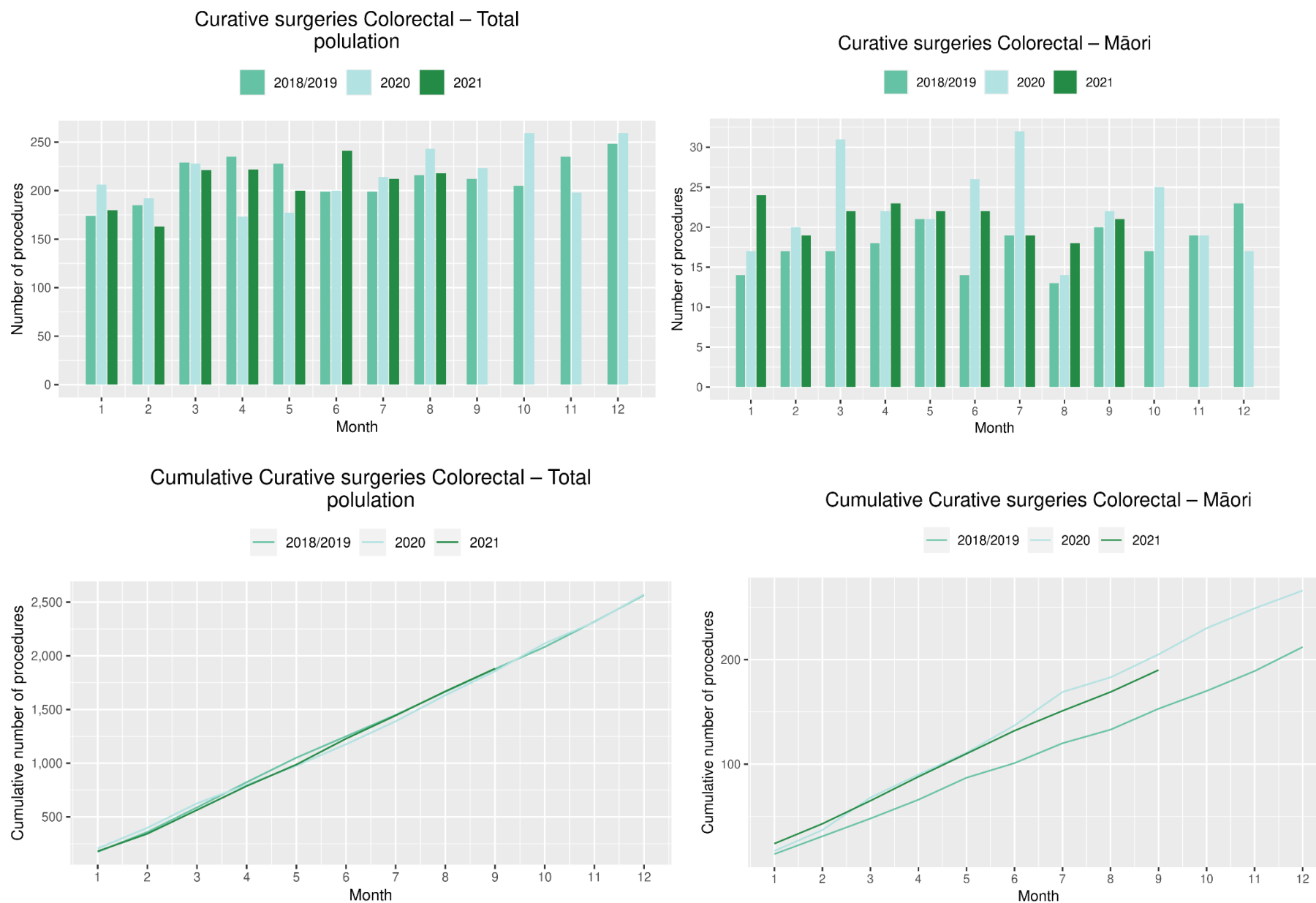
**Table 9: Number of curative colorectal cancer surgeries and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori*	-	-	-	-	-	-	-	-	-	151	190	26%
Pacific peoples*	-	-	-	-	-	-	-	-	-	54	67	24%
Non-Māori/Non-Pacific	175	189	8%	196	201	3%	185	186	1%	1,670	1,624	-3%
Total population	199	216	9%	216	225	4%	212	212	0%	1,875	1,881	0%

\*Due to small numbers, monthly figures have not been included for Pacific peoples



**Figure 12: Number of curative colorectal cancer surgeries by month, 2018/19 average, 2020 and 2021, total population and Māori**



# LUNG CANCER SURGERY

## Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 4.
- The data were extracted from the NMDS on 8 November 2021.
- The number of lung cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

## Key points

- There was an increase in curative lung cancer surgeries in September 2021 compared to September 2018/19 (10 more surgeries).
- Overall, for the year to date there has been a similar number of lung cancer surgeries performed in 2021 compared to 2018/19, and an increase in the number of surgeries for Māori (12%, 10 more surgeries).

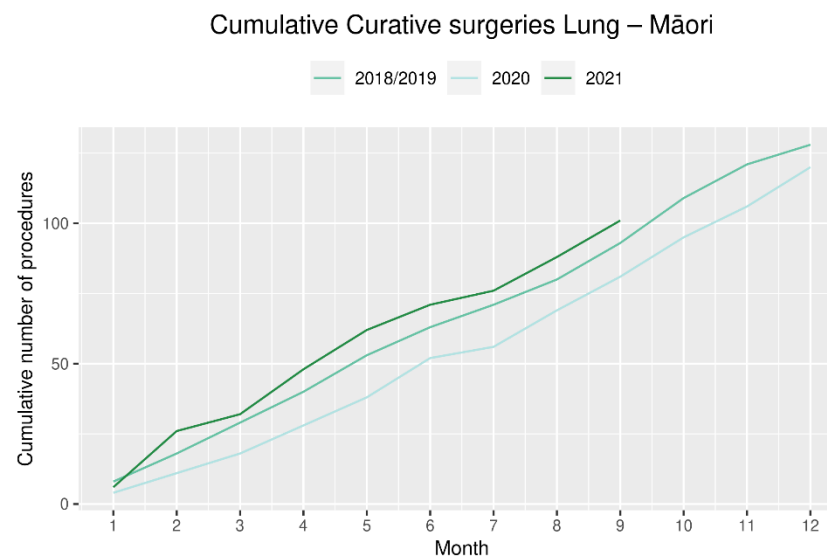
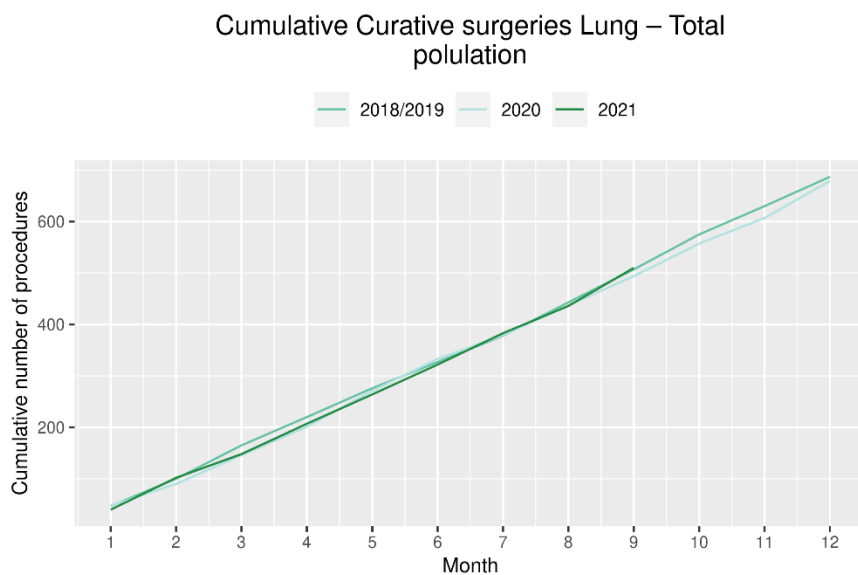
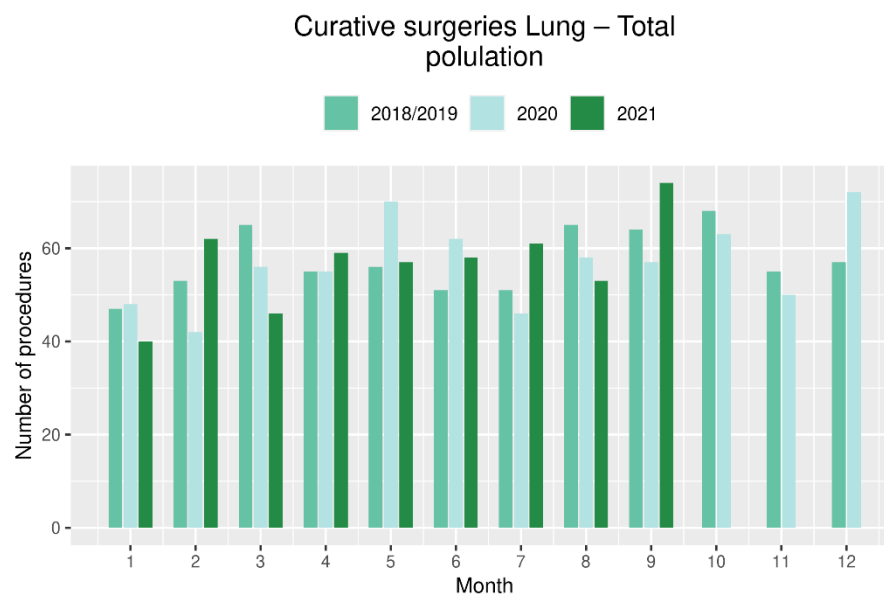
## Results

**Table 10: Number of curative lung cancer surgeries and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori*	-	-	-	-	-	-	-	-	-	91	101	12%
Pacific peoples*	-	-	-	-	-	-	-	-	-	21	25	19%
Non-Māori/Non-Pacific	41	51	26%	53	39	-26%	49	59	20%	394	384	-2%
Total population	51	61	21%	65	53	-18%	64	74	17%	505	510	1%

\* Due to small numbers, monthly figures have not been included for Māori and Pacific peoples

**Figure 13: Number of curative lung cancer surgeries by month, 2018/19 average, 2020 and 2021, total population and Māori (cumulative only due to small numbers)**



# PROSTATE CANCER SURGERY

## Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 4.
- The data was extracted from the NMDS on 8 November 2021.
- The volumes for prostate surgery are higher in this report than previously reported due to the inclusion of data from a private provider who provides publicly funded surgery.
- The number of curative prostate cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

## Key points

- There has been a similar number of prostate cancer surgeries performed in September 2021 compared to September 2018/19 and an increase in the number of surgeries for the year to date.
- There has been an increase in the number of Māori receiving curative prostate cancer surgery in 2021 compared to both 2020 and 2018/19; however, this appears unrelated to 2021 COVID-19 Delta outbreak.

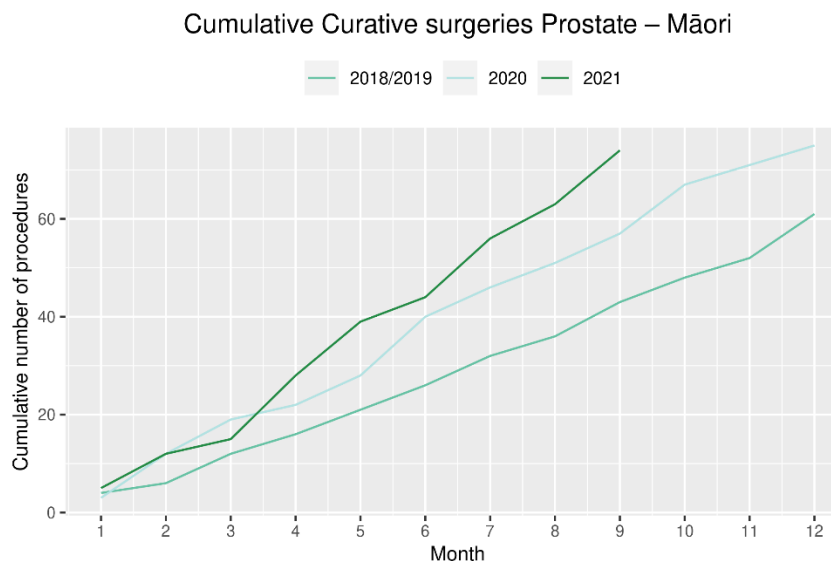
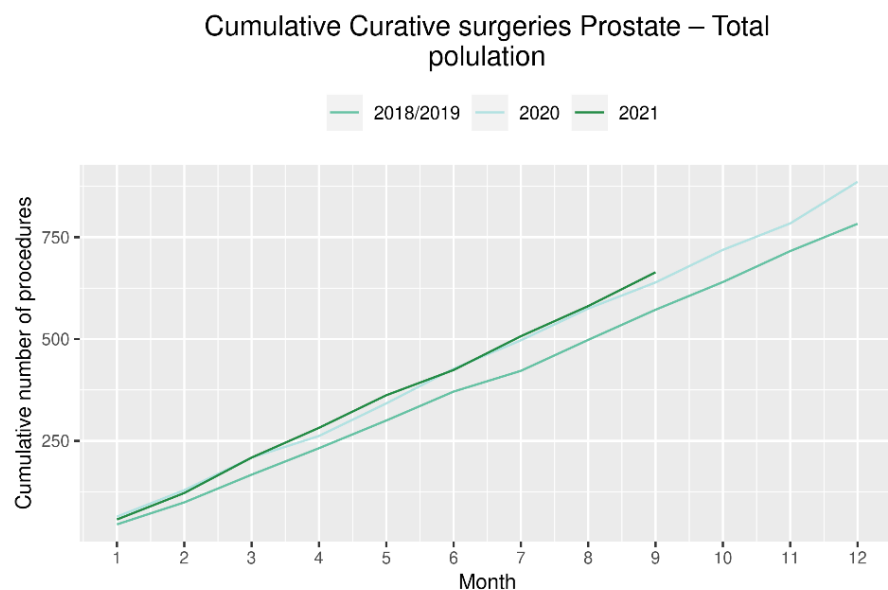
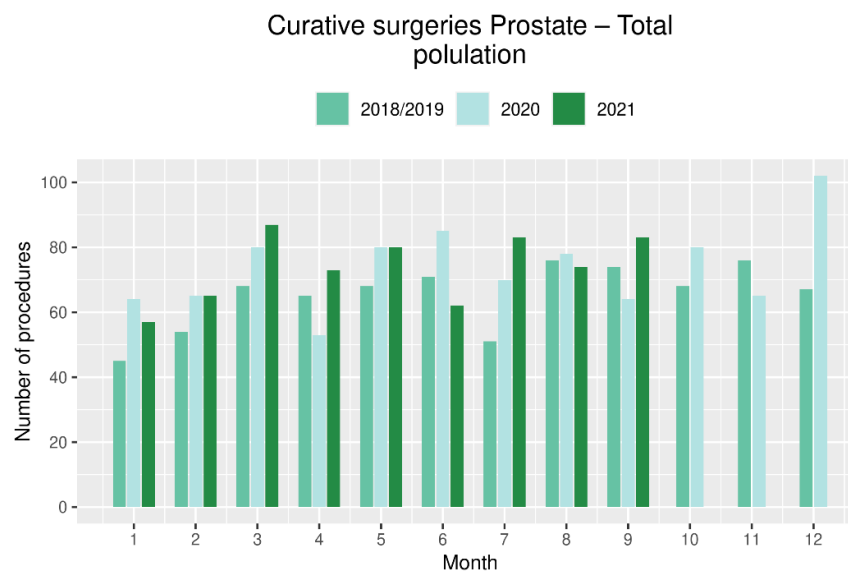
## Results

**Table 11: Number of curative prostate cancer surgeries and percentage difference in 2021 compared to 2018/2019 average by month and cumulative year to date**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Total population*	51	83	63%	76	74	-2%	74	83	13%	568	664	17%

\*Due to the small number of surgeries performed each month calculations have only been included for the total population

**Figure 14: Number of curative prostate cancer surgeries by month, 2018/19 average, 2020 and 2021, total population and Māori (cumulative only due to small numbers)**



# MEDICAL ONCOLOGY

## Notes on data

- Data were extracted from NNPAC 8 November 2021.
- First specialist assessment (FSA) reflects counts of first attendance for specialist medical oncology assessment.
- Intravenous (IV) chemotherapy reflects appointments for outpatient and inpatient IV chemotherapy for non-haematological indications.
- Technical information: medical oncology FSA (PUC M50020) and IV chemotherapy (PUC MS02009).

## Key points

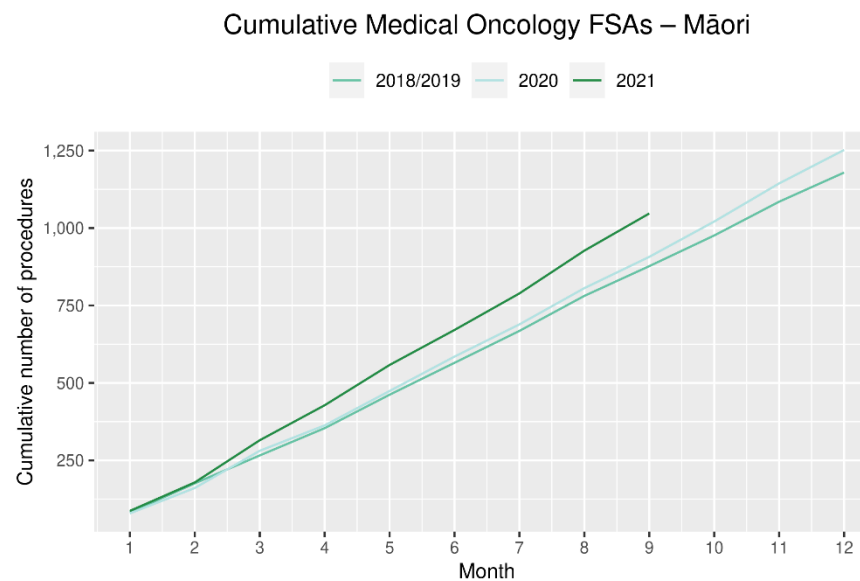
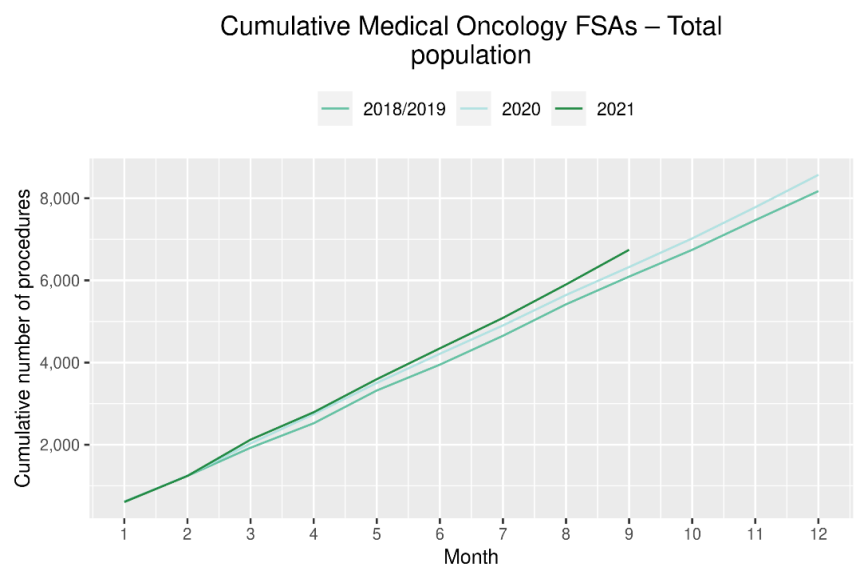
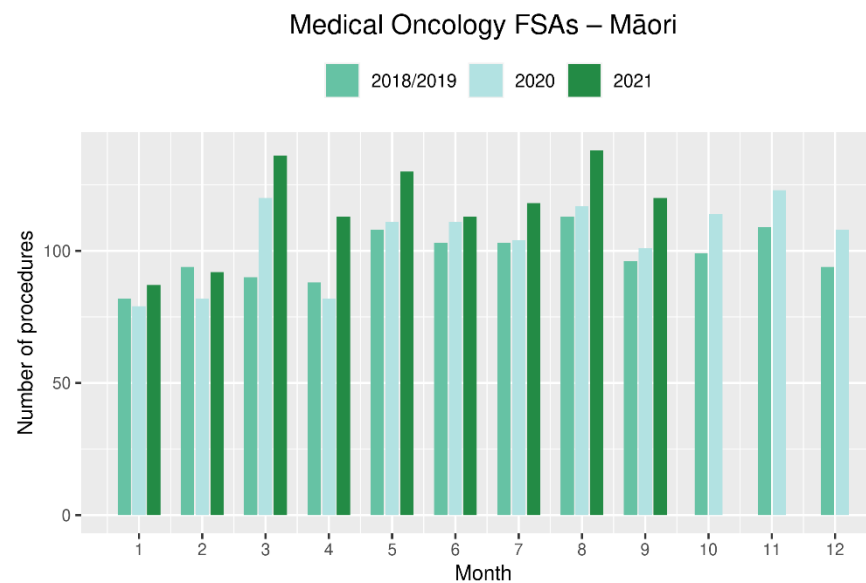
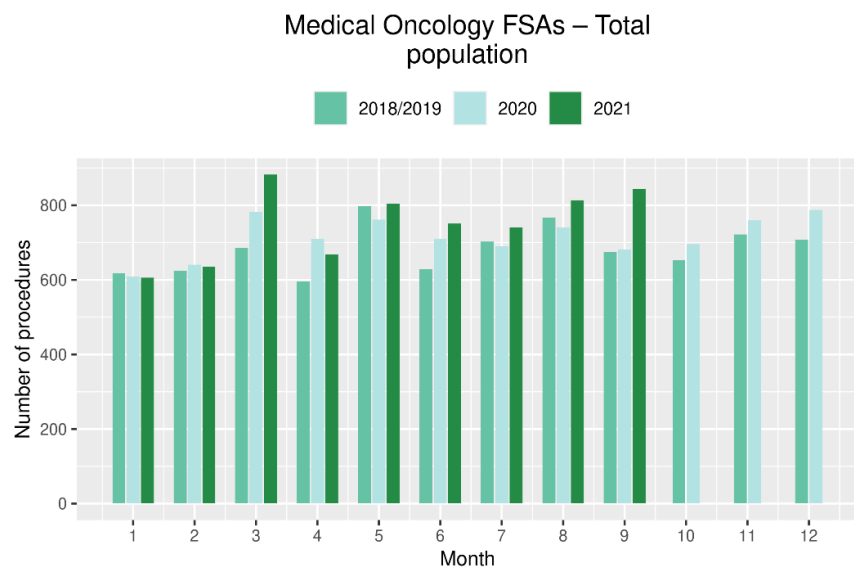
- There was a 25% increase in attendances for medical oncology FSAs in September 2021 compared to September 2018/19. The increase was similar across all ethnic groups.
- Attendances for IV chemotherapy remained stable over September 2021. There has been an overall 8% increase in the number of attendances for the year to date in 2021 compared to the same time period in 2018/19, with a larger increase for Māori (25%) and Pacific peoples (33%) than for non-Māori/non-Pacific (4%).

## Results

**Table 12: Number of medical oncology first specialist assessments and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	103	118	15%	113	138	23%	96	120	25%	875	1,047	20%
Pacific peoples	38	44	16%	43	51	19%	30	39	32%	311	366	18%
Non-Māori/Non-Pacific	562	579	3%	610	625	2%	550	685	25%	4,905	5,332	9%
Total population	703	741	5%	766	814	6%	675	844	25%	6,091	6,745	11%

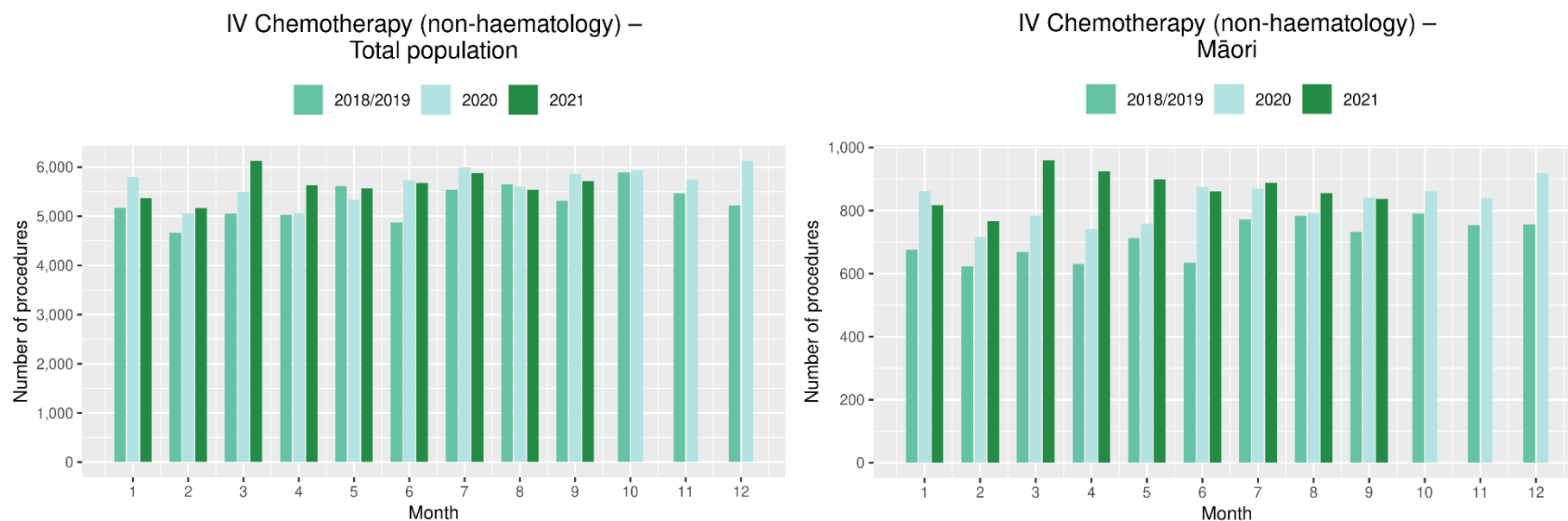
**Figure 15: Number of medical oncology first specialist assessments by month, 2018/19 average, 2020 and 2021, total population and Māori**



**Table 13: Number of IV chemotherapy attendances and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

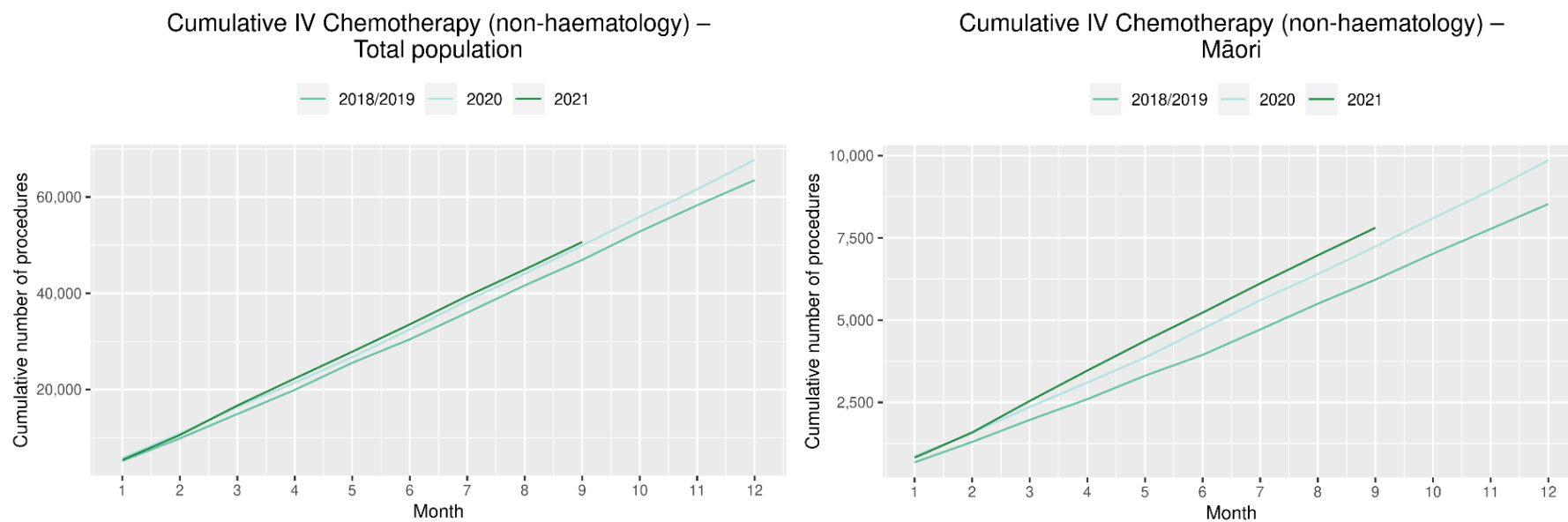
	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	772	888	15%	783	855	9%	732	837	14%	6,230	7,808	25%
Pacific peoples	266	379	43%	251	371	48%	262	344	31%	2,346	3,109	33%
Non-Māori/Non-Pacific	4,503	4,609	2%	4,623	4,311	-7%	4,316	4,532	5%	38,351	39,736	4%
Total population	5,541	5,876	6%	5,656	5,537	-2%	5,310	5,713	8%	46,926	50,653	8%

**Figure 16: Number of IV chemotherapy attendances by month, 2018/19 average, 2020 and 2021, total population and Māori**





**Figure 17: Cumulative number of attendances for IV chemotherapy, 2018/19 average, 2020 and 2021, total population and for Māori**



# RADIATION ONCOLOGY

## Notes on data

- Data were extracted from NNPAC on 8 November 2021.
- First specialist assessment (FSA) reflects counts of first attendance for radiation oncology specialist assessment.
- Megavoltage attendance reflects appointments for planning/simulation and for treatment with radiation therapy on a linear accelerator.
- Technical information: radiation oncology FSA (PUC M50022), megavoltage attendances (Purchase Unit Code M50025)

## Key points

- Attendances for radiation oncology FSAs remained stable in September 2021.
- For the year to date there has been a 9% increase in radiation oncology FSAs; however, there has been a decrease in attendances for radiotherapy in 2021 compared to 2018/19. The decrease in attendances for radiotherapy has been seen throughout the year and likely reflects increased utilisation of hypofractionation<sup>3</sup>. The decrease in attendances in 2021 is less notable for Māori, which may reflect stage at diagnosis, with hypofractionation more likely to be utilised for early-stage cancer.

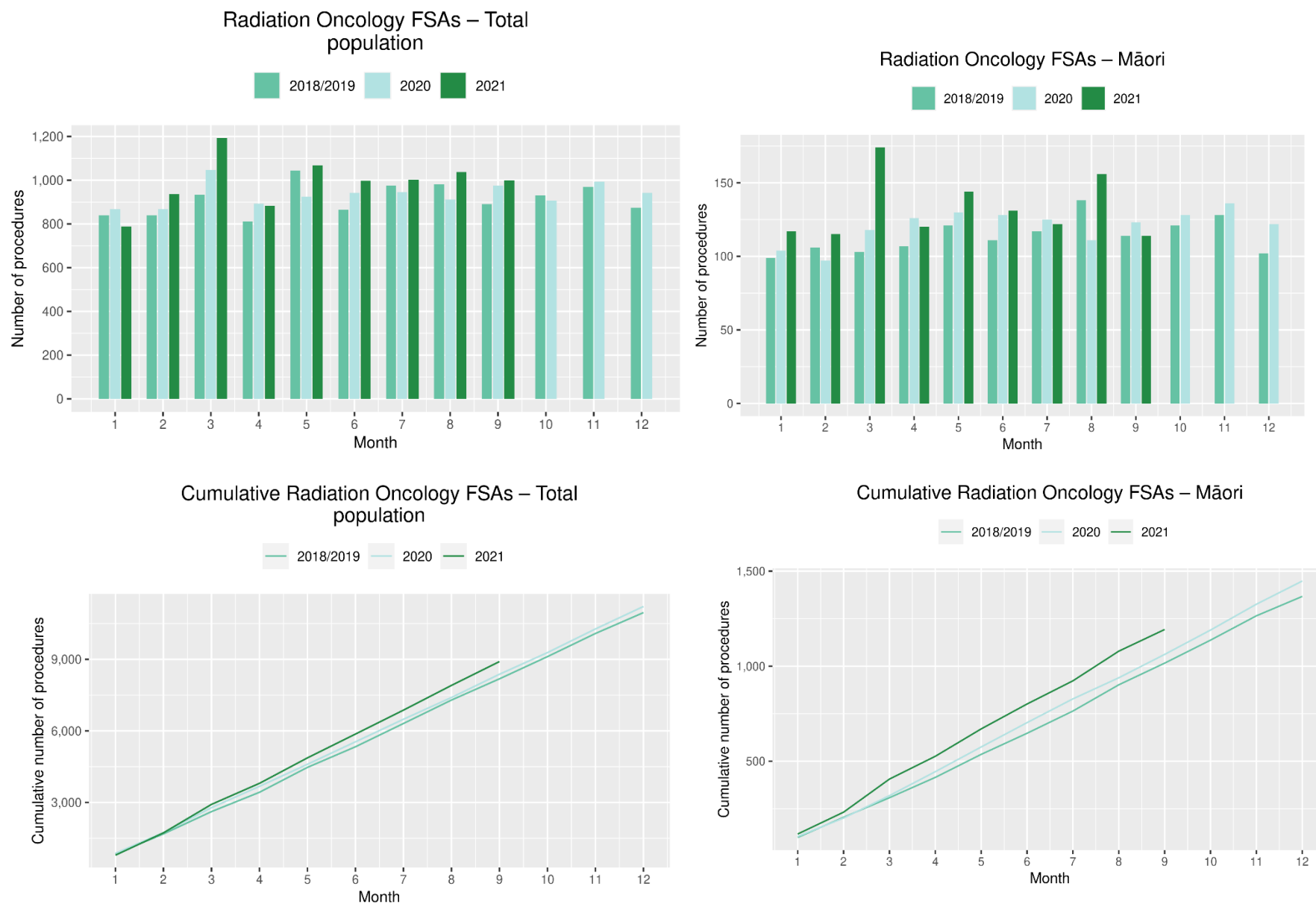
## Results

**Table 14: Number of radiation oncology first specialist assessments and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	117	122	4%	138	156	13%	114	114	0%	1,015	1,193	18%
Pacific peoples	48	42	-12%	50	57	15%	39	40	4%	400	429	7%
Non-Māori/Non-Pacific	812	839	3%	795	824	4%	738	845	15%	6,765	7,283	8%
Total population	976	1,003	3%	982	1,037	6%	890	999	12%	8,179	8,905	9%

<sup>3</sup> Hypofractionation is a radiation treatment technique used to treat some cancers, whereby larger doses of radiation are given each treatment, meaning that patients require fewer sessions to complete their treatment. The technique is being increasingly used for some prostate and breast cancers.

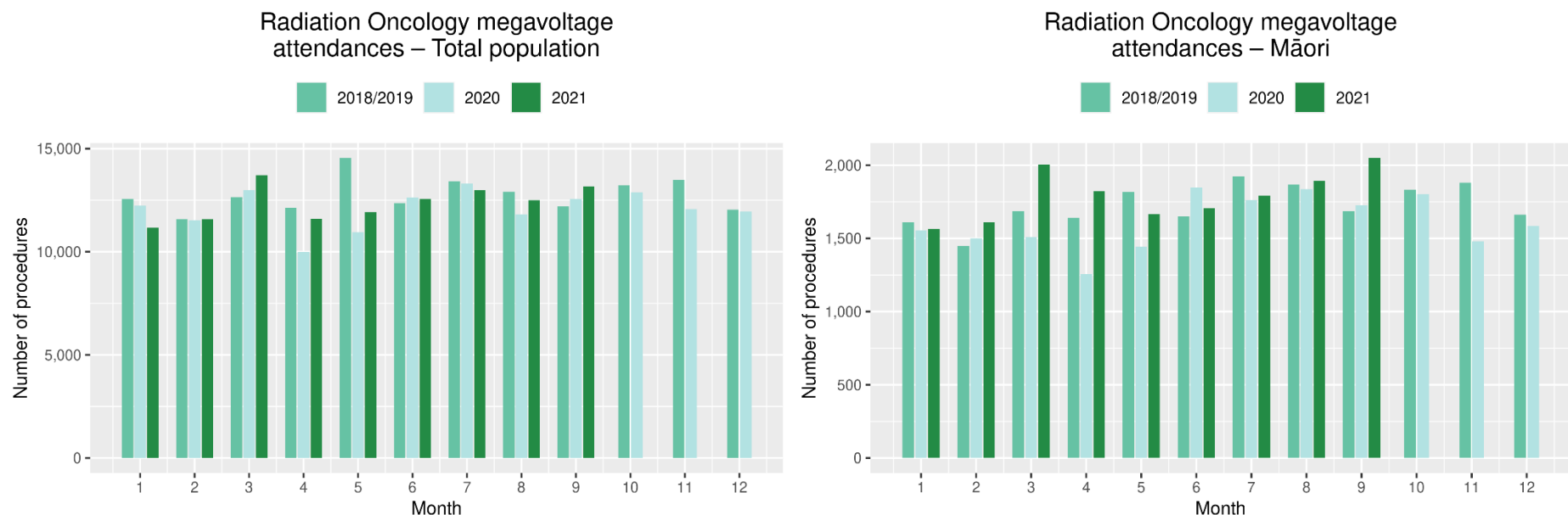
**Figure 18: Number of radiation oncology first specialist assessments by month, 2018/19 average, 2020 and 2021, total population and Māori**



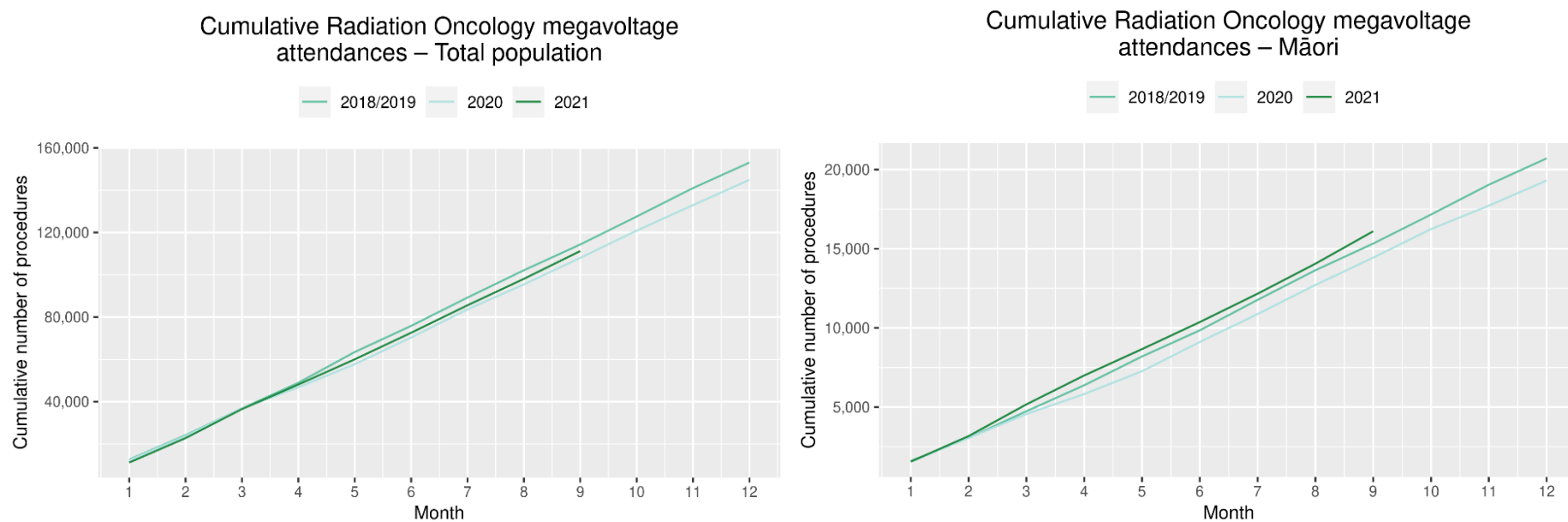
**Table 15: Number of radiation oncology attendances and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	1,924	1,791	-7%	1,869	1,893	1%	1,685	2,048	22%	15,325	16,103	5%
Pacific peoples	754	602	-20%	551	527	-4%	489	710	45%	5,050	5,323	5%
Non-Māori/Non-Pacific	10,729	10,597	-1%	10,488	10,090	-4%	10,022	10,399	4%	93,941	89,792	-4%
Total population	13,407	12,990	-3%	12,907	12,510	-3%	12,196	13,157	8%	114,316	111,218	-3%

**Figure 19: Number of radiation therapy attendances by month, 2018/19 average, 2020 and 2021, total population and for Māori**



**Figure 20: Cumulative number of attendances for radiation therapy, 2018/19 average, 2020 and 2021, total population and for Māori**



# HAEMATOLOGY

## Notes on data

- Data were extracted from NNPAC and NMDS on 8 November 2021.
- First specialist assessment (FSA) reflects counts of first attendance for specialist haematology assessment for any indication, not just cancer.
- IV chemotherapy reflects appointments for IV chemotherapy for haematological malignancies.
- Technical information: Haematology FSA (Purchase Unit Code: M30002), IV haem/chemo (Purchase Unit Code: M30020).

## Key points

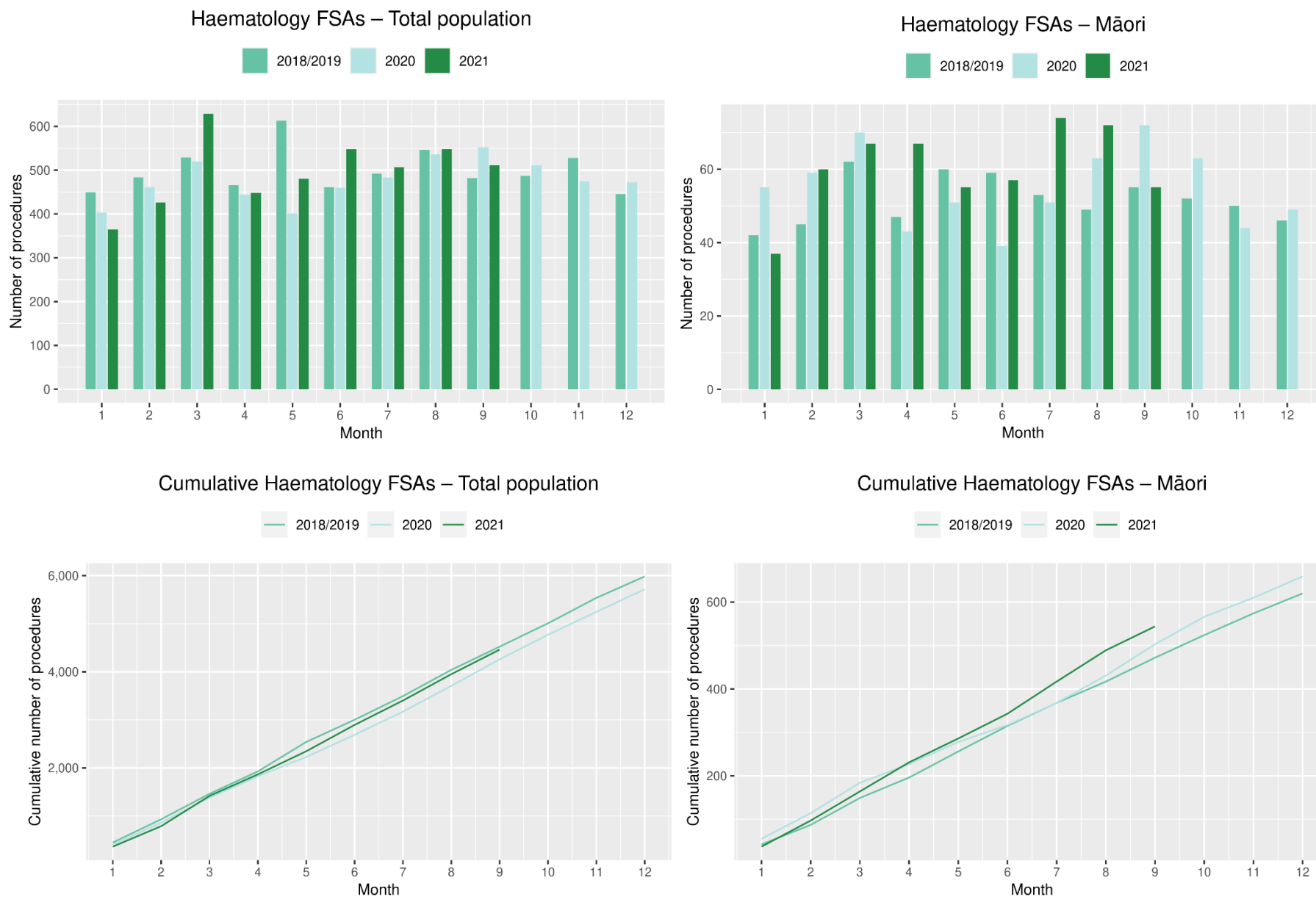
- Attendances for haematology FSAs remained stable during the September 2021. Overall, for the year to date, there has been a small (1%) decrease in haematology FSAs in 2021 compared to 2018/19.
- Attendances for IV chemotherapy remained largely stable over September 2021, with an overall 6% increase in the number of attendances for the year to date compared to the same time period in 2018/19.
- For the year to date there has been a 16% increase in haematology FSAs for Māori, but an overall decrease (2%) in attendances for IV chemotherapy. This does not appear to be related to the 2021 COVID outbreak, and worth noting that haematology FSAs include non-cancer indications.

## Results

**Table 16: Number of haematology first specialist assessment attendances and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	53	74	41%	49	72	48%	55	55	0%	470	544	16%
Pacific peoples	25	23	-8%	29	21	-28%	26	32	25%	236	253	7%
Non-Māori/Non-Pacific	415	410	-1%	469	455	-3%	401	424	6%	3,815	3,664	-4%
Total population	492	507	3%	546	548	0%	482	511	6%	4,520	4,461	-1%

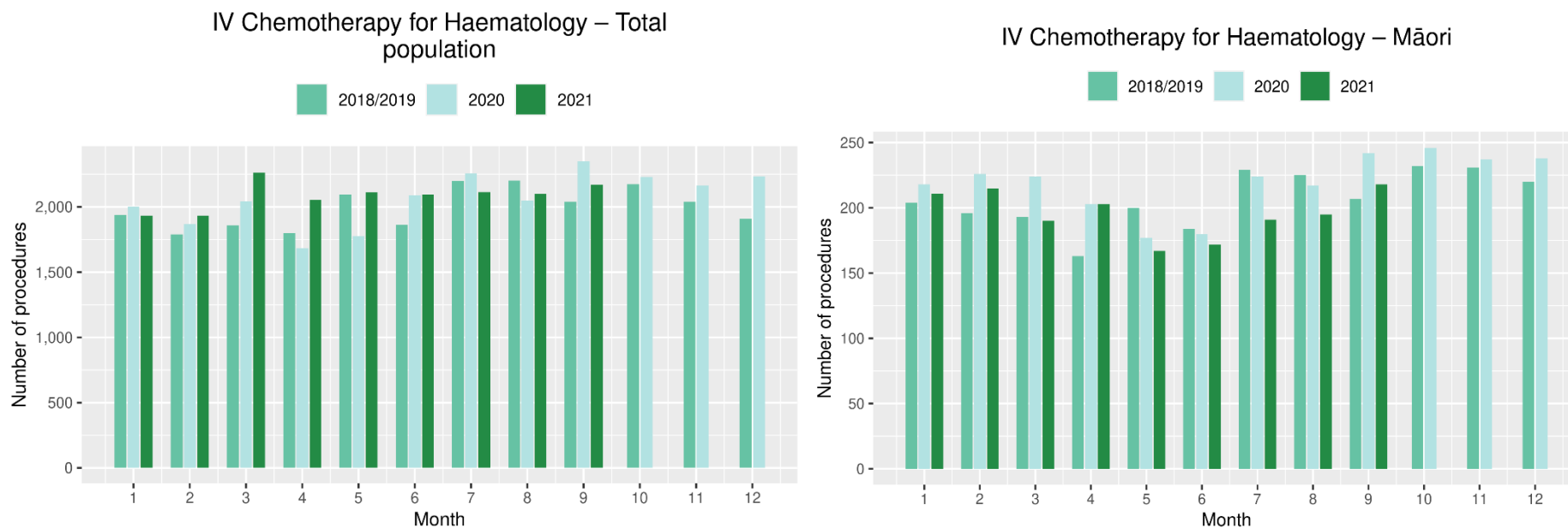
**Figure 21: Number of haematology first specialist assessments by month, 2018/19 average, 2020 and 2021, total population and Māori**



**Table 17: Number of IV chemotherapy attendances for haematological malignancies and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by ethnicity**

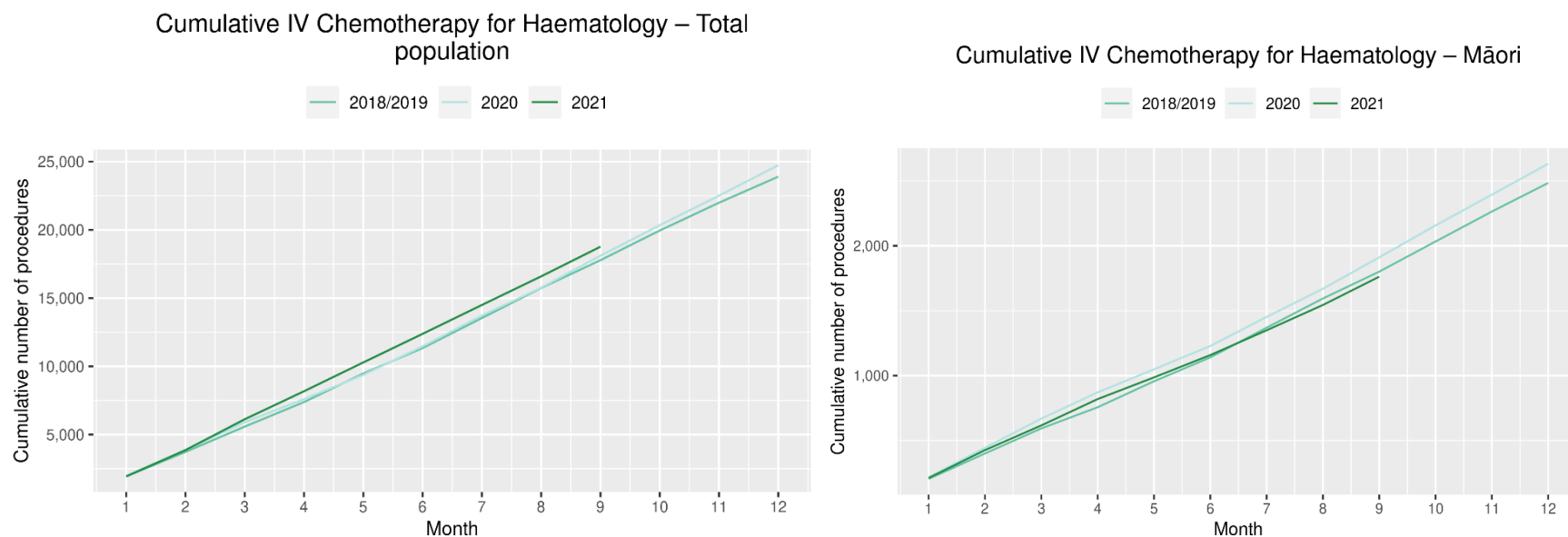
	July			August			September			Cumulative January-September		
	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change	2018/19	2021	% change
Māori	229	191	-17%	225	195	-13%	207	218	5%	1,799	1,762	-2%
Pacific peoples	114	142	25%	112	147	31%	101	151	50%	905	1,244	38%
Non-Māori/Non-Pacific	1,858	1,782	-4%	1,864	1,756	-6%	1,731	1,802	4%	15,073	15,759	5%
Total population	2,200	2,115	-4%	2,201	2,098	-5%	2,039	2,171	6%	17,777	18,765	6%

**Figure 22: Number of attendances for IV chemotherapy for haematological malignancies by month, 2018/19 average, 2020 and 2021, total population and Māori**





**Figure 23: Cumulative number of attendances for IV chemotherapy for haematological malignancies, 2018/19 average, 2020 and 2021, total population and for Māori**



# APPENDIX 1: NZCR DATA INFORMATION

## **The New Zealand Cancer Registry as a data source for new cancer diagnoses**

Cancer registration is a process where data is collated from multiple sources about people diagnosed with cancer and rules are applied to determine the type of cancer they have. This information is recorded in the New Zealand Cancer Registry. Each tumour is classified using an international World Health Organization standard so that cancer incidence can be compared between countries. The tumour is staged based on all the information available within 4 months of diagnosis. This process may take up to six months or more depending on the number of missing reports that need to be followed up with laboratories.

For each registration there may be multiple pathology reports as there may be multiple procedures performed on the tumour. This means there will be more than one registration for people diagnosed with more than one type of tumour.

Cancer registrations come from pathology laboratories, haematology laboratories, mortality records and reviewing hospital discharge records. Laboratory reports provide the best source of near real time data to monitor new diagnoses of cancer in New Zealand.

## **Pathology reports as a data source for providing near real time monitoring cancer diagnoses**

Pathology reports (documents) are received by the NZCR as electronic messages. An administrator triages these documents each day and if the document appears to meet the requirements for registration the document is “administered”. The document may relate to an existing registration or may contain information for a new cancer event. Documents that do not meet the cancer reporting requirements will be marked as “deleted”, “rejected” or “agreed not for registration”.

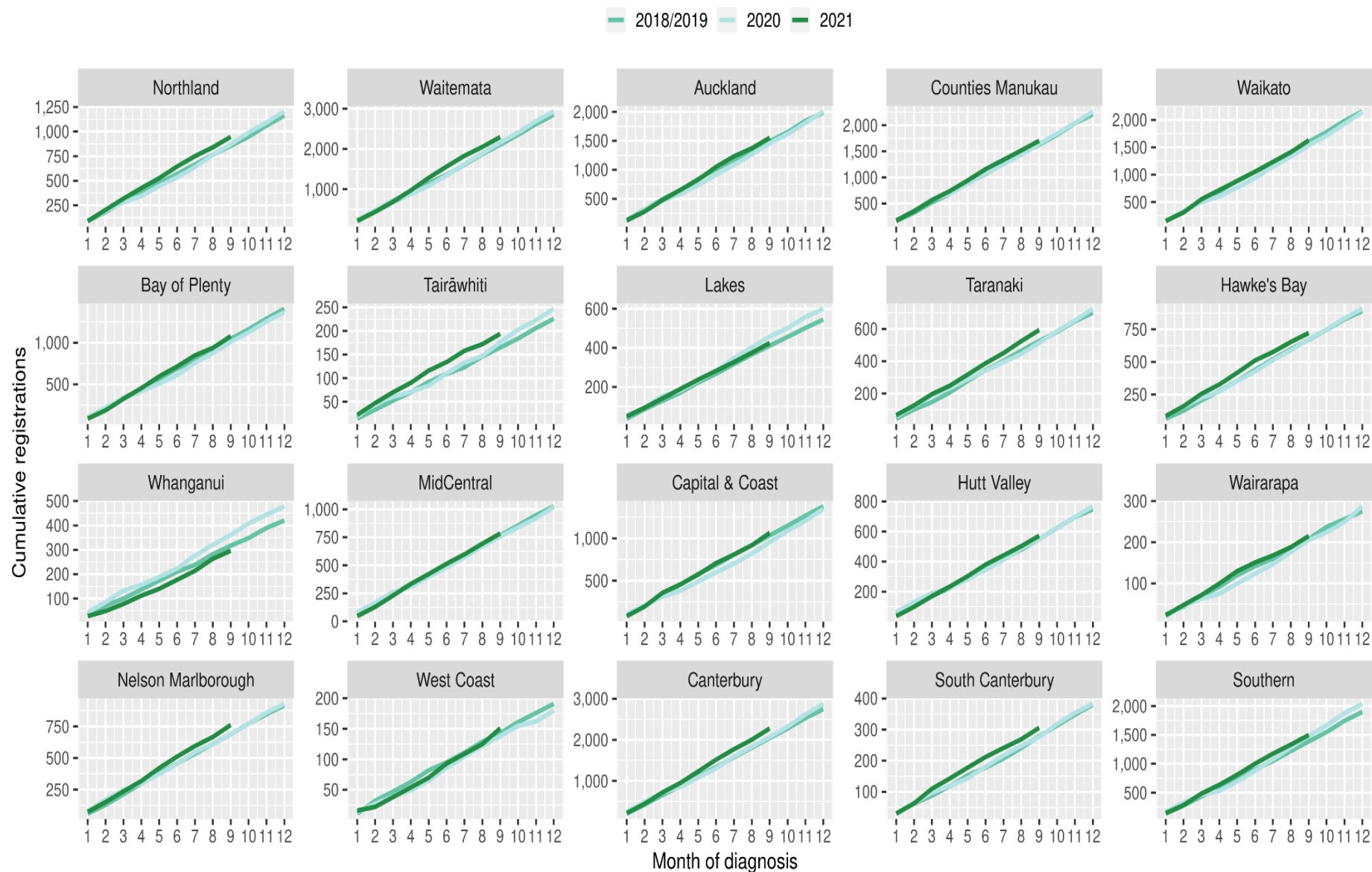
The administrator creates a new provisional cancer event if the pathology report identifies a new cancer diagnosis for this person. This new cancer event is assigned to a cancer group and this provisional event is then queued for further assessment by a clinical coder. If the required information has been provided the coder creates a new registration. If some information is not yet available, then the registration is held open until further information arrives to complete the registration or determine that the tumour does not meet the registration criteria.

# APPENDIX 2: NZCR REGISTRATIONS BY DHB

Number of cancer registrations and percentage difference in 2021 compared to 2018/2019 average, by month and cumulative year to date, by DHB of domicile

	July			August			September			Cumulative January-September		
	2018/2019 average	2021	%	2018/2019 average	2021	%	2018/2019 average	2021	%	2018/2019 average	2021	%
Northland	96	105	10%	99	90	-9%	89	106	20%	851	946	11%
Waitematā	252	268	7%	262	220	-16%	238	245	3%	2,106	2,295	9%
Auckland	163	182	12%	160	138	-13%	158	181	15%	1,492	1,552	4%
Counties Manukau	194	178	-8%	190	182	-4%	178	185	4%	1,627	1,703	5%
Waikato	175	180	3%	180	177	-2%	188	216	15%	1,598	1,627	2%
Bay of Plenty	108	134	24%	137	90	-34%	115	141	23%	1,045	1,079	3%
Tairāwhiti	14	24	71%	23	14	-38%	19	22	19%	162	194	20%
Lakes	50	45	-9%	49	48	-2%	45	50	11%	410	425	4%
Taranaki	57	63	12%	63	74	17%	60	69	16%	522	593	14%
Hawke's Bay	81	65	-20%	78	77	-1%	73	69	-5%	670	722	8%
Whanganui	28	37	35%	44	49	11%	35	33	-6%	315	296	-6%
MidCentral	86	84	-2%	97	95	-2%	78	91	17%	764	784	3%
Capital & Coast	121	101	-16%	113	109	-3%	115	147	28%	1,031	1,064	3%
Hutt Valley	63	61	-3%	60	62	3%	71	69	-2%	549	572	4%
Wairarapa	18	17	-6%	23	20	-11%	25	27	10%	206	215	5%
Nelson Marlborough	77	84	9%	77	71	-7%	77	96	25%	685	762	11%
West Coast	16	16	0%	18	16	-11%	14	26	86%	141	151	7%
Canterbury	242	254	5%	233	232	0%	233	274	18%	2,040	2,276	12%
South Canterbury	29	29	0%	34	28	-18%	38	37	-3%	278	306	10%
Southern	146	174	19%	173	156	-10%	167	166	0%	1,386	1,498	8%

## Cumulative new cancer registrations – by DHB



# Cumulative cancer registrations by ethnicity

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative January-September			Difference between 2018/19 average and 2021		Cumulative January-September			Difference between 2018/19 average and 2021		Cumulative January-September			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	851	869	946	95	11%	195	196	234	39	20%	656	673	712	56	9%
Waitematā	2,106	2,157	2,295	190	9%	128	142	128	0	0%	1,978	2,015	2,167	190	10%
Auckland	1,492	1,457	1,552	60	4%	90	79	103	13	14%	1,402	1,378	1,449	47	3%
Counties Manukau	1,627	1,645	1,703	76	5%	206	234	215	9	4%	1,421	1,411	1,488	67	5%
Waikato	1,598	1,536	1,627	29	2%	257	238	242	-15	-6%	1,341	1,298	1,385	44	3%
Bay of Plenty	1,045	1,009	1,079	34	3%	167	174	176	9	5%	878	835	903	25	3%
Tairāwhiti	162	176	194	33	20%	61	68	75	15	24%	101	108	119	18	18%
Lakes	410	458	425	16	4%	99	126	126	27	27%	311	332	299	-12	-4%
Taranaki	522	514	593	71	14%	56	53	76	21	37%	467	461	517	51	11%
Hawke's Bay	670	675	722	53	8%	48	52	61	14	28%	268	309	235	-33	-12%
Whanganui	315	361	296	-19	-6%	78	85	91	13	17%	686	673	693	7	1%
MidCentral	764	758	784	20	3%	76	58	70	-6	-8%	473	494	502	30	6%
Capital & Coast	1,031	956	1,064	34	3%	18	21	27	10	54%	188	184	188	0	0%
Hutt Valley	549	552	572	24	4%	37	30	42	6	15%	649	659	720	72	11%
Wairarapa	206	205	215	10	5%	12	8	14	3	22%	130	130	137	8	6%
Nelson Marlborough	685	689	762	77	11%	114	98	124	10	9%	1,926	1,967	2,152	227	12%
West Coast	141	138	151	10	7%	77	89	103	26	34%	954	867	961	8	1%
Canterbury	2,040	2,065	2,276	237	12%	126	127	136	10	8%	544	548	586	43	8%
South Canterbury	278	276	306	29	10%	13	7	10	-3	-23%	265	269	296	32	12%
Southern	1,386	1,481	1,498	112	8%	69	84	94	25	36%	1,317	1,397	1,404	87	7%
Total	17,874	17,977	19,060	1,187	7%	1,924	1,969	2,147	223	12%	15,950	16,008	16,913	964	6%

# APPENDIX 3: DIAGNOSIS AND TREATMENT DATA BY DHB

Percentage differences are only presented if the cumulative total is 10 or greater. In some cases, the totals may differ to those presented in the national report due to non-DHB providers being excluded from the analyses within this appendix.

## Gastrointestinal endoscopy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		
	2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%	
Northland	2,896	2,718	3,346	450	16%		533	505	659	126	24%		2,343	2,191	2,655	313	13%	
Waitematā	6,677	6,942	7,248	572	9%		382	389	448	66	17%		6,080	6,246	6,528	449	7%	
Auckland	4,713	4,481	4,420	-293	-6%		242	264	264	22	9%		4,149	3,869	3,825	-324	-8%	
Counties Manukau	6,770	7,259	6,687	-83	-1%		649	730	633	-16	-2%		5,278	5,521	5,094	-184	-3%	
Waikato	4,409	5,016	4,624	215	5%		530	583	608	78	15%		3,821	4,365	3,955	135	4%	
Bay of Plenty	3,686	3,810	5,031	1,346	37%		446	495	620	174	39%		3,221	3,303	4,380	1,159	36%	
Lakes	1,484	1,416	1,792	309	21%		269	287	334	65	24%		1,193	1,105	1,433	240	20%	
Tairāwhiti	572	551	599	28	5%		167	163	164	-3	-2%		401	381	429	29	7%	
Taranaki*	1,443	1,537	1,888	446	31%		148	135	201	53	36%		1,288	1,390	1,680	392	30%	
Whanganui	1,128	985	1,009	-119	-11%		158	141	141	-17	-11%		962	836	862	-100	-10%	
Hawke's Bay	2,050	2,202	2,626	576	28%		246	308	349	104	42%		1,783	1,858	2,244	462	26%	
MidCentral	1,631	1,723	1,910	280	17%		117	156	192	75	64%		1,499	1,546	1,702	203	14%	
Capital & Coast	2,132	2,535	2,328	197	9%		151	195	214	63	42%		1,896	2,252	2,023	128	7%	
Hutt Valley	1,974	2,474	2,446	472	24%		164	250	234	70	43%		1,741	2,135	2,114	374	21%	
Wairarapa	779	692	784	6	1%		67	65	79	12	18%		705	622	700	-5	-1%	
Nelson Marlborough	1,587	2,022	2,060	474	30%		83	120	114	32	38%		1,497	1,885	1,937	441	29%	
West Coast	505	518	644	140	28%		36	24	47	11	31%		467	491	595	129	28%	
Canterbury	5,805	6,090	5,699	-106	-2%		339	347	325	-14	-4%		5,382	5,658	5,300	-82	-2%	
South Canterbury	929	901	1,003	74	8%		37	46	34	-3	-7%		890	853	964	75	8%	
Southern*	3,559	3,718	3,913	355	10%		175	212	219	44	25%		3,360	3,461	3,655	296	9%	
Total	54,723	57,590	60,057	5,335	10%		4936	5415	5879	943	19%		47,950	49,968	52,075	4,126	9%	

\*There were issues with data quality from Taranaki and Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. Both DHBs are actively working on resolving this issue for the next report.

# Bronchoscopy

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	61	55	82	21	34%	19	21	23	4	21%	41	33	59	18	44%
Waitematā	110	115	154	44	40%	7	10	19	13		100	99	133	34	34%
Auckland	265	217	209	-56	-21%	35	24	26	-9	-25%	205	173	174	-31	-15%
Counties Manukau	266	253	230	-36	-14%	48	34	45	-3	-5%	179	183	148	-31	-17%
Waikato	203	161	171	-32	-16%	46	35	32	-14	-30%	154	122	139	-15	-10%
Bay of Plenty	127	100	130	4	3%	31	22	34	4	11%	94	78	96	2	2%
Tairāwhiti	3	21	20	18		2	9	6	5		1	12	14	13	
Lakes	67	59	61	-6	-9%	23	24	20	-3	-13%	44	32	41	-3	-6%
Taranaki*	41	31	45	5	11%	8	3	10	3		33	28	35	2	6%
Hawke's Bay	50	37	53	4	7%	13	8	15	3	20%	37	28	37	1	1%
Whanganui	12	10	12	1	4%	5	4	7	2		7	6	5	-2	
MidCentral	28	21	25	-3	-11%	6	1	7	1		22	20	17	-5	-23%
Capital & Coast	72	54	50	-22	-30%	8	8	5	-3		61	44	42	-19	-31%
Hutt Valley	86	73	64	-22	-26%	16	12	10	-6	-38%	67	56	48	-19	-28%
Nelson Marlborough	57	66	67	11	19%	5	6	2	-3		52	59	65	13	25%
Canterbury	285	278	266	-19	-7%	21	18	16	-5	-22%	261	254	247	-14	-5%
South Canterbury	10	14	13	3	30%	1	0	0	-1		10	14	13	4	
Southern*	185	142	198	14	7%	17	8	10	-7	-39%	167	133	185	19	11%
Total	1,924	1,707	1,850	-74	-4%	306	247	287	-19	-6%	1,531	1,374	1,498	-33	-2%

\*There were issues with data quality from Taranaki and Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. Both DHBs are actively working on resolving this issue for the next report

# Colorectal cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		
	2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%	
Northland	67	62	71	5	7%		12	16	16	5	39%		55	46	55	1	1%	
Waitematā	191	161	144	-47	-24%		12	10	8	-4	-33%		170	148	130	-40	-23%	
Auckland	146	153	166	20	14%		9	18	13	4			122	127	134	12	10%	
Counties Manukau	101	107	90	-11	-10%		7	16	7	0			84	78	69	-15	-17%	
Waikato	165	205	199	35	21%		16	30	32	16	100%		146	174	164	19	13%	
Bay of Plenty	103	140	105	3	2%		11	22	18	7	64%		91	118	82	-9	-10%	
Tairāwhiti	20	20	25	6	28%		5	7	11	7			15	13	13	-2	-13%	
Lakes	57	60	59	2	4%		10	9	10	1			46	50	46	0	0%	
Taranaki	65	64	63	-2	-2%		6	9	6	1			59	55	57	-2	-3%	
Hawke's Bay	106	110	96	-10	-9%		11	15	8	-3	-27%		94	92	86	-8	-9%	
Whanganui	37	41	35	-2	-4%		6	3	1	-5			31	38	34	3	10%	
MidCentral	89	97	102	14	15%		6	11	15	10			82	85	87	5	6%	
Capital & Coast	125	97	107	-18	-14%		11	12	17	7	62%		108	83	84	-24	-22%	
Hutt Valley	54	44	46	-8	-14%		6	3	2	-4			47	40	42	-5	-11%	
Wairarapa	15	5	15	0	0%		2	0	2	1			14	5	13	-1	-4%	
Nelson Marlborough	70	49	57	-13	-19%		3	3	1	-2			67	46	56	-11	-16%	
West Coast	4	6	4	1			0	0	0	0			4	6	4	1		
Canterbury	232	226	270	38	16%		14	15	15	2	11%		215	208	252	37	17%	
South Canterbury	39	34	42	4	9%		1	2	0	-1			38	32	42	5	12%	
Southern	196	175	185	-11	-5%		8	4	8	1			186	169	174	-12	-6%	
Total	1,875	1,856	1,881	7	0%		151	205	190	40	26%		1,670	1,613	1,624	-46	-3%	



# Lung cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		
	2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%	
Waitematā	0	0	1	1			0	0	0	0			0	0	1	1		
Auckland	213	199	183	-30	-14%		38	35	27	-11	-28%		160	146	140	-20	-13%	
Counties Manukau	2	2	0	-2			0	1	0	0			1	1	0	-1		
Waikato	101	115	112	12	11%		28	26	32	4	14%		71	88	78	7	10%	
Bay of Plenty	0	0	1	1			0	0	0	0			0	0	1	1		
Taranaki	1	0	0	-1			0	0	0	0			1	0	0	-1		
Hawke's Bay	0	1	0	0			0	0	0	0			0	0	0	0		
MidCentral	0	0	1	1			0	0	1	1			0	0	0	0		
Capital & Coast	96	63	113	18	18%		20	8	22	3	13%		72	52	85	13	18%	
Canterbury	63	90	71	8	13%		4	8	18	15			60	80	52	-8	-13%	
Southern	32	24	28	-4	-11%		2	3	1	-1			30	21	27	-3	-8%	
Total	505	494	510	5	1%		91	81	101	11	12%		394	388	384	-10	-2%	

# Prostate cancer surgery

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	42	25	44	3	6%	7	6	7	1	-	35	19	36	2	4%
Waitematā	57	81	74	18	31%	3	3	9	6	-	52	75	62	11	20%
Auckland	71	94	71	0	0%	6	9	7	1	-	59	81	49	-10	-17%
Counties Manukau	1	0	11	11		0	0	2	2	-	1	0	7	7	
Waikato	49	44	40	-9	-18%	3	3	10	8	-	46	40	29	-17	-37%
Bay of Plenty	35	30	24	-11	-30%	5	5	4	-1	-	30	25	20	-10	-32%
Tairāwhiti	4	6	9	6		2	2	4	3	-	2	4	5	3	
Lakes	6	11	11	5		0	6	4	4	-	6	5	6	1	
Taranaki*	18	26	36	19	106%	2	4	3	2	-	16	22	33	18	113%
Hawke's Bay	13	19	27	15	116%	1	5	3	3	-	12	14	24	12	100%
Whanganui	4	5	9	6		1	0	0	-1	-	3	5	9	6	
MidCentral	59	62	45	-14	-23%	5	3	5	0	-	54	59	39	-15	-27%
Capital & Coast	50	53	72	23	45%	3	2	3	0	-	43	49	65	22	51%
Wairarapa	7	7	7	0		1	1	1	1	-	7	6	6	-1	
Nelson Marlborough	32	32	32	0	0%	0	0	2	2	-	32	32	29	-3	-8%
West Coast	5	4	6	1		0	0	0	0	-	5	4	6	1	
Canterbury	50	59	56	7	13%	1	3	4	3	-	49	55	51	3	5%
South Canterbury	11	12	9	-2	-14%	0	0	0	0	-	11	12	9	-2	-14%
Southern*	60	69	81	21	35%	4	5	6	2	-	56	64	74	19	33%
Total	568	639	664	96	17%	41	57	74	34	83%	513	571	559	46	9%

# Medical oncology first specialist assessments

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	347	322	394	48	14%	95	89	114	20	21%	249	229	275	26	10%
Auckland	1,762	1,930	1,972	211	12%	203	225	231	28	14%	1,333	1,430	1,472	139	10%
Waikato	609	652	612	4	1%	130	140	143	14	10%	468	505	459	-9	-2%
Bay of Plenty	362	396	448	87	24%	71	71	88	17	24%	288	322	354	66	23%
Tairāwhiti	85	107	118	34	40%	36	47	52	16	44%	48	60	66	18	38%
Lakes	123	157	183	60	49%	43	45	64	21	49%	78	110	116	39	50%
Taranaki*	183	175	138	-45	-24%	21	19	25	5	22%	161	155	112	-49	-30%
MidCentral	821	835	908	88	11%	127	136	175	48	38%	679	688	719	41	6%
Capital & Coast	664	657	700	37	6%	79	80	88	9	11%	549	530	562	14	2%
Nelson Marlborough	318	342	340	23	7%	24	17	15	-9	-36%	293	323	323	30	10%
West Coast	21	11	24	3	14%	2	0	3	2		19	11	21	2	11%
Canterbury	978	872	948	-30	-3%	67	55	70	3	4%	899	801	871	-28	-3%
South Canterbury	5	45	98	94		0	2	4	4		5	43	94	90	
Southern*	509	491	352	-157	-31%	27	24	19	-8	-30%	478	461	327	-151	-32%
Total	6,782	6,992	7,235	453	7%	923	950	1091	169	18%	5,544	5,668	5,771	227	4%

\*There were issues with data quality from Taranaki and Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. Both DHBs are actively working on resolving this issue for the next report.

# Medical oncology IV chemotherapy

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	2,285	2,413	2,581	297	13%	518	746	824	307	59%	1,742	1,645	1,715	-27	-2%
Auckland	14,016	16,818	17,412	3,397	24%	1,350	1,910	1,873	523	39%	11,030	12,955	13,170	2,140	19%
Waikato	5,576	4,931	6,042	467	8%	914	788	1,048	135	15%	4,598	4,051	4,910	312	7%
Bay of Plenty	3,832	4,234	3,971	140	4%	651	863	893	243	37%	3,141	3,346	3,044	-97	-3%
Tairāwhiti	504	438	1,083	579	115%	224	199	492	269	120%	279	238	572	293	105%
Lakes	2,241	2,341	2,411	171	8%	631	677	795	165	26%	1,569	1,640	1,552	-17	-1%
Taranaki*	1,283	1,544	1,282	-1	0%	130	153	221	91	70%	1,141	1,372	1,061	-80	-7%
Hawke's Bay	29	62	38	9	31%	8	52	23	16	-	22	10	12	-10	-44%
Whanganui	84	69	74	-10	-11%	13	9	7	-6	-46%	71	60	67	-4	-5%
MidCentral	5,410	5,914	4,856	-554	-10%	909	1,017	937	28	3%	4,365	4,829	3,841	-524	-12%
Capital & Coast	4,988	4,675	4,223	-765	-15%	520	520	473	-47	-9%	4,236	3,877	3,413	-823	-19%
Hutt Valley	87	85	118	32	36%	8	6	11	4	-	74	73	102	28	38%
Wairarapa	20	54	39	19	95%	2	16	2	0	-	18	33	31	13	72%
Nelson Marlborough	2,217	2,282	2,120	-97	-4%	172	92	107	-65	-38%	2,012	2,169	2,013	1	0%
West Coast	22	28	15	-7	-32%	1	5	0	-1	-	21	23	15	-6	-29%
Canterbury	4,826	4,765	4,792	-34	-1%	308	318	296	-12	-4%	4,394	4,298	4,429	36	1%
South Canterbury	792	820	875	83	10%	6	21	26	20	-	780	799	849	69	9%
Southern*	5,327	5,262	3,924	-1,403	-26%	285	282	150	-135	-47%	5,003	4,905	3,716	-1,287	-26%
Total	53,536	56,735	55,859	2,324	4%	6,645	7,674	8,179	1,535	23%	44,495	46,323	44,513	19	-

\*There were issues with data quality from Taranaki and Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. Both DHBs are actively working on resolving this issue for the next report.

# Radiation oncology first specialist assessments

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Northland	271	217	310	39	14%	72	72	96	25	34%	196	144	211	16	8%
Auckland	2,395	2,409	2,430	35	1%	291	283	296	6	2%	1,810	1,863	1,825	16	1%
Waikato	1,020	1,119	1,169	149	15%	176	241	231	56	32%	825	866	920	96	12%
Bay of Plenty	707	717	844	138	19%	104	108	149	45	43%	596	604	689	94	16%
Tairāwhiti	55	33	30	-25	-45%	21	18	7	-14	-67%	33	15	23	-10	-29%
Lakes	25	13	15	-10	-39%	7	3	6	-1		18	10	9	-9	-49%
MidCentral	1,292	1,339	1,339	107	8%	165	174	202	37	22%	1,113	1,149	1,180	67	6%
Capital & Coast	1,065	1,021	1,146	81	8%	99	96	121	22	22%	922	873	965	44	5%
Nelson Marlborough	118	130	176	58	49%	7	8	9	2	-	111	121	166	56	50%
West Coast	9	5	10	2	-	1	-	1	1	-	8	5	9	1	-
Canterbury	1,224	1,371	1,376	152	12%	74	59	75	2	2%	1,137	1,295	1,286	150	13%
Southern*	797	760	629	-168	-21%	40	55	40	-	0%	746	692	582	-164	-22%
Total	8,976	9,134	9,534	558	6%	1,055	1,117	1,233	179	17%	7,511	7,637	7,865	355	5%

\*There were issues with data quality from Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. The DHB is actively working to resolve this issue for the next report.

# Radiation oncology megavoltage fractions

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021		Cumulative number for Jan to Sept			Difference between 2018/19 average and 2021	
	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%	2018/19	2020	2021	Number	%
Auckland	33,725	31,061	31,303	-2,422	-7%	4,631	4,118	5,036	406	9%	25,668	23,769	22,541	-3,127	-12%
Waikato	16,363	14,567	13,974	-2,389	-15%	3,012	3,265	3,017	5	0%	13,034	11,108	10,718	-2,316	-18%
Bay of Plenty	12,504	12,541	13,340	836	7%	2,160	2,077	2,374	214	10%	10,220	10,285	10,834	615	6%
MidCentral	16,931	16,818	18,321	1,391	8%	2,421	2,265	2,915	495	20%	14,389	14,237	15,243	854	6%
Capital & Coast	15,006	14,547	15,454	448	3%	1,763	1,653	1,831	69	4%	12,517	11,989	12,812	296	2%
Canterbury	19,789	18,442	18,826	-963	-5%	1,340	1,057	930	-410	-31%	18,115	17,190	17,644	-471	-3%
Southern*	4,888	3,246	2,320	-2,568	-53%	289	180	169	-120	-42%	4,515	3,038	2,143	-2,372	-53%
Total	119,204	111,228	113,538	-5,666	-5%	15,614	14,618	16,272	658	4%	98,456	91,619	91,935	-6,521	-7%

\*There were issues with data quality from Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. The DHB is actively working to resolve this issue for the next report.

# Haematology first specialist assessment

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to Sept			Difference between 2018/19 and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 and 2021		
	2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%		2018	2019	2021	Number	%	
Northland	165	201	151	-14	-8%		33	54	39	7	20%		130	144	111	-19	-14%	
Waitematā	517	537	483	-34	-6%		28	35	36	8	29%		467	476	419	-48	-10%	
Auckland	738	585	804	66	9%		58	47	77	20	34%		609	464	657	49	8%	
Counties Manukau	568	532	500	-68	-12%		63	65	56	-7	-11%		421	381	361	-60	-14%	
Waikato	532	548	516	-16	-3%		92	91	90	-2	-2%		432	449	414	-18	-4%	
Bay of Plenty	291	252	292	1	0%		50	37	40	-10	-20%		237	212	248	12	5%	
Tairāwhiti	31	34	41	11	34%		10	11	15	6	-		21	23	24	4	17%	
Taranaki*	121	131	99	-22	-18%		12	18	10	-2	-17%		108	112	89	-19	-18%	
MidCentral	584	591	636	52	9%		71	81	108	37	52%		506	496	521	15	3%	
Capital & Coast	583	489	484	-99	-17%		43	56	49	7	15%		517	405	395	-122	-24%	
Nelson Marlborough	132	87	101	-31	-23%		4	4	5	2	-		127	83	96	-31	-24%	
West Coast	13	4	6	-7	-52%		1	-	1	-	-		12	4	5	-7	-57%	
Canterbury	369	400	447	79	21%		19	22	28	10	51%		339	375	413	75	22%	
Southern*	221	239	239	18	8%		15	15	22	8	52%		203	222	213	10	5%	
Total	4,862	4,630	4,799	-63	-1%		496	536	576	80	16%		4,126	3,846	3,966	-160	-4%	

\*There were issues with data quality from Taranaki and Southern DHB during July and August 2021. Data has been included in the table, but changes are unlikely to be a true reflection of differences over time. Both DHBs are actively working on resolving this issue for the next report.

# Haematology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to Sept			Difference between 2018/19 and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 and 2021			Cumulative number for Jan to Sept			Difference between 2018/19 and 2021		
	2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%		2018/19	2020	2021	Number	%	
Northland	1,315	1,082	1,163	-152	-12%		301	223	277	-24	-8%		989	814	863	-126	-13%	
Waitematā	3,048	2,857	2,784	-264	-9%		83	125	107	24	29%		2,803	2,553	2,561	-242	-9%	
Auckland	2,748	2,571	3,178	431	16%		177	105	217	40	23%		2,287	2,190	2,586	299	13%	
Counties Manukau	1,401	1,878	2,432	1,031	74%		173	186	248	75	43%		948	1,397	1,772	824	87%	
Waikato	1,508	1,741	1,877	370	25%		260	328	333	74	28%		1,240	1,413	1,485	245	20%	
Bay of Plenty	996	942	1,269	273	27%		94	144	159	65	69%		882	788	1,077	195	22%	
Tairāwhiti	134	81	135	2	1%		16	15	22	7	42%		110	66	113	3	3%	
Lakes	325	528	550	226	69%		90	139	121	31	34%		235	389	396	162	69%	
MidCentral	2,053	1,837	1,221	-832	-41%		251	140	97	-154	-61%		1,789	1,678	1,123	-666	-37%	
Capital & Coast	2,454	2,517	2,068	-386	-16%		201	300	112	-89	-44%		2,164	1,966	1,767	-397	-18%	
Nelson Marlborough	1	10	-	-1	-		-	-	-	-	-		1	10	-	-1	-	
West Coast	10	8	9	-1	-10%		2	-	-	-2	-		9	8	9	1	-	
Canterbury	1,786	2,058	2,079	293	16%		153	206	69	-84	-55%		1,619	1,810	2,007	389	24%	
Southern*	171	376	1,578	1,407	823%		4	32	88	85			168	342	1,480	1,313	784%	
Total	17,948	18,486	20,343	2,396	13%		1,803	1,943	1,850	48	3%		15,241	15,424	17,239	1,999	13%	

\* Note the relatively low volumes in Southern DHB in prior years are due to variation in coding.



# APPENDIX 4: SURGICAL PROCEDURE CODES

Below is a list of the surgical procedure codes that were used for analysis on curative cancer surgery.

COLORECTAL CANCER SURGERY		
Clinical code	Block short description	Clinical code description
3200000	Colectomy	Limited excision of large intestine with formation of stoma
3200001	Colectomy	Right hemicolectomy with formation of stoma
3200300	Colectomy	Limited excision of large intestine with anastomosis
3200301	Colectomy	Right hemicolectomy with anastomosis
3200400	Colectomy	Subtotal colectomy with formation of stoma
3200401	Colectomy	Extended right hemicolectomy with formation of stoma
3200500	Colectomy	Subtotal colectomy with anastomosis
3200501	Colectomy	Extended right hemicolectomy with anastomosis
3200600	Colectomy	Left hemicolectomy with anastomosis
3200601	Colectomy	Left hemicolectomy with formation of stoma
3200900	Colectomy	Total colectomy with ileostomy
3201200	Colectomy	Total colectomy with ileorectal anastomosis
3201500	Total proctocolectomy	Total proctocolectomy with ileostomy
3202400	Anterior resection of rectum	High anterior resection of rectum
3202500	Anterior resection of rectum	Low anterior resection of rectum
3202600	Anterior resection of rectum	Ultra low anterior resection of rectum
3202800	Anterior resection of rectum	Ultra low anterior resection of rectum with hand sutured coloanal anastomosis
3203000	Rectosigmoidectomy or proctectomy	Rectosigmoidectomy with formation of stoma
3203900	Rectosigmoidectomy or proctectomy	Abdominoperineal proctectomy
3205100	Total proctocolectomy	Total proctocolectomy with ileo-anal anastomosis
3205101	Total proctocolectomy	Total proctocolectomy with ileo-anal anastomosis and formation of temporary ileostomy
3206000	Rectosigmoidectomy or proctectomy	Restorative proctectomy
3209900	Excision of lesion or tissue of rectum or anus	Per anal submucosal excision of lesion or tissue of rectum
3211200	Rectosigmoidectomy or proctectomy	Perineal rectosigmoidectomy
9220800	Anterior resection of rectum	Anterior resection of rectum, level unspecified

LUNG CANCER SURGERY		
Clinical code	Clinical code description	Block Description
3844000	Wedge resection of lung	Partial resection of lung
3844001	Radical wedge resection of lung	Partial resection of lung
3843800	Segmental resection of lung	Partial resection of lung
9016900	Endoscopic wedge resection of lung	Partial resection of lung
3843801	Lobectomy of lung	Lobectomy of lung
3844100	Radical lobectomy	Lobectomy of lung
3844101	Radical pneumonectomy	Pneumonectomy
3843802	Pneumonectomy	Pneumonectomy

PROSTATE CANCER SURGERY		
Clinical code	Block short description	Clinical code description
3720004	Open prostatectomy	Retropubic prostatectomy
3720900	Open prostatectomy	Radical prostatectomy
3720901	Other closed prostatectomy	Laparoscopic radical prostatectomy
3721000	Open prostatectomy	Radical prostatectomy with bladder neck reconstruction
3721001	Other closed prostatectomy	Laparoscopic radical prostatectomy with bladder neck reconstruction
3721100	Open prostatectomy	Radical prostatectomy with bladder neck reconstruction and pelvic lymphadenectomy
3721101	Other closed prostatectomy	Laparoscopic radical prostatectomy with bladder neck reconstruction and pelvic lymphadenectomy
3720900	Open prostatectomy	Radical prostatectomy
3720901	Closed prostatectomy	Laparoscopic radical prostatectomy
3721000	Open prostatectomy	Radical prostatectomy with bladder neck reconstruction
3721001	Closed prostatectomy	Laparoscopic radical prostatectomy with bladder neck reconstruction
3721100	Open prostatectomy	Radical prostatectomy with bladder neck reconstruction and pelvic lymphadenectomy