TE AHO O TE KAHU
CANCER CONTROL AGENCY

COVID-19 and cancer services

Working report on the impact of COVID-19 on cancer services for the period ending December 2022

Released May 2023

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SUMMARY OF FINDINGS

This report includes data up to December 2022. Overall, these data show similar patterns to that seen in the previous COVID-19 and Cancer Services report (data up to September 2022).

Cancer registrations for 2022 were increased compared to pre-pandemic years (2018/19), including for Māori, however when comparing 2022 to 2021, there was a small decrease in registrations of 3% for Māori.

Gastrointestinal endoscopy volumes were increased in 2022 compared to 2018/19. Bronchoscopy and CT lung biopsy volumes were both decreased in 2022 compared with 2018/19, noting that there are other modes of diagnosis that may be being used during the pandemic.

For the four cancer surgeries included in the report (mastectomy, colorectal cancer, lung cancer and prostate cancer surgeries), there was a small 2% decrease for 2022 compared with 2018/19, however with an increase of 5% for Māori. The previous report included a focus section on lung cancer for Māori and this report shows that for lung cancer there was a 5% increase in lung cancer surgery with a 12% decrease for Māori (noting small numbers).

Overall, for medical oncology, radiation oncology and haematology, it appears that the differences compared to 2018/19 are slightly less pronounced compared to the winter months of 2022. For medical oncology in 2022 there were increases in first specialist assessments (FSAs) and for attendances for IV chemotherapy when compared with 2018/19 although a small decrease in IV chemotherapy attendances when compared to 2021. For radiation oncology in 2022 there was an increase in FSAs including for Māori. There was a small decrease of 1% in completed radiation courses, which is likely to better reflect service volume over time compared to radiation therapy attendances. For haematology in 2022 there was a 1% decrease in FSAs overall and for Māori a 9% increase. For IV chemotherapy attendances for haematology there was a 5% increase compared to 2081/19, although a 5% decrease compared with 2021.

These results support the premise that cancer care staff are working diligently to ensure the continuation of cancer care in Aotearoa New Zealand. Te Aho o Te Kahu continues to work with the sector toward constant improvement in service delivery and will monitor and investigate downturns in this delivery, with a particularly focus on equity. Te Aho o Te Kahu is reviewing the utility of ongoing reporting.

Background and data

- The purpose of this report is to provide a rapid assessment of the impact of COVID-19 on cancer services. It includes data up until 31 December 2022.
- We acknowledge individuals with cancer may have been impacted in significant ways by COVID-19, including by changes to the way care has been delivered and that these may not be captured within the available data.
- Our reporting so far has not identified extensive disruption; however, we acknowledge the considerable challenges cancer services have been working under as a result of the COVID-19 pandemic and other significant issues including workforce shortages.
- 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.

- This report compares 2022 with an average of 2018/19 data and provides additional graphs comparing 2022 data with that from 2021, 2020 and 2018/2019.
- For the purposes of this report, we have not adjusted for expected changes in incidence over time (such as due to population growth). We acknowledge that the value of comparing current trends in registrations and treatment to pre-pandemic trends is reducing over time.
- There may be some backlogs in data entry with pandemic-related impacts on staffing across the health sector. This may result in future data updates altering the current results.

Cancer diagnosis

Registrations

- For the year 2022, there was an increase of 10% in cancer registrations compared to the average of 2018/19 and a 13% increase for Māori.

Diagnostics

- **Gastrointestinal endoscopies:** for 2022 compared to 2018/19, there was a 19% increase in gastrointestinal endoscopies for the total population, a 37% increase for Māori and a 40% increase for Pacific peoples.
- **Bronchoscopies:** for the year 2022, there was a 7% decrease in bronchoscopies compared with the same period in 2018/19. For Māori there was a 4% increase.

Cancer Treatment

Faster Cancer Treatment

- For the second half of 2022 (July to December), there was some fluctuation over time in the proportion of people with a high-suspicion of cancer and a need to be seen within 2-weeks who received their first treatment within 62 days of receipt of referral. The measure was met for 83% of people overall and 80% for Māori.

Surgery

- For 2022, there were 2% fewer cancer surgeries (breast, prostate, lung and colorectal combined) compared to 2018/19.
- For Māori, there has been a 5% increase in combined cancer surgeries relative to 2018/19 (reflecting 33 more surgeries), although the number of surgeries performed in 2022 was lower than in 2021.
- For Pacific peoples there was a 19% increase for the year to date relative to 2018/19 (reflecting 42 more surgeries).
- Breast cancer surgery (mastectomy only) volumes showed a 3% decrease in 2022 compared with 2018/19. Colorectal cancer surgery volumes showed a 6% decrease compared with 2018/19. Lung cancer surgery showed a 5% increase 2022 compared with 2018/19 with a 12% decrease for Māori (noting small numbers).

Chemotherapy and radiotherapy

- **Medical oncology:** for 2022, there was an overall 9% increase in medical oncology first specialist assessments (FSAs) compared with 2018/19 and a 16% increase for Māori. There was an 7% increase in IV chemotherapy attendances compared with 2018/19 overall and a 27% increase for Māori.
- **Radiation oncology:** for 2022, there was a 7% increase in radiation oncology first specialist assessments (FSAs) compared with 2018/19, with a 18% increase for Māori. There was an 8%

decrease in radiation therapy attendances overall and a 1% decrease in completed radiation therapy courses.

- **Haematology:** for 2022, there was a 1% decrease in haematology first specialist assessments (FSAs) compared with 2018/19, and for Māori there was a 9% increase. There was a 5% increase in haematology intravenous (IV) chemotherapy compared with 2018/19 overall and for Māori an increase of 7%.

INTRODUCTION

Purpose

The aim of this work is to collate timely evidence on impacts to cancer diagnosis and treatment to support policy development and response planning.

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[1]. The 2020 reports showed that cancer treatment services – surgery, medical oncology, radiation oncology and haematology – continued during the start of 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. Te Aho o Te Kahu re-instated COVID-19 monitoring with the re-emergence of COVID-19 in the community in August 2021 (Delta strain) and continued with the arrival of the Omicron variant which continues to circulate in the community.

We acknowledge that any identified potential impacts on cancer services will not be solely because of the impacts of COVID-19 and that the pandemic has highlighted long-term issues within both the cancer care system (and wider health system). Te Aho o Te Kahu acknowledges the considerable challenges cancer services have been working under. In particular, we are aware of widespread issues with staff capacity and pressures on the cancer workforce. It is affirmation of the hard work and dedication of the cancer workforce that this national reporting continues to show only pockets of disruption.

We continue to liaise with cancer clinicians and service providers through our advisory groups and regional hubs and, when issues are identified, work with them to problem solve and support any work underway. Te Aho o Te Kahu is maintaining a focus on supporting Te Whatu Ora, Te Aka Whai Ora, and the Ministry of Health to navigate these issues and work towards system improvement.

Scope

The report focuses on the aspects of the cancer care pathway for which we have readily available national data and does not capture all aspects of care. Critical aspects of cancer care, including access to primary health care, radiology, palliative care, and patient experience are not measured.

As the purpose of the analysis is to rapidly measure the impact of COVID-19 and the pandemic response on cancer services; therefore, the analysis does not consider pre-existing unmet need or population growth over time.

We acknowledge that whānau affected by cancer may have been impacted in significant ways by COVID-19, including by changes to the way care has been delivered, and that this may not be captured within the available data.

[1] Reports available here: https://teaho.govt.nz/reports/cancer-care

Data and analysis

The data in this report comes from the Ministry of Health's national data collections. Each section of the report includes information on where the data is from, and any limitations associated with the data.

Numbers in this report may not match the previous report, due to exclusion of incomplete data in the previous reports and delayed coding or submission of data.

There may be some backlogs in data entry due to pandemic-related impacts on staffing across the health sector. These backlogs may result in future data updates altering the current results, for example, apparent disruption to services may be less severe than is reported here.

Comparator for this report

The first set of COVID-19 and Cancer reports, published in 2020, compared 2020 data directly with 2019 data. The main comparison subsequently used was an average of 2018 and 2019 data, due to 2020 not being considered an appropriate comparator given the disruption to health services in 2020 due to COVID-19. For this report, we have actively chosen to continue the methodology of comparing to the 2018/19 average, for a) consistency, b) to account for the variation seen in 2021 data[2], and c) to enable comparison to a pre-pandemic time period. We acknowledge that the value of comparing current trends in registrations and treatment to pre-pandemic trends is reducing over time and provide commentary comparing 2022 to 2021 to augment the picture.

Future reporting

This report brings Te Aho o Te Kahu COVID-19 and cancer services reporting up to date to the end of 2022. This reporting was designed as a timely way to monitor cancer services during a period of acute change, to enable early detection of serious service concerns. The ongoing nature of the COVID-19 pandemic makes it less clear as to the causes of disruption outside of already recognised pressures to service provision (such as workforce capacity). Therefore, the utility of this reporting is currently under review.

[2] For example, for several measures in the March 2022 report, there were notably higher volumes for March 2021 compared with March in other recent years, including years presented in this report (2018, 2019, and 2020). The reasons for this data spike in March 2021 may include a catch-up period following lockdowns of the previous year.

CANCER REGISTRATIONS

Notes on data

- The data below comes 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 2.
- The data below are provisional, and exact numbers will change as data are finalised. Data were extracted from NZCR on 02 March 2023.
- '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

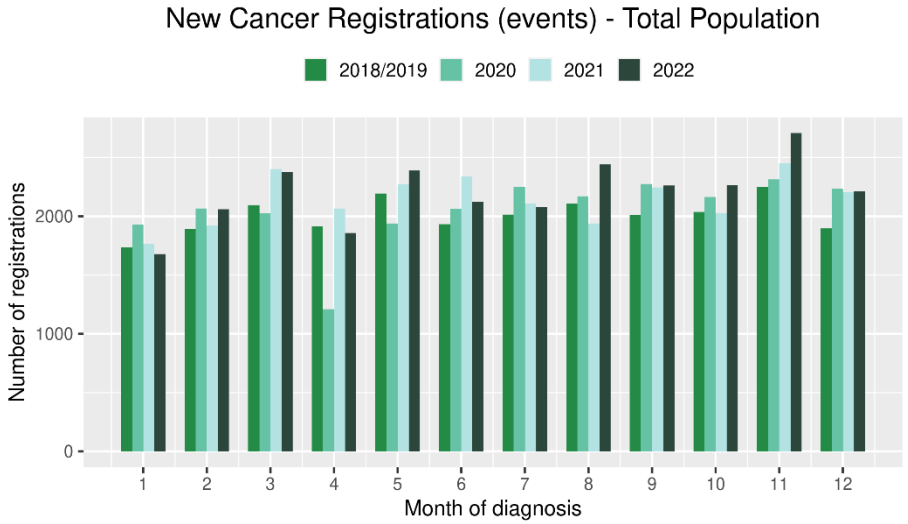
- For the year 2022, there was an increase of 10% in cancer registrations compared to the average of 2018/19 and a 13% increase for Māori.
- While our primary comparison is with 2018/19, we note that figure 1 shows Māori registrations are lower in 2022 compared with 2021. Cumulatively, there was a 3% decrease for Māori cancer registrations in 2022 compared with 2021. This is less of a decrease than seen in the previous report which found a 5% decrease for Māori cancer registrations January – September 2022 compared with the same time period in 2021.
- There were no specific cancer types that showed a decrease for the total population for the year 2022 compared to 2018/19.

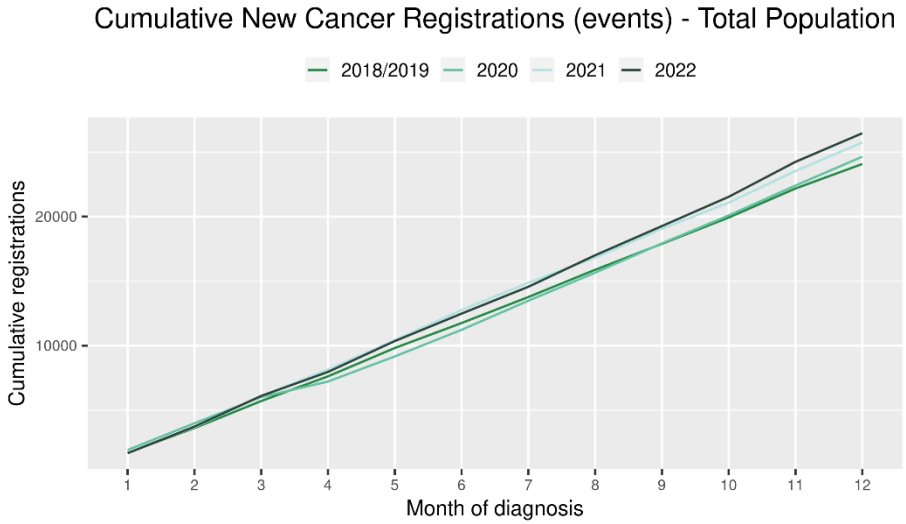
Results

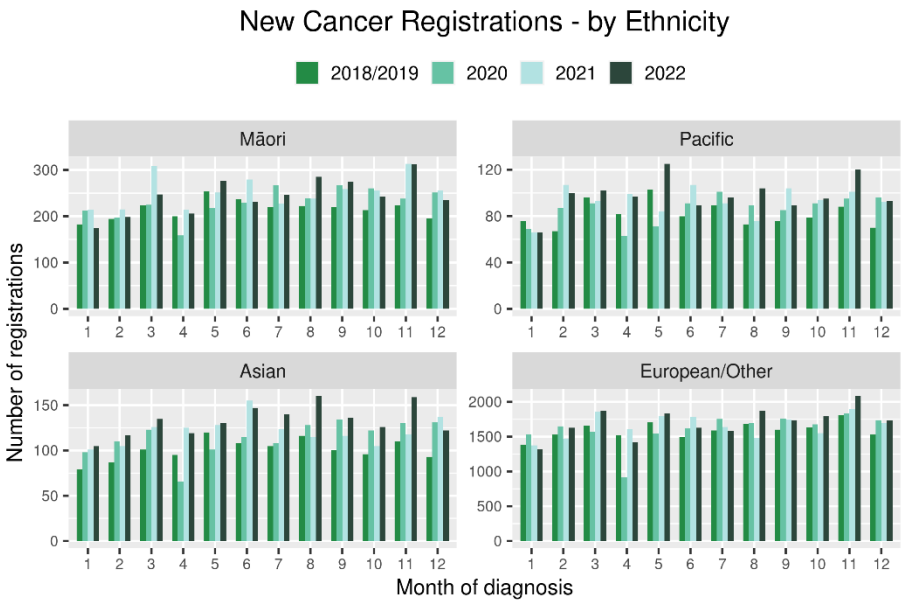
Table 1: Number of provisional cancer registrations and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	213	242	14%	224	312	39%	195	235	21%	2,583	2,927	13%
Pacific Island	79	95	20%	88	120	37%	70	93	34%	976	1,176	20%
Asian	96	126	31%	110	159	45%	93	122	32%	1,206	1,596	32%
European/Other	1,649	1,803	9%	1,827	2,116	16%	1,539	1,764	15%	19,305	20,756	8%
Total population	2,037	2,266	11%	2,248	2,707	20%	1,896	2,214	17%	24,069	26,455	10%

Figure 1: Number of cancer registrations by month, 2018/19 average, 2020, 2021 and 2022, total population and by ethnicity







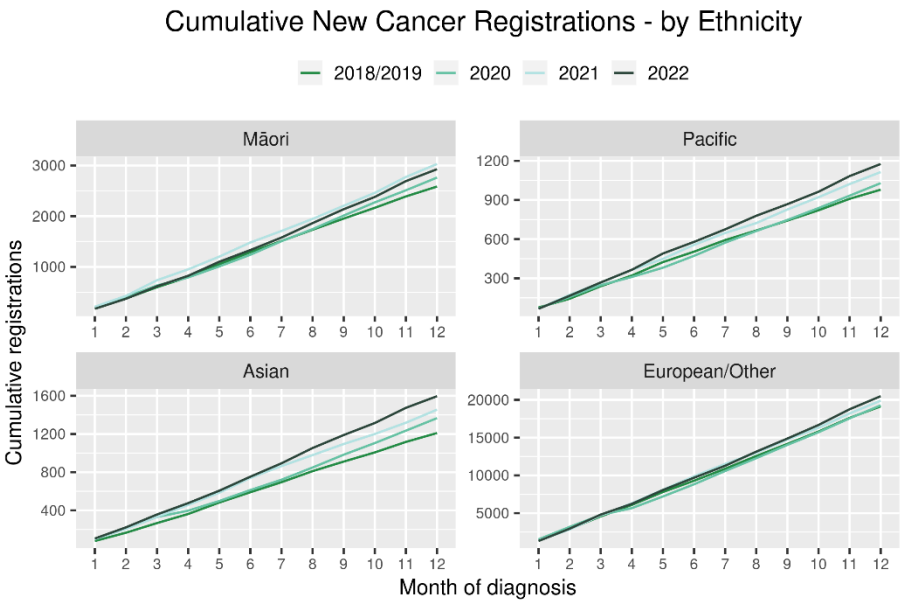


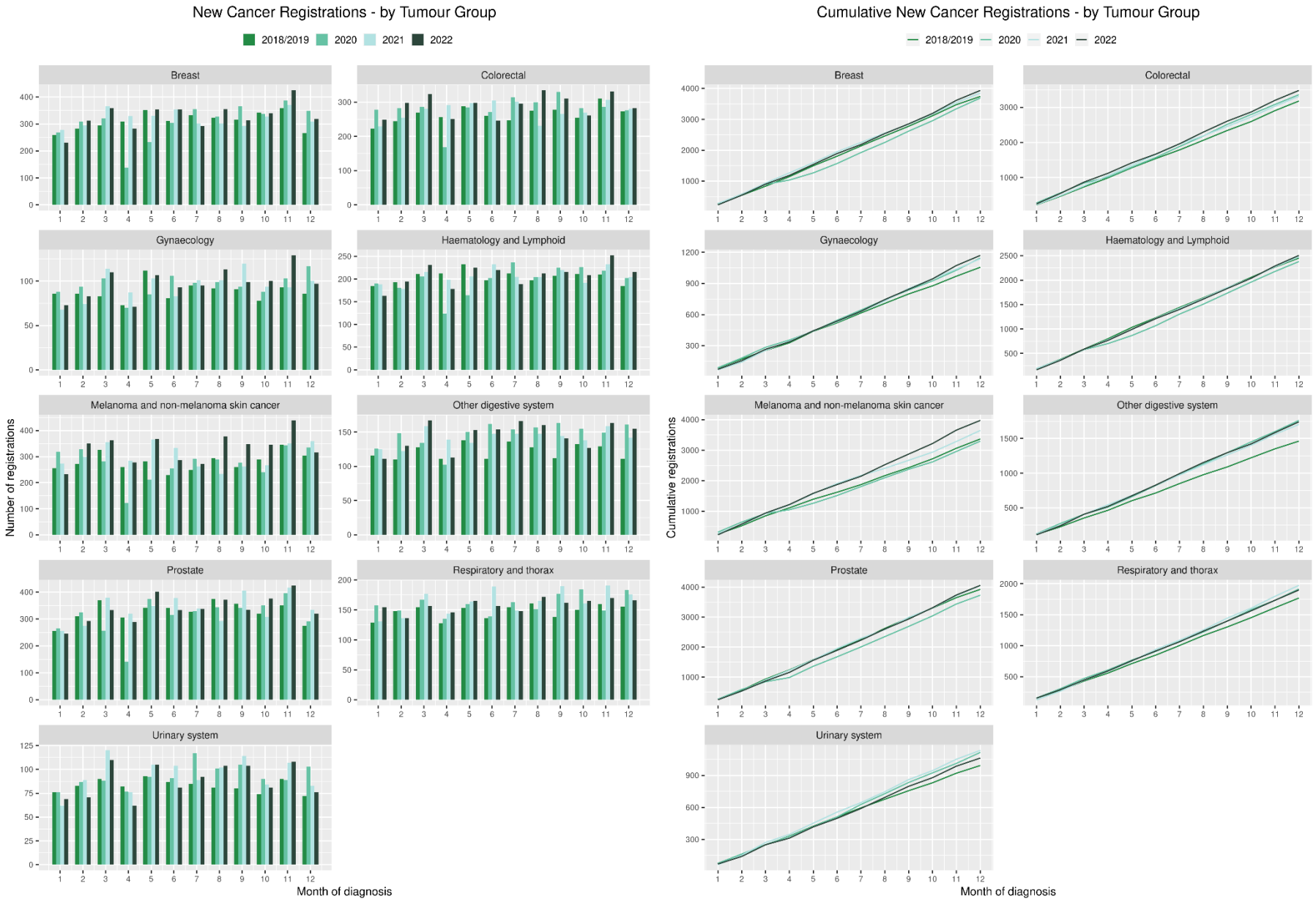
Table 2: Number of provisional cancer registrations* and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by tumour group

	October			November			December			Cumulative January-December		
Tumour group	**2018/2019**	**2022**	**% change**	**2018/2019**	**2022**	**% change**	**2018/2019**	**2022**	**% change**	**2018/2019**	**2022**	**% change**
Breast	341	339	-1%	358	424	19%	266	319	20%	3,737	3,935	5%
Colorectal	254	261	3%	311	331	7%	273	282	3%	3,174	3,480	10%
Gynaecology	78	100	28%	93	129	39%	86	97	13%	1,053	1,170	11%
Haematology and Lymphoid	211	209	-1%	210	252	20%	185	216	17%	2,447	2,505	2%
Melanoma and non-melanoma skin cancer	289	345	19%	345	439	27%	303	317	5%	3,363	3,974	18%
Other digestive system	132	127	-3%	129	163	26%	111	155	40%	1,459	1,740	19%
Prostate	319	376	18%	351	425	21%	274	320	17%	3,925	4,059	3%
Respiratory and thorax	150	165	10%	160	170	7%	156	166	6%	1,767	1,899	8%
Urinary system	74	81	10%	90	108	20%	72	76	6%	989	1,063	7%

*This analysis uses provisional data for the 2022 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.

**For the purposes of this report, non-melanoma skin cancer excludes basal cell carcinoma and squamous cell carcinoma

Figure 2: Number of cancer registrations by month, 2018/19 average, 2020, 2021 and 2022, 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 13 Mar 2023.
- 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

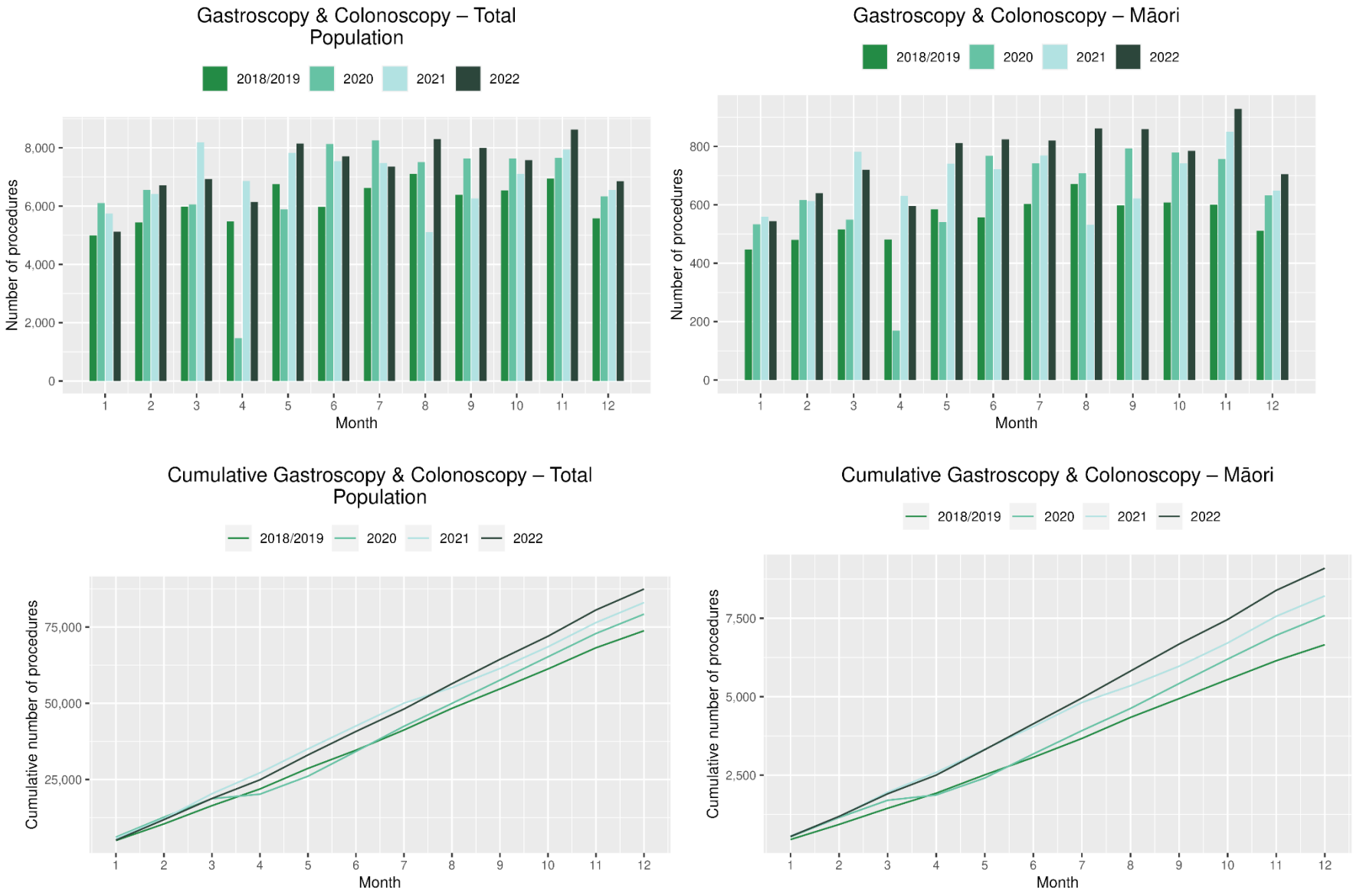
- For 2022 compared to 2018/19, there was a 19% increase in gastrointestinal endoscopies for the total population.
- There was a 37% increase for Māori compared with 2018/19 and a 40% increase for Pacific peoples.

Results

Table 3: Number of colonoscopy and gastroscopy procedures and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	608	785	29%	600	929	55%	511	705	38%	6,655	9,095	37%
Pacific Peoples	235	307	31%	228	346	52%	183	250	37%	2,482	3,469	40%
Non-Māori/Non-Pacific	5,697	6,485	14%	6,114	7,351	20%	4,885	5,902	21%	64,646	74,904	16%
Total Population	6,539	7,577	16%	6,942	8,626	24%	5,578	6,857	23%	73,782	87,468	19%

Figure 3: Number of gastrointestinal endoscopy procedures by month, 2018/19 average, 2020, 2021 and 2022 total population and Māori



BRONCHOSCOPY

Notes on data

- Bronchoscopy and CT Lung Biopsy data were extracted from NNPAC and NMDS on 13 Mar 2023.
- These data include bronchoscopies and CT lung biopsies for all indications, not solely cancer related procedures.
- Technical information: bronchoscopies (Purchase Unit Code: MS02003) and CT Lung Biopsy (Procedure codes: 3841808 and 3881200[3])

Key points

- For the year 2022, there was a 7% decrease in bronchoscopies compared with the same period in 2018/19. For Māori there was a 4% increase over the same time period.
- As noted in previous reports, Te Aho o Te Kahu has discussed potential reasons for the overall decrease in bronchoscopy volumes with respiratory physicians in the sector. It has been highlighted that due to the risks of COVID-19 transmission, logistical challenges and other factors, there has been a shift in modes of diagnosis for lung cancer away from bronchoscopy (noting that bronchoscopy is performed for a number of reasons, not just cancer diagnosis). These modes are thought to include Endobronchial Ultrasound Bronchoscopy (EBUS), Positron Emission Tomography - Computed Tomography (PET CT) scans and CT lung biopsy. PET CT and EBUS data are not reported here because the clinical coding of these procedures is not anatomically specific, meaning that we would not know whether they were performed on the lung. CT lung biopsy data were examined and are presented (Figure 5), with these data suggesting a small decrease in CT lung biopsies of 2% overall (but not for Māori where there is a 10% increase). Even with this additional data, the overall picture of diagnosis remains incomplete, and it is therefore difficult to interpret whether any changes in volume of lung cancer diagnostic procedures have occurred.

[3] This report includes an additional procedure code for CT Lung Biopsy (3881200). This is the back mapping code for CT Lung Biopsy prior to July 2019

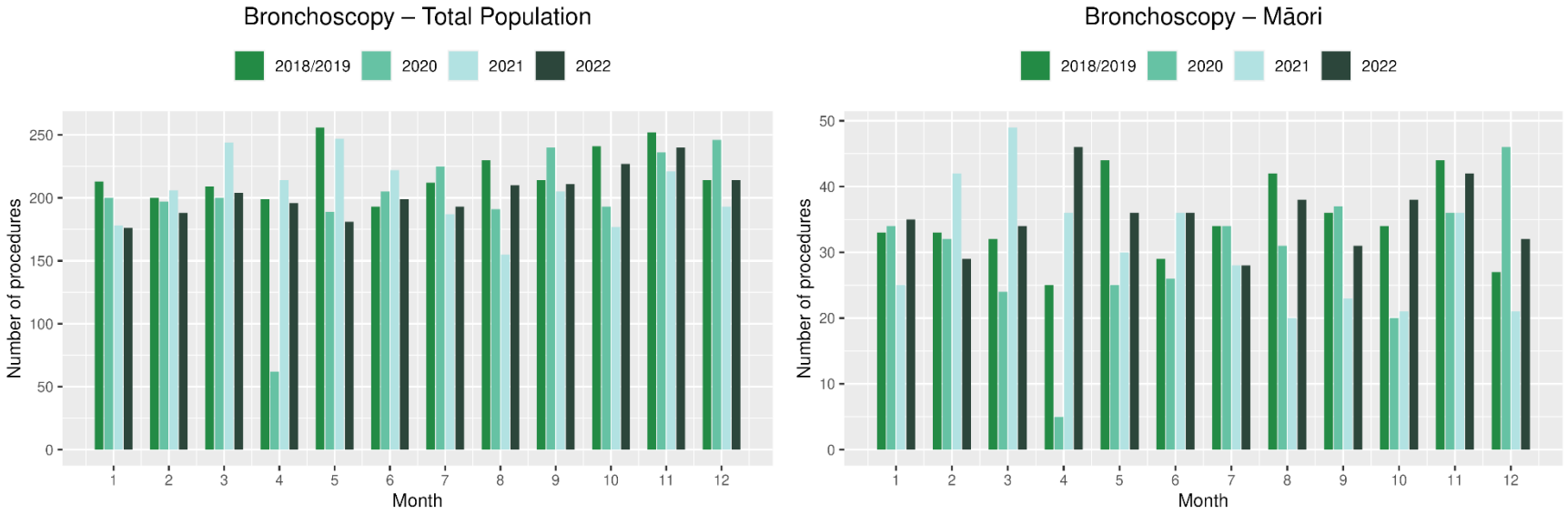
Results

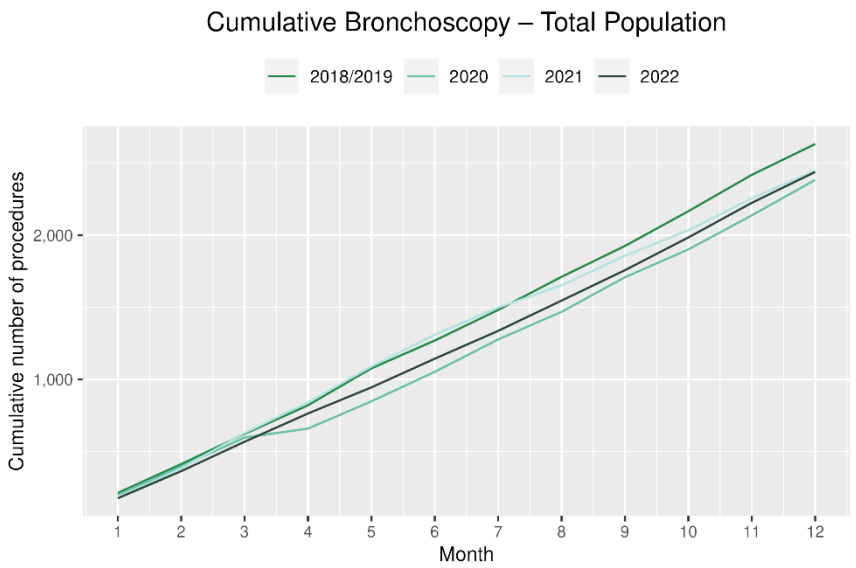
Table 4: Number of bronchoscopies and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	34	38	12%	44	42	-3%	*	32	*	410	425	4%
Pacific Peoples	17	13	-21%	15	13	-13%	*	12	*	126	128	2%
Non-Māori/Non-Pacific	191	176	-8%	193	185	-4%	180	170	-6%	2,094	1,886	-10%
Total Population	241	227	-6%	252	240	-5%	214	214	0%	2,630	2,439	-7%

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

Figure 4: Number of bronchoscopies by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori





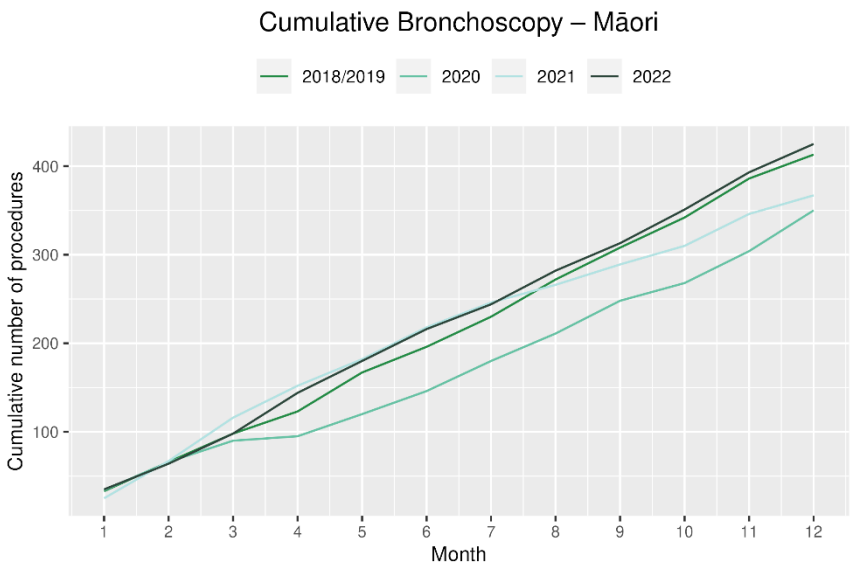
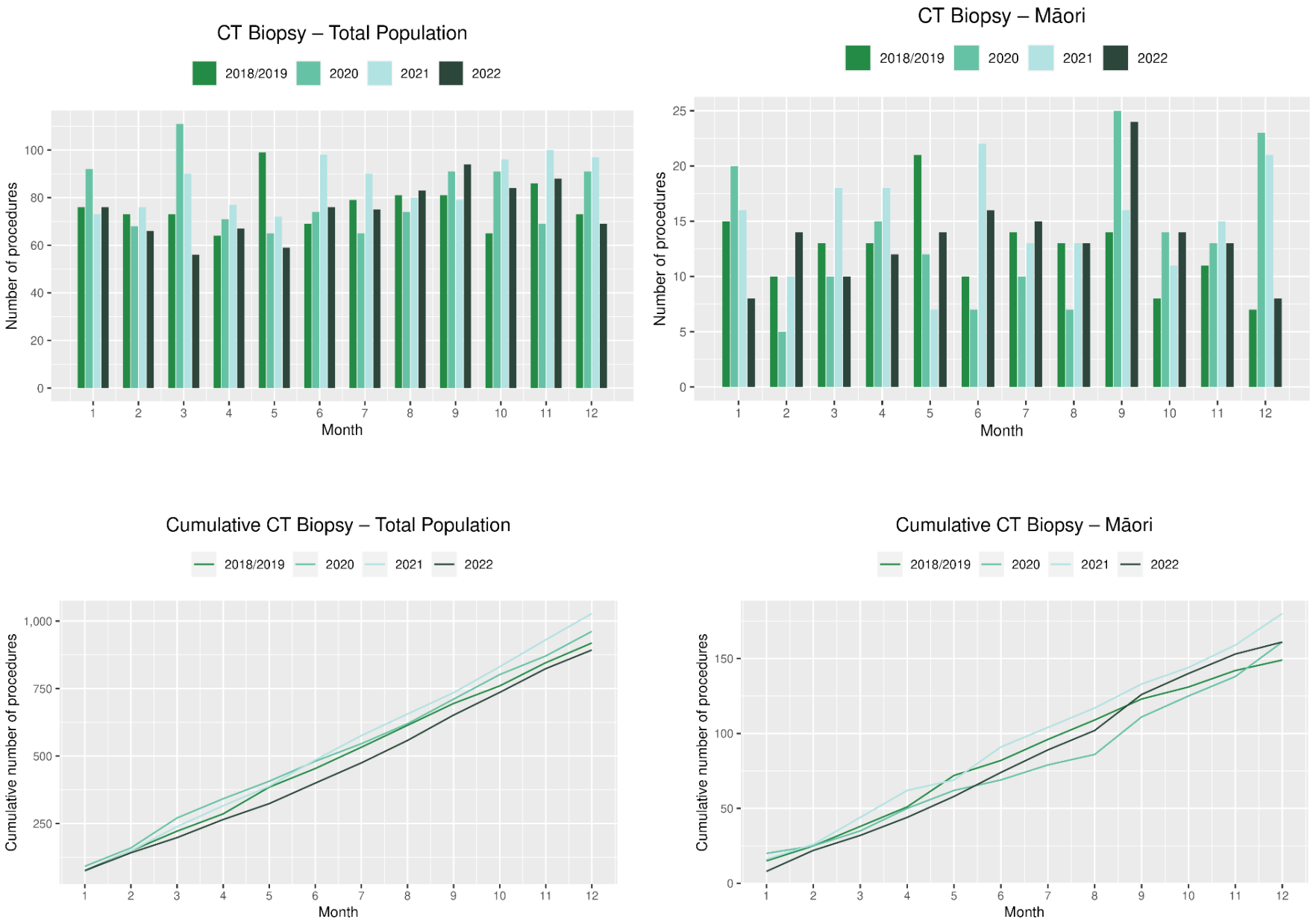


Table 5: Number of CT biopsy and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	*	*	*	*	*	*	*	*	*	146	161	10%
Pacific Peoples	*	*	*	*	*	*	*	*	*	37	31	-15%
Non-Māori/Non-Pacific	56	69	24%	75	72	-3%	63	60	-5%	734	701	-4%
Total Population	65	84	29%	86	88	3%	73	69	-5%	915	893	-2%

Figure 5: Number of CT lung biopsies by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori



FASTER CANCER TREATMENT

Notes on data

- The data were extracted from the Faster Cancer Treatment (FCT) database on 25 Jan 2023. 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 people with a high-suspicion of cancer and a need to be seen within two weeks. This group of people should receive their first treatment within 62-day of receipt of referral. The target is 90%.
- Te Aho o Te Kahu has an escalation pathway for monitoring the performance of Te Whatu Ora Districts against the FCT measure. Escalation includes regular meetings with service teams and CE to CE discussions against recovery planning and actions.
- Two Districts to our knowledge have not been able to submit all FCT data for 2022/23 quarter two, as a result of Patient Information System upgrade or reduced capacity for data coding and entry.

Key point

- For the second half of 2022 (July to December), there was some fluctuation in the proportion of people with a high suspicion of cancer and a need to be seen within two weeks receiving their first treatment within 62 days of receipt of referral. The measure was met for 83% of people overall and 80% for Māori. For the second half of 2021 the measure was met for 85% of the total population and 84% for Māori[4].
- Faster cancer treatment data are reported to Te Whatu Ora at quarterly intervals.

Results

Table 6: Number of referrals for people with a high suspicion of cancer, in 2022 by month, and total July to December

	July	Aug	Sep	Oct	Nov	Dec	Total July to Dec
Māori	42	69	66	60	69	51	357
Non-Māori/Non-Pacific	275	363	341	362	393	305	2,039
Total Population	347	456	430	437	483	377	2,530

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

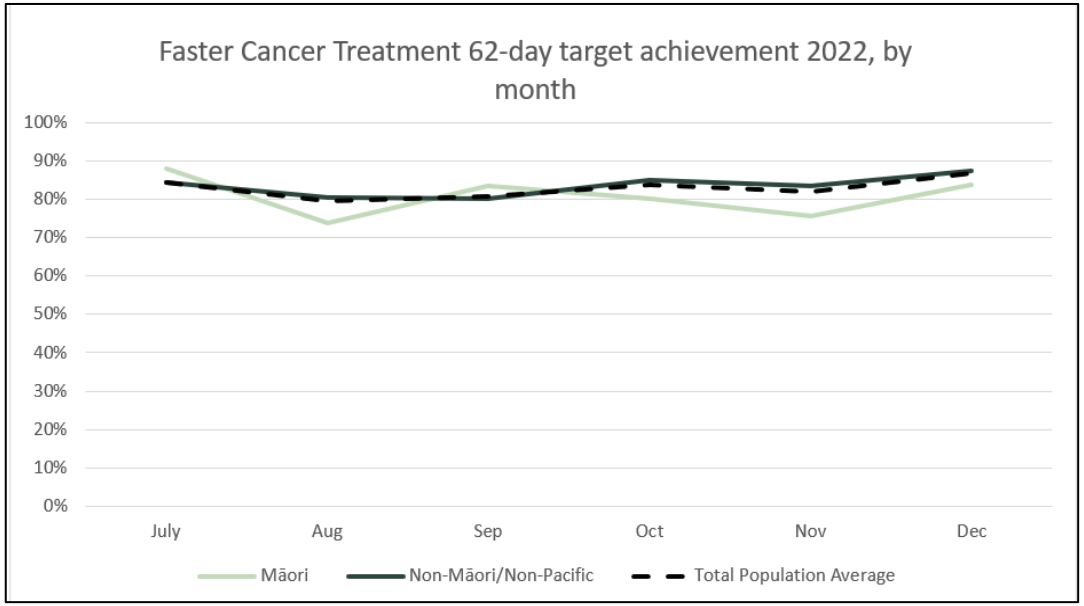
[4] COVID-19 and cancer services report for the period ending December 2021, released February 2022. https://teaho.govt.nz/covid-19/cancer-care

Table 7: Proportion of people with a high-suspicion of cancer and a need to be seen within 2-weeks who received their first treatment within 62 days of receipt of referral, in 2022 by month, and average July to December

	July	Aug	Sep	Oct	Nov	Dec	Total July to Dec
Māori	88%	74%	83%	80%	76%	84%	80%
Non-Māori/Non-Pacific	84%	81%	80%	85%	84%	87%	83%
Total Population	85%	80%	81%	84%	82%	87%	83%

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

Figure 6: Proportion of patients with a high-suspicion of cancer and a need to be seen within 2-weeks who received their first treatment within 62 days of receipt of referral, by ethnicity, in 2022 by month



COMBINED CANCER SURGERY

Notes on data

- This report includes data on surgery for breast, colorectal, lung and prostate cancer. These four cancers are therefore used as case studies for cancer surgery more generally.
- Colorectal, lung and prostate cancers were chosen because Te Aho o Te Kahu has a pre-validated list of surgical procedure codes for these cancers, agreed on as part of the quality performance indicator (QPI) work programme.
- For breast cancer, as the development of QPIs are currently underway, we have been able to provide provisional surgical procedure codes for the purposes of this report.
- The surgical procedure codes are listed in Appendix 5.
- The data were extracted from the NMDS on 13 Mar 2023.

Key points

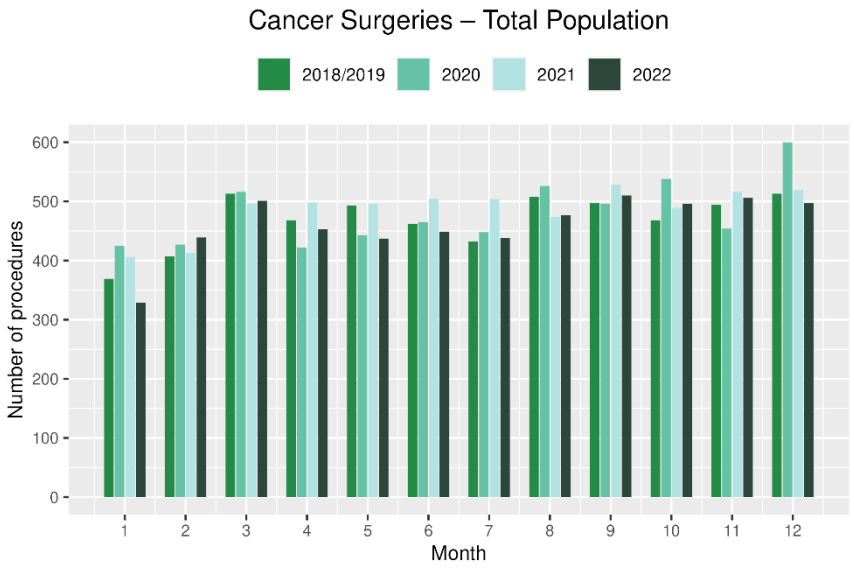
- For 2022, there were 2% fewer cancer surgeries (breast, prostate, lung and colorectal combined) compared to 2018/19.
- For Māori, there has been a 5% increase in combined cancer surgeries relative to 2018/19 (reflecting 33 more surgeries), however, the number of surgeries performed in 2022 was lower than in 2021.
- For Pacific peoples there was a 19% increase for the year to date relative to 2018/19 (reflecting 42 more surgeries).

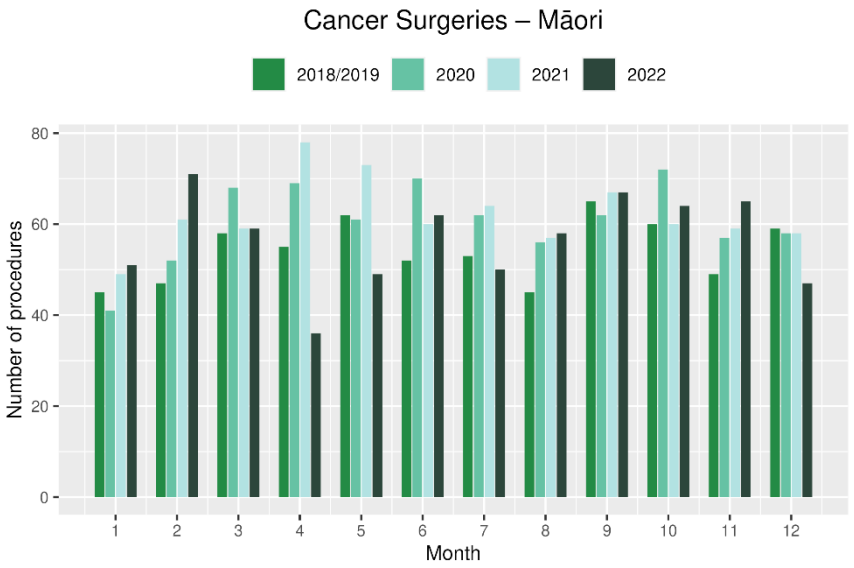
Results

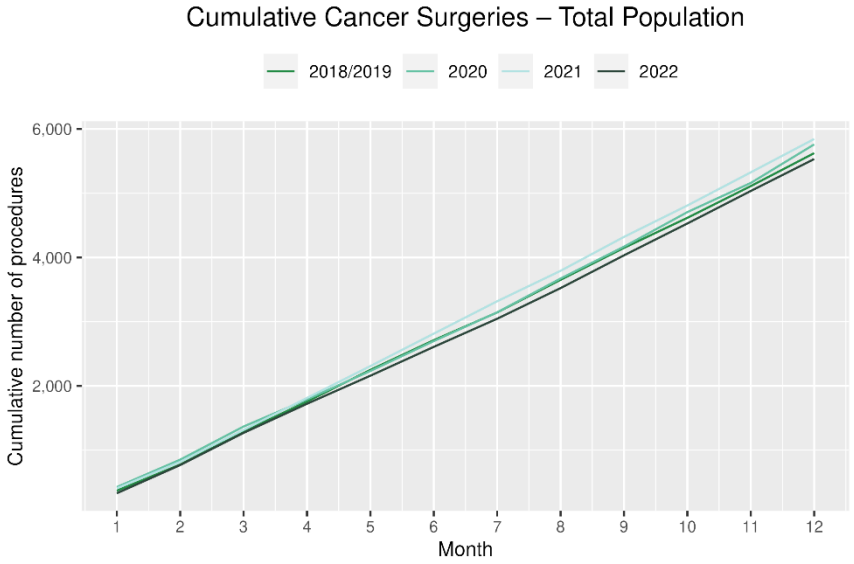
Table 8: Number of cancer surgeries (breast, prostate, colorectal, lung) and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

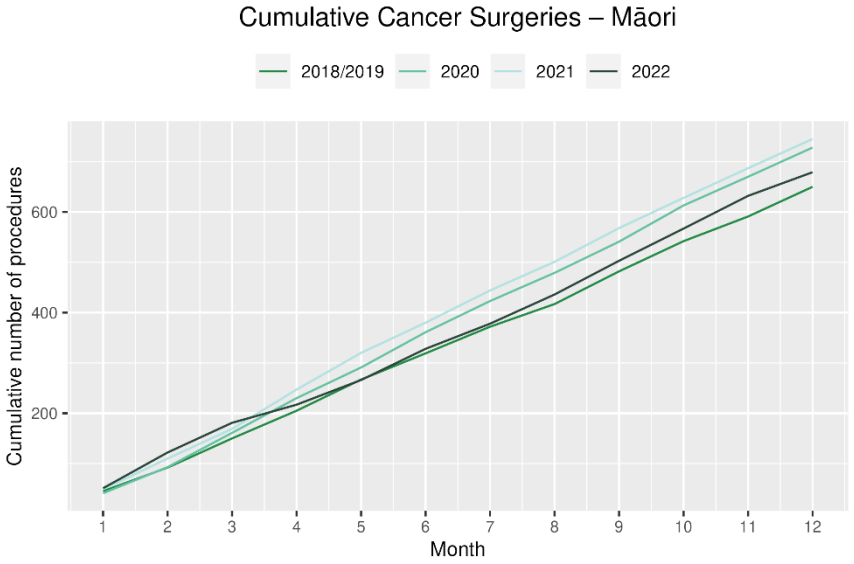
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	60	64	8%	49	65	33%	59	47	-20%	646	679	5%
Pacific Peoples	24	30	25%	18	28	60%	24	21	-11%	227	269	19%
Non-Māori/Non-Pacific	384	402	5%	427	413	-3%	431	429	0%	4,748	4,584	-3%
Total Population	468	496	6%	494	506	3%	513	497	-3%	5,621	5,532	-2%

Figure 7: Number of cancer surgeries (breast, prostate, colorectal, lung) by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori









BREAST CANCER SURGERY (MASTECTOMY)

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 5.
- The data were extracted from the NMDS on 13 March 2023.
- The number of mastectomies performed each month is relatively small, so caution is needed when comparing data by month.
- Procedure codes for mastectomy only are included in this report. There are a number of additional procedure codes used for breast cancer surgeries in addition to mastectomy, however the procedure codes for these surgeries are less specific for cancer. Therefore, using only mastectomy codes allows a more accurate view of any changes in breast cancer surgery volumes[5].

Key points

- For 2022, there was a 3% decrease in mastectomies compared with 2018/19. For Māori this decrease was 2% and for Pacific peoples there was a 19% increase.

Results

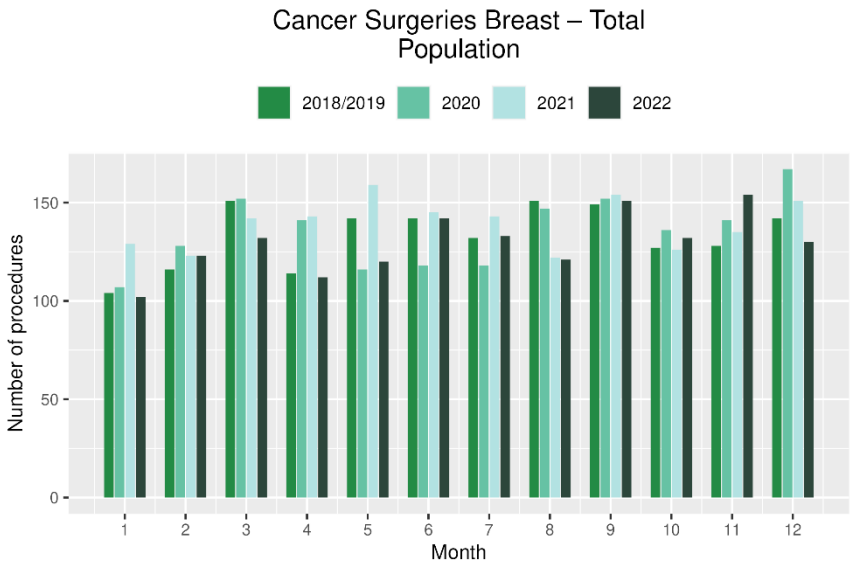
Table 9: Number of mastectomies and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

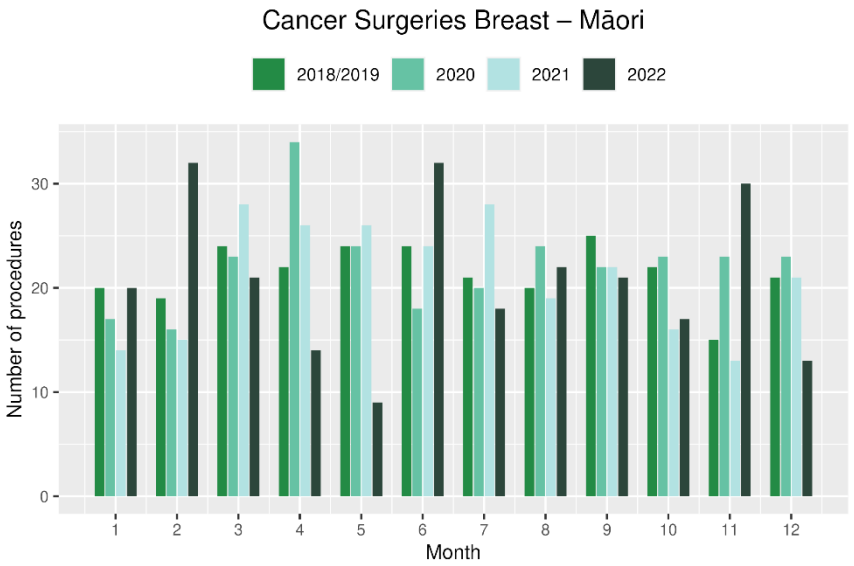
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	*	*	*	*	*	*	*	*	*	255	249	-2%
Pacific Peoples	*	*	*	*	*	*	*	*	*	97	115	19%
Non-Māori/Non-Pacific	96	104	9%	106	112	6%	114	106	-7%	1,244	1,188	-5%
Total Population	127	132	4%	128	154	20%	142	130	-8%	1,595	1,552	-3%

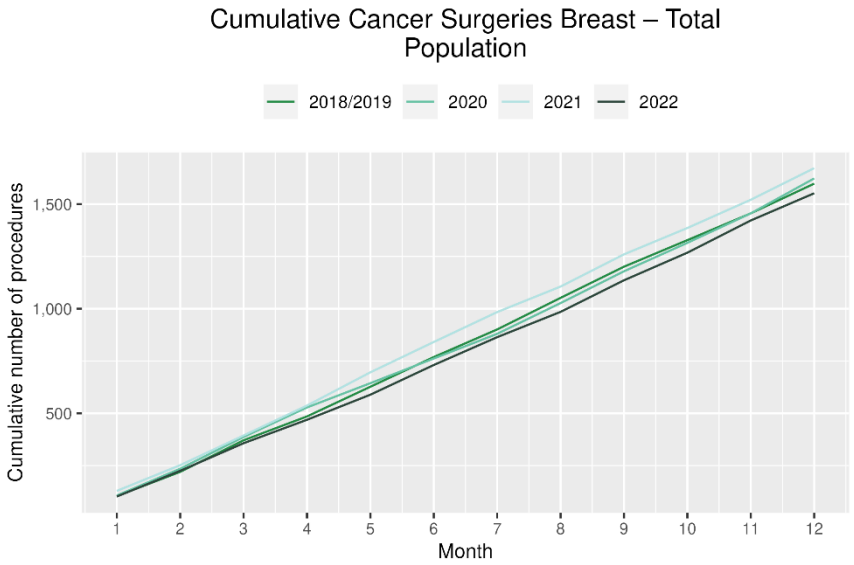
*Due to small numbers, some figures have not been included for Māori and Pacific peoples

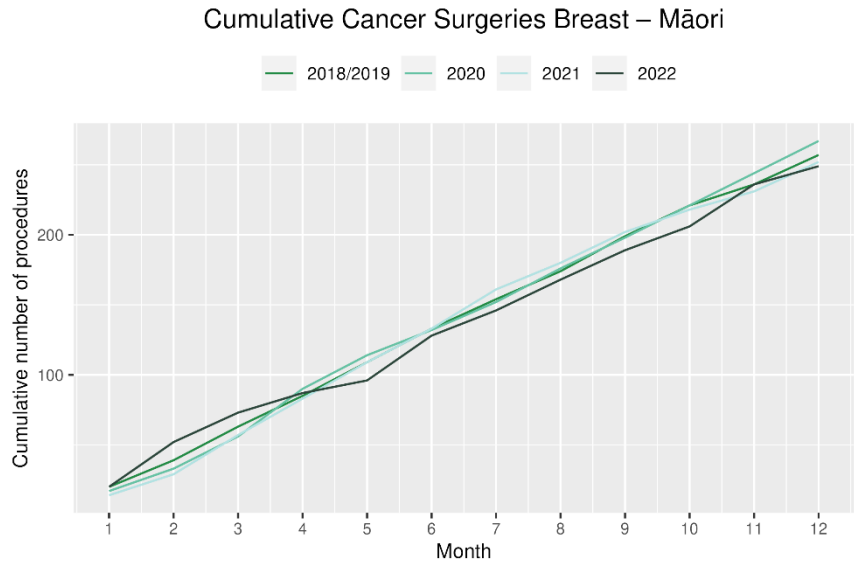
[5] We recognise there are limitations to this approach and aim to strike a balance between timely data availability, completeness, and accuracy, with the purpose of the reporting being to provide an initial indication of the current situation which may then require further interrogation at a regional level.

Figure 8: Number of mastectomies by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori









COLORECTAL CANCER SURGERY

Notes on data

- The surgical procedure codes used for analysing colorectal cancer are listed in Appendix 5.
- The data were extracted from the NMDS on 13 Mar 2023.

Key points

- For 2022, there were 6% fewer colorectal cancer surgeries performed in total, 1% decrease for Pacific peoples (noting small numbers) and a 13% increase for Māori compared with 2018/19. However, the number of colorectal cancer surgeries for Māori was lower than that performed over the same time period in either 2020 or 2021 (figure 9).

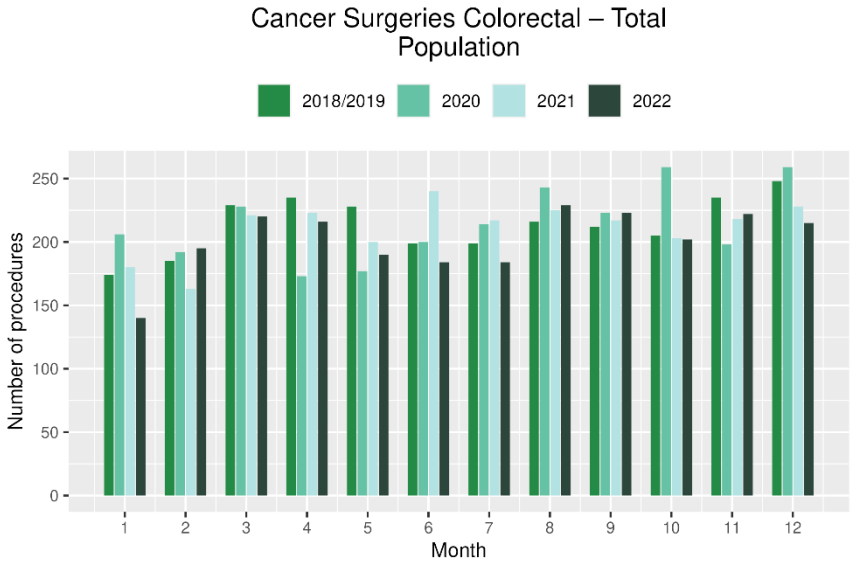
Results

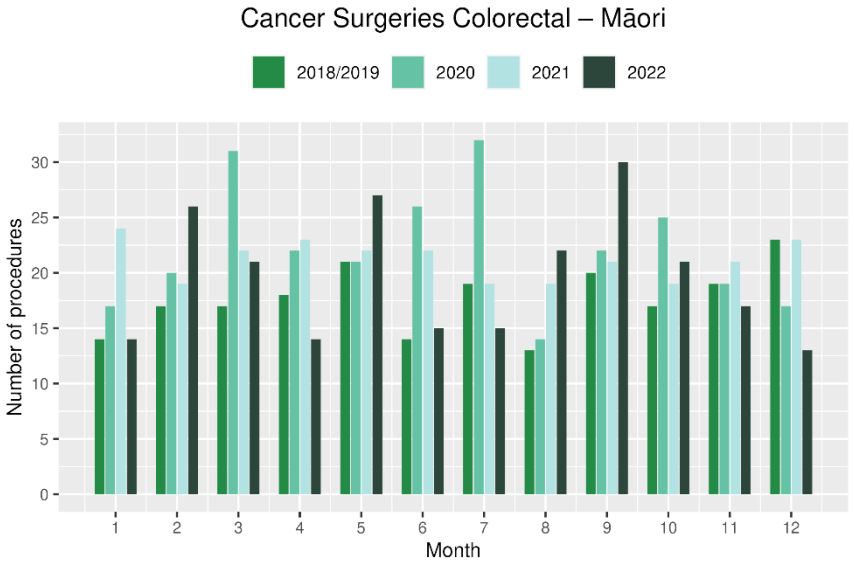
Table 10: Number of colorectal cancer surgeries and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

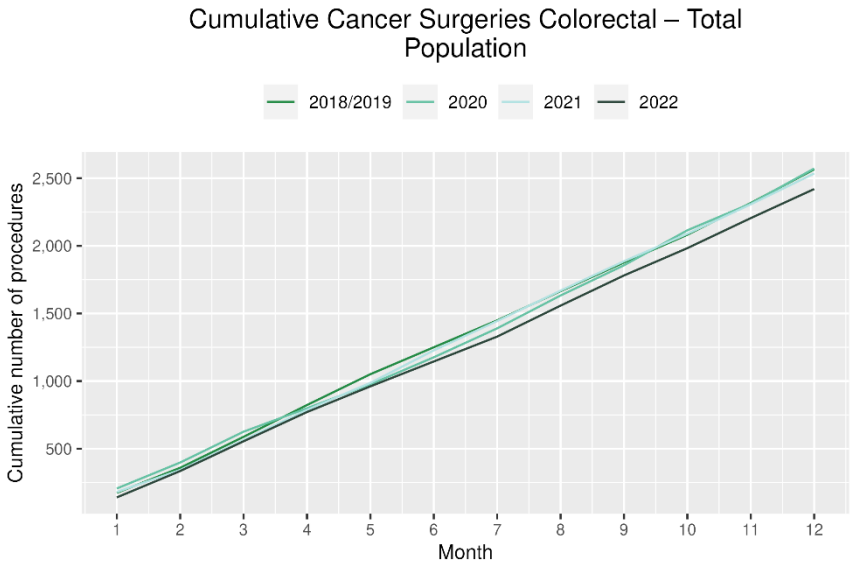
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	*	*	*	*	*	*	*	*	*	209	235	13%
Pacific Peoples	*	*	*	*	*	*	*	*	*	80	79	-1%
Non-Māori/Non-Pacific	179	173	-3%	210	198	-6%	216	196	-9%	2,274	2,106	-7%
Total Population	205	202	-1%	235	222	-6%	248	215	-13%	2,562	2,420	-6%

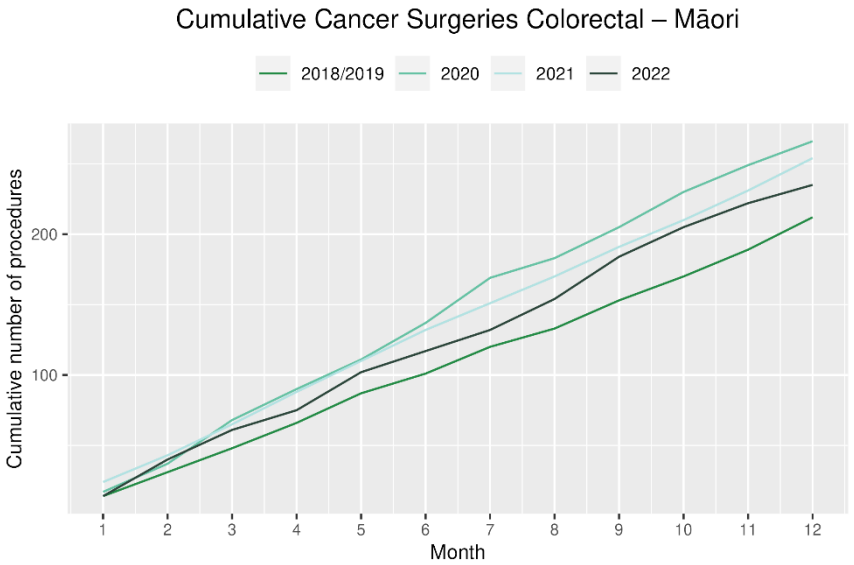
*Due to small numbers, monthly figures have not been included for Māori and Pacific peoples

Figure 9: Number of colorectal cancer surgeries by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori









LUNG CANCER SURGERY

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 5.
- The data were extracted from the NMDS on 13 Mar 2023.
- The number of lung cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

Key points

- For 2022 there was a 5% increase in the number of lung cancer surgeries performed for the total population compared with 2018/19.
- For Māori there was a 12% decrease in lung cancer surgery, numbering 15 fewer surgeries in 2022 compared with 2018/19. This represents a marginal improvement compared to the two previous reports, with the first half of 2022 (January – June) showing a 25% decrease (16 fewer surgeries over this time).
- For Pacific peoples there was a 32% increase, numbering 10 more surgeries.

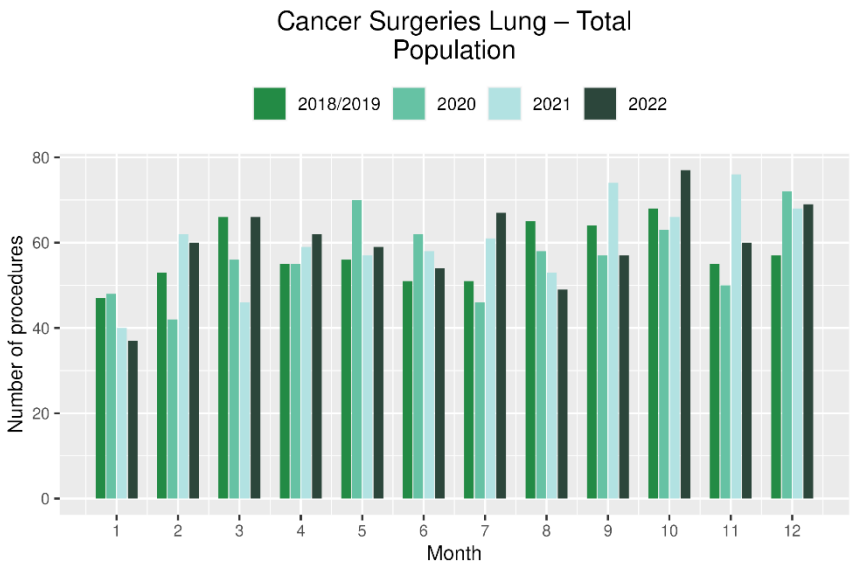
Results

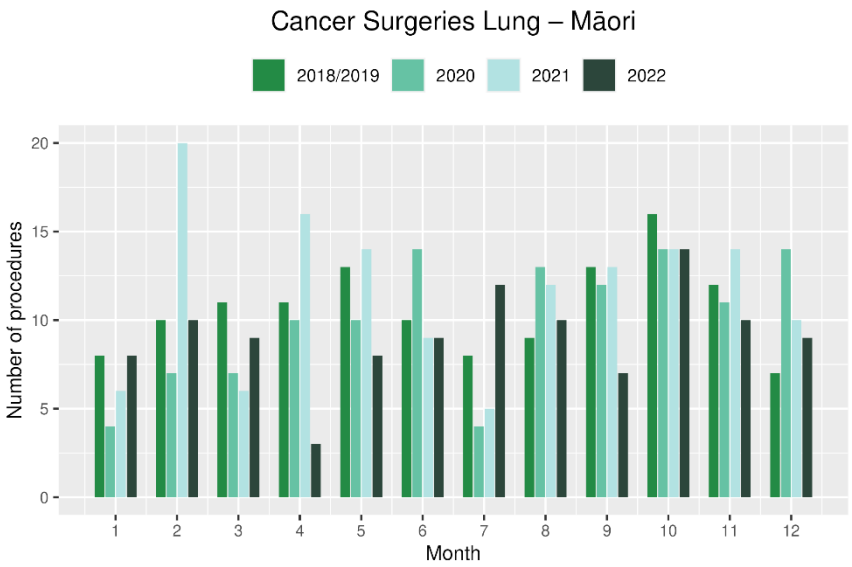
Table 11: Number of lung cancer surgeries and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

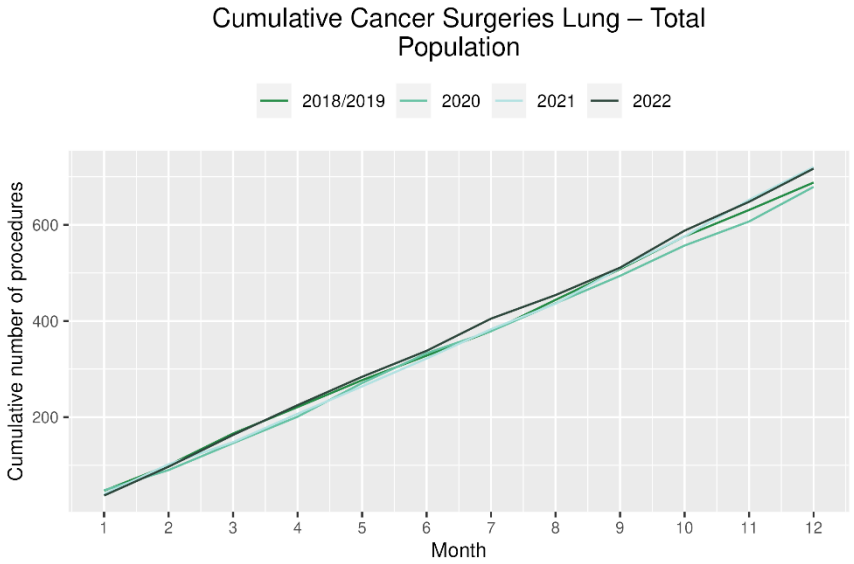
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	*	*	*	*	*	*	*	*	*	124	109	-12%
Pacific Peoples	*	*	*	*	*	*	*	*	*	31	41	32%
Non-Māori/Non-Pacific	49	59	20%	41	45	10%	46	59	30%	530	567	7%
Total Population	68	77	13%	55	60	9%	57	69	22%	686	717	5%

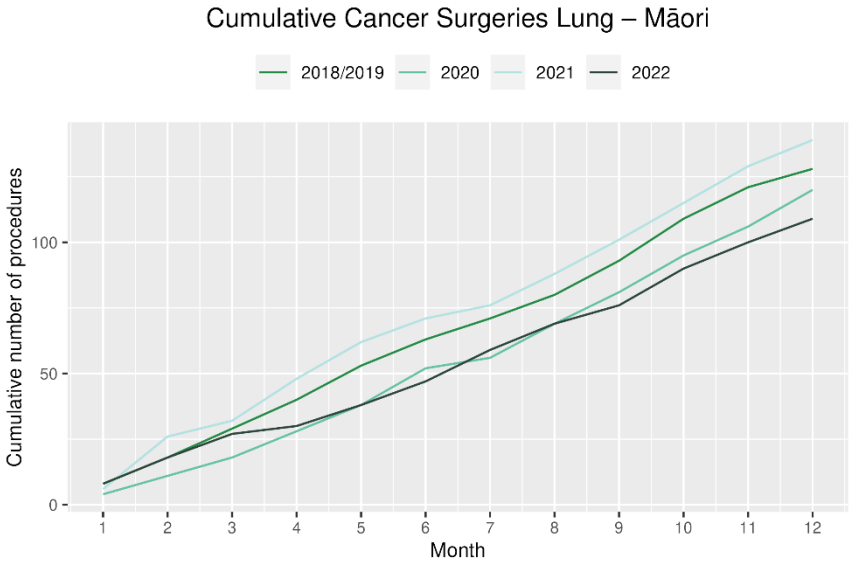
* Due to small numbers, monthly figures have not been included for Māori and Pacific peoples

Figure 10: Number of lung cancer surgeries by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori









PROSTATE CANCER SURGERY

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 5.
- The data was extracted from the NMDS on 13 Mar 2023.
- The number of prostate cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

Key points

- For 2022 there were 8% more prostate cancer surgeries compared with cumulative figures from 2018/19. For Māori, there were 47% more surgeries performed (noting small numbers).
- However, both overall and for Māori, the number of prostate cancer surgeries performed was lower in 2021 (figure 11).

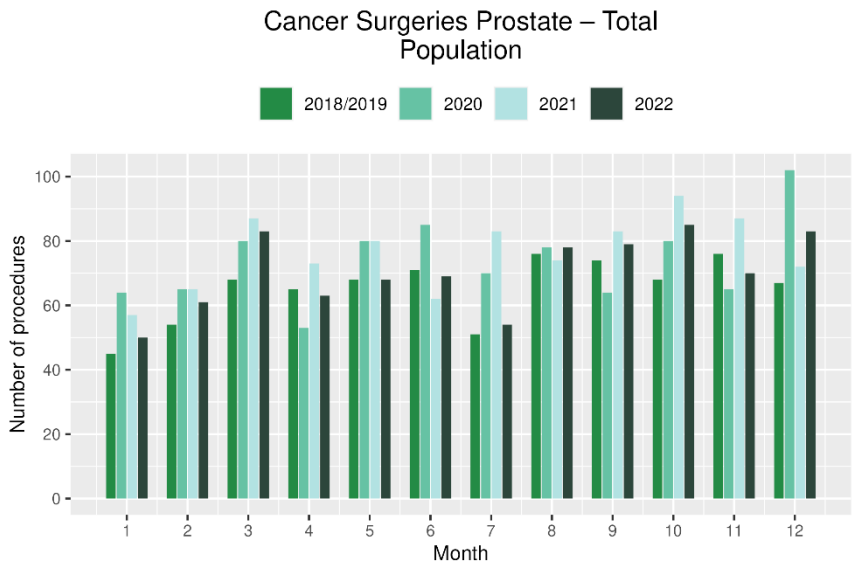
Results

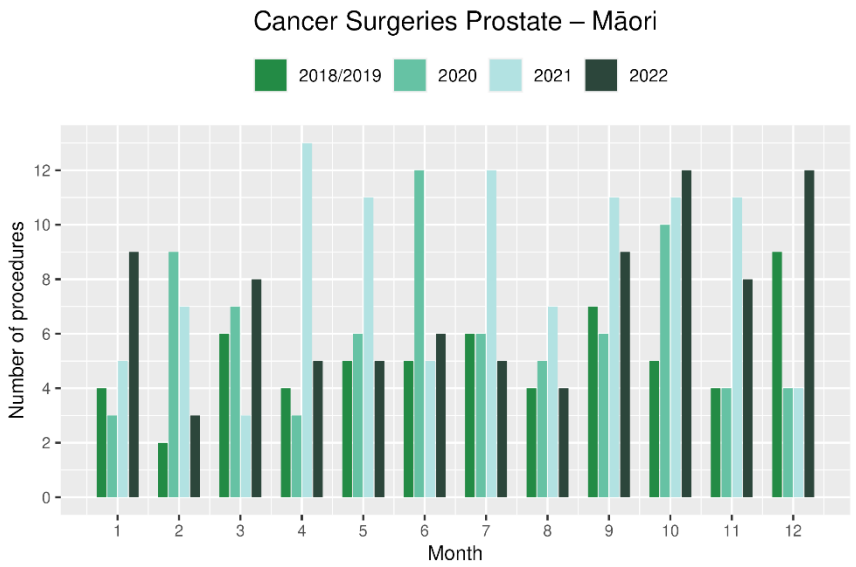
Table 12: Number of prostate cancer surgeries and percentage difference in 2022 compared to the average of 2018 and 2019 by month and cumulative year to date

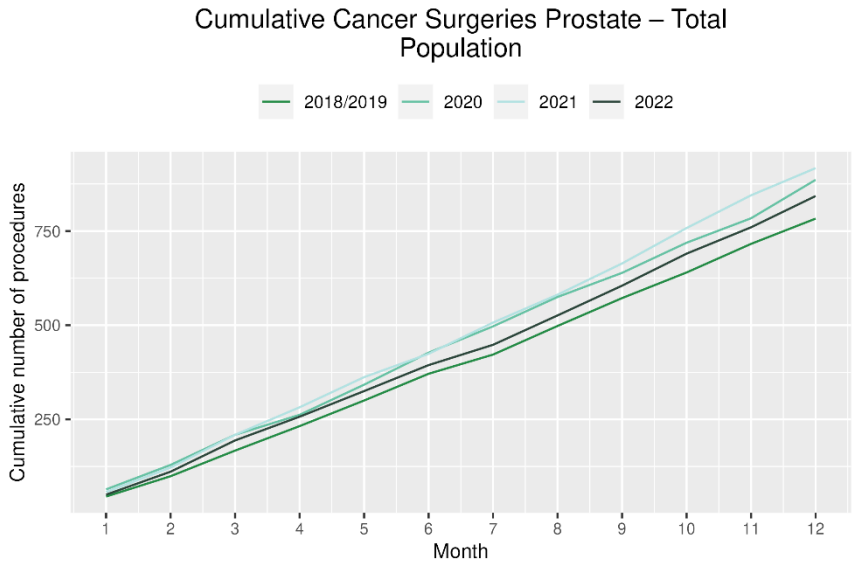
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	*	*	*	*	*	*	*	*	*	59	86	47%
Pacific Peoples	*	*	*	*	*	*	*	*	*	21	34	66%
Non-Māori/Non-Pacific	61	66	8%	70	58	-17%	56	68	21%	700	723	3%
Total Population	68	85	25%	76	70	-7%	67	83	24%	779	843	8%

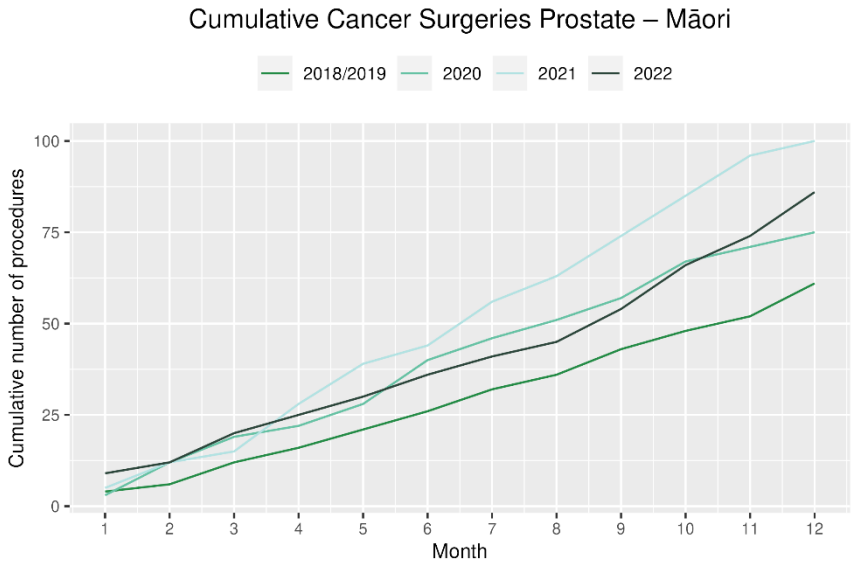
*Due to small numbers, some figures have not been included for Māori and Pacific peoples

Figure 11: Number of prostate cancer surgeries by month, 2018/19 average, 2020,2021 and 2022, total population and Māori









MEDICAL ONCOLOGY

Notes on data

- Data were extracted from NNPAC on 13 Mar 2023.
- 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 (Purchase Unit Code: M50020) and IV chemotherapy (Purchase Unit Code: MS02009).

Key points

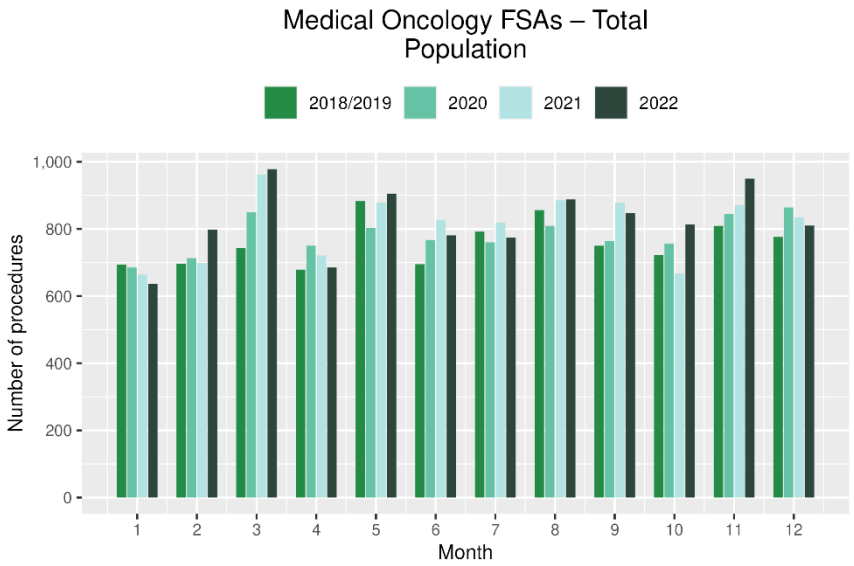
- For 2022, there was an overall 9% increase in medical oncology first specialist assessments (FSAs) compared with 2018/19 and a 16% increase for Māori. Compared to 2021 there was an increase of 2% in medical oncology FSAs for the total population, and for Māori there was a decrease of 3%.
- There was an 7% increase in IV chemotherapy attendances compared with 2018/19 overall and a 27% increase for Māori. However, when compared to 2021 there was a decrease of 3% for the total population and 2% for Māori.

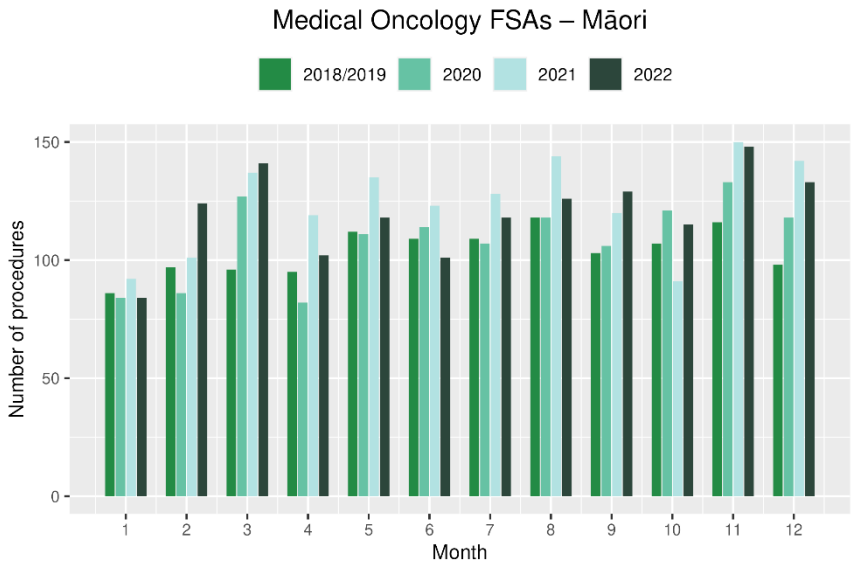
Results

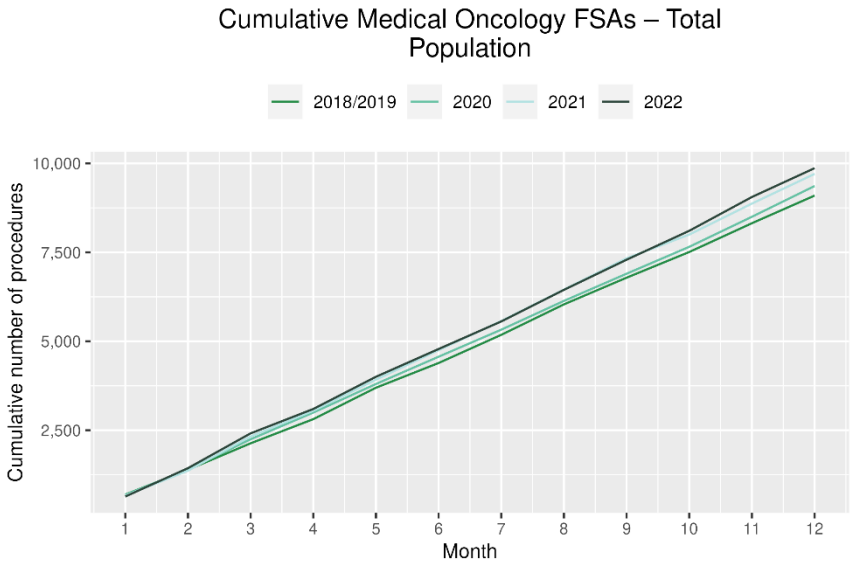
Table 13: Number of medical oncology first specialist assessments and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	107	115	8%	116	148	28%	98	133	36%	1,243	1,439	16%
Pacific Peoples	33	45	36%	38	49	31%	36	51	42%	422	535	27%
Non-Māori/Non-Pacific	582	653	12%	656	753	15%	642	626	-2%	7,429	7,892	6%
Total Population	722	813	13%	809	950	17%	776	810	4%	9,093	9,866	9%

Figure 12: Number of medical oncology first specialist assessments by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori







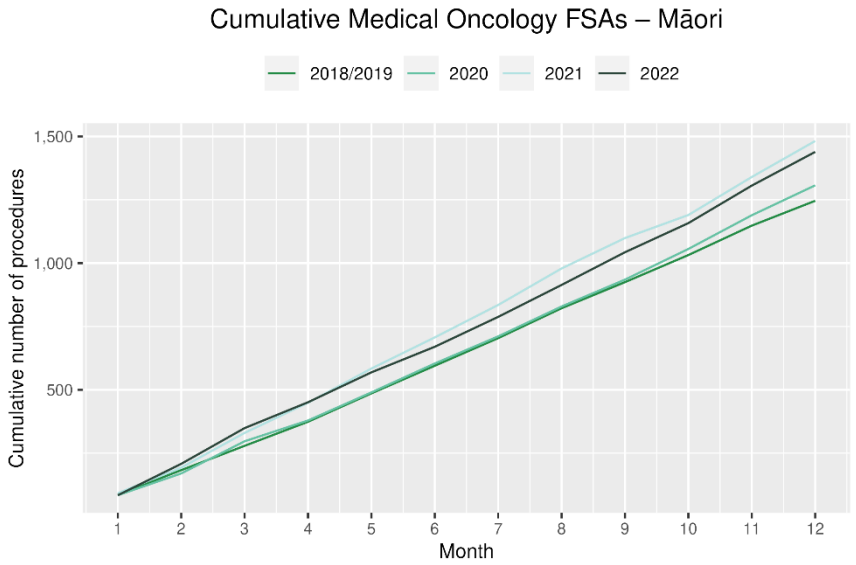


Table 14: Number of IV chemotherapy attendances and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	851	906	7%	809	1,082	34%	808	1,025	27%	9,116	11,577	27%
Pacific Peoples	303	371	22%	286	387	35%	271	355	31%	3,256	4,480	38%
Non-Māori/Non-Pacific	5,556	4,894	-12%	5,182	5,284	2%	4,943	5,126	4%	60,194	61,305	2%
Total Population	6,710	6,171	-8%	6,277	6,753	8%	6,021	6,506	8%	72,566	77,362	7%

Figure 13: Number of IV chemotherapy attendances by month, 2018/19 average, 2020 and 2021, total population and Māori

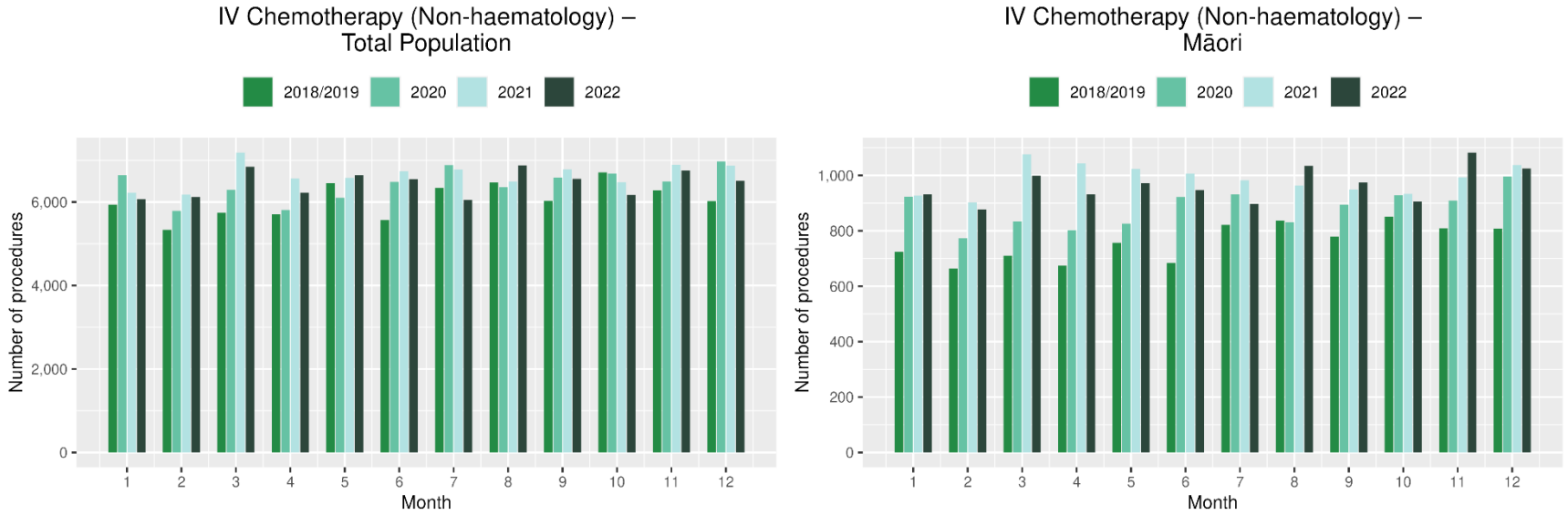
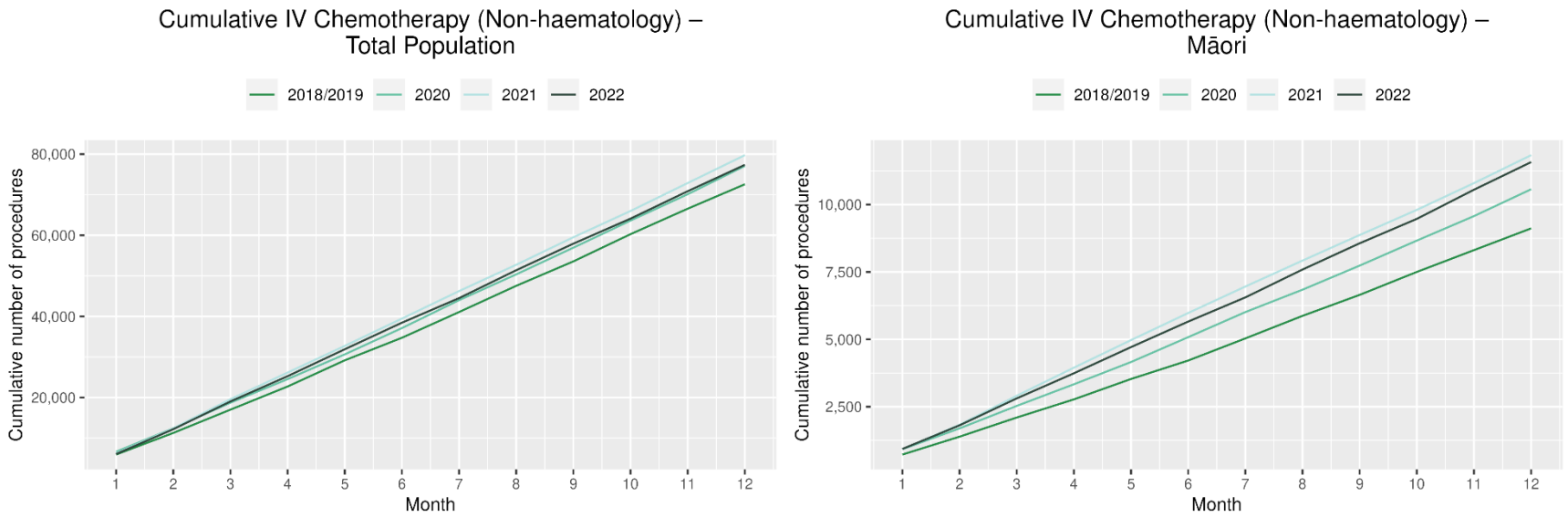


Figure 14: Cumulative number of attendances for IV chemotherapy, 2018/19 average, 2020 and 2021, total population and Māori



RADIATION ONCOLOGY

Notes on data

- Radiation oncology first specialist assessments and megavoltage attendances data were extracted from NNPAC on 13 Mar 2023.
- First specialist assessment (FSA) reflects counts of first attendance for radiation oncology specialist assessment.
- Radiation therapy attendances include appointments for planning/simulation and for treatment with radiation therapy on a linear accelerator.
- Radiation therapy courses data were extracted from Radiation Oncology Collection (ROC) on 8 March 2023. ROC is a national collection that contains diagnosis and treatment data for patients receiving radiation therapy from both the public and private providers. ROC is updated quarterly.
- A course of radiation therapy is a set of radiotherapy treatment(s) to a continuous or contiguous volume with a single intent from a single referral. A course can include multiple phases and multiple radiotherapy modalities. The monthly data here refers to the number of completed courses. The course starting date may not be in the same month.
- Radiation therapy course data reflect *completed* publicly funded radiation therapy courses. Treatments delivered by private providers with public funding are excluded with exception of Bay of Plenty District.
- Technical information: radiation oncology FSA (Purchase Unit Code: M50022), megavoltage attendances (Purchase Unit Code: M50025).

Key points

- For 2022, there was a 7% increase in radiation oncology first specialist assessments (FSAs) compared with 2018/19, with a 18% increase for Māori. However, FSAs were lower than in 2021, showing a decrease of 1% overall and 1% for Māori.
- There was an 8% decrease in radiation therapy attendances overall and a 2% decrease for Māori. It is helpful to consider the above results in relation to completed radiation therapy courses. This measure likely reflects trends in service volume over time better than radiation therapy attendance, as the increased use of hypofractionation[6] is likely to contribute to a decrease in the number of attendances required to complete a course of treatment.
- For 2022, there was a decrease of 1% in completed radiation therapy courses. This appears to be an improvement compared to earlier in the year, with cumulative data as of September 2022 showing a decrease of 3% compared to 2018/19 and July 2022 data showing a decrease of 7%. Compared to 2021, there was a decrease of 2% in 2022 for completed radiation therapy courses.

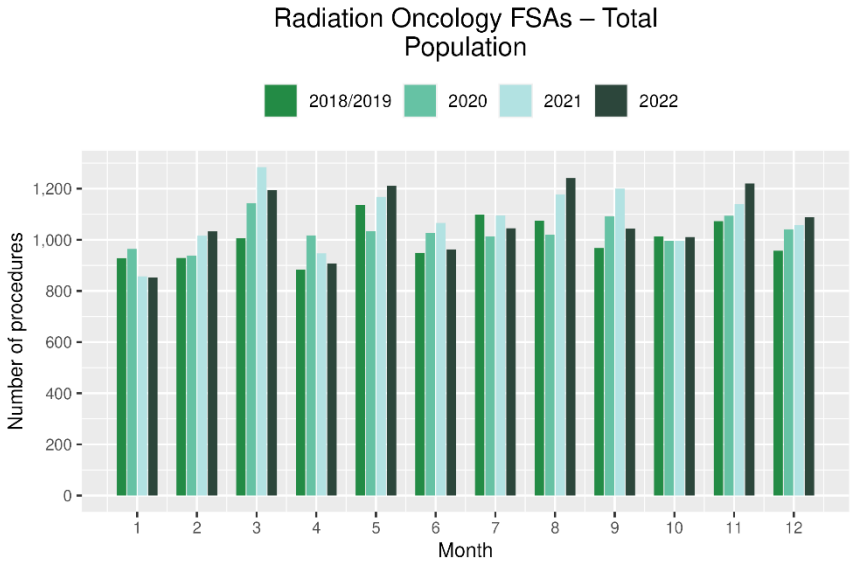
[6] Hypofractionation is a radiation treatment technique used to treat some cancers, whereby larger doses of radiation are given each treatment, meaning that patients require fewer sessions to complete their treatment. The technique is being increasingly used for some prostate and breast cancers in New Zealand and around the world.

- For 2022 in total, there was an increase of 10% for Māori in completed radiation therapy courses compared to 2018/19. When compared to 2021 this increase was 2%.

Table 15: Number of radiation oncology first specialist assessments and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	128	144	13%	134	186	39%	107	160	50%	1,422	1,684	18%
Pacific Peoples	49	51	5%	51	59	17%	37	53	45%	547	661	21%
Non-Māori/Non-Pacific	837	816	-2%	889	975	10%	814	875	7%	10,046	10,464	4%
Total Population	1,013	1,011	0%	1,073	1,220	14%	957	1,088	14%	12,015	12,809	7%

Figure 15: Number of radiation oncology first specialist assessments by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori



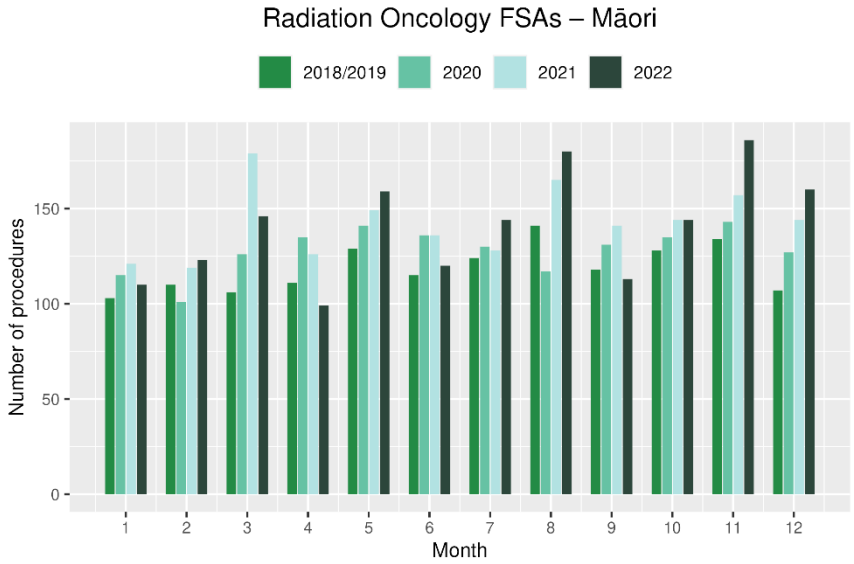


Figure 16: Cumulative number of radiation oncology first specialist assessments by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori

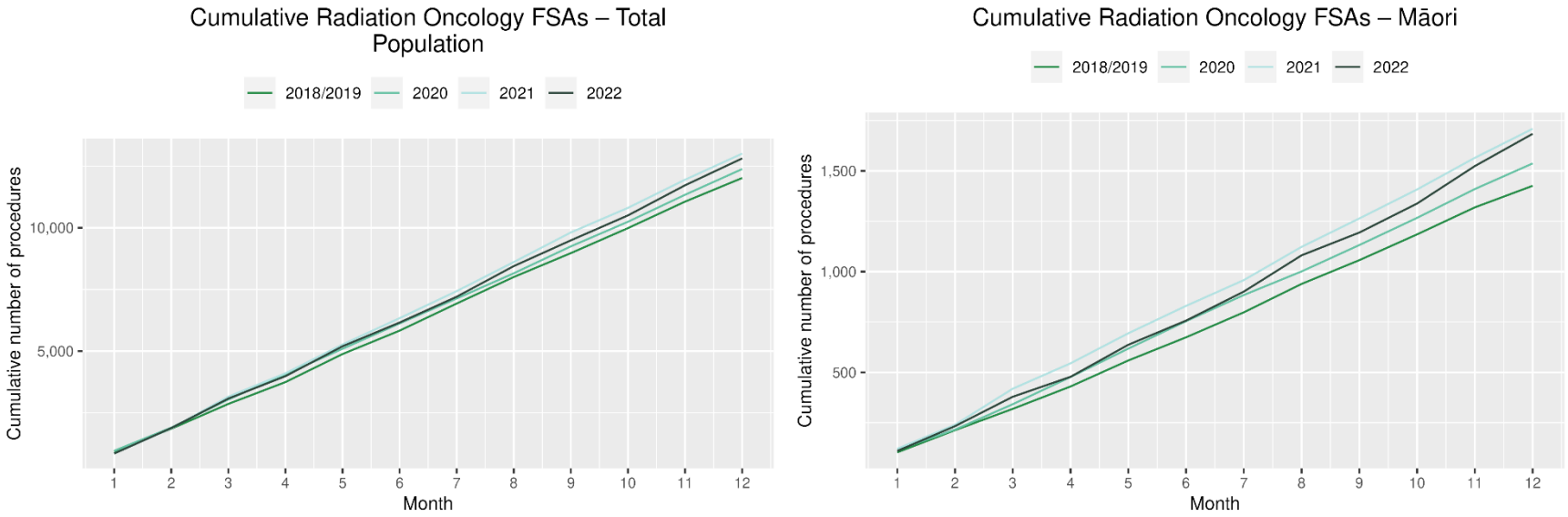
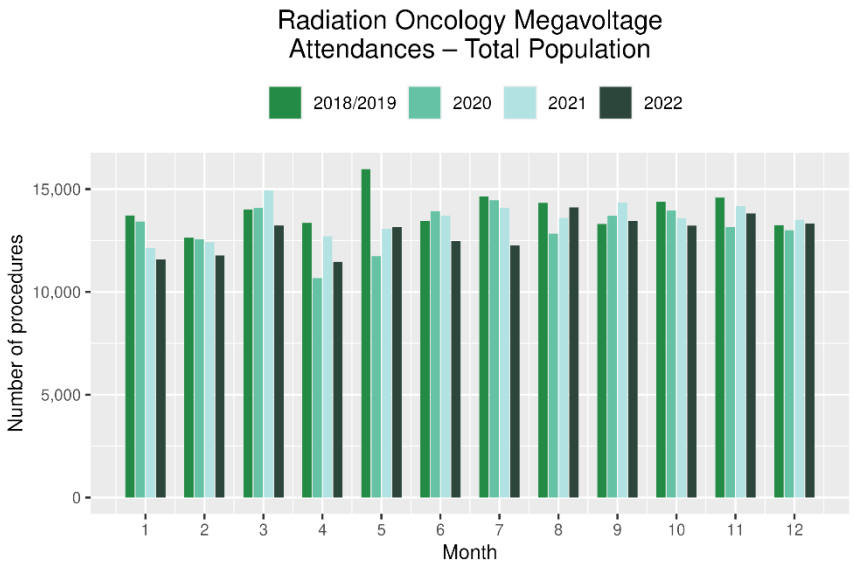
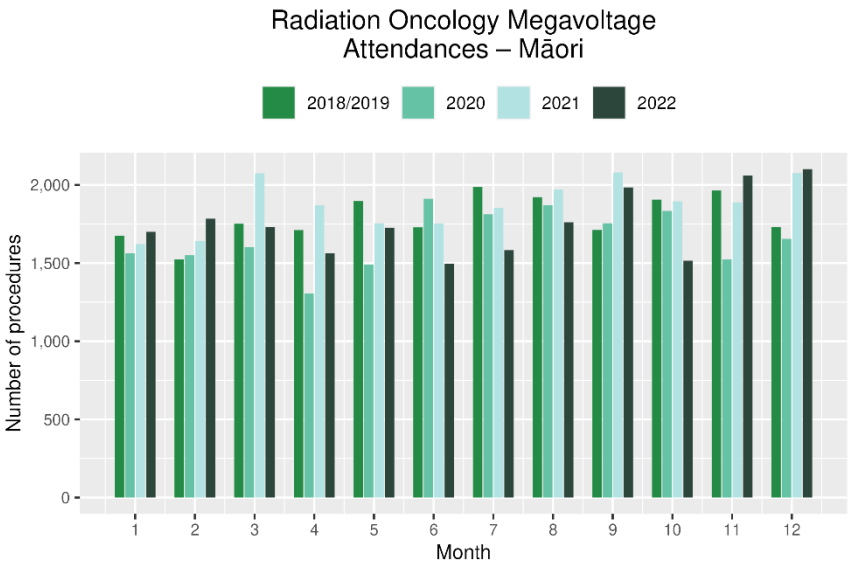


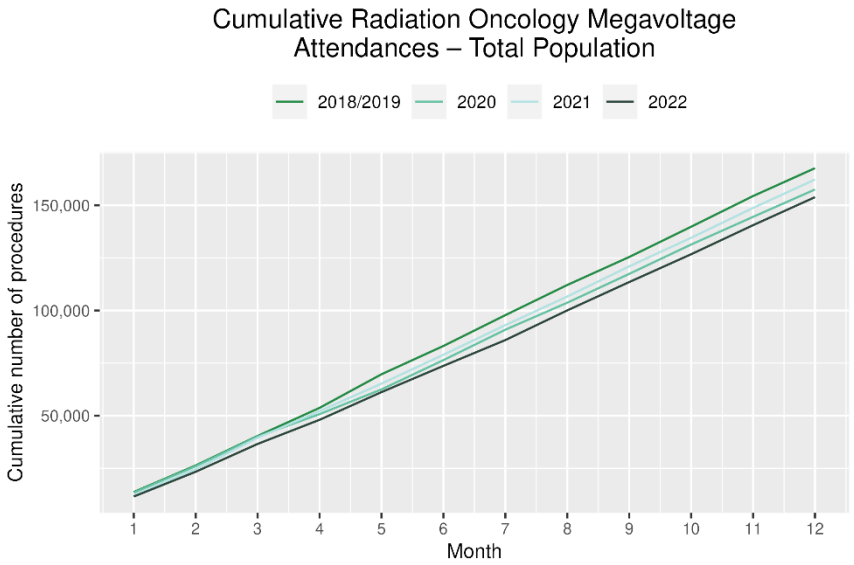
Table 16: Number of radiation therapy attendances and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	1,906	1,515	-21%	1,964	2,060	5%	1,731	2,101	21%	21,506	21,007	-2%
Pacific Peoples	570	808	42%	597	687	15%	604	515	-15%	6,966	7,098	2%
Non-Māori/Non-Pacific	11,908	10,901	-8%	12,025	11,069	-8%	10,913	10,708	-2%	139,167	125,764	-10%
Total Population	14,384	13,224	-8%	14,585	13,816	-5%	13,248	13,324	1%	167,639	153,869	-8%

Figure 17: Number of radiation therapy attendances by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori







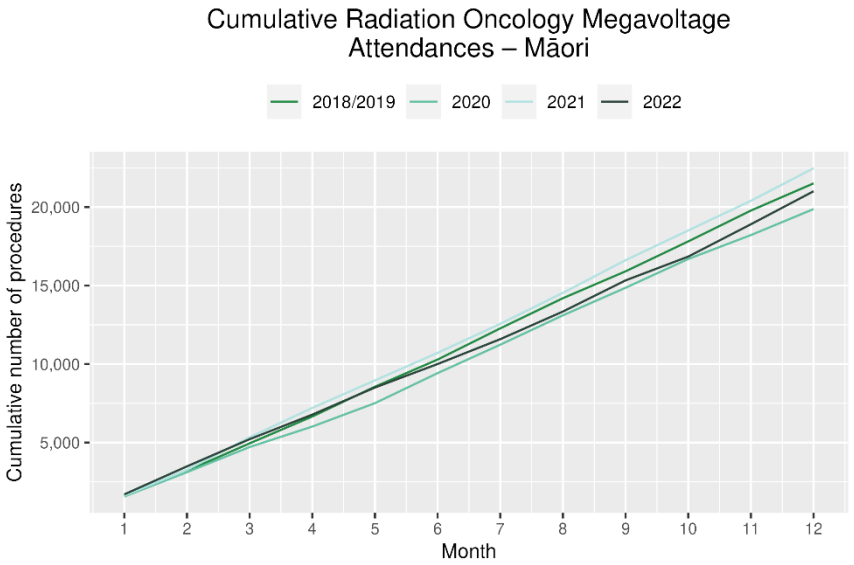
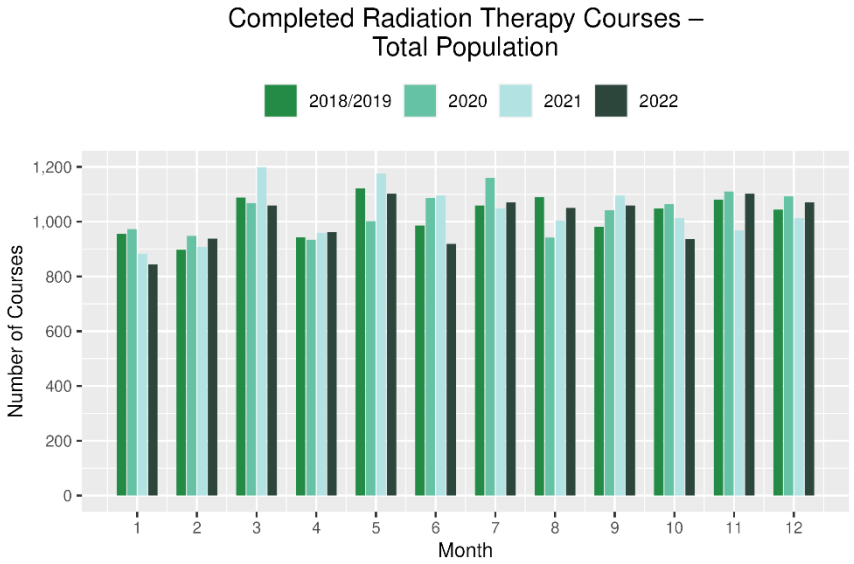
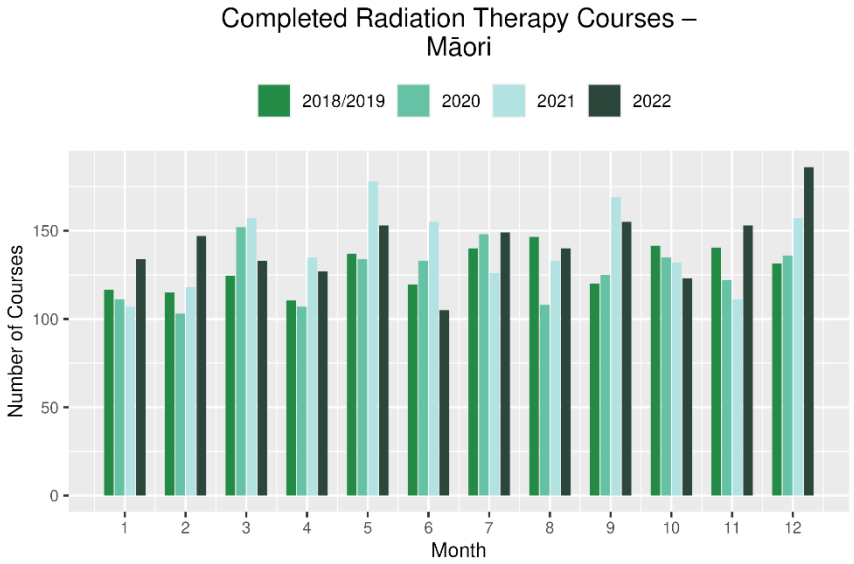


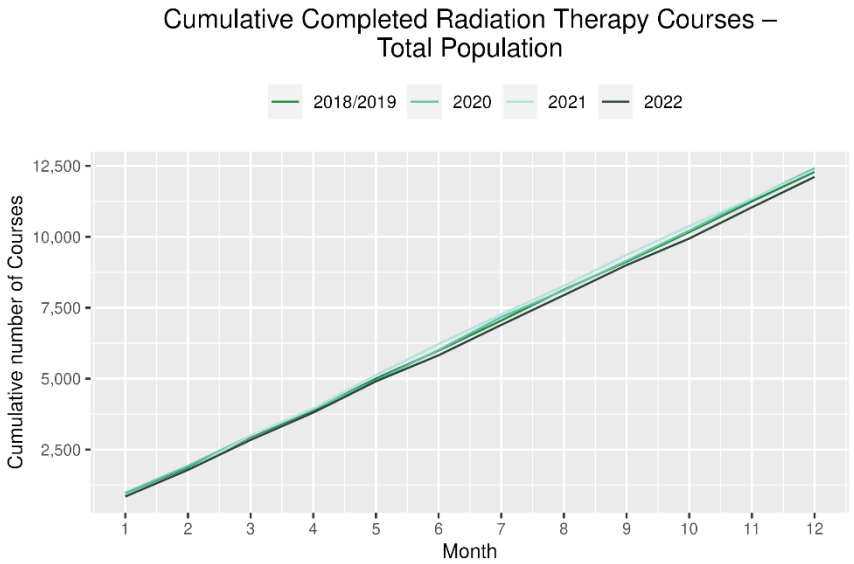
Table 17: Number of completed radiation therapy courses and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

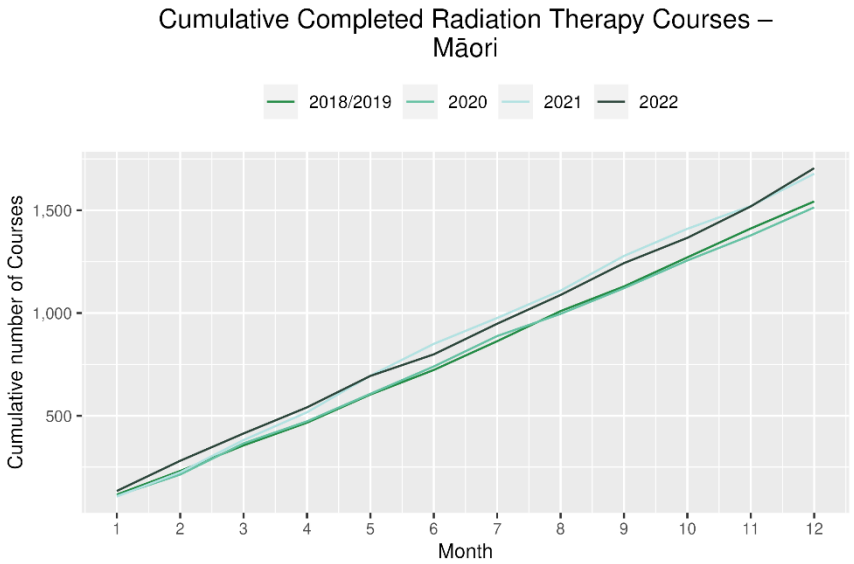
	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	142	123	-13%	141	153	9%	132	186	41%	1,543	1,705	10%
Pacific Peoples	43	53	25%	47	64	36%	55	53	-3%	540	569	5%
Non-Māori/Non-Pacific	864	760	-12%	893	885	-1%	858	832	-3%	10,209	9,839	-4%
Total Population	1,048	936	-11%	1,081	1,102	2%	1,044	1,071	3%	12,292	12,113	-1%

Figure 20: Number of completed radiation therapy courses by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori









HAEMATOLOGY

Notes on data

- Data were extracted from NNPAC and NMDS on 13 Mar 2023.
- 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 Unite Code: M30002), IV haem/chemo (Purchase Unit Code: M30020).

Key points

- For 2022, there was a 1% decrease in haematology first specialist assessments (FSAs) compared with 2018/19, and for Māori there was a 9% increase. The decrease has improved compared to mid-year where there was an 11% decrease overall for FSAs until June 2022. However, compared to 2021 there were 5% fewer FSAs, with figures similar to those seen in 2020 (figure 18).
- For 2022, there was a 5% increase in haematology intravenous (IV) chemotherapy compared with 2018/19 overall and for Māori an increase of 7%. When comparing 2022 with 2021, there were 5% fewer haematology chemotherapy attendances overall, and a 10% decrease for Māori.

Results

Table 18: Number of haematology first specialist assessment attendances and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	54	54	0%	54	71	33%	50	45	-9%	653	709	9%
Pacific Peoples	30	31	3%	25	32	28%	21	19	-10%	316	367	16%
Non-Māori/Non-Pacific	438	445	2%	500	538	8%	408	411	1%	5,471	5,328	-3%
Total Population	522	530	2%	578	641	11%	478	475	-1%	6,440	6,404	-1%

Figure 18: Number of haematology first specialist assessments by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori

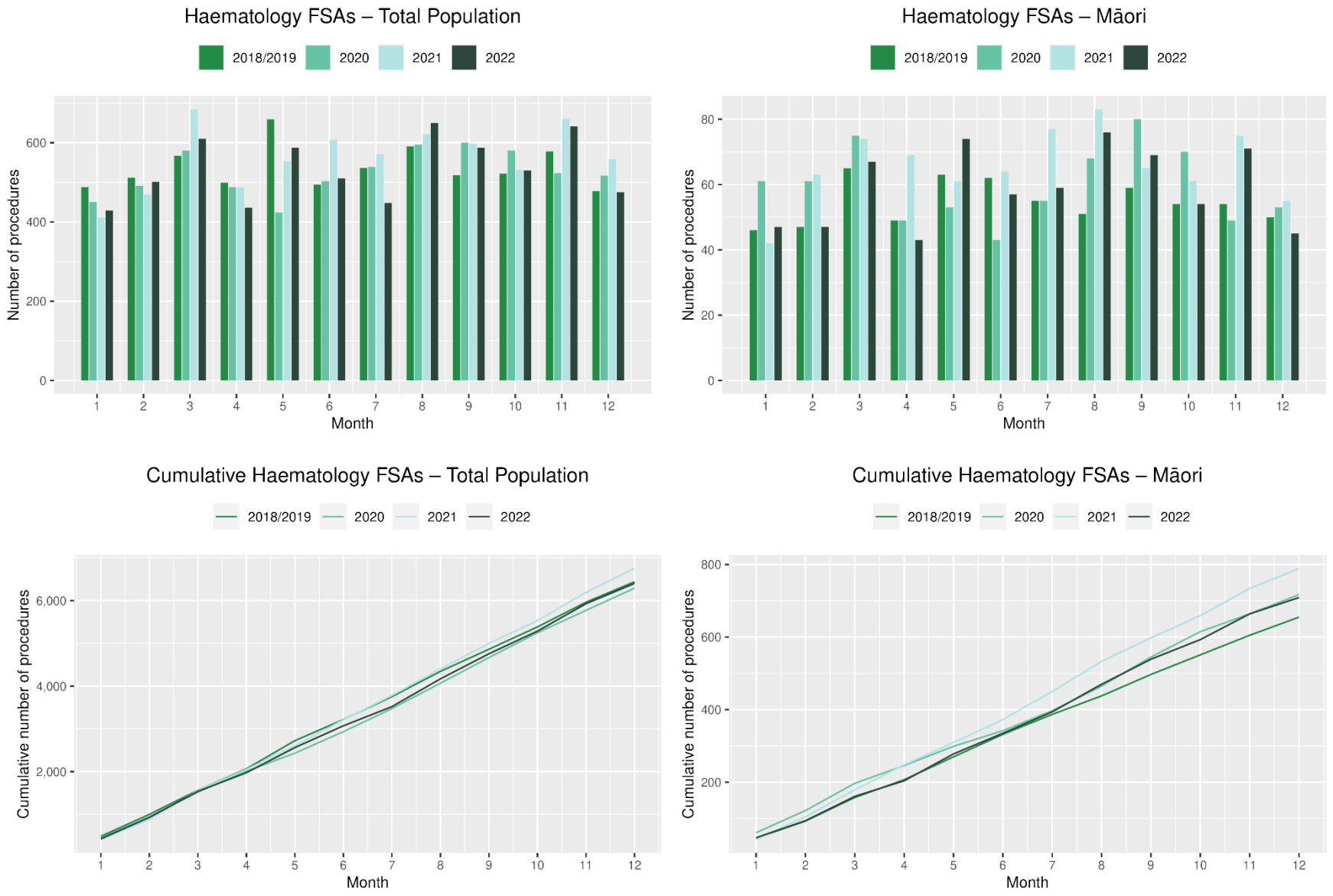
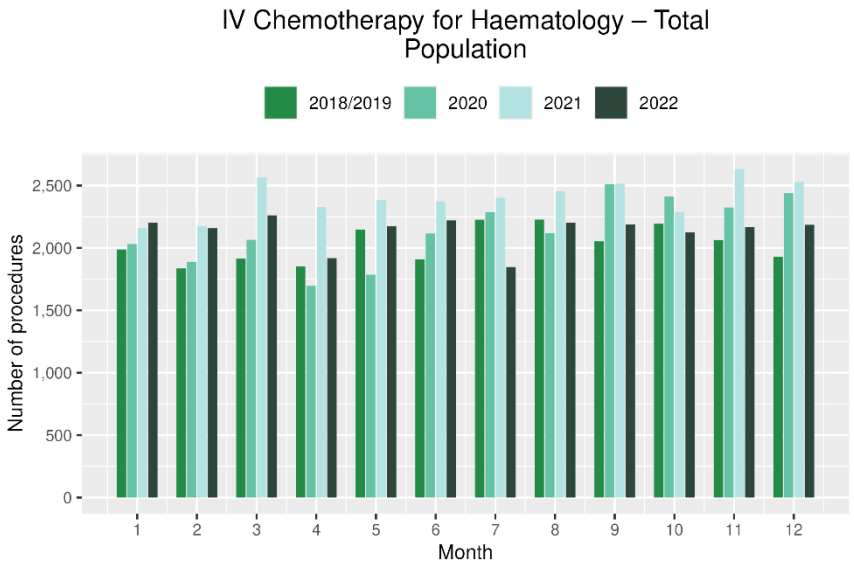


Table 19: Number of IV chemotherapy attendances for haematological malignancies and percentage difference in 2022 compared to the average of 2018 and 2019, by month and cumulative year to date, by ethnicity

	October			November			December			Cumulative January -December		
	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change	2018/2019	2022	% change
Māori	233	234	1%	232	234	1%	223	231	4%	2,531	2,699	7%
Pacific Peoples	100	110	11%	93	94	2%	75	124	65%	1,172	1,293	10%
Non-Māori/Non-Pacific	1,862	1,779	-4%	1,738	1,840	6%	1,631	1,830	12%	20,629	21,654	5%
Total Population	2,194	2,123	-3%	2,063	2,168	5%	1,928	2,185	13%	24,332	25,646	5%

Figure 19: Number of attendances for IV chemotherapy for haematological malignancies by month, 2018/19 average, 2020, 2021 and 2022, total population and Māori



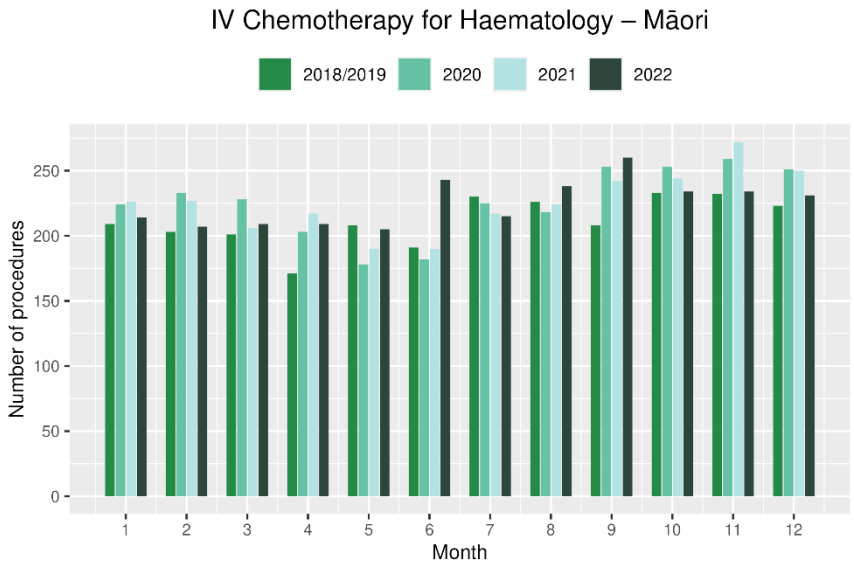
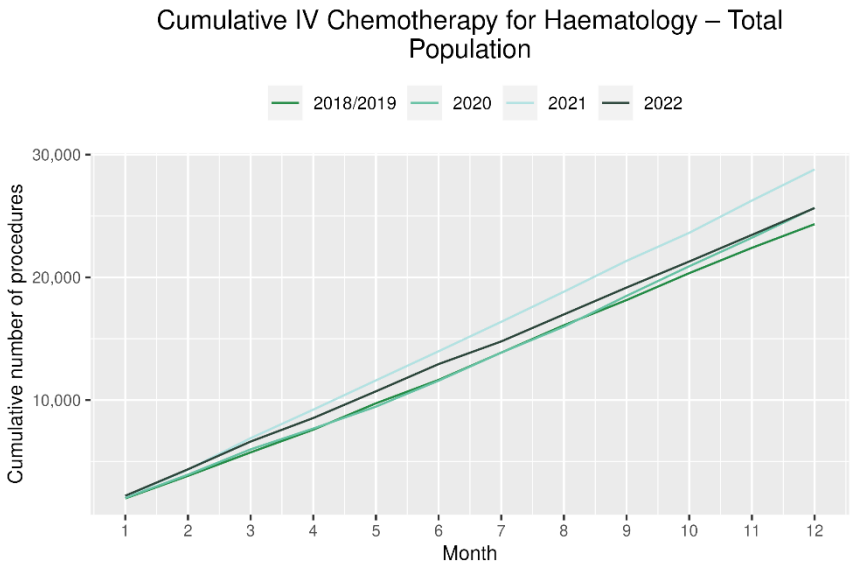
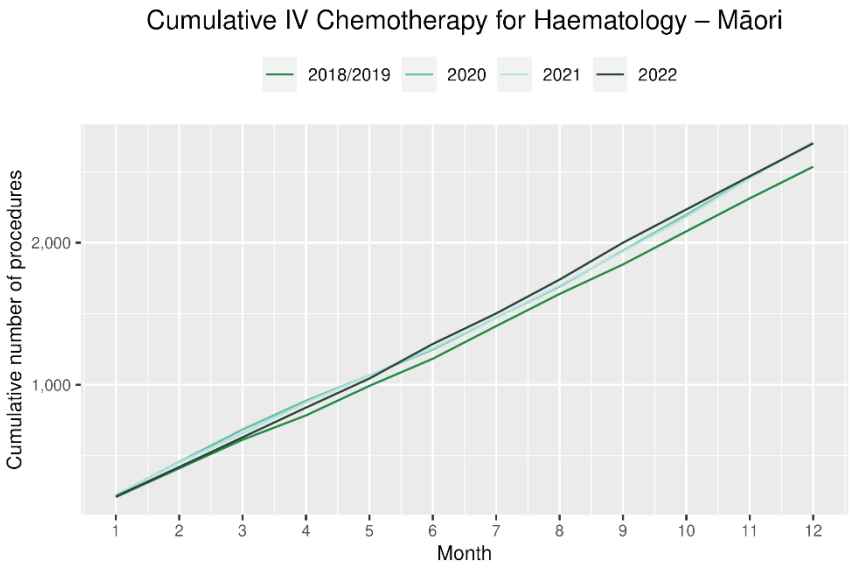


Figure 20: Cumulative number of attendances for IV chemotherapy for haematological malignancies, 2018/19 average, 2020, 2021 and 2022, total population and Māori





APPENDIX 1: KEY DATES

The follow provides a brief overview of key dates relating to COVID-19 restrictions (Alert Levels 3 and 4 where the greatest restrictions were in place) and outbreaks. More detailed information can be found on the Unite COVID-19 website[7], including an overview of Alert Levels and the COVID-19 Protection Framework[8].

23 March – 14 May 2020	All Aotearoa New Zealand was at Alert Level 3 or 4
12 August – 30 September 2020	Auckland only moved to Alert Level 3
28 Feb – 7 March 2021	Auckland only was at Alert Level 3
17 August to 7 September 2021	All Aotearoa New Zealand was at Alert 3 or 4 at the outset of the Delta variant outbreak
From 7 September 2021	Auckland remained at Alert Level 4; the rest of the country moved to Alert Level 2
September – December 2021	Auckland moved to and remained at Alert Level 3 from 21 September. There were various regional changes between Alert Level 2 and 3 over this period some parts of the North Island including parts of Waikato. Details are available on the Unite COVID-19 website[4]. Note: The definition of Alert Level 3 was eased in early October and three gradually reducing steps of level 3 were introduced in October
3 Dec 2021	End of COVID-19 Alert System. All Aotearoa New Zealand moved to the COVID-19 Protection Framework (traffic lights)
29 Dec 2021	The first case of the Omicron variant in the community in New Zealand was detected
February 2022	Omicron case numbers and hospitalisations increased more significantly in the second half of February onwards[9]
10 March 2022	Seven day rolling average of cases is over 20,000, while daily count reaches over 23,000. This was the peak of case numbers at the time of writing.
23 March 2022	Changes are made to the Red-Light setting: no limitations on numbers of people gathering outdoors, indoors limit increase to 2000 people.
14 April 2022	New Zealand changes to the Orange traffic light setting. Indoor venue capacity rules are removed but facemasks are still required in most indoor venues.
April – Dec 2022	Continued Omicron outbreak. There were over 20,000 cases at the peak of the first Omicron wave in late February and over 11,000 cases at the peak of the second wave in mid-July before a downward trend into September 2022. See Figure 21. The 'traffic light' system ended in September 2022.

[7] https://covid19.govt.nz/about-our-covid-19-response/history-of-the-covid-19-alert-system/
[8] https://covid19.govt.nz/traffic-lights/covid-19-protection-framework
[9] https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases

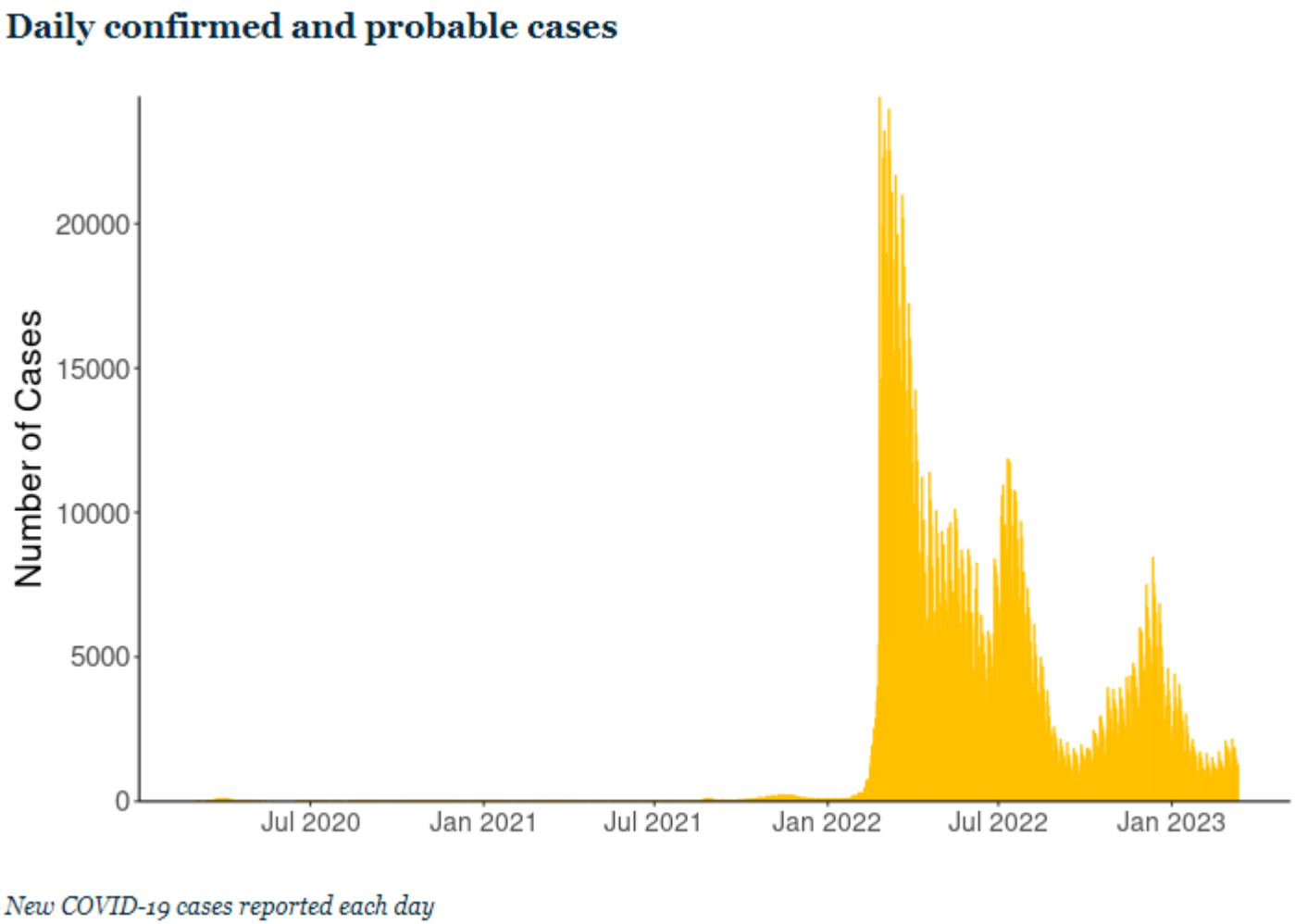


Figure 21 New COVID-19 cases reported each day (confirmed and probable) in Aotearoa New Zealand. Source: Ministry of Health, accessed March 2023 https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases

APPENDIX 2: 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 of cancer diagnoses

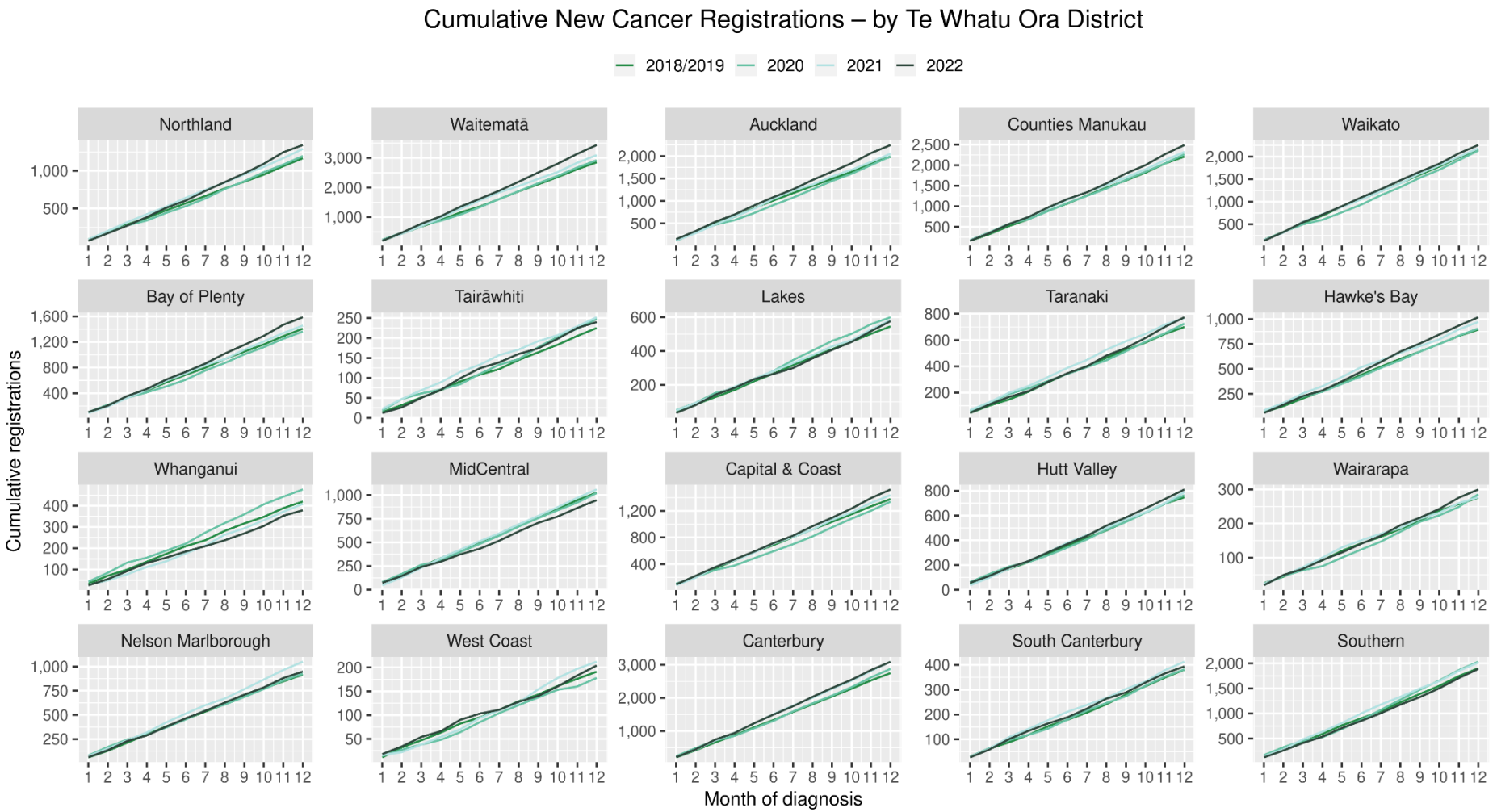
Pathology reports (documents) are received by the NZCR as electronic messages. An administrator triages these documents each day and if the document appears to meet the requirements for registration the document is “administered”. The document may relate to an existing registration or may contain information 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 3: NZCR REGISTRATIONS BY TE WHATU ORA-DISTRICT

Number of cancer registrations and percentage difference in 2022 compared to 2018/19 average, by month and cumulative year to date, by Te Whatu Ora District of domicile

	October			November			December			Cumulative January-December		
Te Whatu Ora District	**2018/19**	**2022**	**%Change**	**2018/19**	**2022**	**%Change**	**2018/19**	**2022**	**%Change**	**2018/19**	**2022**	**%Change**
Northland	94	126	34%	112	154	38%	104	95	-8%	1,161	1,341	16%
Waitematā	245	297	21%	264	334	27%	235	299	27%	2,852	3,439	21%
Auckland	156	186	19%	195	227	17%	141	179	27%	1,985	2,247	13%
Counties Manukau	188	201	7%	223	267	20%	169	223	32%	2,207	2,491	13%
Waikato	180	178	-1%	204	230	13%	173	184	7%	2,155	2,257	5%
Bay of Plenty	113	141	25%	129	173	34%	117	118	1%	1,405	1,587	13%
Tairawhiti	19	24	30%	22	27	26%	20	15	-23%	221	240	9%
Lakes	45	47	4%	46	64	41%	44	59	34%	544	577	6%
Taranaki	56	76	36%	66	85	30%	53	73	39%	696	774	11%
Hawkes Bay	77	91	19%	80	89	12%	64	84	32%	891	1,018	14%
Whanganui	31	35	15%	41	48	17%	31	26	-15%	417	379	-9%
MidCentral	88	67	-24%	91	90	-1%	79	83	5%	1,022	947	-7%
Capital and Coast	114	138	22%	119	158	33%	110	129	18%	1,374	1,523	11%
Hutt Valley	73	73	1%	72	76	6%	52	77	48%	745	811	9%
Wairarapa	29	26	-10%	19	33	78%	19	24	30%	272	300	10%
Nelson Marlborough	84	75	-11%	75	97	30%	69	67	-2%	913	948	4%
West Coast	18	20	11%	15	23	59%	15	21	45%	188	204	9%
Canterbury	235	249	6%	251	292	16%	221	248	12%	2,748	3,090	12%
South Canterbury	34	40	18%	35	37	6%	32	28	-11%	379	394	4%
Southern	162	176	9%	195	203	4%	155	182	18%	1,899	1,888	-1%


Cumulative New Cancer Registrations – by Te Whatu Ora District
2018/2019
2020
2021
2022
Northland
Waitematā
Auckland
Counties Manukau
Waikato
Bay of Plenty
Tairāwhiti
Lakes
Taranaki
Hawke's Bay
Whanganui
MidCentral
Capital & Coast
Hutt Valley
Wairarapa
Nelson Marlborough
West Coast
Canterbury
South Canterbury
Southern
Cumulative registrations
Month of diagnosis

Cumulative cancer registrations by Te Whatu Ora District and ethnicity

	Total Population						Māori						Non-Māori/Non-Pacific					
	Cumulative January-December				Difference between 2018/19 and 2022		Cumulative January-December				Difference between 2018/19 and 2022		Cumulative January-December				Difference between 2018/19 and 2022	
	2018/2019	2020	2021	2022	Number	%change	2018/2019	2020	2021	2022	Number	%change	2018/2019	2020	2021	2022	Number	%change
Northland	1,161	1,195	1,289	1,341	180	16%	269	282	330	310	41	15%	879	899	950	1,025	147	17%
Waitematā	2,852	2,922	3,097	3,439	587	21%	176	196	199	212	37	21%	2,549	2,556	2,739	3,023	474	19%
Auckland	1,985	1,996	2,053	2,247	263	13%	123	117	150	159	37	30%	1,669	1,675	1,712	1,864	195	12%
Counties Manukau	2,207	2,266	2,323	2,491	284	13%	272	325	322	299	28	10%	1,543	1,569	1,573	1,758	215	14%
Waikato	2,155	2,135	2,185	2,257	103	5%	339	336	334	364	26	8%	1,787	1,767	1,808	1,851	64	4%
Bay of Plenty	1,405	1,363	1,457	1,587	183	13%	233	235	251	251	18	8%	1,164	1,118	1,195	1,323	159	14%
Tairāwhiti	221	248	252	240	20	9%	79	99	99	96	17	22%	140	146	151	141	2	1%
Lakes	544	600	584	577	33	6%	131	169	167	137	7	5%	407	424	400	435	28	7%
Taranaki	696	725	769	774	78	11%	75	87	101	85	11	14%	618	637	656	682	64	10%
Hawkes Bay	891	905	971	1,018	128	14%	157	173	178	182	26	16%	716	722	776	820	104	15%
Whanganui	417	477	409	379	-38	-9%	63	70	82	60	-3	-5%	352	404	324	317	-35	-10%
MidCentral	1,022	1,022	1,060	947	-75	-7%	103	117	128	122	19	18%	909	888	920	808	-101	-11%
Capital and Coast	1,374	1,340	1,438	1,523	150	11%	103	124	140	143	40	39%	1,201	1,140	1,211	1,296	95	8%
Hutt Valley	745	765	790	811	66	9%	99	78	105	93	-6	-6%	617	650	636	686	70	11%
Wairarapa	272	286	277	300	28	10%	23	31	33	23	1	2%	247	254	242	272	25	10%
Nelson Marlborough	913	925	1,050	948	36	4%	52	44	65	52	0	0%	854	873	978	882	29	3%
West Coast	188	178	212	204	16	9%	16	9	21	12	-4	-25%	171	168	191	191	20	12%
Canterbury	2,748	2,878	3,093	3,090	343	12%	157	151	179	203	47	30%	2,545	2,690	2,874	2,842	298	12%
South Canterbury	379	382	413	394	16	4%	19	11	15	21	3	14%	359	370	398	373	15	4%
Southern	1,899	2,032	2,016	1,888	-11	-1%	99	108	131	103	5	5%	1,787	1,899	1,860	1,763	-24	-1%
Total	24,069	24,640	25,738	26,455	2,386	10%	2,583	2,762	3,030	2,927	345	13%	20,511	20,849	21,594	22,352	1,842	9%

Cumulative cancer registrations by cancer type and ethnicity

	Total Population						Māori						Non-Māori/Non-Pacific					
	Cumulative January-December				Difference between 2018/19 and 2022		Cumulative January-December				Difference between 2018/19 and 2022		Cumulative January-December				Difference between 2018/19 and 2022	
	2018/2019	2020	2021	2022	Number	%change	2018/2019	2020	2021	2022	Number	%change	2018/2019	2020	2021	2022	Number	%change
Breast	3,737	3,689	3,851	3,935	198	5%	531	539	604	563	33	6%	3,024	2,931	3,019	3,146	123	4%
Colorectal	3,174	3,358	3,312	3,480	307	10%	229	274	277	274	45	20%	2,862	3,012	2,939	3,084	222	8%
Gynaecology	1,053	1,145	1,138	1,170	118	11%	157	166	181	168	11	7%	760	845	821	832	73	10%
Haematology and Lymphoid	2,447	2,379	2,476	2,505	58	2%	260	253	287	265	6	2%	2,088	2,015	2,071	2,126	38	2%
Melanoma and non-melanoma skin cancer	3,363	3,295	3,645	3,974	611	18%	76	66	108	96	20	26%	3,277	3,218	3,522	3,861	585	18%
Other digestive system	1,459	1,761	1,703	1,740	281	19%	222	288	276	256	35	16%	1,140	1,364	1,315	1,361	222	19%
Prostate	3,925	3,731	4,053	4,059	135	3%	313	305	348	375	63	20%	3,488	3,306	3,576	3,550	62	2%
Respiratory and thorax	1,767	1,915	1,973	1,899	133	8%	385	417	435	430	46	12%	1,289	1,401	1,438	1,369	81	6%
Urinary system	989	1,116	1,135	1,063	74	7%	99	129	144	123	25	25%	867	944	949	903	37	4%
Total	21,912	22,389	23,286	23,825	1,913	9%	2,269	2,437	2,660	2,550	281	12%	18,792	19,036	19,650	20,232	1,440	8%

APPENDIX 4: DIAGNOSIS AND TREATMENT DATA BY TE WHATU ORA DISTRICT

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 private providers being excluded from the analyses within this appendix.

Gastrointestinal endoscopy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	3,975	3,835	4,748	4,791	817	21%	710	745	958	999	289	41%	3,234	3,061	3,738	3,733	499	15%
Waitematā	9,244	9,645	9,606	11,038	1,795	19%	518	560	640	629	112	22%	8,417	8,671	8,587	9,991	1,575	19%
Auckland	6,190	6,287	6,313	6,034	-156	-3%	327	372	388	424	97	30%	5,438	5,425	5,458	5,143	-295	-5%
Counties Manukau	9,198	9,720	9,827	11,071	1,874	20%	901	975	898	1,098	197	22%	7,158	7,423	7,457	8,302	1,144	16%
Waikato	5,805	6,611	5,756	6,046	241	4%	690	785	764	858	169	24%	5,043	5,741	4,917	5,099	57	1%
Bay of Plenty	4,857	5,364	6,629	6,508	1,652	34%	588	707	812	884	296	50%	4,246	4,626	5,772	5,567	1,322	31%
Lakes	1,966	1,997	2,326	1,765	-201	-10%	363	406	459	381	19	5%	1,575	1,557	1,834	1,350	-225	-14%
Tairāwhiti	763	770	830	944	182	24%	224	222	231	297	74	33%	534	537	592	637	103	19%
Taranaki	1,896	2,285	2,569	2,343	447	24%	187	217	272	274	87	47%	1,700	2,045	2,286	2,050	351	21%
Whanganui	1,503	1,323	1,291	1,072	-431	-29%	210	198	180	171	-39	-19%	1,283	1,115	1,101	890	-393	-31%
Hawkes Bay	2,832	3,201	3,452	4,161	1,329	47%	355	452	486	642	288	81%	2,442	2,700	2,927	3,473	1,031	42%
MidCentral	2,236	2,390	2,922	2,610	374	17%	167	224	297	303	136	81%	2,048	2,134	2,593	2,272	225	11%
Capital and Coast	2,792	3,269	3,607	3,518	727	26%	198	257	330	291	93	47%	2,478	2,893	3,125	3,059	581	23%
Hutt Valley	2,656	3,368	3,320	3,730	1,075	40%	228	344	340	417	189	83%	2,338	2,896	2,833	3,166	828	35%
Wairarapa	1,029	986	1,038	962	-67	-6%	92	92	101	100	8	9%	928	888	930	855	-73	-8%
Nelson Marlborough	2,284	2,835	2,834	2,815	531	23%	113	161	151	171	59	52%	2,160	2,654	2,666	2,627	467	22%
West Coast	672	709	831	774	102	15%	48	36	66	60	13	26%	622	669	761	707	86	14%
Canterbury	7,897	8,302	7,851	9,759	1,863	24%	459	481	479	659	201	44%	7,330	7,705	7,278	8,961	1,631	22%
South Canterbury	1,246	1,160	1,291	1,319	73	6%	45	61	41	71	26	58%	1,198	1,097	1,242	1,240	43	4%
Southern	4,747	5,174	5,980	6,208	1,462	31%	236	292	319	366	131	55%	4,479	4,822	5,606	5,782	1,304	29%
Grand total	73,782	79,231	83,021	87,468	13,687	19%	6,655	7,587	8,212	9,095	2,441	37%	64,646	68,659	71,703	74,904	10,259	16%

Bronchoscopy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	83	86	100	100	17	20%	24	31	27	29	5	21%	58	54	71	70	13	22%
Waitematā	142	155	202	202	60	42%	*	13	23	13	*	*	127	134	175	181	54	43%
Auckland	381	314	294	307	-74	-19%	54	33	42	58	5	8%	294	256	239	234	-60	-20%
Counties Manukau	360	348	313	393	34	9%	65	52	59	79	15	22%	239	243	202	244	5	2%
Waikato	275	224	219	193	-82	-30%	62	48	35	30	-32	-51%	209	172	182	160	-49	-23%
Bay of Plenty	165	154	166	122	-43	-26%	37	42	44	27	-10	-27%	126	112	122	95	-31	-24%
Lakes	92	83	83	61	-31	-33%	30	27	25	22	-8	-25%	60	53	58	38	-22	-37%
Tairāwhiti	*	22	25	18	*	*	*	10	*	14	*	*	*	12	17	*	*	*
Taranaki	60	45	63	79	19	32%	10	*	12	16	6	60%	50	36	51	62	12	24%
Whanganui	17	12	13	*	*	*	*	*	*	*	*	*	11	*	*	*	*	*
Hawkes Bay	67	44	69	75	9	13%	17	11	19	26	10	58%	48	32	49	47	-1	-2%
MidCentral	38	33	35	47	9	24%	*	*	*	10	*	*	30	27	26	37	7	23%
Capital and Coast	94	67	68	69	-25	-26%	10	*	*	11	1	5%	78	56	57	53	-25	-32%
Hutt Valley	115	95	91	77	-38	-33%	23	14	14	28	6	24%	88	75	70	44	-44	-50%
Nelson Marlborough	75	79	88	87	12	16%	*	*	*	*	*	*	69	72	86	82	13	19%
Canterbury	408	386	338	365	-43	-10%	29	24	20	35	7	23%	374	352	315	320	-54	-14%
South Canterbury	15	21	14	*	*	*	*	*	*	*	*	*	14	20	14	*	*	*
Southern	242	216	268	234	-8	-3%	22	10	15	20	-2	-7%	219	199	250	207	-12	-5%
Grand total	2,630	2,384	2,449	2,439	-191	-7%	410	350	367	425	15	4%	2,094	1,912	1,989	1,886	-208	-10%

CT Lung Biopsy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	47	68	124	70	23	49%	16	23	49	25	10	61%	30	45	75	44	14	47%
Waitematā	28	36	44	34	6	21%	*	*	*	*	*	*	22	32	32	32	10	45%
Auckland	14	31	26	12	-2	-14%	*	*	*	*	*	*	*	21	15	10	*	*
Counties Manukau	87	96	62	67	-20	-23%	16	18	14	14	-2	-13%	56	60	37	40	-16	-28%
Waikato	103	95	92	107	4	4%	20	18	21	23	4	18%	83	77	71	81	-2	-2%
Bay of Plenty	58	50	64	64	6	10%	15	16	15	24	9	60%	43	34	49	40	-3	-6%
Lakes	18	34	27	25	8	43%	*	12	*	*	*	*	13	21	17	16	4	28%
Tairāwhiti	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Taranaki	32	35	44	31	-1	-3%	*	*	*	*	*	*	27	32	37	26	-1	-4%
Whanganui	18	21	21	16	-2	-11%	*	*	*	*	*	*	15	13	12	13	-2	-13%
Hawkes Bay	48	30	36	37	-11	-23%	12	10	*	11	-1	-8%	36	19	31	26	-10	-28%
MidCentral	63	74	52	61	-2	-2%	*	*	*	11	*	*	55	63	43	50	-5	-8%
Capital and Coast	34	33	26	34	1	1%	*	*	*	*	*	*	24	23	23	25	1	4%
Hutt Valley	29	31	27	44	15	52%	*	*	*	*	*	*	22	28	22	36	15	67%
Wairarapa	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Nelson Marlborough	43	34	62	35	-8	-19%	*	*	*	*	*	*	39	30	57	31	-8	-19%
Canterbury	210	208	232	175	-35	-17%	19	20	18	14	-5	-24%	190	184	208	157	-33	-17%
South Canterbury	*	*	11	*	*	*	*	*	*	*	*	*	*	*	10	*	*	*
Southern	70	72	74	63	-7	-10%	*	*	*	*	*	*	64	65	73	59	-5	-7%
Grand total	915	962	1,028	893	-22	-2%	146	161	180	161	15	10%	734	760	816	701	-35	-5%

Breast cancer surgery (mastectomy)

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	78	82	95	101	23	29%	25	33	20	36	11	44%	53	47	73	65	12	23%
Waitematā	136	159	132	160	25	18%	15	11	*	12	-3	-17%	113	129	117	138	25	22%
Auckland	117	86	115	123	6	5%	*	*	13	10	*	*	92	68	81	91	-1	-1%
Counties Manukau	250	274	249	242	-8	-3%	37	40	37	41	5	12%	163	176	160	144	-19	-12%
Waikato	111	109	104	99	-12	-11%	30	33	18	27	-3	-10%	80	72	84	68	-12	-14%
Bay of Plenty	97	96	110	90	-7	-7%	18	23	24	17	-1	-3%	79	73	85	73	-6	-8%
Lakes	49	59	51	44	-5	-9%	22	22	21	19	-3	-12%	27	36	30	24	-3	-9%
Tairāwhiti	21	12	25	16	-5	-22%	11	*	14	*	*	*	10	*	11	10	*	0%
Taranaki	46	52	71	46	1	1%	*	10	10	*	*	*	38	42	59	37	-1	-3%
Whanganui	39	33	38	39	0	0%	*	*	12	*	*	*	31	26	25	33	2	6%
Hawkes Bay	87	78	73	48	-39	-45%	20	24	24	15	-5	-23%	65	53	48	31	-34	-52%
MidCentral	49	39	46	51	2	4%	*	*	*	*	*	*	40	30	36	42	3	6%
Capital and Coast	57	73	77	82	26	45%	*	*	*	14	*	*	47	62	63	61	14	30%
Hutt Valley	80	87	67	64	-16	-19%	11	*	11	*	*	*	65	79	54	56	-9	-13%
Wairarapa	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Nelson Marlborough	67	61	77	55	-12	-18%	*	*	*	*	*	*	62	54	73	49	-13	-21%
Canterbury	170	171	181	153	-17	-10%	16	15	*	12	-4	-23%	151	148	169	138	-13	-8%
South Canterbury	31	25	45	31	1	2%	*	*	*	*	*	*	27	22	41	30	4	13%
Southern	109	125	112	98	-11	-10%	*	*	11	*	*	*	101	115	97	89	-12	-12%
Grand total	1,595	1,623	1,671	1,552	-43	-3%	255	267	252	249	-6	-2%	1,244	1,239	1,309	1,188	-56	-5%

Colorectal cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	92	93	104	118	27	29%	15	19	17	22	7	47%	76	73	87	96	20	26%
Waitematā	249	221	195	190	-59	-24%	17	11	12	*	*	*	219	207	175	178	-41	-19%
Auckland	197	213	233	208	12	6%	12	25	17	19	7	58%	162	175	186	160	-2	-1%
Counties Manukau	153	144	119	104	-49	-32%	11	20	12	10	-1	-9%	125	107	88	73	-52	-41%
Waikato	224	292	260	210	-14	-6%	26	43	42	34	8	31%	194	247	214	172	-22	-11%
Bay of Plenty	138	182	145	147	9	7%	16	26	24	19	4	23%	122	155	115	128	6	5%
Lakes	73	79	81	78	6	8%	12	11	12	17	5	42%	59	67	66	61	2	3%
Tairāwhiti	25	31	33	27	2	8%	*	11	15	11	*	*	19	19	17	14	-5	-26%
Taranaki	90	84	84	115	25	28%	*	10	10	*	*	*	82	74	74	107	25	30%
Whanganui	53	56	46	51	-2	-3%	*	*	*	*	*	*	47	52	44	46	-1	-2%
Hawkes Bay	146	150	138	117	-29	-20%	19	19	13	18	-1	-3%	127	127	123	98	-29	-23%
MidCentral	113	121	133	109	-4	-3%	*	12	21	14	*	*	104	108	111	94	-10	-10%
Capital and Coast	162	136	145	176	14	9%	15	14	19	16	1	7%	140	117	116	151	12	8%
Hutt Valley	76	61	61	58	-18	-24%	*	*	*	*	*	*	68	54	55	53	-15	-21%
Wairarapa	21	*	20	15	-6	-27%	*	*	*	*	*	*	19	*	18	14	-5	-26%
Nelson Marlborough	95	77	84	97	3	3%	*	*	*	*	*	*	91	71	82	92	2	2%
West Coast	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Canterbury	323	313	354	345	23	7%	18	22	20	23	5	28%	301	288	331	319	19	6%
South Canterbury	59	49	61	52	-7	-12%	*	*	*	*	*	*	58	46	61	51	-7	-12%
Southern	274	254	233	197	-77	-28%	10	*	11	*	*	*	261	244	219	193	-68	-26%
Grand total	2,562	2,571	2,535	2,420	-142	-6%	209	266	254	235	27	13%	2,274	2,246	2,188	2,106	-168	-7%

Lung cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Auckland	292	263	260	299	7	2%	56	51	42	46	-10	-17%	214	192	199	226	12	6%
Counties Manukau	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Waikato	135	164	154	145	10	7%	36	37	44	25	-11	-31%	97	126	108	117	20	21%
Bay of Plenty	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Capital and Coast	123	100	160	121	-2	-2%	24	16	29	21	-3	-11%	94	79	125	94	0	0%
Canterbury	91	112	94	98	8	8%	*	10	20	13	*	*	84	98	71	81	-3	-4%
Southern	42	37	48	54	12	29%	*	*	*	*	*	*	40	32	45	49	9	23%
Grand total	686	678	718	717	33	5%	124	120	138	109	-15	-12%	530	528	550	567	38	7%

Prostate cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	54	40	49	41	-13	-23%	*	*	*	*	*	*	45	33	41	34	-11	-24%
Waitematā	81	104	108	113	33	40%	*	*	12	*	*	*	75	94	93	102	28	37%
Auckland	104	138	106	122	18	17%	*	12	10	10	*	*	85	118	76	94	10	11%
Counties Manukau	*	*	22	17	16	*	*	*	*	*	*	*	*	*	16	11	*	*
Waikato	64	63	56	37	-27	-42%	*	*	13	*	*	*	60	58	41	31	-29	-48%
Bay of Plenty	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lakes	55	60	46	61	7	12%	*	13	10	10	*	*	48	47	35	51	3	6%
Tairāwhiti	*	*	12	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Taranaki	28	35	48	42	14	50%	*	*	*	*	*	*	25	29	43	35	11	43%
Whanganui	*	*	10	*	*	*	*	*	*	*	*	*	*	*	10	*	*	*
Hawkes Bay	16	28	35	46	31	197%	*	*	*	*	*	*	14	23	31	39	25	179%
MidCentral	79	81	60	63	-16	-20%	*	*	*	10	*	*	71	77	54	51	-20	-28%
Capital and Coast	66	77	98	86	20	30%	*	*	*	*	*	*	58	71	85	75	18	30%
Wairarapa	*	10	10	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Nelson Marlborough	43	52	53	30	-13	-29%	*	*	*	*	*	*	42	52	49	28	-14	-33%
West Coast	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Canterbury	66	67	75	75	10	15%	*	*	*	*	*	*	64	63	67	71	7	11%
South Canterbury	*	12	10	*	*	*	*	*	*	*	*	*	14	12	10	*	*	*
Southern	82	93	110	81	-1	-1%	*	*	11	*	*	*	75	88	98	74	-1	-1%
Grand total	779	886	917	843	65	8%	59	75	100	86	28	47%	700	795	774	723	23	3%

Medical oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan- Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan- Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	451	430	521	528	77	17%	126	121	150	166	40	32%	321	304	366	358	37	12%
Auckland	2,377	2,552	2,574	2,649	273	11%	276	287	308	320	45	16%	1,798	1,902	1,909	1,956	158	9%
Waikato	809	883	825	880	72	9%	176	182	196	193	17	10%	620	690	617	667	48	8%
Bay of Plenty	481	517	586	510	30	6%	98	94	122	109	11	11%	379	418	456	395	16	4%
Lakes	159	222	254	223	64	40%	54	72	90	63	9	17%	103	148	158	159	57	55%
Tairāwhiti	120	155	128	108	-12	-10%	52	63	58	43	-9	-17%	67	90	70	62	-5	-7%
Taranaki	238	238	246	272	35	15%	27	34	40	31	5	17%	210	203	203	235	26	12%
Whanganui	*	*	*	*	*	*	*	*	*	11	*	*	*	*	*	30	*	*
MidCentral	1,106	1,132	1,178	1,090	-16	-1%	168	205	232	202	34	20%	921	914	926	862	-59	-6%
Capital and Coast	884	892	943	905	21	2%	100	113	118	105	5	5%	735	720	752	749	15	2%
Wairarapa DHB	*	*	21	51	*	*	*	*	*	*	*	*	*	*	19	45	45	*
Nelson Marlborough	424	450	475	438	14	3%	30	22	26	35	5	17%	392	425	445	399	7	2%
West Coast	33	22	37	54	22	66%	*	*	*	*	*	*	27	22	33	50	23	85%
Canterbury	1,331	1,154	1,231	1,292	-39	-3%	92	76	93	89	-3	-3%	1,220	1,059	1,127	1,176	-44	-4%
South Canterbury	*	71	126	149	*	*	*	*	*	*	*	*	*	69	122	145	*	*
Southern	677	646	560	675	-2	0%	40	36	39	58	18	45%	633	599	510	604	-29	-5%
Grand total	9,093	9,364	9,705	9,866	773	9%	1,243	1,307	1,482	1,439	196	16%	7,429	7,563	7,713	7,892	464	6%

Medical oncology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	3,008	3,369	3,501	3,449	442	15%	708	1042	1092	1190	482	68%	2,264	2,301	2,361	2,235	-29	-1%
Waitematā	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Auckland	19,180	22,836	23,673	24,178	4,998	26%	1902	2575	2615	2717	816	43%	15,028	17,588	17,827	18,065	3,038	20%
Waikato	7,443	6,998	7,911	7,037	-406	-5%	1228	1122	1341	1403	175	14%	6,134	5,753	6,460	5,536	-598	-10%
Bay of Plenty	5,168	5,606	5,376	5,510	342	7%	933	1139	1154	1084	151	16%	4,187	4,421	4,174	4,371	184	4%
Lakes	3,100	3,182	3,283	3,315	216	7%	899	949	1064	1014	115	13%	2,148	2,196	2,135	2,251	104	5%
Tairāwhiti	643	1,037	1,222	636	-7	-1%	273	418	567	249	-24	-9%	366	617	632	378	13	3%
Taranaki	1,786	2,104	2,156	2,038	253	14%	180	215	355	327	148	82%	1,589	1,870	1,789	1,679	91	6%
Whanganui	104	89	117	181	77	74%	16	*	12	14	-2	-13%	88	80	105	165	77	88%
Hawkes Bay	3,061	3,557	3,819	2,717	-344	-11%	662	839	969	646	-16	-2%	2,270	2,672	2,790	2,005	-265	-12%
MidCentral *	4,293	4,574	5,585	5,199	906	21%	567	638	1038	950	384	68%	3,665	3,869	4,459	4,090	426	12%
Capital and Coast	6,760	6,174	6,379	6,140	-620	-9%	709	683	724	744	35	5%	5,725	5,101	5,160	5,054	-671	-12%
Hutt Valley	116	123	149	113	-3	-3%	10	13	13	10	0	0%	99	102	129	95	-4	-4%
Wairarapa **	34	75	50	411	377	1109%	*	22	*	64	62	*	32	42	42	347	316	1002%
Nelson Marlborough	2,981	3,142	2,967	3,323	342	11%	211	124	171	286	75	36%	2,721	2,996	2,792	3,017	297	11%
West Coast	28	34	22	58	31	111%	*	*	*	*	*	*	27	29	22	55	29	108%
Canterbury	6,565	6,333	6,421	6,919	355	5%	406	410	407	449	44	11%	5,999	5,732	5,928	6,311	312	5%
South Canterbury	1,051	1,084	1,227	1,189	138	13%	11	25	48	85	75	710%	1,033	1,059	1,179	1,104	71	7%
Southern ***	7,246	6,774	5,885	4,947	-2,299	-32%	400	341	261	342	-58	-15%	6,795	6,341	5,538	4,529	-2,266	-33%
Grand total	72,566	77,091	79,745	77,362	4,797	7%	9,116	10,569	11,834	11,577	2462	27%	60,194	62,780	63,540	61,305	1,111	2%

* MidCentral District is investigating potential data quality issues over 2021 and 2022 reporting period.

** We have noticed an unusual volume change at Wairarapa District and are seeking clarification.

*** Note the relatively high volumes in Southern Te Whatu Ora District in prior years are due to variation in coding between medical oncology and haematology.

Radiation oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	360	292	407	374	15	4%	96	104	121	112	17	17%	258	186	283	261	3	1%
Auckland	3,208	3,340	3,285	3,320	113	4%	375	392	406	404	29	8%	2,434	2,587	2,471	2,460	26	1%
Waikato	1,391	1,525	1,550	1,600	209	15%	251	322	303	336	86	34%	1,117	1,180	1,222	1,233	117	10%
Bay of Plenty	917	969	1,088	976	59	6%	143	155	189	164	22	15%	766	807	890	797	31	4%
Lakes	27	17	18	16	-11	-41%	11	*	*	*	*	*	16	10	10	10	-6	-35%
Tairāwhiti	65	42	71	102	38	58%	28	23	24	47	19	68%	36	19	47	53	18	49%
MidCentral	1,724	1,798	1,879	1,743	20	1%	221	237	306	261	41	18%	1,486	1,538	1,553	1,454	-32	-2%
Capital and Coast	1,424	1,372	1,516	1,471	47	3%	133	128	154	145	13	9%	1,233	1,178	1,279	1,246	14	1%
Wairarapa	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Nelson Marlborough	173	177	235	188	15	9%	9	9	17	15	7		164	167	216	172	8	5%
West Coast	10	*	15	*	*	*	*	*	*	*	*	*	*	*	14	*	*	*
Canterbury	1,652	1,772	1,871	1,821	170	10%	101	86	109	106	6	5%	1,533	1,660	1,740	1,689	157	10%
Southern	1,067	1,067	1,052	1,188	122	11%	57	74	69	88	31	54%	996	977	977	1,079	83	8%
Grand total	12,015	12,378	12,996	12,809	795	7%	1,422	1,537	1,709	1,684	263	18%	10,046	10,316	10,709	10,464	419	4%

Radiation oncology megavoltage fractions

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Auckland	45,399	41,892	41,354	39,244	-6,155	-14%	6,174	5,499	6,327	5,680	-494	-8%	34,482	32,071	30,189	28,940	-5,542	-16%
Waikato	22,219	19,503	19,302	20,616	-1,603	-7%	4,306	4,311	4,129	4,446	141	3%	17,505	14,875	14,862	15,693	-1,812	-10%
Bay of Plenty	16,389	16,725	17,127	16,333	-56	0%	2,732	2,892	3,110	2,590	-142	-5%	13,491	13,650	13,865	13,603	113	1%
MidCentral	22,816	22,726	25,320	23,599	783	3%	3,332	2,964	4,136	3,579	248	7%	19,331	19,348	20,966	19,656	326	2%
Capital and Coast	20,220	19,608	20,280	18,970	-1,250	-6%	2,312	2,176	2,642	2,328	16	1%	16,951	16,352	16,469	15,555	-1,396	-8%
Canterbury	26,003	24,437	25,881	23,394	-2,609	-10%	1,846	1,460	1,344	1,417	-429	-23%	23,788	22,707	24,166	21,726	-2,062	-9%
Southern	14,593	12,606	12,977	11,713	-2,880	-20%	805	567	789	967	162	20%	13,621	11,839	12,033	10,591	-3,030	-22%
Grand total	167,639	157,497	162,241	153,869	-13,770	-8%	21,506	19,869	22,477	21,007	-499	-2%	139,167	130,842	132,550	125,764	-13,403	-10%

Radiation therapy completed courses

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Auckland	3,172	3,167	3,270	3,118	-54	-2%	435	413	510	487	53	12%	2,376	2,403	2,389	2,273	-103	-4%
Canterbury	2,052	2,041	1,949	1,801	-251	-12%	149	125	136	117	-32	-21%	1,878	1,892	1,790	1,663	-215	-11%
Southern	1,192	1,211	1,268	1,219	27	2%	77	69	79	106	30	39%	1,102	1,124	1,175	1,093	-9	-1%
Bay of Plenty	1,008	1,035	1,068	906	-102	-10%	158	168	194	139	-19	-12%	842	862	865	760	-82	-10%
MidCentral	1,466	1,610	1,710	1,644	178	12%	227	220	280	285	59	26%	1,225	1,361	1,411	1,334	110	9%
Waikato	1,573	1,640	1,198	1,650	77	5%	325	364	265	377	52	16%	1,222	1,246	913	1,238	17	1%
Capital and Coast	1,831	1,717	1,896	1,775	-56	-3%	174	155	214	194	20	11%	1,566	1,472	1,589	1,478	-88	-6%
Grand total	12,292	12,421	12,359	12,113	-179	-1%	1,543	1,514	1,678	1,705	162	10%	10,209	10,360	10,132	9,839	-370	-4%

Haematology first specialist assessment

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	214	276	194	216	3	1%	43	68	50	67	25	58%	169	205	141	148	-21	-12%
Waitematā	697	684	682	736	39	6%	38	43	50	41	3	8%	628	607	597	647	20	3%
Auckland	990	826	1080	914	-76	-8%	75	67	107	74	-1	-1%	823	660	868	755	-68	-8%
Counties Manukau	734	746	791	822	88	12%	77	88	85	86	10	12%	547	543	571	574	27	5%
Waikato	696	707	759	585	-111	-16%	123	120	126	101	-22	-18%	563	578	615	472	-91	-16%
Bay of Plenty	380	328	376	398	19	5%	64	48	52	73	10	15%	311	277	318	320	9	3%
Lakes	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Tairāwhiti	39	47	52	52	14	35%	13	12	19	26	13	100%	25	35	31	25	0	0%
Taranaki	163	181	197	215	53	32%	17	27	24	23	6	35%	144	153	173	191	47	33%
MidCentral	782	830	849	787	6	1%	93	112	135	100	8	8%	679	703	703	674	-5	-1%
Capital and Coast	773	672	652	555	-218	-28%	61	77	70	57	-4	-6%	679	561	535	474	-205	-30%
Nelson Marlborough	164	116	142	140	-24	-15%	*	*	*	*	*	*	159	110	137	129	-30	-19%
West Coast	15	*	*	*	*	*	*	*	*	*	*	*	14	*	*	*	*	*
Canterbury	497	534	575	549	52	10%	27	29	34	26	-1	-2%	457	501	532	520	63	14%
Southern	299	336	395	426	128	43%	20	20	31	26	7	33%	275	313	358	390	115	42%
Grand total	6,440	6,290	6,752	6,404	-36	-1%	653	717	789	709	56	9%	5,471	5,253	5,586	5,328	-143	-3%

Haematology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19		Cumulative number for Jan-Dec				Difference between 2022 and 2018/19	
	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change	2018/2019	2020	2021	2022	Number	% change
Northland	1,675	1,498	1,555	1,213	-462	-28%	385	322	376	317	-68	-18%	1,257	1,125	1,156	896	-361	-29%
Waitematā	4,067	3,789	3,954	3,716	-351	-9%	113	149	165	189	76	67%	3,741	3,439	3,611	3,384	-357	-10%
Auckland	3,609	3,569	4,171	3,473	-136	-4%	225	169	286	280	55	24%	3,013	2,984	3,369	2,731	-282	-9%
Counties Manukau	2,009	2,772	3,190	2,744	735	37%	236	325	311	290	54	23%	1,407	1,982	2,315	2,001	595	42%
Waikato	2,102	2,379	2,597	2,404	303	14%	383	459	450	324	-59	-15%	1,710	1,919	2,061	2,022	312	18%
Bay of Plenty	1,305	1,411	1,677	1,902	598	46%	137	213	204	181	44	32%	1,148	1,180	1,422	1,715	568	49%
Lake	680	748	777	683	4	1%	185	209	186	147	-38	-21%	494	535	546	511	17	3%
Tairāwhiti	156	104	151	119	-37	-24%	25	29	30	29	4	16%	123	75	121	73	-50	-41%
Hawkes Bay	1,261	1,125	880	848	-413	-33%	150	54	96	206	56	37%	1,095	1,061	751	618	-477	-44%
MidCentral	1,505	1,185	1,749	1,619	114	8%	169	124	157	144	-25	-15%	1,337	1,048	1,592	1,473	136	10%
Capital and Coast	3,285	3,476	2,768	2,206	-1,079	-33%	303	359	214	376	73	24%	2,875	2,749	2,316	1,736	-1139	-40%
Nelson Marlborough	*	10	*	*	*	*	*	*	*	*	*	*	*	10	*	*	*	*
West Coast	13	11	10	*	*	*	*	*	*	*	*	*	11	11	10	*	*	*
Canterbury	2,431	2,690	2,813	2,939	508	21%	212	222	85	102	-110	-52%	2,190	2,419	2,713	2,833	643	29%
Southern *	233	901	2,499	1,779	1,546	664%	*	73	141	114	*	*	226	821	2,341	1,660	1434	635%
Grand total	24,332	25,668	28,792	25,646	1314	5%	2,531	2,707	2,701	2,699	168	7%	20,629	21,358	24,325	21,654	1025	5%

* Note the relatively low volumes in Southern Te Whatu Ora District in prior years are due to variation in coding between medical oncology and haematology.

APPENDIX 5: SURGICAL PROCEDURE CODES

Below is a list of the surgical procedure codes that were used for analysis on 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

BREAST CANCER SURGERY

Clinical code	Block short description	Clinical code description
3152400	Subcutaneous mastectomy	Subcutaneous mastectomy, unilateral
3152401	Subcutaneous mastectomy	Subcutaneous mastectomy, bilateral
3151800	Simple mastectomy	Simple mastectomy, unilateral
3151801	Simple mastectomy	Simple mastectomy, bilateral