



COVID-19 and cancer services

Report four

Working report on the impact of COVID-19 on cancer services for the period ending July 2020

August 2020

Contents

Contents.....	2
Summary of findings	3
Introduction	5
Cancer Registrations	6
Faster cancer treatment	11
Gastrointestinal endoscopy	13
Bronchoscopy	14
Combined curative cancer surgery	16
Colorectal cancer surgery	18
Lung cancer surgery	19
Prostate cancer surgery	21
Medical oncology	22
Radiation oncology	25
Haematology.....	27
Appendix 1: NZCR data information	30
Appendix 2: NZCR registrations by DHB	31
Appendix 3: Diagnosis and treatment data by DHB	33
Appendix 4: Surgical procedure codes	44

Summary of findings

Overview of impact of COVID-19 on cancer diagnosis and treatment

There continues to be an increase in new cancer registrations and diagnostic procedures in July 2020. This report shows that we are catching up on the dip in cancer registrations seen over the lockdown period. The overall number of diagnostic procedures and new cancer registrations in 2020 remains somewhat lower than 2019 but the gap continues to close. Cancer treatment services – surgery, medical oncology, radiation oncology and haematology – continued during the COVID-19 lockdown and continue to be delivered at pre-COVID volumes in the months since.

Background and data

- This is the fourth report looking at the impact of COVID-19 on cancer services. This report looks at the period until the end of July 2020.
- The purpose of this analysis was to rapidly measure the impact of COVID-19 on cancer services to assist with recovery planning.
- The report focuses on the aspects of the cancer care pathway for which we have readily available data and does not capture all aspects of the care.
- Comparisons between 2020 and 2019 do not consider any projected increase in diagnoses over time.
- The focus of the report was to understand the impact of COVID-19 on existing service delivery and does not address pre-existing unmet need.

Equity

- Māori have seen a similar decrease in overall cancer registrations in 2020 as non-Māori/non-Pacific, both 3%.
- In the first seven months of 2020 there has been a smaller decrease in gastrointestinal endoscopy for Māori (3% decrease) than for non-Māori/non-Pacific (8%) compared to the same time period in 2019. There has been an increase in curative colorectal cancer surgery for Māori (53 more surgeries, 47% increase) compared to a 9% decrease for non-Māori/non-Pacific.
- Overall, the impact of COVID-19 on the number of attendances for medical oncology and radiation oncology appears to be similar for Māori as for non-Māori/non-Pacific.
- Lung cancer remains the area where inequities from COVID-19 are evident. Māori have been disproportionately impacted by the cumulative decrease in bronchoscopies (29% decrease for Māori compared to 19% decrease for non-Māori/non-Pacific).
- Despite the 20% decrease in bronchoscopies, there has been a 4% decrease in new diagnoses of respiratory and thorax cancer. However, there is a 19% decrease in new diagnoses of lung cancer for Māori in the first 7 months of 2020 compared to the same time period in 2019 (41 fewer cancers). This has also resulted in fewer curative lung cancer surgeries performed in 2020.

Cancer diagnosis

Registrations

- Overall for the year to date (up until end of July 2020), there have been 448 fewer cancer registrations compared to the same time period in 2019, a 2.5% decrease. This is a smaller deficit than was seen at the end of June (689 fewer cancer than 2019, 4.5% decrease).

- There were 266 more cancers registered in July 2020 compared to July 2019, a 10% increase.
- The decrease in cancer registrations is similar for Māori (3.3%) and European/Other (3.1%). There are now a similar number of registrations for Pacific People as was seen in 2019 and there remains an increase in registrations for people in the Asian ethnic group (as seen in previous months).
- The overall impact of COVID-19 on registrations for the year to date has been most marked for prostate, haematology/lymphoid, melanoma and non-melanoma skin cancer and breast cancers (all have seen a 6-10% decrease for the year to date).

Diagnostics

- COVID-19 has had minimal impact on the number of people referred to secondary care with a high suspicion of cancer. A similar proportion of people are meeting the 62-day target time frame* as pre-COVID. (*Patients referred with a high suspicion of cancer should receive their first treatment within 62 days of receipt of referral).
- **Gastrointestinal endoscopy:** services remained at pre-COVID levels in July. Overall, for the year to date there have been 7% fewer gastrointestinal endoscopies performed in 2020 compared to 2019. This is smaller a gap than was seen at the end of June 2020, when there were 11% fewer gastrointestinal endoscopies performed compared to the first six months of 2019.
 - Despite the 7% year to date decrease in colonoscopies, there has been a 1% increase in registrations of colorectal cancer. This indicates that triage systems are operating well within DHBs, with those at highest risk being prioritised to receive their colonoscopies.
- **Bronchoscopy:** overall there were 20% fewer bronchoscopies performed in the first seven months of 2020 compared to the first seven months of 2019.

Cancer Treatment

Surgery

- The impact of COVID-19 on cancer surgery volumes has been minimal, with 2% fewer curative surgeries performed for selected cancers in the first seven months of 2020 compared to the first seven months of 2019. There has been an 21% increase in surgery for Māori in 2020 compared to 2019.
- For the year to date there has been a 6% decrease in curative lung cancer surgery compared to 2019.

Chemotherapy and radiotherapy

- **Medical oncology:** for the year to date the number of medical oncology first specialist assessments (FSAs) and number of attendances for IV chemotherapy in 2020 is comparable to 2019.
 - There has been a 15% increase in attendances for IV chemotherapy for Māori during the first seven months of 2020 compared to the same time period in 2019.
- **Radiation oncology:** for the year to date the number of radiation oncology FSAs in 2020 is comparable to 2019.
 - There has been a 7% decrease in attendances for radiation therapy. This is similar for Māori (7%) and non-Māori/non-Pacific (7%). This may be the result of national hypofractionation guidance.
- **Haematology:** for the year to date there has been an 8% decrease in haematology FSAs compared to the same time period in 2019 (nothing that this includes non-malignant haematology referrals).
 - There has been a 5% increase in IV chemotherapy for haematology compared to the same time period in 2019.

Introduction

Purpose of this report

This is the fourth report released by Te Aho o Te Kahu outlining the impact of COVID-19 on cancer services in New Zealand. This report looks at data through to the end of July 2020.

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

Data and analysis

The data in this report comes from Ministry of Health national data collections. Each section of the report includes information on where the data is from and any limitations with the data. Numbers in this report may not match the previous report exactly, due to late coding/submission of data. Te Aho o Te Kahu are actively working with DHBs to improve the accuracy and completeness of national collections data within the context of cancer.

It is important to note that the purpose of the analysis is to rapidly measure the impact of COVID-19 and the recovery on cancer services and does not consider pre-existing unmet need. The report also makes direct comparisons between 2020 and 2019 and does not consider any projected increase in diagnoses over time.

Key dates

Key dates to 31 July 2020 in relation to COVID-19 that may be of use when reviewing the report include:

- 23 March: alert level 3 and hospital alert level framework released
- 26 March: alert level 4
- 28 April: alert level 3
- 14 May: alert level 2
- 9 June: alert level 1

The impact of the shift to Alert Level 3 for Auckland and Level 2 for the rest of New Zealand in August will be shown in the next report, for the period ending August 2020. This report will be released in late September 2020.

Cancer Registrations

Notes on data

- The data come from laboratory reports to the New Zealand Cancer Register (NZCR). This means that cancers diagnosed without haematology or pathology (e.g. radiology alone) will not be counted in this analysis.
- Data included in this report is provisional, and exact numbers will change as data is finalised.
- '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. Data were extracted from NZCR on 21 August 2020.
- Further information on this data is included in Appendix 1.

Results

Table 1 shows the change in provisional cancer registrations in 2020 compared to 2019 by month, and the cumulative impact this has had on cancer registrations for the year to date (up until the end of July 2020).

Table 1: Absolute number and percentage change in cancer registrations in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-34	-13.1	-24	-9.2	17	6.1	-57	-3.3
Pacific	-38	-31.4	21	26.9	19	19.2	4	0.6
Asian	-23	-15	16	12	-3	-1.9	44	4.8
European/Other	-415	-17.7	231	11.8	216	10.2	-458	-3.1
Total Population	-511	-17.6	240	9.8	266	10	-448	-2.5

Note: a small number of reports have 'unspecified' ethnicity, meaning the sum of all ethnic groups may not equal the total population.

Figure 1: Total number of cancer registrations by month and year (left), cumulative number of cancer registrations by month and year (right)

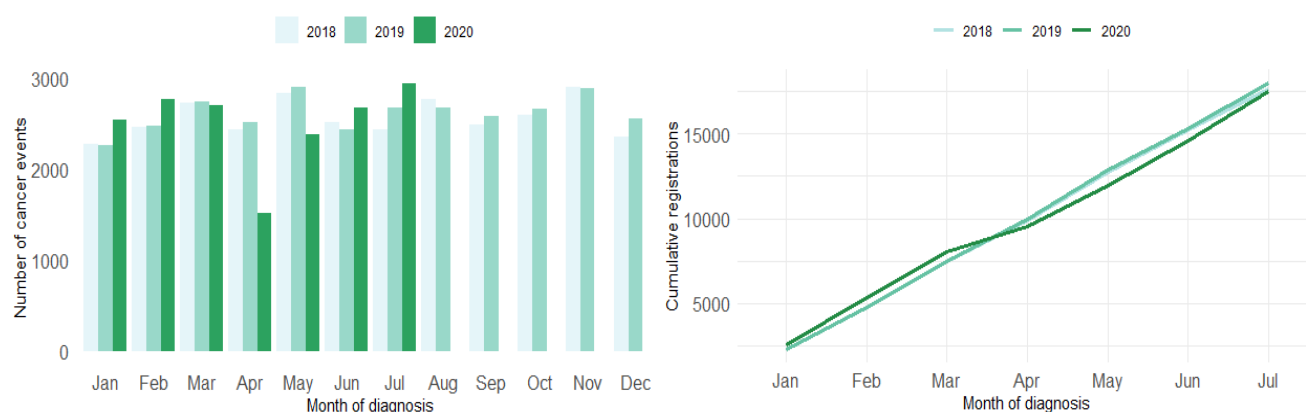


Figure 2: Number of cancer registrations by month and year, by ethnicity

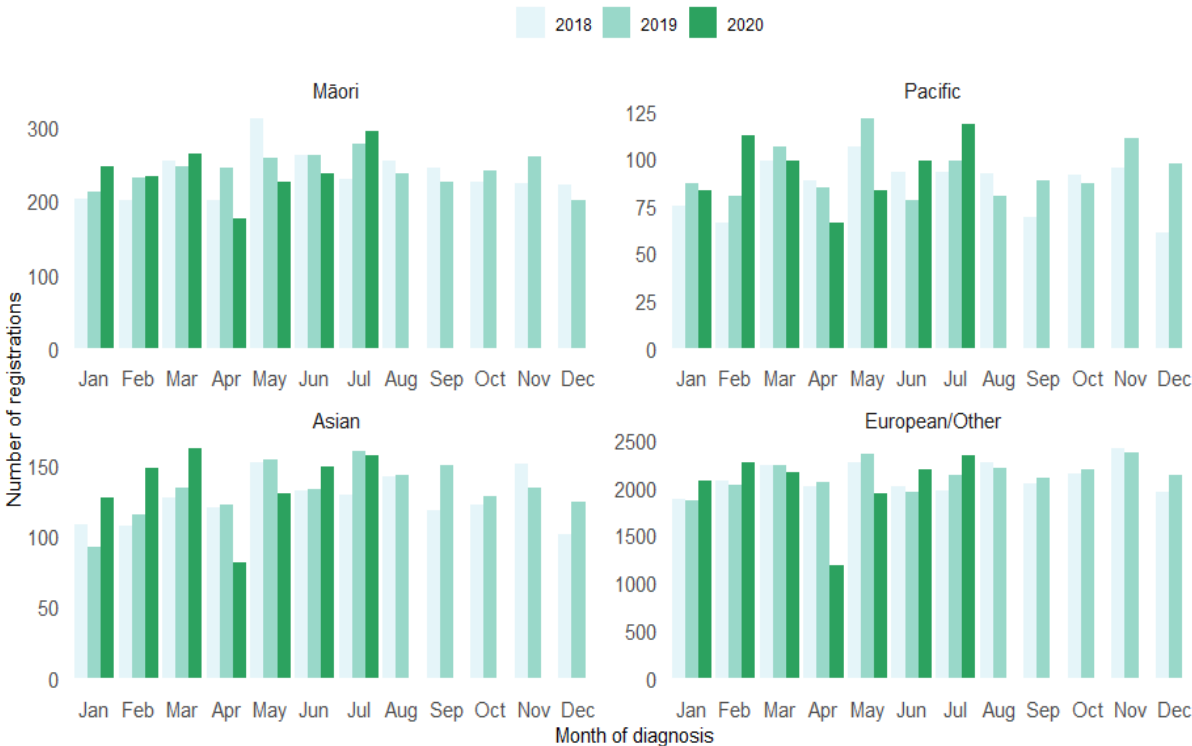


Figure 3: Cumulative number of cancer registrations by year, by ethnicity

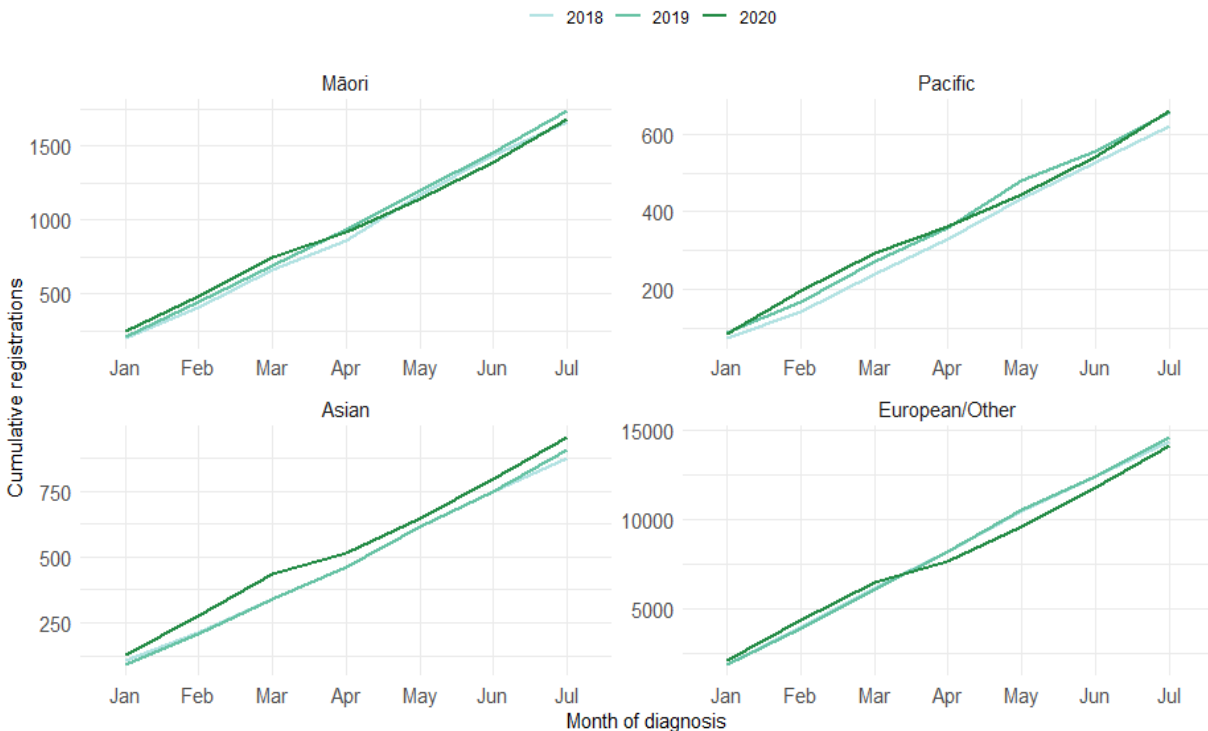


Table 2: Changes in cancer registration for 10 most common cancers in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by cancer group.

Cancer Group	May 2020		June 2020		July 2020		Year to date*	
	Number	%	Number	%	Number	%	Number	%
Breast	-138	-34.4	-16	-4.4	33	8.7	-211	-8.6
Cervix	-44	-23	18	10.6	0	0	76	6.5
Colorectal	-13	-4.4	-3	-1.1	36	13.3	17	0.9
Gynaecology	-18	-16.1	24	26.1	-1	-0.9	31	4.5
Haematology and lymphoid	-70	-29.9	11	5.9	14	6.2	-109	-7.6
Melanoma and non-melanoma skin	-278	-40.4	49	9.5	108	20	-277	-6.6
Other digestive system	-16	-10.7	34	31.8	-26	-17	-13	-1.4
Prostate	35	10.1	-22	-6.5	6	1.9	-227	-10.1
Respiratory and thorax	-14	-9.4	4	3.4	-9	-5.8	-40	-3.9
Urinary system	7	5.7	14	12.1	33	26.4	51	6

*Note: this analysis uses provision data for the 2020 registrations, some cancers may initially be classified as 'non-specified', and subsequently be re-classified into one of the cancer groups as more information is available.

Figure 4: Number of cancer registrations by month and year, by cancer group



Figure 5: Cumulative number of cancer registrations by year, by cancer group

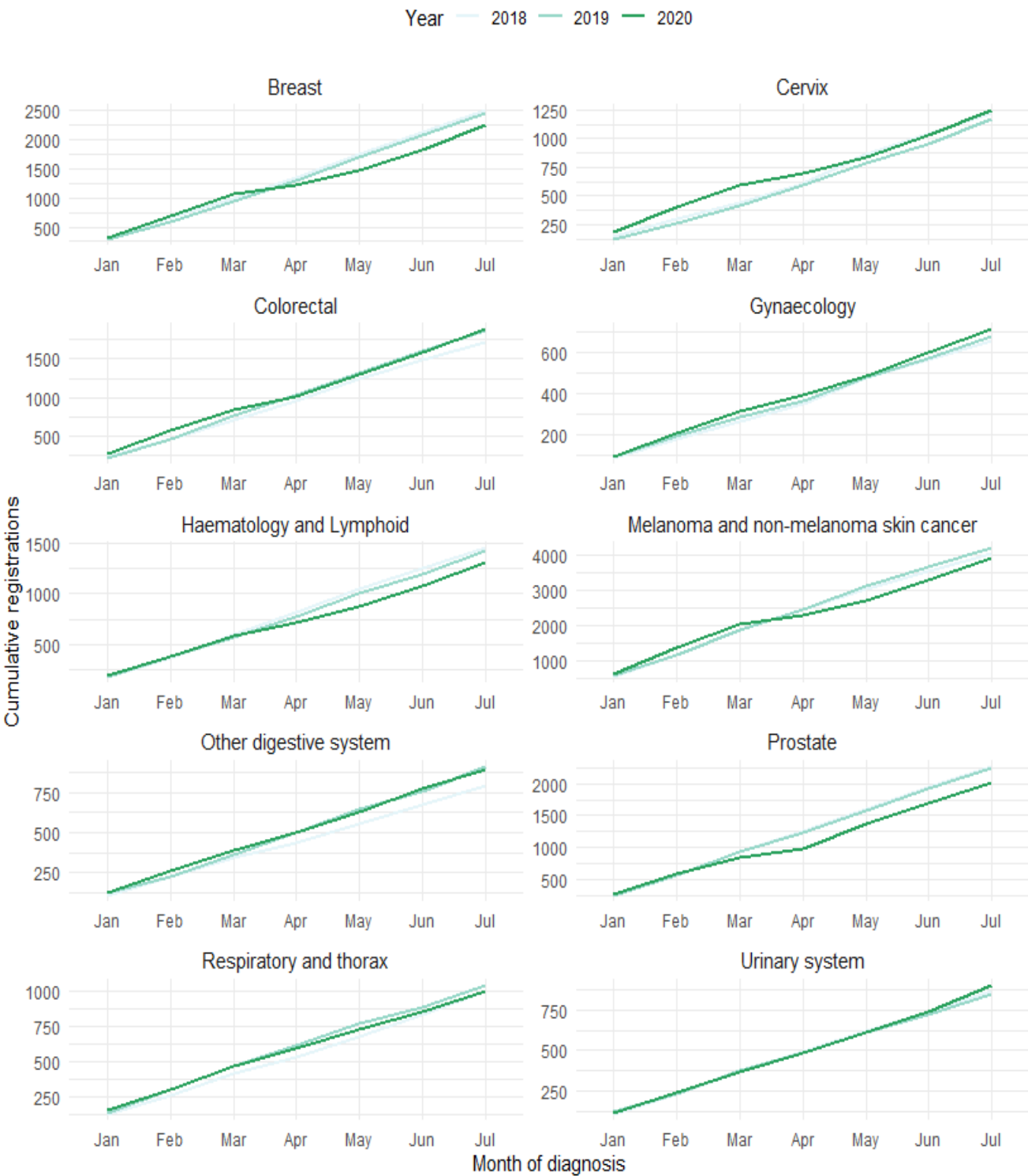


Table 3: Changes in cancer registration in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by DHB of domicile (See Appendix 2 for graphs)

DHB	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Northland	-16	-12.4	6	5.9	13	10.6	-7	-1
Waitemata	-101	-25.7	107	40.8	15	4.2	-50	-2.6
Auckland	-57	-20.9	42	18.2	29	13.1	-71	-5.1
Counties Manukau	-36	-14.2	38	18.4	-6	-2.4	-9	-0.7
Waikato	-35	-14.6	29	15.2	45	20.6	-105	-7.7
Bay of Plenty	-41	-25.3	-16	-10.3	32	23.2	-65	-7.1
Tairāwhiti	-12	-38.7	9	36	17	85	-25	-14.7
Lakes	-16	-21.9	0	0	5	6.8	-20	-5.4
Taranaki	-46	-41.1	-7	-8.5	-17	-19.3	1	0.2
Hawke's Bay	-7	-6.9	-12	-11.2	-15	-12	-62	-10.5
Whanganui	-8	-15.7	6	14.3	21	50	1	0.3
MidCentral	3	2.8	4	3.8	5	4.7	52	8.7
Capital & Coast	-10	-6.5	-3	-2.3	7	4.8	-54	-6.6
Hutt Valley	-19	-22.4	-8	-9.5	7	9.3	-15	-3.3
Wairarapa	4	16.7	8	34.8	15	71.4	9	5.8
Nelson Marlborough	-27	-24.5	2	1.9	30	33.7	-42	-6.8
West Coast	-15	-46.9	11	73.3	1	4.8	-17	-13.7
Canterbury	-32	-10.7	-29	-9.8	25	8	-73	-4.4
South Canterbury	-6	-17.6	7	20.6	-1	-2.4	-4	-1.9
Southern	-38	-16.6	44	24	43	22.1	-154	-12.7

Key points

- Overall for the year to date (up until end of July 2020), there have been 448 fewer cancer registrations compared to the same time period in 2019, a 2.5% decrease. This is a smaller deficit than was seen at the end of June (689 fewer cancer than 2019, 4.5% decrease).
- There were 266 more cancers registered in July 2020 compared to July 2019, a 10% increase.
- The decrease in cancer registrations is similar for Māori (3.3%) and European/Other (3.1%). There are now a similar number of registrations for Pacific People as was seen in 2019 and there remains an increase in registrations for people in the Asian ethnic group (as seen in previous months).
- The overall impact of COVID-19 on registrations for the year to date has been most marked for prostate, haematology/lymphoid, melanoma and non-melanoma skin cancer and breast cancers – all have seen a 6-10% decrease for the year to date.

Faster cancer treatment

Notes on data

- The data were extracted from the Faster Cancer Treatment database on 20 August 2020. Data is reported quarterly.
- These data aim to capture a broader part of the diagnostic and referral pathway; however, they only include a subset of people being investigated for cancer.
- Data relate to the 62-day pathway and includes patients with a high-suspicion of cancer and a need to be seen within two weeks. These patients should receive their first treatment within 62-day of receipt of referral.
- Analysis includes all referrals onto the 62-day pathway.

Results

Table 4: Absolute number and percentage change in number of referrals for patients with a high-suspicion of cancer, in 2020 compared to 2019 by month, and cumulative year to date

	March 2020		April 2020		May 2020		June 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%	Number	%
Māori	20	44%	8	15%	-10	-18%	-1	-2%	-2	-1%
Non-Māori/Non-Pacific	65	16%	28	8%	-26	-7%	-51	-15%	94	4%
Total Population	80	17%	43	9%	-43	-10%	-44	-11%	99	4%

Figure 6: Cumulative number of referrals with a high-suspicion of cancer and a need to be seen within 2-weeks, by year, for the total population (left) and for Māori (right)

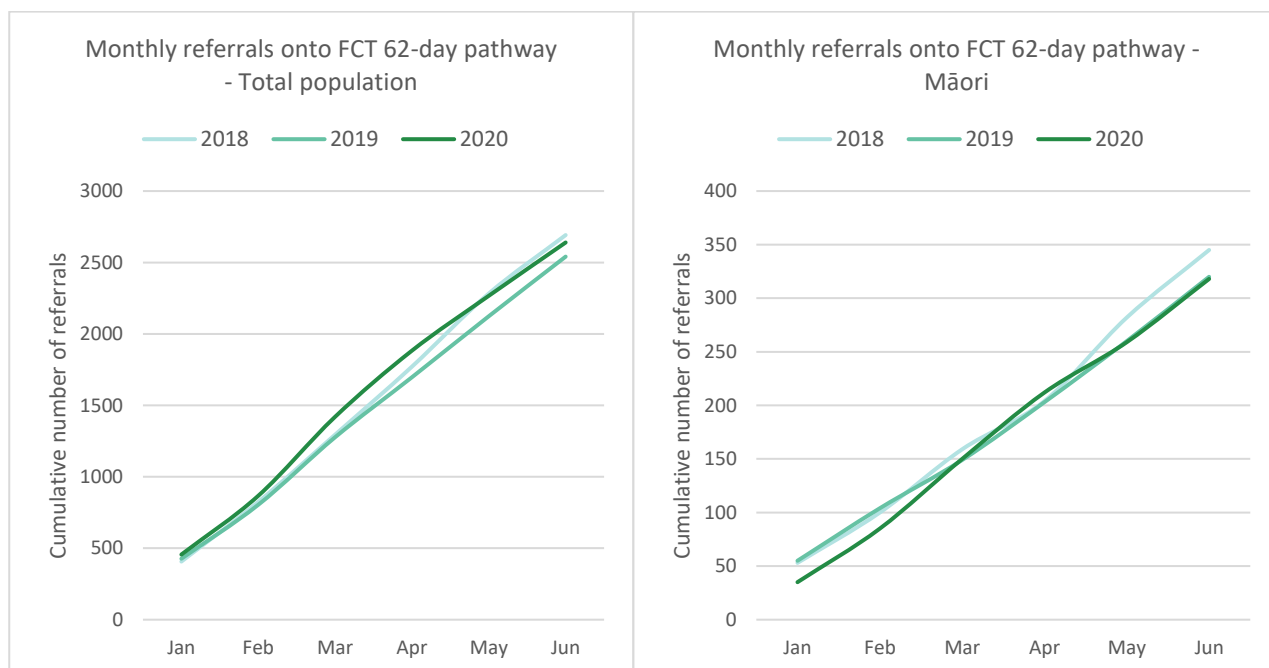
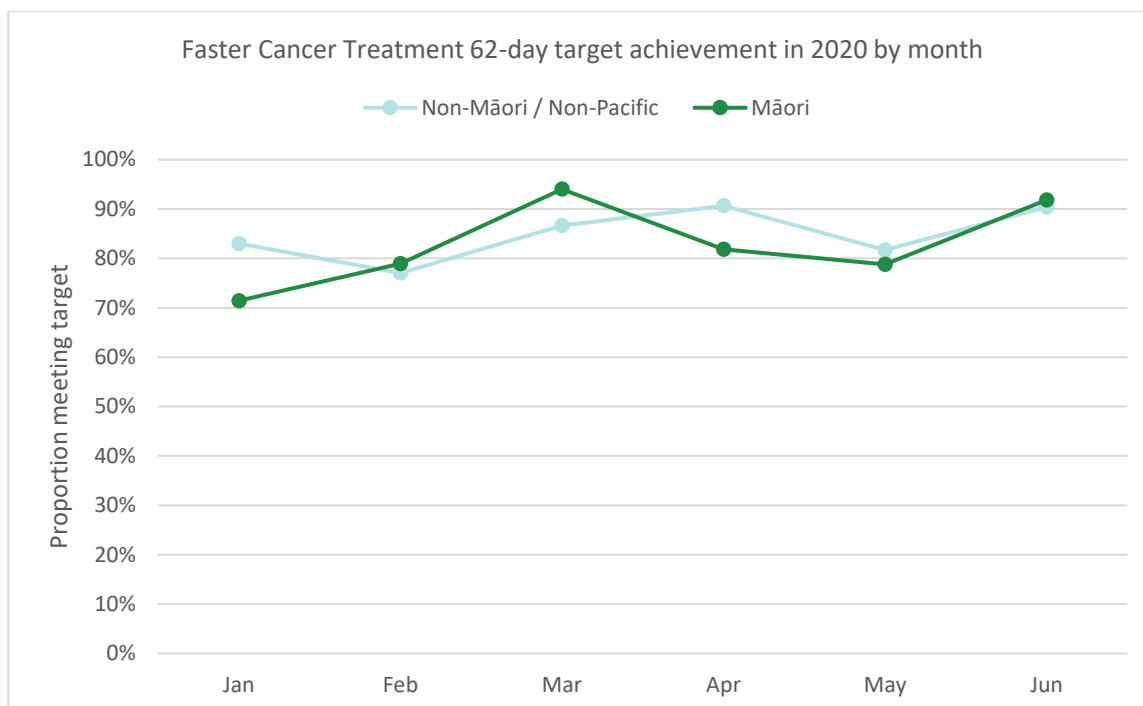


Table 5: Proportion of patients with a high-suspicion of cancer and a need to be seen within 2-weeks receiving their first treatment within 62 day of receipt of referral, in 2020 by month, and cumulative year to date

	Jan	Feb	Mar	Apr	May	Jun	Year to date
Māori	71%	79%	94%	82%	79%	92%	84%
Non-Māori / Non-Pacific	83%	77%	87%	91%	82%	90%	85%
Total Population	81%	78%	87%	90%	81%	90%	85%

Figure 7: Proportion of patients with a high-suspicion of cancer and a need to be seen within 2-weeks receiving their first treatment within 62 day of receipt of referral, in 2020 by month.



Key points

- Overall, COVID-19 has had minimal impact on the number of referrals with a high suspicion of cancer.
- The number of referrals meeting the 62-day target – patients receiving their first treatment within 62 days of receipt of referral – has shown little change over the first six months of 2020.
- This indicates that people who present to their GP with signs/symptoms indicating a high suspicion of cancer are still being referred through to secondary care. There are a similar number being referred as pre-COVID and these people are being seen within a similar time frame as pre-COVID.

Gastrointestinal endoscopy

Notes on data

- Gastrointestinal endoscopy data were extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) on 24 August 2020.
- Includes colonoscopies and gastroscopies for all indications (i.e. not just cancer).
- Technical information: Gastroscopies (Purchase Unit Code - MS02005), Colonoscopies (Purchase Unit Code - MS02007), Combined Gastroscopies + Colonoscopies (Purchase Unit Code - MS02014).

Results

Table 6: Absolute number and percentage change in colonoscopy and gastroscopy in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-72	-12%	152	25%	32	5%	-109	-3%
Pacific Peoples	12	5%	92	41%	51	21%	203	13%
Non-Māori / Non-Pacific	-1187	-18%	1355	24%	179	3%	-3427	-8%
Total Population	-1247	-17%	1599	24%	262	3%	-3333	-7%

Figure 6: Number of gastrointestinal endoscopy procedures by month and year, for the total population (left) and for Māori (right)

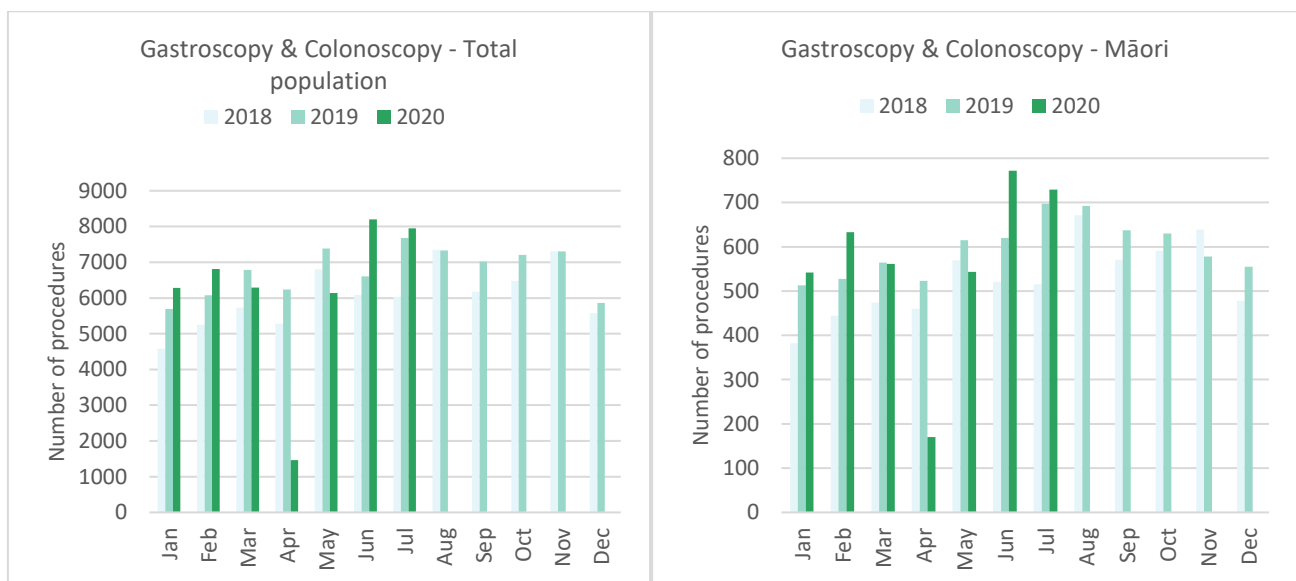
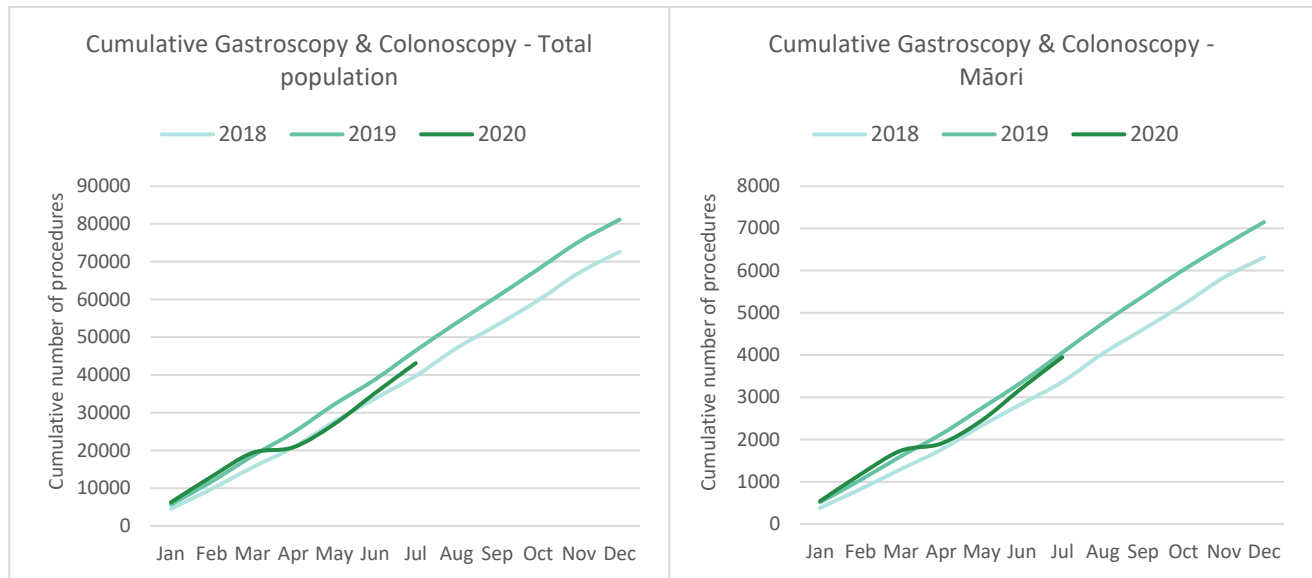


Figure 7: Cumulative number of gastrointestinal endoscopy procedures by year, for the total population (left) and for Māori (right)



Key points

- Gastrointestinal endoscopy services remained at pre-COVID levels in July.
- Overall, for the year to date there have been 7% fewer gastrointestinal endoscopies performed in 2020 compared to 2019. This is smaller a gap than was seen at the end of June 2020, when there were 11% fewer gastrointestinal endoscopies performed compared to the first six months of 2019.
- Māori having a smaller cumulative reduction (3%) compared to non-Māori/non-Pacific (8%). There has been a 13% increase in gastrointestinal endoscopies for Pacific Peoples compared to the same time period in 2019.
- Despite the 7% year to date decrease in colonoscopies, there has been a 1% increase in registrations of colorectal cancer (see Table 2). This indicates that triage systems are operating well within DHBs, with those at highest risk being prioritised to receive their colonoscopies.
- DHBs continue to work to increase the delivery of gastrointestinal endoscopies post lockdown. There is ongoing work nationally to address the demand for colonoscopy services.

Bronchoscopy

Notes on data

- Bronchoscopy data were extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) on the 24 August 2020.
- Includes bronchoscopies for any indication (i.e. not just cancer).
- Technical information: Bronchoscopies (Purchase Unit Code - MS02003).

Results

Table 7: Absolute number and percentage change in bronchoscopies in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-19	-43%	0	0%	-3	-8%	-72	-29%
Pacific Peoples*	-	-	-	-	-	-	6	10%
Non-Māori / Non-Pacific	-78	-34%	33	24%	-6	-4%	-240	-19%
Total Population	-90	-32%	32	19%	-6	-3%	-306	-20%

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

Figure 8: Number of bronchoscopies by month and year, for the total population (left) and for Māori (right)

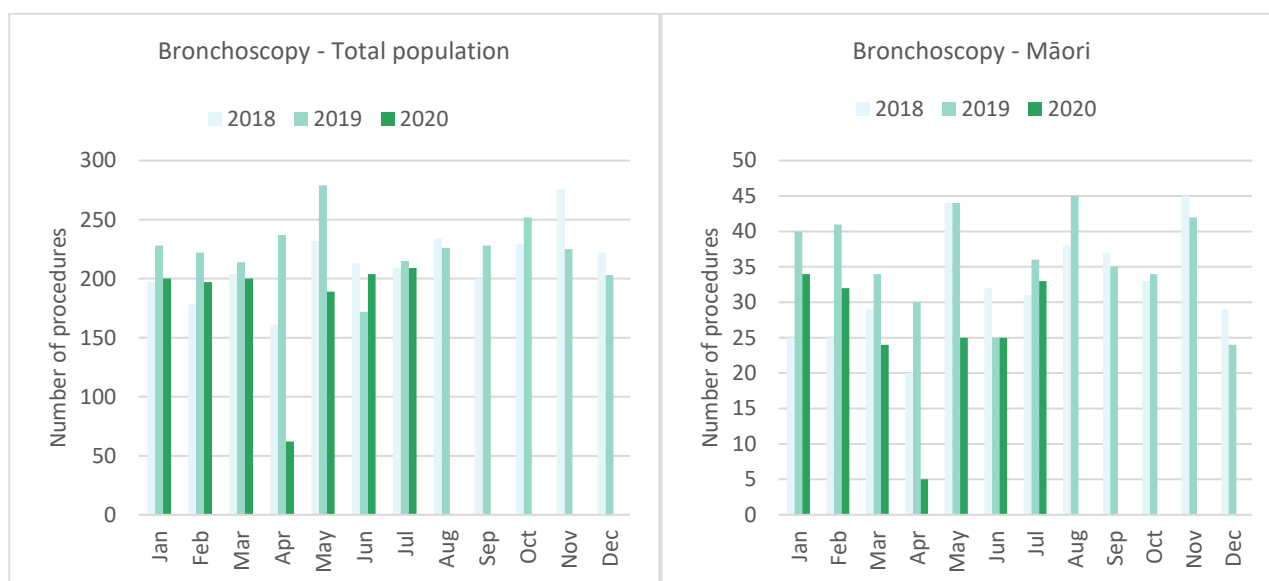
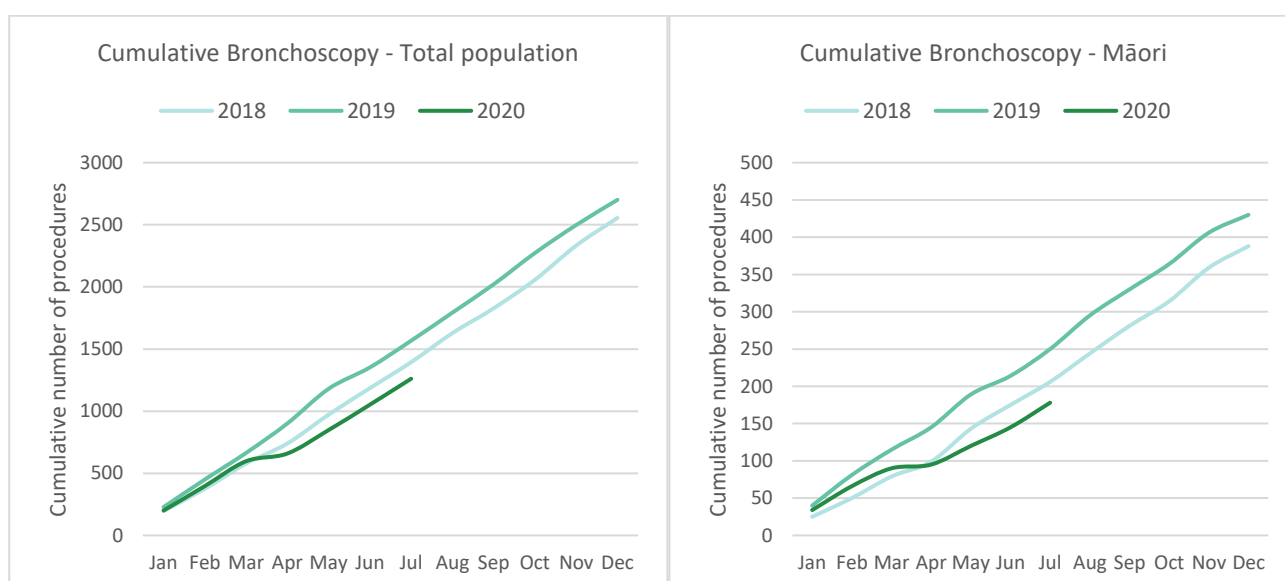


Figure 9: Cumulative number of bronchoscopies procedures by year, for the total population (left) and for Māori (right)



Key points

- Bronchoscopy services are similar in July 2020 compared to June 2020 and there was a similar number of bronchoscopies performed in July 2020 compared to July 2019.
- However, there remains a deficit between the number of bronchoscopies performed in 2020 compared to 2019. Overall there were 20% fewer bronchoscopies performed in the first seven months of 2020 compared to the first seven months of 2019.
- Māori have been disproportionately impacted by the cumulative decrease in bronchoscopies (29% decrease for Māori compared to 19% decrease for non-Māori/non-Pacific).
- Despite the 20% decrease in bronchoscopies, there has only been a 4% decrease in new diagnoses of respiratory and thorax cancer (see Table 2). However, there is a 19% decrease in new diagnoses of lung cancer for Māori in the first 7 months of 2020 compared to the same time period in 2019 (41 fewer cancers). Note that caution is needed when interpreting the provisional cancer type registrations, as some cancers may initially be classified as 'non-specified', and subsequently be re-classified into one of the cancer groups as more information is available.

Combined curative cancer surgery

Notes on data

- This report includes data on curative surgery for colorectal, lung and prostate cancer. These cancers were chosen because a pre-validated list of surgical procedure codes for these cancers already existed within Te Aho o Te Kahu, agreed on as part of the quality performance indicator work programme. These three cancers are therefore used as case studies for cancer surgery more generally. The procedure codes are included in Appendix 4.
- The data was extracted from the National Minimum Dataset on 24 August 2020.

Results

Table 8: Absolute number and percentage change in curative surgery (colorectal, lung and prostate) in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	1	3%	26	100%	5	15%	46	21%
Pacific Peoples*	-	-	-	-	-	-	-20	-28%
Non-Māori / Non-Pacific	8	3%	-1	0%	-2	-1%	-63	-3%
Total Population	1	0%	21	6%	-2	-1%	-37	-2%

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

Figure 10: Number of curative cancer surgeries (prostate, colorectal, lung) by month and year, for the total population (left) and for Māori (right)

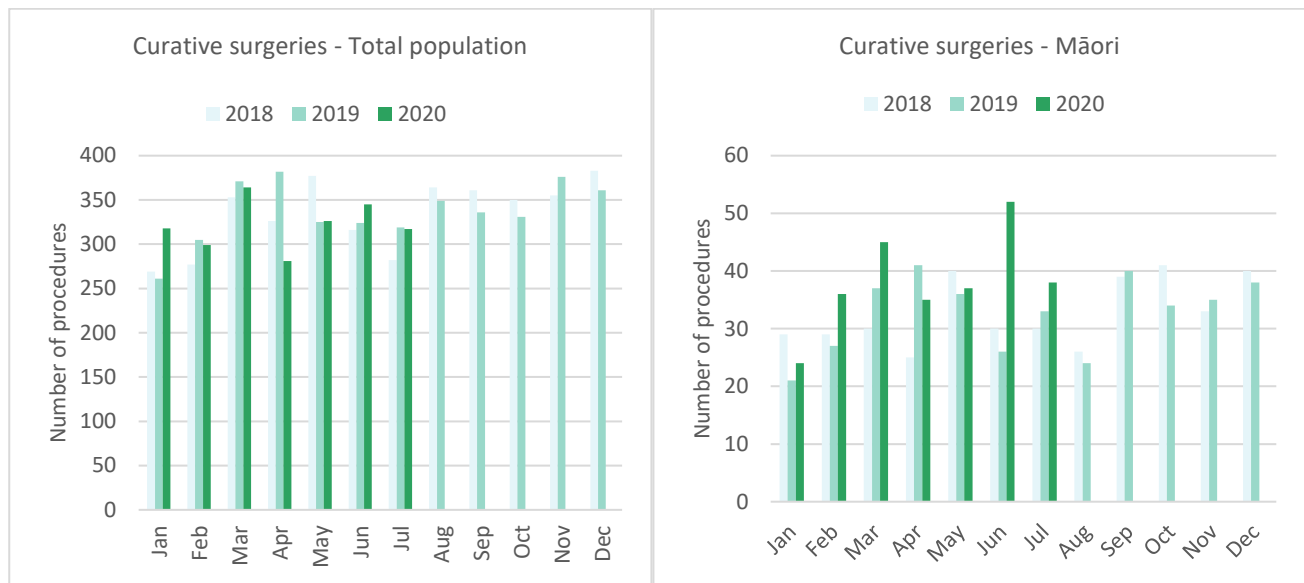
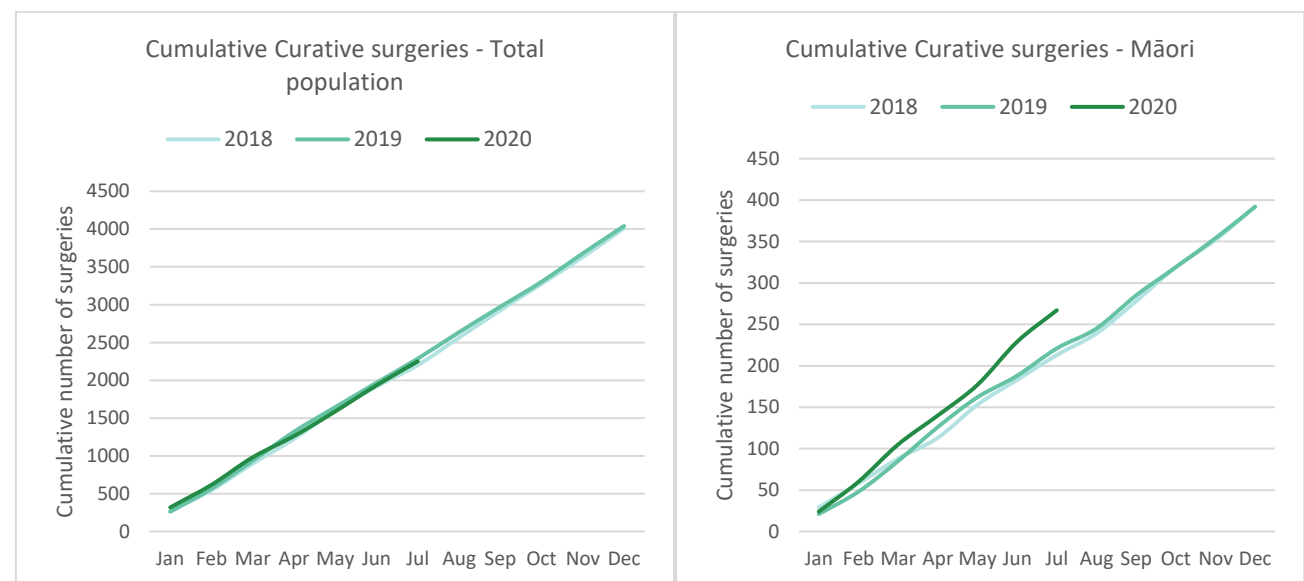


Figure 11: Cumulative number of curative cancer surgeries (colorectal, lung, prostate) by year, for the total population (left) and for Māori (right)



Key points

- Overall, the impact of COVID-19 on cancer surgery volumes has been minimal, with 2% fewer surgeries performed in the first seven months of 2020 compared to the first seven months of 2019. There has been an 21% increase in surgery for Māori in 2020 compared to 2019.
- There has been a 28% decrease in surgeries for Pacific Peoples, noting that this represents small numbers (20 fewer surgeries over seven months).

Colorectal cancer surgery

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 4.
- The data was extracted from the National Minimum Dataset on 24 August 2020.

Results

Table 9: Absolute number and percentage change in curative colorectal cancer surgery in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	6	40%	13	100%	10	56%	53	47%
Pacific Peoples*	-	-	-	-	-	-	-17	-39%
Non-Māori / Non-Pacific	-30	-16%	-9	-5%	-12	-7%	-118	-9%
Total Population	-28	-14%	0	0%	-8	-4%	-82	-6%

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

Figure 12: Number of curative colorectal cancer surgeries by month and year, for the total population (left) and for Māori (right)

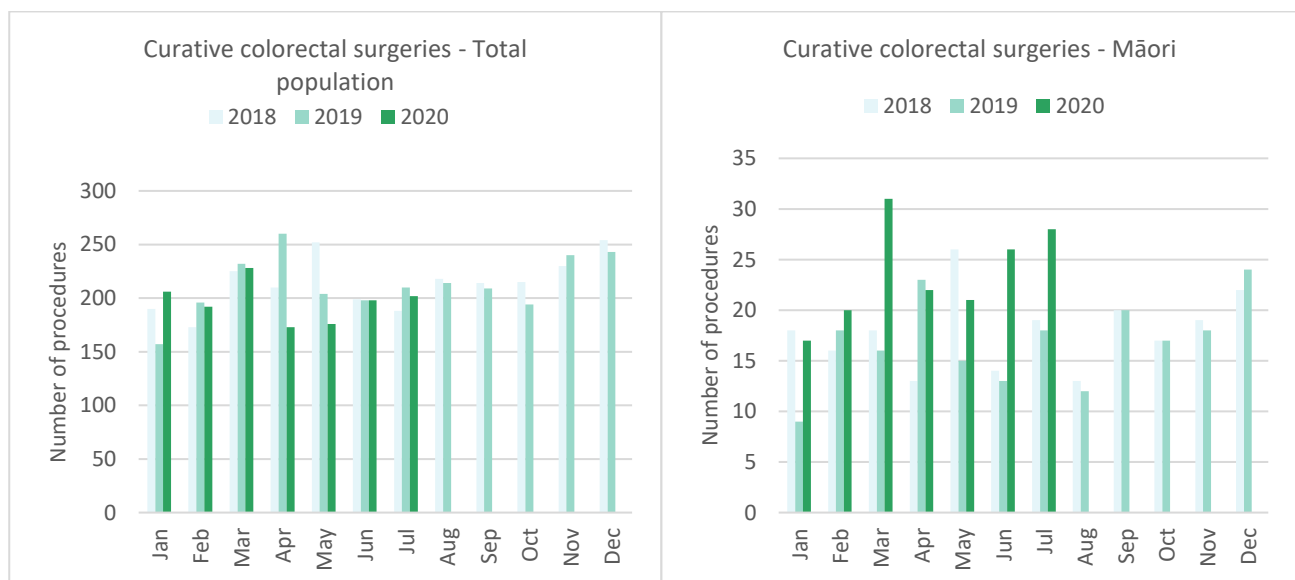
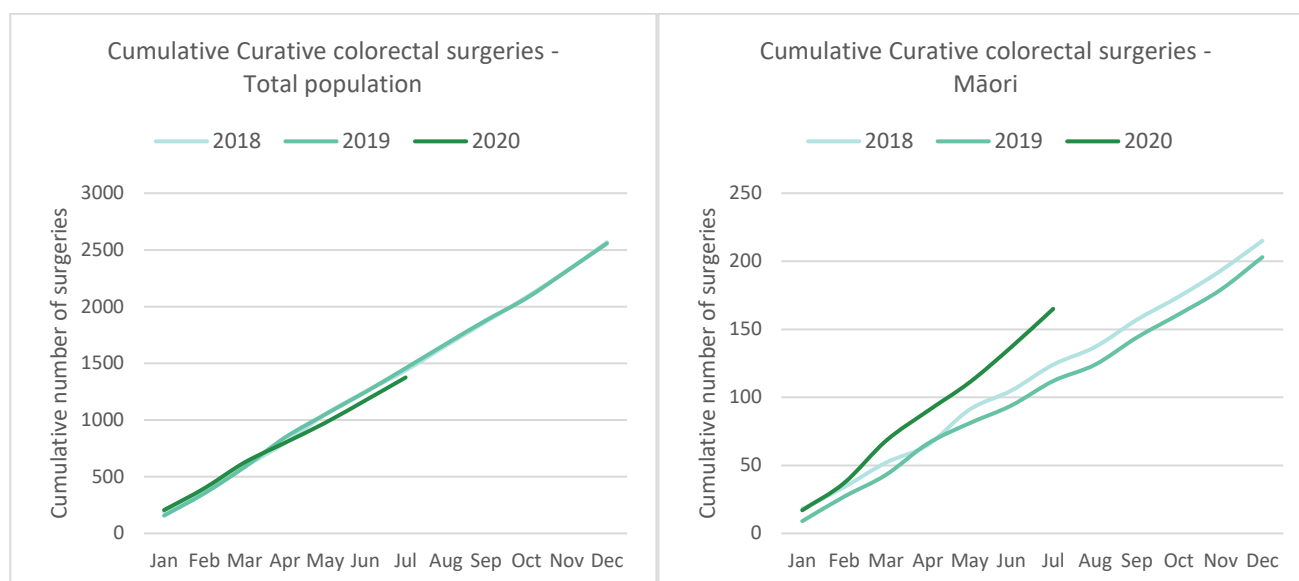


Figure 13: Cumulative number of curative colorectal cancer surgeries by year, for the total population (left) and for Māori (right)



Key points

- Colorectal cancer surgery continues to operate at pre-COVID volumes.
- Overall there has been a 6% decrease in colorectal surgery for the year to date compared to the first seven months of 2020. This is likely to be largely driven by the decline in diagnostic colonoscopies performed during lockdown.
- Overall, there has been a 47% increase in curative colorectal cancer surgery for Māori for the year to date compared to the same time period in 2019.

Lung cancer surgery

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 4.
- The data were extracted from the National Minimum Dataset on 24 August 2020.
- The number of lung cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

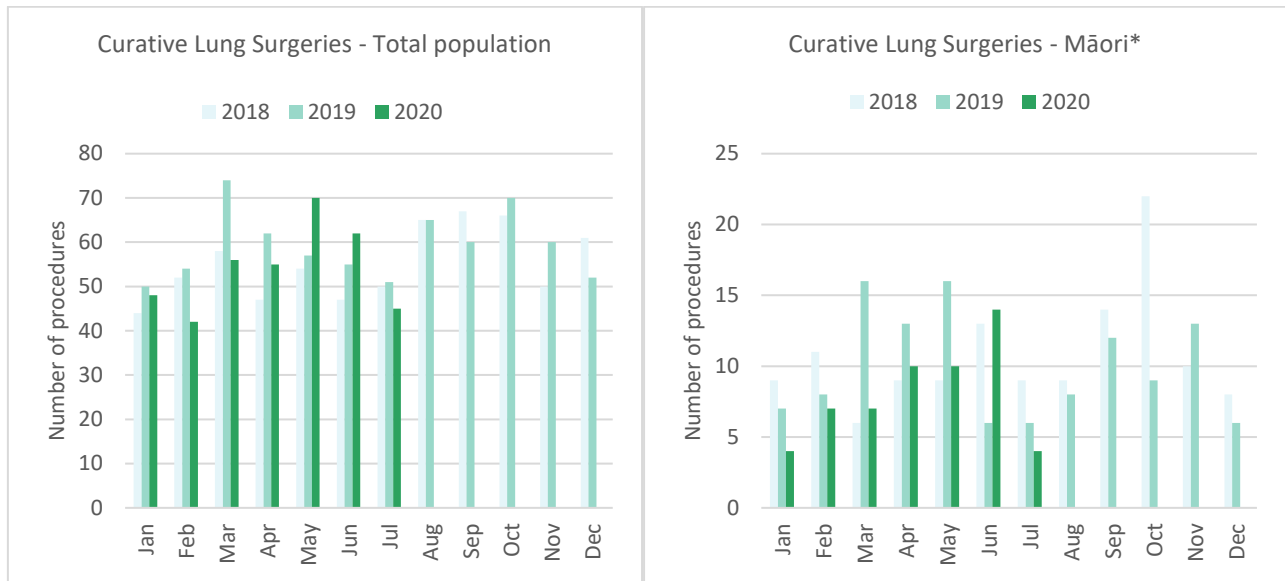
Results

Table 10: Absolute number and percentage change in curative lung cancer surgery in 2020 compared to 2019 by month, and cumulative year to date.

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Total Population	13	23%	7	13%	-6	-12%	-25	-6%

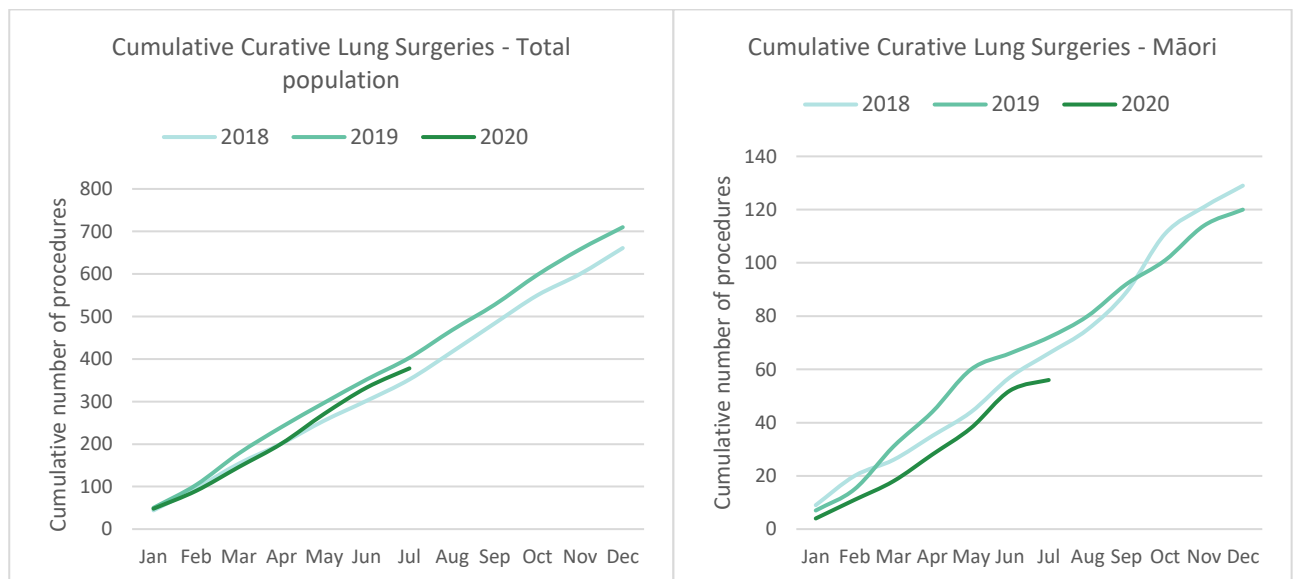
*Due to the small number of surgeries performed each month calculations have only been included for the total population rather than by ethnicity

Figure 14: Number of curative lung cancer surgeries by month and year, total population (left) and for Māori (right)



*Due to the small number of surgeries performed each month it is not possible to draw conclusions from small changes between months.

Figure 15: Cumulative number of curative lung cancer surgeries by year, for the total population (left) and for Māori (right)



Key points

- Overall, for the year to date there has been a 6% decrease in curative lung cancer surgeries compared to 2019.
- The impact on lung cancer surgery is most marked for Māori. This is expected given the decrease in bronchoscopy and lung cancer diagnoses (see discussion page 16).

Prostate cancer surgery

Notes on data

- A list of the surgical procedure codes used for analysis are included in Appendix 4.
- The data was extracted from the National Minimum Dataset on 24 August 2020.
- The volumes for prostate surgery are higher in this report than previously reported due to the inclusion of data from a private provider (that provides public surgery).
- The number of curative prostate cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

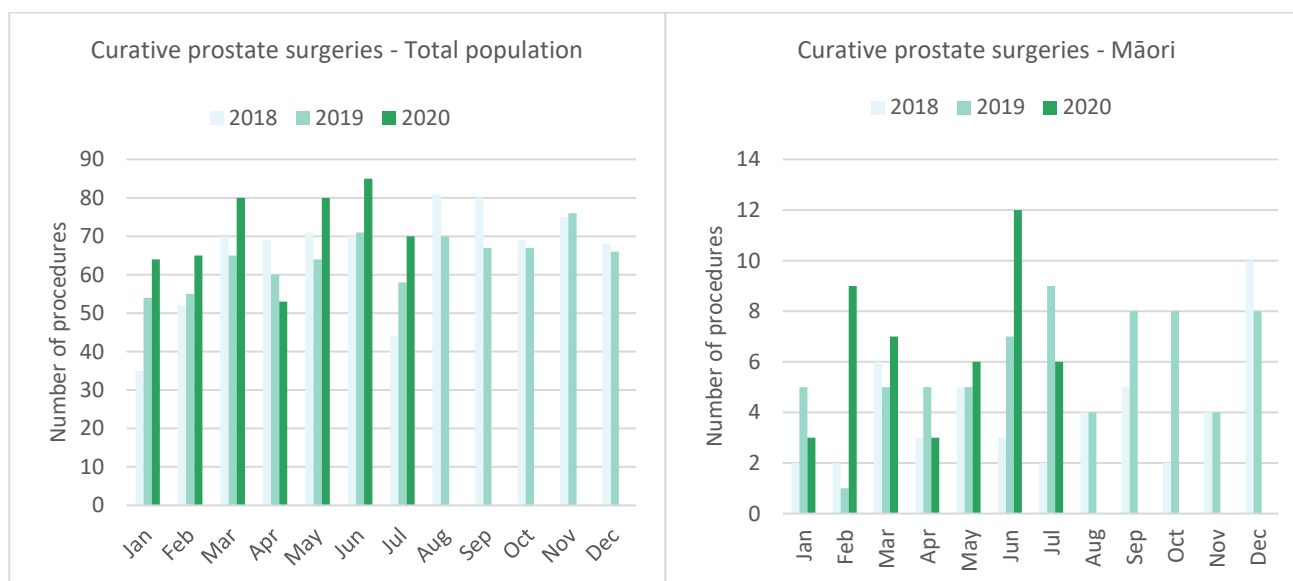
Results

Table 11: Absolute number and percentage change in curative prostate cancer surgery in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Total Population	16	25%	14	20%	12	21%	70	16%

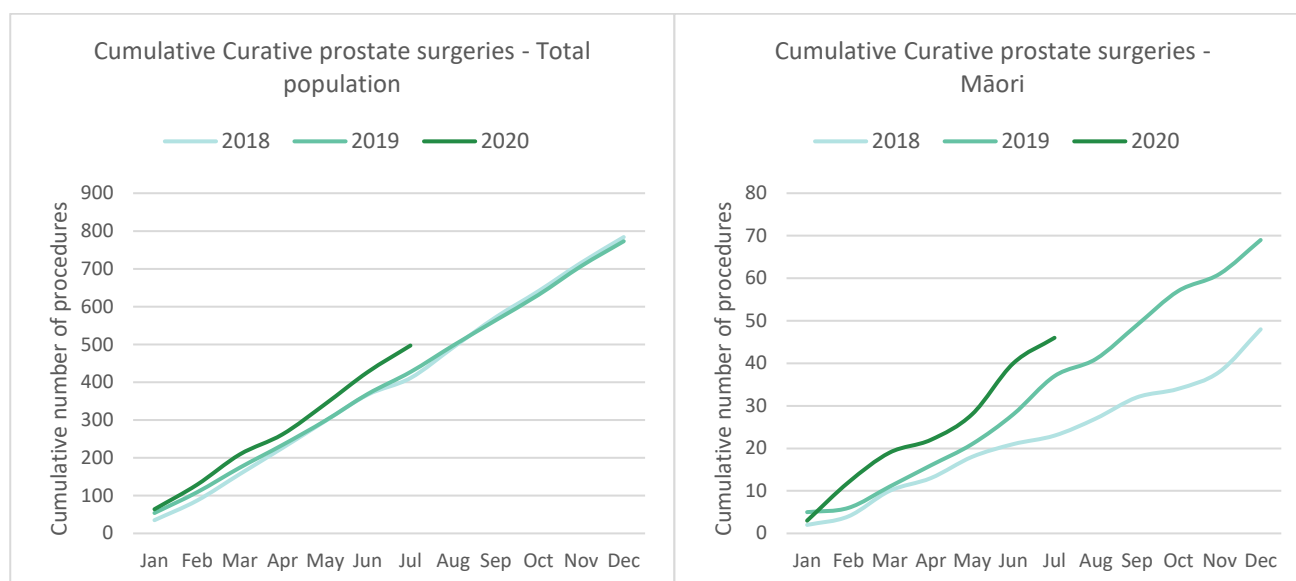
*Due to the small number of surgeries performed each month calculations have only been included for the total population

Figure 16: Number of curative prostate cancer surgeries by month and year, total population (left) and for Māori (right)



*Due to the small number of surgeries performed each month it is not possible to draw conclusions from small changes between months.

Figure 17: Cumulative number of curative prostate cancer surgeries by year, for the total population (left) and for Māori (right)



Key points

- For the year to date there has been a 16% increase in prostate cancer surgeries compared to 2019. There was an increase in prostate cancer surgeries performed in July 2020 compared to July 2019.

Medical oncology

Notes on data

- Extracted from National non-admitted patient collection (Outpatient collection) on 24 August 2020.
- First specialist assessment (FSA) reflects counts of first attendance for specialist medical oncology assessment.
- IV chemotherapy reflects appointments for outpatient and inpatient IV chemotherapy for non-haematological indications.
- Technical information: medical oncology FSA (PUC M50020), and IV chemotherapy (PUC MS02009)

Results

Table 12: Absolute number and percentage change in medical oncology first specialist assessments in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-1	-1%	12	12%	-17	-14%	-20	-3%
Pacific Peoples	-7	-14%	-6	-17%	-6	-14%	34	14%
Non-Māori / Non-Pacific	-60	-8%	54	9%	-75	-11%	47	1%
Total Population	-68	-8%	60	8%	-98	-12%	61	1%

Figure 18: Number of medical oncology first specialist assessments by month and year, for the total population (left) and for Māori (right)

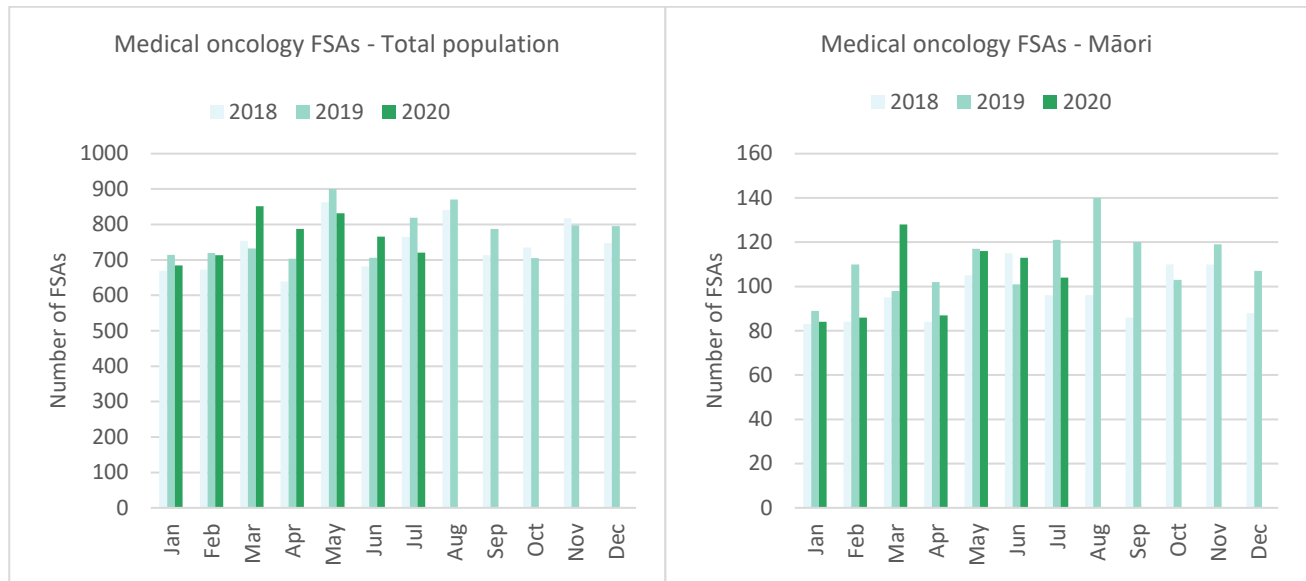


Figure 19: Cumulative number of medical oncology first specialist assessments by year, for the total population (left) and for Māori (right)

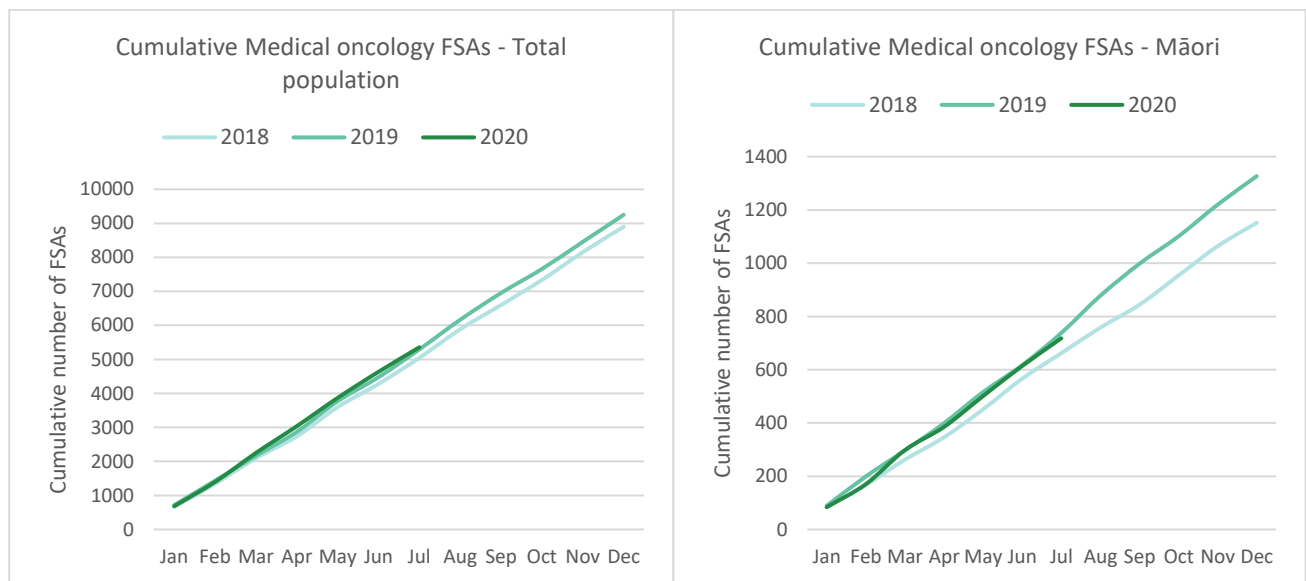


Table 13: Absolute number and percentage change in IV chemotherapy attendances in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	44	6%	225	33%	56	7%	797	15%
Pacific Peoples	-10	-3%	57	22%	-1	0%	45	2%
Non-Māori / Non-Pacific	-581	-11%	566	12%	-560	-10%	-121	0%
Total Population	-547	-8%	848	15%	-505	-8%	721	2%

Figure 20: Number of attendances for IV chemotherapy by month and year, for the total population (left) and for Māori (right)

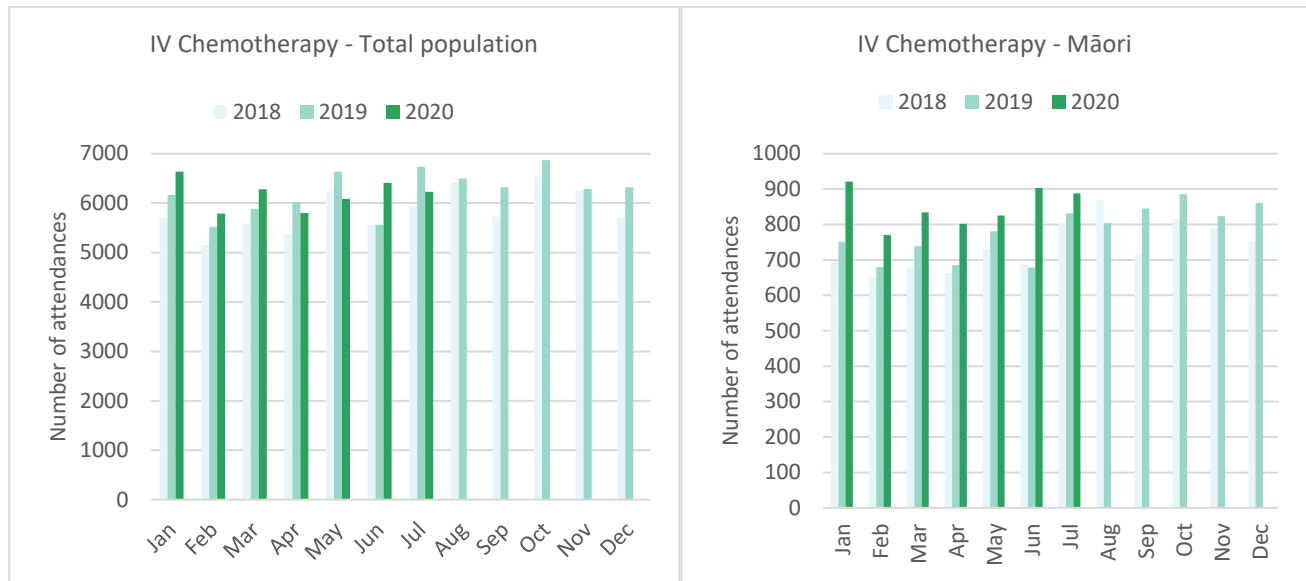
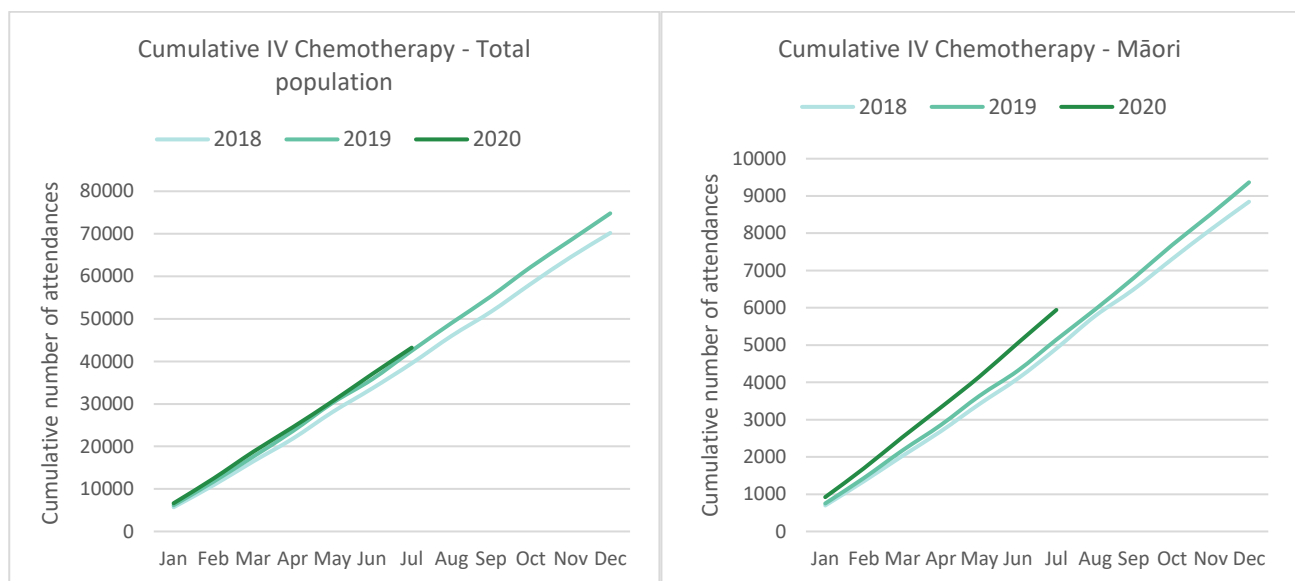


Figure 21: Cumulative number of attendances for IV chemotherapy by year, for the total population (left) and for Māori (right)



Key points

- Overall, for the year to date the number of medical oncology FSAs and number of attendances for IV chemotherapy in 2020 is comparable to 2019.
- There has been an overall 15% increase in attendances for IV chemotherapy for Māori during the first seven months of 2020 compared to the same time period in 2019.

Radiation oncology

Notes on data

- Extracted from National Non-admitted patient collection on 24 August 2020.
- First specialist assessment (FSA) reflects counts of first attendance for radiation oncology specialist assessment.
- Megavoltage attendance reflects appointments for planning/simulation and for treatment with radiation therapy on a linear accelerator.
- Technical information: radiation oncology FSA (PUC M50022), megavoltage attendances (Purchase Unit Code M50025)

Results

Table 14: Absolute number and percentage change in radiation oncology first specialist assessments in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	7	5%	23	21%	2	2%	65	8%
Pacific Peoples	-15	-29%	-16	-36%	-18	-31%	-37	-11%
Non-Māori / Non-Pacific	-102	-11%	96	13%	-217	-21%	-51	-1%
Total Population	-110	-10%	103	11%	-233	-19%	-23	0%

Figure 22: Number of radiation oncology first specialist assessments by month and year, total population (left) and for Māori (right)

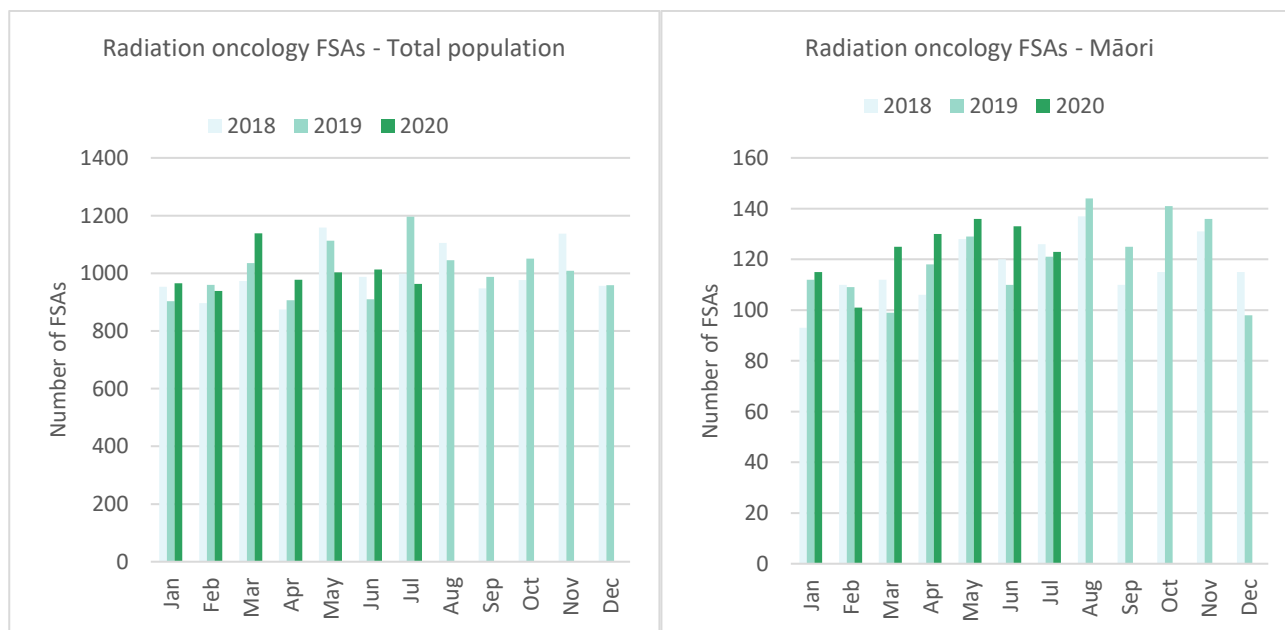


Figure 23: Cumulative number of radiation oncology first specialist assessments by month and year, total population (left) and for Māori (right)

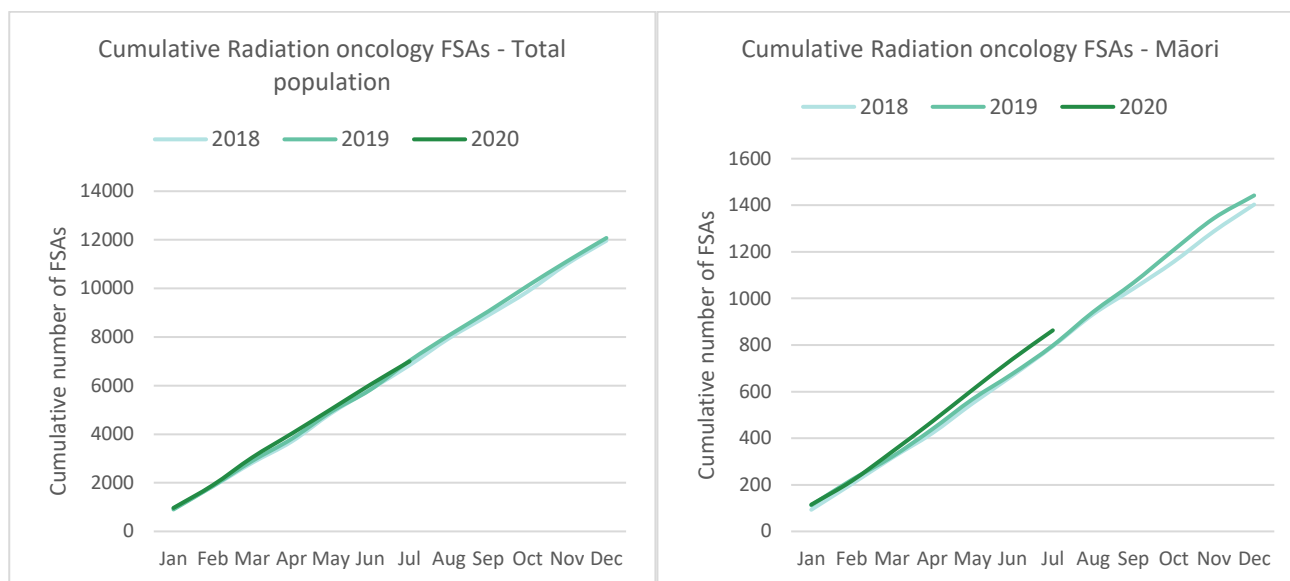


Table 15: Absolute number and percentage change in radiation therapy attendances in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-374	-20%	274	17%	-256	-13%	-806	-7%
Pacific Peoples	-172	-28%	-3	-1%	-241	-34%	18	0%
Non-Māori / Non-Pacific	-3076	-25%	554	5%	-711	-6%	-5350	-7%
Total Population	-3622	-25%	825	7%	-1208	-8%	-6138	-7%

Figure 24: Number of attendances for radiation therapy by month and year, total population (left) and for Māori (right)

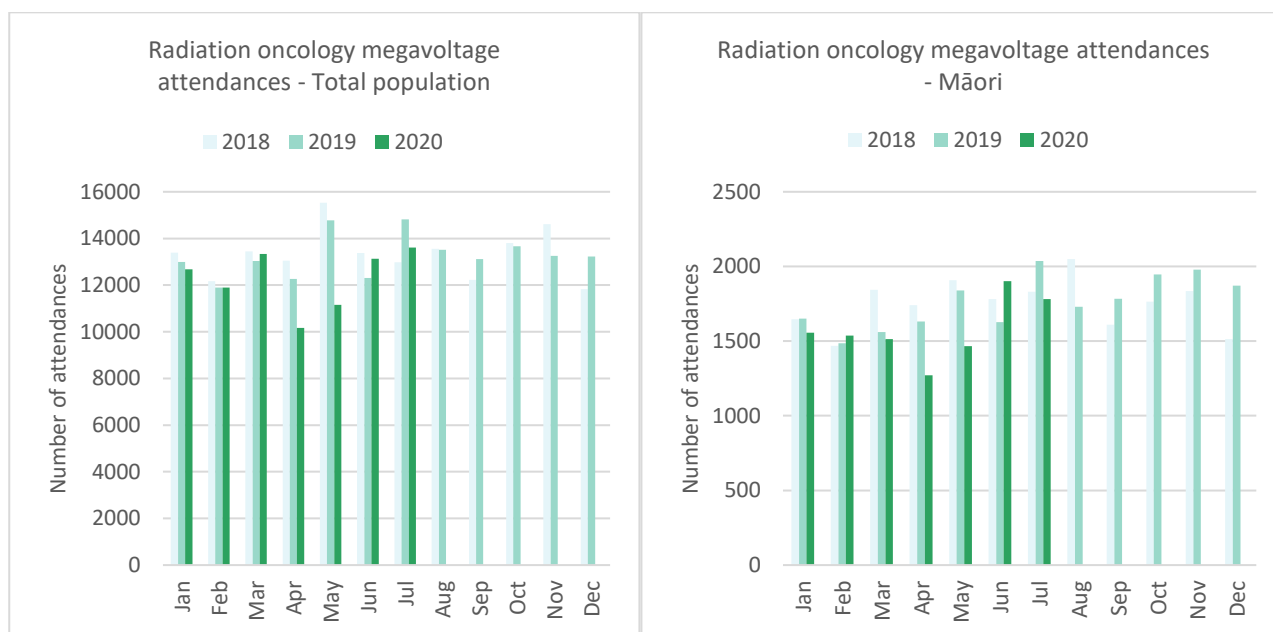
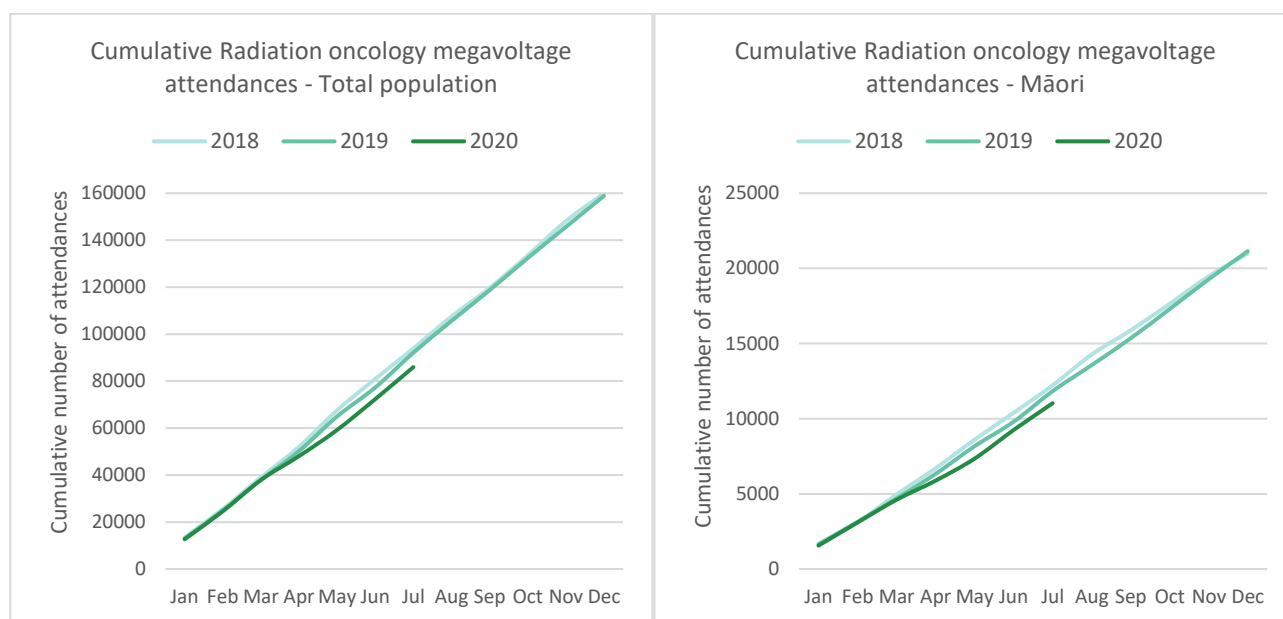


Figure 25: Cumulative number of attendances for radiation therapy by month and year, total population (left) and for Māori (right)



Key points

- Overall for the year to date the number of radiation oncology FSAs in 2020 is comparable to 2019.
- For the year to date there has been a 7% decrease in attendances for radiation therapy. This is similar for Māori (7%) and non-Māori/non-Pacific (7%). This may be the result of national hypofractionation guidance. Te Aho o Te Kahu is looking into this further using the Radiation Oncology Collection (ROC database), which allows for more detailed analysis.

Haematology

Notes on data

- Extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) 24 August 2020.
- First specialist assessment (FSA) reflects counts of first attendance for specialist haematology assessment for any indication (i.e. 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).

Results

Table 16: Absolute number and percentage change in haematology FSAs in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-14	-21%	-32	-44%	-1	-2%	-18	-4%
Pacific Peoples	-10	-28%	5	16%	8	35%	2	1%
Non-Māori / Non-Pacific	-230	-41%	30	8%	-67	-13%	-289	-9%
Total Population	-254	-38%	3	1%	-60	-10%	-305	-8%

Figure 26: Number of haematology first specialist assessments by month and year, total population (left) and for Māori (right)

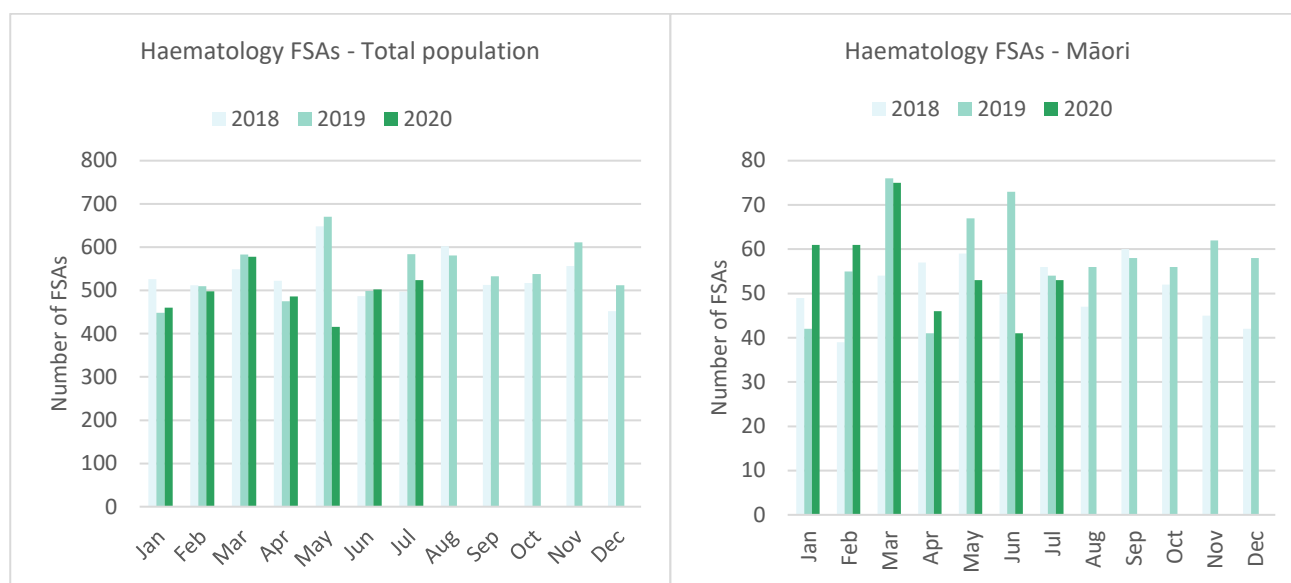


Figure 27: Cumulative number of haematology first specialist assessments by month and year, total population (left) and for Māori (right)

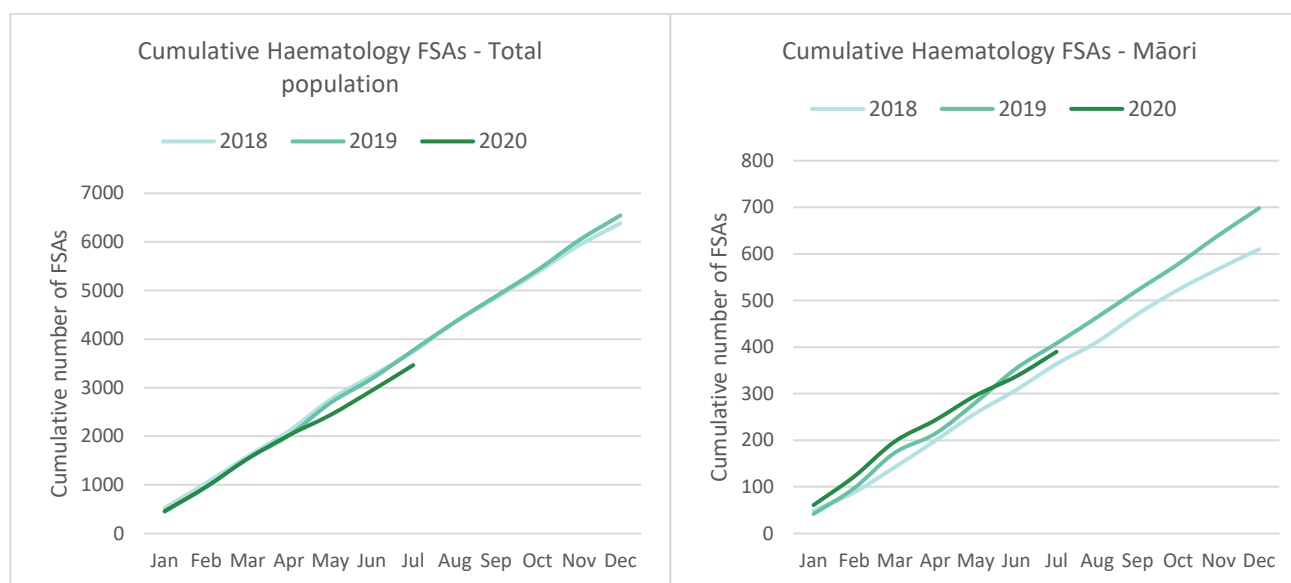


Table 17: Absolute number and percentage change in IV chemotherapy attendances for haematological malignancies in 2020 compared to 2019 by month, and cumulative year to date

	May 2020		June 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-54	-23%	6	4%	-50	-19%	-10	-1%
Pacific Peoples	34	47%	94	162%	65	59%	191	32%
Non-Māori / Non-Pacific	-186	-11%	381	28%	-104	-5%	492	4%
Total Population	-206	-10%	481	30%	-89	-4%	673	5%

Figure 28: Number attendances for IV chemotherapy for haematological malignancies by month and year, total population (left) and for Māori (right)

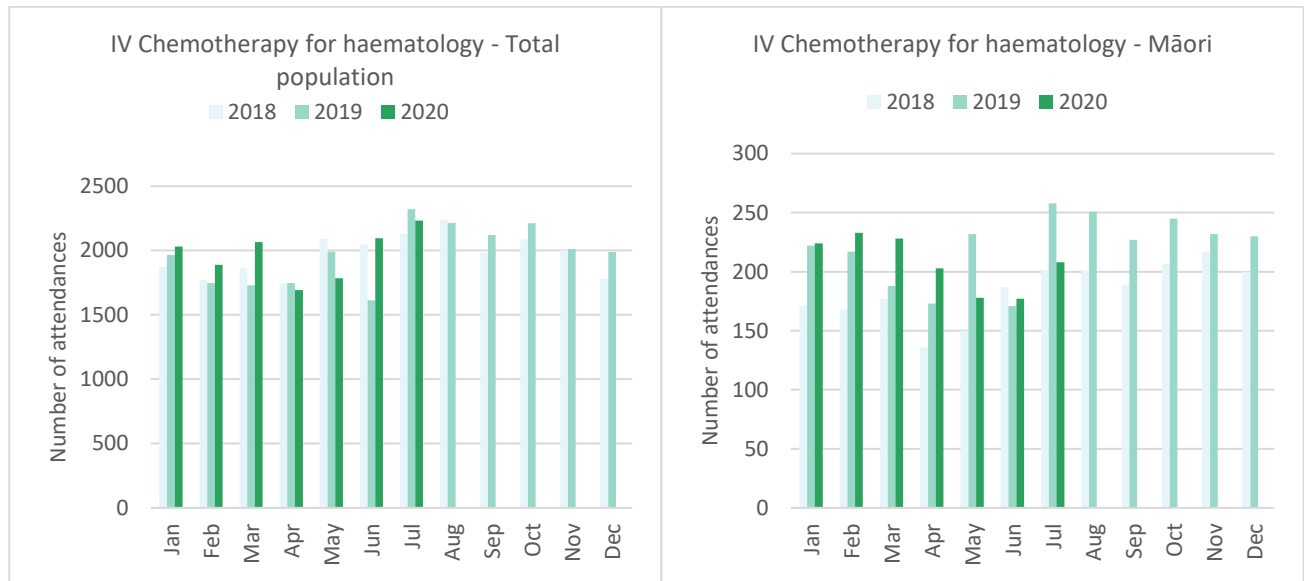
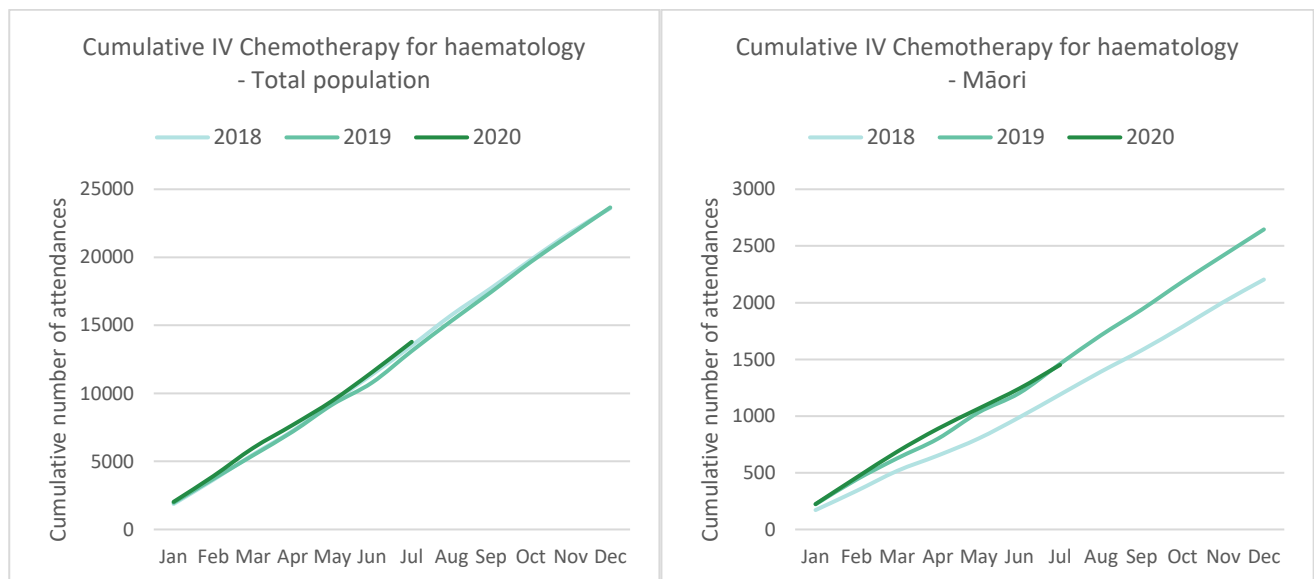


Figure 29: Cumulative number of attendances for IV chemotherapy for haematological malignancies by month and year, total population (left) and for Māori (right)



Key points

- Overall, for the year to date there has been an 8% decrease in haematology first specialist appointments compared to the same time period in 2019. One contributor to this is likely to be a decrease in FSAs for non-malignant, non-urgent indications, deferred as part of the hospital response framework. These cases may have been effectively managed in primary care and so may never require secondary FSA care in 2020.
- For the year to date there has been a 5% increase in IV chemotherapy for haematology compared to the same time period in 2019.

Appendix 1: NZCR data information

The New Zealand Cancer Registry as a source of data 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 Organisation standard so that cancer incidence can be compared between countries. The tumour is staged based on all the information available within 4 months of diagnosis. This process may take up to six months or more depending on the number of missing reports that need to be followed up with laboratories.

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

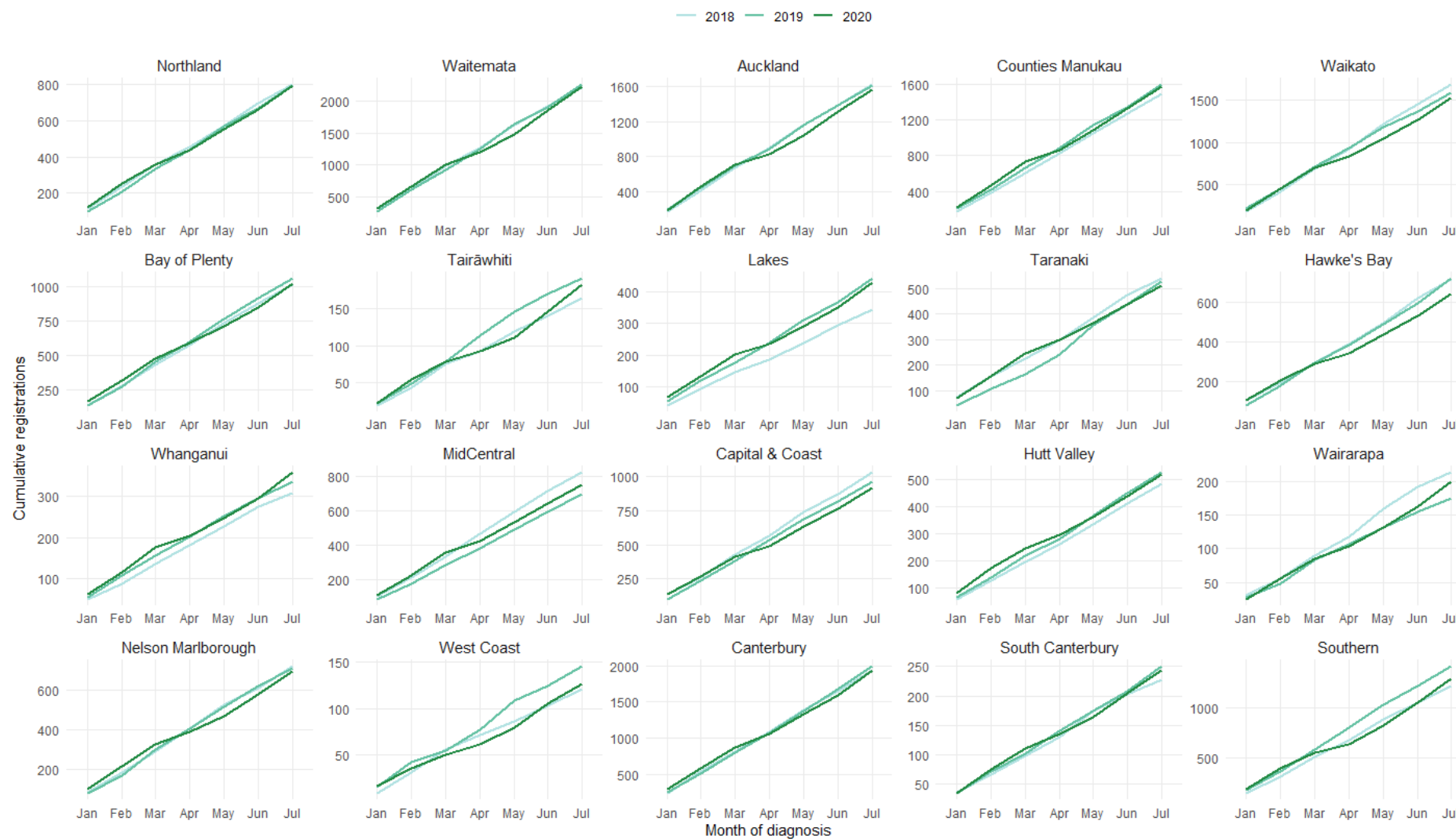
Cancer registrations come from pathology laboratories, haematology laboratories, mortality records and reviewing hospital discharge records. Laboratory reports provide the best source of near real time data to monitor new diagnoses of cancer in New Zealand.

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

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

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

Appendix 2: NZCR registrations by DHB



Cancer Registrations by DHB

	Total						Māori						European/Other*					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	695	671	664	-7	-1		179	136	157	21	15.4		605	639	624	-15	-2.3	
Waitemata	1922	1911	1861	-50	-2.6		104	107	125	18	16.8		1839	1872	1764	-108	-5.8	
Auckland	1391	1389	1318	-71	-5.1		64	79	68	-11	-13.9		1230	1158	1167	9	0.8	
Counties Manukau	1269	1345	1336	-9	-0.7		156	179	214	35	19.6		927	954	900	-54	-5.7	
Waikato	1445	1366	1261	-105	-7.7		239	239	202	-37	-15.5		1338	1271	1232	-39	-3.1	
Bay of Plenty	879	919	854	-65	-7.1		136	155	139	-16	-10.3		864	872	859	-13	-1.5	
Tairāwhiti	140	170	145	-25	-14.7		47	64	74	10	15.6		116	122	104	-18	-14.8	
Lakes	296	369	349	-20	-5.4		88	98	101	3	3.1		236	321	305	-16	-5	
Taranaki	473	438	439	1	0.2		49	47	46	-1	-2.1		477	474	456	-18	-3.8	
Hawke's Bay	620	591	529	-62	-10.5		110	115	93	-22	-19.1		580	576	522	-54	-9.4	
Whanganui	276	296	297	1	0.3		40	60	43	-17	-28.3		263	270	309	39	14.4	
MidCentral	720	595	647	52	8.7		92	68	73	5	7.4		708	603	647	44	7.3	
Capital & Coast	870	814	760	-54	-6.6		67	67	71	4	6		823	786	731	-55	-7	
Hutt Valley	414	452	437	-15	-3.3		58	77	46	-31	-40.3		384	398	427	29	7.3	
Wairarapa	192	154	163	9	5.8		23	10	19	9	90		186	161	173	12	7.5	
Nelson Marlborough	611	619	577	-42	-6.8		31	32	24	-8	-25		669	661	659	-2	-0.3	
West Coast	103	124	107	-17	-13.7		6	8	9	1			115	133	117	-16	-12	
Canterbury	1658	1674	1601	-73	-4.4		113	97	105	8	8.2		1708	1786	1700	-86	-4.8	
South Canterbury	202	209	205	-4	-1.9		13	13	9	-4	-30.8		209	235	229	-6	-2.6	
Southern	1048	1213	1059	-154	-12.7		49	85	60	-25	-29.4		1127	1294	1192	-102	-7.9	

Appendix 3: Diagnosis and treatment data by DHB

Percentage differences are only presented if the cumulative 2019 total is 10 or greater. In some cases, the grand totals may differ slightly to those presented in the national report. This is due to non-DHB providers being excluded from the analyses within this appendix.

Gastrointestinal endoscopy

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Northland	2118	2414	1844	-570	-24%	351	460	349	-111	-24%	1758	1930	1480	-450	-23%
Waitemata	4543	5266	5164	-102	-2%	242	306	276	-30	-10%	4138	4790	4670	-120	-3%
Auckland	3440	3743	2931	-812	-22%	180	167	170	3	2%	3033	3327	2522	-805	-24%
Counties Manukau	4848	5222	6047	825	16%	454	505	608	103	20%	3807	4028	4601	573	14%
Waikato	2906	3749	3669	-80	-2%	341	448	443	-5	-1%	2518	3260	3169	-91	-3%
Bay of Plenty	2771	2780	2734	-46	-2%	320	363	342	-21	-6%	2436	2408	2382	-26	-1%
Lakes	1093	1096	985	-111	-10%	195	205	198	-7	-3%	882	876	766	-110	-13%
Tairāwhiti	377	467	388	-79	-17%	100	134	111	-23	-17%	275	329	271	-58	-18%
Taranaki	1141	1092	1039	-53	-5%	116	122	85	-37	-30%	1021	965	947	-18	-2%
Whanganui	834	900	714	-186	-21%	123	117	96	-21	-18%	708	779	611	-168	-22%
Hawke's Bay	1406	1711	1563	-148	-9%	157	202	212	10	5%	1237	1486	1325	-161	-11%
MidCentral	1216	1249	1310	61	5%	81	92	116	24	26%	1123	1144	1179	35	3%
Capital & Coast	1679	1696	1831	135	8%	127	97	146	49	51%	1488	1527	1626	99	6%
Hutt Valley	1306	1728	1805	77	4%	109	132	188	56	42%	1147	1546	1556	10	1%
Wairarapa	513	617	488	-129	-21%	44	56	47	-9	-16%	460	557	437	-120	-22%
Nelson Marlborough	719	1483	1507	24	2%	35	85	81	-4	-5%	680	1390	1413	23	2%
West Coast	387	356	374	18	5%	30	20	12	-8	-40%	355	335	360	25	7%
Canterbury	3401	5418	4555	-863	-16%	190	315	257	-58	-18%	3162	5023	4230	-793	-16%
South Canterbury	656	702	567	-135	-19%	30	26	23	-3	-12%	626	676	543	-133	-20%
Southern	2565	2857	2472	-385	-13%	102	151	135	-16	-11%	2445	2686	2309	-377	-14%
Total	37919	44546	41987	-2559	-6%	3327	4003	3895	-108	-3%	33299	39062	36397	-2665	-7%

Bronchoscopy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	53	42	36	-6	-14%		16	14	10	-4	-29%		36	28	25	-3	-11%	
Waitemata	80	91	82	-9	-10%		4	5	8	3	-		70	84	70	-14	-17%	
Auckland	176	226	162	-64	-28%		19	23	17	-6	-26%		141	186	129	-57	-31%	
Counties Manukau	204	208	193	-15	-7%		41	33	21	-12	-36%		137	145	142	-3	-2%	
Waikato	164	161	118	-43	-27%		34	36	29	-7	-19%		127	123	86	-37	-30%	
Bay of Plenty	83	107	73	-34	-32%		14	28	19	-9	-32%		67	77	54	-23	-30%	
Lakes	45	52	46	-6	-12%		16	15	19	4	27%		29	36	26	-10	-28%	
Tairāwhiti	1	2	16	14	-		1	1	6	5	-		0	1	10	9	-	
Taranaki	26	30	25	-5	-17%		4	7	2	-5	-		22	23	23	0	0%	
Whanganui	4	12	8	-4	-33%		1	6	2	-4	-		3	6	6	0	-	
Hawke's Bay	46	42	23	-19	-45%		14	10	6	-4	-40%		32	31	16	-15	-48%	
MidCentral	24	20	14	-6	-30%		3	7	1	-6	-		21	13	13	0	0%	
Capital & Coast	53	56	38	-18	-32%		6	6	6	0	-		43	49	31	-18	-37%	
Hutt Valley	56	76	50	-26	-34%		6	18	6	-12	-67%		47	57	41	-16	-28%	
Nelson Marlborough	43	37	54	17	46%		4	4	5	1	-		39	33	48	15	45%	
Canterbury	193	249	233	-16	-6%		14	23	13	-10	-43%		177	223	212	-11	-5%	
South Canterbury	7	7	11	4	-		0	1	0	-1	-		7	6	11	5	-	
Southern	136	149	79	-70	-47%		9	13	8	-5	-38%		127	133	71	-62	-47%	
Total	1394	1567	1261	-306	-20%		206	250	178	-72	-29%		1125	1254	1014	-240	-19%	

Colorectal cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	42	59	47	-12	-20%		7	12	14	2	17%		35	47	33	-14	-30%	
Waitemata	149	153	125	-28	-18%		10	11	9	-2	-18%		136	131	113	-18	-14%	
Auckland	112	115	113	-2	-2%		6	6	14	8	-		99	94	95	1	1%	
Counties Manukau	85	73	87	14	19%		6	5	15	10	-		70	64	63	-1	-2%	
Waikato	127	121	155	34	28%		16	9	24	15	-		108	111	130	19	17%	
Bay of Plenty	77	82	102	20	24%		12	7	15	8	-		65	74	87	13	18%	
Lakes	41	49	44	-5	-10%		8	9	8	-1	-		32	39	35	-4	-10%	
Tairāwhiti	11	16	17	1	6%		4	2	5	3	-		7	14	12	-2	-14%	
Taranaki	56	50	42	-8	-16%		7	3	6	3	-		49	47	36	-11	-23%	
Whanganui	30	29	27	-2	-7%		4	1	2	1	-		26	28	25	-3	-11%	
Hawke's Bay	87	84	76	-8	-10%		14	7	12	5	-		73	76	62	-14	-18%	
MidCentral	77	62	69	7	11%		5	4	9	5	-		71	57	60	3	5%	
Hutt Valley	39	39	28	-11	-28%		1	4	2	-2	-		78	77	69	-8	-10%	
Wairarapa	15	10	3	-7	-70%		2	1	0	-1	-		36	35	25	-10	-29%	
Capital & Coast	88	90	81	-9	-10%		6	8	10	2	-		54	46	34	-12	-26%	
Nelson Marlborough	54	51	36	-15	-29%		0	5	2	-3	-		164	169	155	-14	-8%	
Canterbury	177	182	170	-12	-7%		10	11	12	1	9%		33	28	20	-8	-29%	
West Coast	1	4	4	0	-		-	-	-	-	-		129	151	122	-29	-19%	
South Canterbury	33	29	22	-7	-24%		0	1	2	1	-		13	9	3	-6	-	
Southern	136	159	127	-32	-20%		6	6	4	-2	-		1	4	4	0	-	
Total	1437	1457	1375	-82	-6%		124	112	165	53	47%		1279	1301	1183	-118	-9%	

Lung cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Auckland	156	161	149	-12	-7%		23	34	21	-13	-38%		125	115	114	-1	-1%	
Counties Manukau	1	2	2	0	-		0	0	1	1	-		0	2	1	-1	-	
Waikato	64	80	93	13	16%		21	24	22	-2	-8%		40	56	70	14	25%	
Hawke's Bay	0	0	1	1	-		-	-	-	-	-		-	-	-	-	-	
Capital & Coast	69	77	51	-26	-34%		17	11	6	-5	-45%		49	61	42	-19	-31%	
Canterbury	45	57	64	7	12%		2	3	4	1	-		43	54	60	6	11%	
Southern	17	26	18	-8	-31%		3	0	2	2	-		14	26	16	-10	-38%	
Total	352	403	378	-25	-6%		66	72	56	-16	-22%		271	314	303	-11	-4%	

Prostate cancer surgery

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Northland	27	30	18	-12	-40%	6	3	5	2	-	21	26	13	-13	-50%
Waitemata	43	34	65	31	91%	1	3	1	-2	-	41	31	62	31	100%
Auckland	48	58	76	18	31%	1	5	7	2	-	44	48	67	19	40%
Counties Manukau	0	1	0	-1	-	-	-	-	-	-	0	1	0	-1	-
Waikato	40	39	33	-6	-15%	1	3	2	-1	-	39	36	30	-6	-17%
Bay of Plenty	33	33	35	2	6%	4	6	11	5	-	29	27	24	-3	-11%
Tairāwhiti	4	3	6	3	-	1	2	2	0	-	3	1	4	3	-
Taranaki	12	12	21	9	75%	1	1	4	3	-	11	11	17	6	55%
Whanganui	2	2	3	1	-	0	0	0	0	-	2	2	3	1	-
Hawke's Bay	6	11	14	3	27%	0	1	3	2	-	6	10	11	1	10%
MidCentral	37	48	48	0	0%	2	7	3	-4	-	35	41	45	4	10%
Capital & Coast	30	39	36	-3	-8%	1	2	1	-1	-	26	34	35	1	3%
Wairarapa	6	6	7	1	-	1	0	1	1	-	5	6	6	0	-
Nelson Marlborough	29	20	24	4	20%	-	-	-	-	-	29	19	24	5	26%
West Coast	4	3	3	0	-	0	0	0	0	-	4	3	3	0	-
Canterbury	39	37	46	9	24%	0	2	2	0	-	39	35	43	8	23%
South Canterbury	10	6	11	5	-	-	-	-	-	-	10	6	11	5	-
Southern	41	45	51	6	13%	4	2	4	2	-	37	42	47	5	12%
Total	411	427	497	70	16%	23	37	46	9	24%	381	379	445	66	17%

Medical oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	259	292	230	-62	-21%		71	74	63	-11	-15%		188	215	163	-52	-24%	
Auckland	1310	1344	1479	135	10%		155	144	173	29	20%		993	1027	1102	75	7%	
Waikato	492	452	486	34	8%		110	94	105	11	12%		373	345	375	30	9%	
Bay of Plenty	256	273	307	34	12%		40	61	52	-9	-15%		214	211	253	42	20%	
Lakes	66	114	111	-3	-3%		28	38	28	-10	-26%		37	74	82	8	11%	
Tairāwhiti	44	85	88	3	4%		22	35	40	5	14%		22	50	48	-2	-4%	
Taranaki	135	142	118	-24	-17%		12	19	14	-5	-26%		121	123	103	-20	-16%	
MidCentral	644	619	633	14	2%		96	104	102	-2	-2%		532	504	522	18	4%	
Capital & Coast	514	508	512	4	1%		53	68	63	-5	-7%		428	412	415	3	1%	
Nelson Marlborough	251	229	265	36	16%		17	19	12	-7	-37%		233	209	252	43	21%	
West Coast	18	17	9	-8	-47%		0	2	0	-2	-		18	14	9	-5	-36%	
Canterbury	706	785	736	-49	-6%		44	55	46	-9	-16%		653	720	676	-44	-6%	
South Canterbury	6	2	35	33	-		0	0	2	2	-		6	2	33	31	-	
Southern	343	432	346	-86	-20%		14	25	18	-7	-28%		327	404	324	-80	-20%	
Total	5044	5294	5355	61	1%		662	738	718	-20	-3%		4145	4310	4357	47	1%	

Medical oncology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	1850	1650	1801	151	9%		367	380	565	185	49%		1462	1255	1219	-36	-3%	
Waitemata	0	2	0	-2	-								0	2	0	-2	-	
Auckland	9845	11482	12943	1461	13%		1054	987	1470	483	49%		7700	9049	9983	934	10%	
Waikato	4073	4448	3587	-861	-19%		622	746	594	-152	-20%		3405	3652	2933	-719	-20%	
Bay of Plenty	3036	2810	3427	617	22%		532	471	700	229	49%		2461	2316	2707	391	17%	
Lakes	1550	1821	1787	-34	-2%		469	475	535	60	13%		1028	1327	1235	-92	-7%	
Tairāwhiti	456	345	330	-15	-4%		204	154	157	3	2%		251	191	172	-19	-10%	
Taranaki	918	1022	1032	10	1%		123	59	103	44	75%		785	952	915	-37	-4%	
Whanganui	78	52	55	3	6%		16	6	7	1	-		62	46	48	2	4%	
Hawke's Bay	14	21	54	33	157%		4	3	44	41	-		10	18	10	-8	-44%	
MidCentral	3768	4639	4529	-110	-2%		519	870	734	-136	-16%		3166	3632	3737	105	3%	
Capital & Coast	3629	4108	3698	-410	-10%		348	421	441	20	5%		3120	3476	3034	-442	-13%	
Hutt Valley	69	63	52	-11	-17%		10	2	2	0	-		59	54	44	-10	-19%	
Wairarapa	15	8	45	37	-		0	2	12	10	-		15	6	31	25	-	
Nelson Marlborough	1783	1565	1747	182	12%		148	124	78	-46	-37%		1612	1409	1651	242	17%	
West Coast	8	30	21	-9	-30%		0	1	4	3	-		8	29	17	-12	-41%	
Canterbury	3923	3493	3629	136	4%		250	234	236	2	1%		3557	3184	3263	79	2%	
South Canterbury	612	633	619	-14	-2%		6	3	12	9	-		606	618	607	-11	-2%	
Southern	3925	4313	3870	-443	-10%		236	208	249	41	20%		3667	4072	3561	-511	-13%	
Total	39552	42505	43226	721	2%		4908	5146	5943	797	15%		32974	35288	35167	-121	0%	

Radiation oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	200	213	160	-53	-25%		59	49	59	10	20%		137	161	100	-61	-38%	
Auckland	1854	1846	1860	14	1%		213	227	207	-20	-9%		1420	1388	1452	64	5%	
Waikato	772	838	857	19	2%		135	137	188	51	37%		623	682	661	-21	-3%	
Bay of Plenty	498	578	531	-47	-8%		71	77	76	-1	-1%		422	496	451	-45	-9%	
Lakes	28	13	10	-3	-23%		5	3	3	0	-		23	10	7	-3	-30%	
Tairāwhiti	49	33	26	-7	-21%		19	11	13	2	18%		29	22	13	-9	-41%	
MidCentral	1033	937	1032	95	10%		128	116	141	25	22%		892	810	877	67	8%	
Capital & Coast	820	867	780	-87	-10%		82	82	80	-2	-2%		701	749	662	-87	-12%	
Nelson Marlborough	34	133	111	-22	-17%		2	7	7	0	-		32	125	103	-22	-18%	
West Coast	3	8	3	-5	-		0	1	0	-1	-		3	7	3	-4	-	
Canterbury	946	911	1083	172	19%		48	54	48	-6	-11%		889	843	1020	177	21%	
Southern	605	646	547	-99	-15%		33	34	41	7	21%		562	604	497	-107	-18%	
Total	6842	7023	7000	-23	0%		795	798	863	65	8%		5733	5897	5846	-51	-1%	

Radiation oncology megavoltage fractions

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Auckland	25757	26440	23857	-2583	-10%	3411	3658	2939	-719	-20%	19449	20286	18318	-1968	-10%
Waikato	12264	13594	11417	-2177	-16%	2314	2364	2470	106	4%	9722	10951	8832	-2119	-19%
Bay of Plenty	11135	9085	9857	772	8%	2022	1506	1548	42	3%	8938	7511	8177	666	9%
MidCentral	12344	14032	13114	-918	-7%	1763	1895	1758	-137	-7%	10448	12057	11128	-929	-8%
Capital & Coast	11476	12110	11305	-805	-7%	1264	1353	1334	-19	-1%	9684	10173	9430	-743	-7%
Canterbury	16554	13649	14126	477	3%	1103	890	833	-57	-6%	15103	12555	13152	597	5%
Southern	4411	3200	2291	-909	-28%	343	168	144	-24	-14%	3951	2997	2140	-857	-29%
Total	93941	92110	85972	-6138	-7%	12220	11834	11028	-806	-7%	77295	76530	71180	-5350	-7%

Haematology first specialist assessment

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020			Cumulative number for Jan to July			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	126	126	139	13	10%		18	28	37	9	32%		107	96	100	4	4%	
Waitemata	434	370	418	48	13%		22	23	30	7	30%		391	336	368	32	10%	
Auckland	564	561	426	-135	-24%		41	46	37	-9	-20%		467	460	338	-122	-27%	
Counties Manukau	448	426	396	-30	-7%		44	57	48	-9	-16%		335	308	287	-21	-7%	
Waikato	377	446	430	-16	-4%		61	88	71	-17	-19%		309	351	352	1	0%	
Bay of Plenty	232	230	183	-47	-20%		43	35	27	-8	-23%		185	190	153	-37	-19%	
Lakes*	0	2	0	-2	-		0	1	0	-1	-		0	1	0	-1	-	
Tairāwhiti	28	21	21	0	0%		10	4	3	-1	-		18	16	18	2	13%	
Taranaki	81	98	97	-1	-1%		11	6	13	7	-		70	91	84	-7	-8%	
MidCentral	428	454	430	-24	-5%		57	54	54	0	0%		366	395	364	-31	-8%	
Capital & Coast	475	444	398	-46	-10%		29	37	43	6	16%		432	387	332	-55	-14%	
Nelson Marlborough	122	91	66	-25	-27%		1	4	3	-1	-		120	86	63	-23	-27%	
West Coast	9	10	1	-9	-90%		1	0	0	0	-		8	10	1	-9	-90%	
Canterbury	252	314	299	-15	-5%		13	15	16	1	7%		231	290	280	-10	-3%	
Southern	165	176	160	-16	-9%		13	10	8	-2	-20%		149	163	151	-12	-7%	
Total	3741	3769	3464	-305	-8%		364	408	390	-18	-4%		3188	3180	2891	-289	-9%	

*Lakes DHB patients receive their haematology FSAs appointments at Waikato DBH. These records are likely to be a coding error.

Haematology IV chemotherapy

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020		Cumulative number for Jan to July			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Northland	1093	1028	826	-202	-20%	264	217	165	-52	-24%	829	774	628	-146	-19%
Waitemata	2346	2359	2285	-74	-3%	49	94	111	17	18%	2182	2146	2022	-124	-6%
Auckland	2015	2115	1969	-146	-7%	120	146	74	-72	-49%	1698	1726	1695	-31	-2%
Counties Manukau*	1371	645	1301	656		200	83	119	36		847	458	986	528	
Waikato	1104	1160	1279	119	10%	157	214	246	32	15%	939	944	1033	89	9%
Bay of Plenty	715	770	604	-166	-22%	81	51	78	27	53%	634	683	526	-157	-23%
Lakes	70	387	379	-8	-2%	12	113	93	-20	-18%	58	274	286	12	4%
Tairāwhiti	126	68	61	-7	-10%	13	10	7	-3	-30%	97	58	54	-4	-7%
MidCentral	1533	1643	1402	-241	-15%	186	199	119	-80	-40%	1324	1444	1274	-170	-12%
Capital & Coast	1799	2018	1916	-102	-5%	30	275	243	-32	-12%	1684	1686	1504	-182	-11%
Nelson Marlborough	0	0	10	10	-	0	0	0	0	-	0	0	10	10	-
West Coast	5	10	5	-5	-50%	0	2	0	-2	-	5	8	5	-3	-
Canterbury*	1212	777	1607	830		77	55	175	120		1121	718	1399	681	
Southern**	126	136	145	9	7%	1	2	21	19	-	125	134	123	-11	-8%
Total	13515	13116	13789	673	5%	1190	1461	1451	-10	-1%	11543	11053	11545	492	4%

*Te Aho o Te Kahu continues to work with Canterbury and Counties DHBs to better understand and improve quality of data in 2019. Number and percentage differences have not been presented as will not accurately reflect the difference between 2019 and 2020 in these DHBs.

** Note the relatively low volumes in Southern DHB are due to variation in coding. This is being followed up.

Appendix 4: Surgical procedure codes

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

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

LUNG CANCER SURGERY		
Clinical code	Clinical code description	Block Description
3844000	Wedge resection of lung	Partial resection of lung
3844001	Radical wedge resection of lung	Partial resection of lung
3843800	Segmental resection of lung	Partial resection of lung
9016900	Endoscopic wedge resection of lung	Partial resection of lung

3843801	Lobectomy of lung	Lobectomy of lung
3844100	Radical lobectomy	Lobectomy of lung
3844101	Radical pneumonectomy	Pneumonectomy
3843802	Pneumonectomy	Pneumonectomy

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