



COVID-19 and cancer services

Report five

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

October 2020

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Summary of findings

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

There continued to be an increase in new cancer registrations in August 2020. We have nearly caught up on the dip in cancer registrations seen over the lockdown period. 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 fifth report looking at the impact of COVID-19 on cancer services. This report looks at the period until the end of August 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

- There has been a 1.3% decrease in new cancer registrations for Māori in 2020 compared to 2019, similar to the decrease seen for European/other (2.2%).
- Māori have seen a smaller cumulative reduction in gastrointestinal endoscopy (2%) compared to non-Māori/non-Pacific (5%).
- Māori have been disproportionately impacted by the cumulative decrease in bronchoscopies (29% decrease for Māori compared to 16% decrease for non-Māori/non-Pacific).
 - There has been a 16% decrease in new diagnoses of lung cancer for Māori in the first eight months of 2020 compared to the same time period in 2019 (41 fewer cancers).

Auckland Snapshot

- Following new community transmission of COVID-19, Auckland went back to Alert Level 3 lockdown on the 12th of August, with the rest of the country at Alert Level 2.
- Although the move back to Alert Level 3 was extremely challenging for people living in the Auckland region, services were more prepared for the second lockdown.
- As a result, this second lockdown does not yet appear to have impacted the number of new cancer registrations across the three Auckland DHBs.
- There was a decrease in the number of gastrointestinal endoscopy procedures performed during August in Counties Manukau and Auckland DHB.
- Cancer treatment services appear to have been well maintained during the second Auckland lockdown.

Cancer diagnosis

Registrations

- For the year to date – up until end of August 2020 – there have been 312 fewer cancer registrations compared to the same time period in 2019, a 1.5% decrease.
 - This is a smaller deficit than was seen at the end of July 2020 (448 fewer cancers than 2019, a 2.5% decrease).
- The decrease in cancer registrations is 2.2 % European/Other and 1.3% for Māori. There are 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 and breast cancers – all have seen a 6-10% decrease for the year to date.

Diagnostics

- **Gastrointestinal endoscopy:** services continued to be delivered at pre-COVID volumes in August. For the year to date there have been 4% fewer gastrointestinal endoscopies performed in 2020 compared to 2019. This is smaller a gap than was seen at the end of July 2020, when there were 7% fewer gastrointestinal endoscopies performed compared to the same time period in 2019.
 - Despite the 4% year to date decrease in colonoscopies, there has been a 2% 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 18% fewer bronchoscopies performed in the first eight months of 2020 compared to the first eight months of 2019.

Cancer Treatment

Surgery

- Overall, the impact of COVID-19 on cancer surgery volumes has been minimal, with 1% fewer surgeries performed in the first eight months of 2020 compared to the first eight months of 2019. There has been an 21% increase in surgery for Māori in 2020 compared to 2019.
- Overall, for the year to date there has been a 7% decrease in curative lung cancer surgeries compared to 2019.

Chemotherapy and radiotherapy

- **Medical oncology:** the number of medical oncology FSAs and attendances for IV chemotherapy in 2020 is comparable to 2019.
- **Radiation oncology:** 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 (5%) and non-Māori/non-Pacific (8%).
- **Haematology:** there has been a 7% 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.
 - For the year to date there has been a 3% increase in IV chemotherapy for haematology compared to the same time period in 2019.

Introduction

Purpose of this report

This is the fifth 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 August 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 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 is 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 August 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
- 12 August: alert level 3 Auckland, alert level 2 the rest of New Zealand
- 30 August: alert level 2.5 Auckland, rest of New Zealand stays at alert level 2

Auckland Regional Snapshot

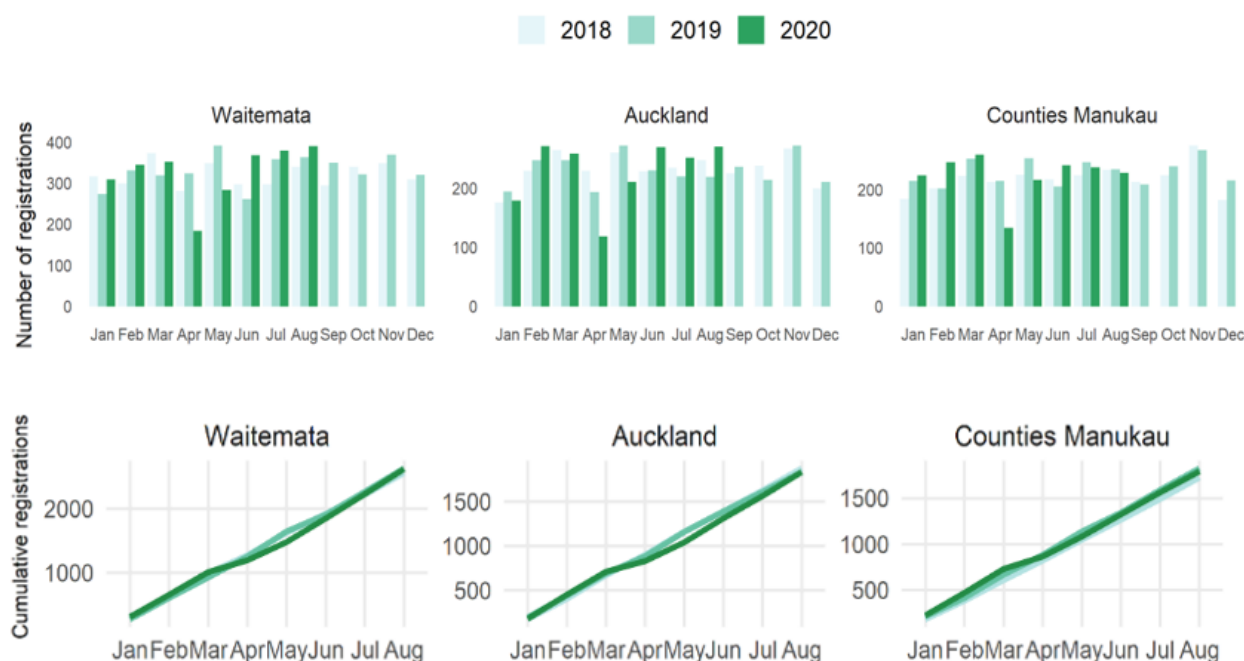
On the 11th of August 2020, after over 100 days with no community transmission, four cases of COVID-19 were diagnosed in the Auckland region with no link to overseas travel.

On the 12th of August Auckland went back to Alert Level 3 lockdown, with the rest of the country at Level 2. Auckland moved to level 2.5 on the 30th of August.

Although the move back to Level 3 was extremely challenging for people living in the Auckland region, services were more prepared for the second lockdown. This enabled cancer services to maintain business as usual within hospitals, staff had already completed necessary trainings, protocols had been put in place and services had come up with ways of working to minimise the risk of COVID-19.

As a result, this second lockdown does not yet appear to have impacted the number of new cancer registrations across the three Auckland DHBs (see Figure 1).

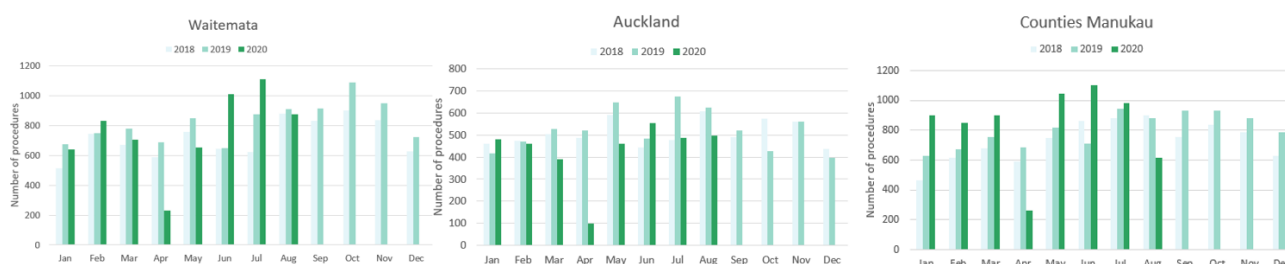
Figure 1: Total number of cancer registrations in the three Auckland DHBs by month and year (top) and cumulative number of cancer registrations by month and year (bottom)



The re-emergence of COVID-19 in the community did, however, cause disruption to people's lives and to health services. Some services had to operate at decreased capacity due to COVID-19 guidance. Figure 2 shows a decrease in the number of gastrointestinal endoscopy procedures performed during August in Counties Manukau and Auckland DHB (noting that these procedures are completed for several reasons, not just related to cancer).

Patients on the cancer pathway are tracked, with monitoring in place to identify potential delays. When a delay has occurred, people have been rebooked to ensure minimal impact.

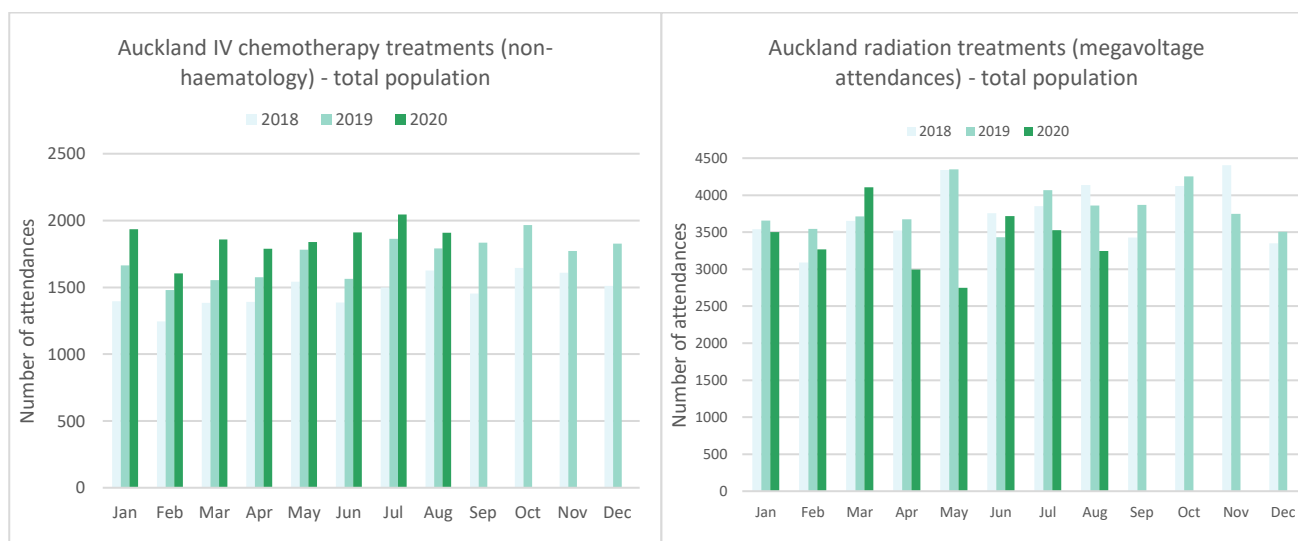
Figure 2: Number of gastrointestinal endoscopy procedures in the three Auckland DHBs by month and year



During the initial national lockdown cancer treatment services, including surgery, medical oncology and radiation oncology, were generally well maintained. This was seen again in the Auckland region (see Figure 3) with IV chemotherapy delivery continuing at pre-COVID levels. There was a small decrease in radiation oncology treatments in the Auckland region in August. This is similar to the pattern seen nationally and may in part reflect national hypofractionation guidance (see Radiation Oncology page 24)

During the Auckland lockdown first specialist assessments (FSAs) continued to be delivered face to face. As happened during the first national lockdown there was a move to telehealth for follow up appointments to minimise the need for travel.

Figure 3: Number of attendances for IV chemotherapy by month and year (left) and number of attendances for radiation treatments by month and year (right), for the Auckland region



National Data

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 August 2020).

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

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	24	-9.2	21	7.6	28	11.7	-25	-1.3
Pacific	25	32.5	22	22.2	4	5	16	2.2
Asian	16	11.9	-2	-1.3	16	11.2	55	5.2
European/Other	211	10.8	226	10.6	118	5.4	-377	-2.2
Total Population	224	9.2	287	10.7	169	6.3	-312	-1.5

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

Figure 4: Total number of cancer registrations by month and year (left), cumulative number of cancer registrations by month and year (right)

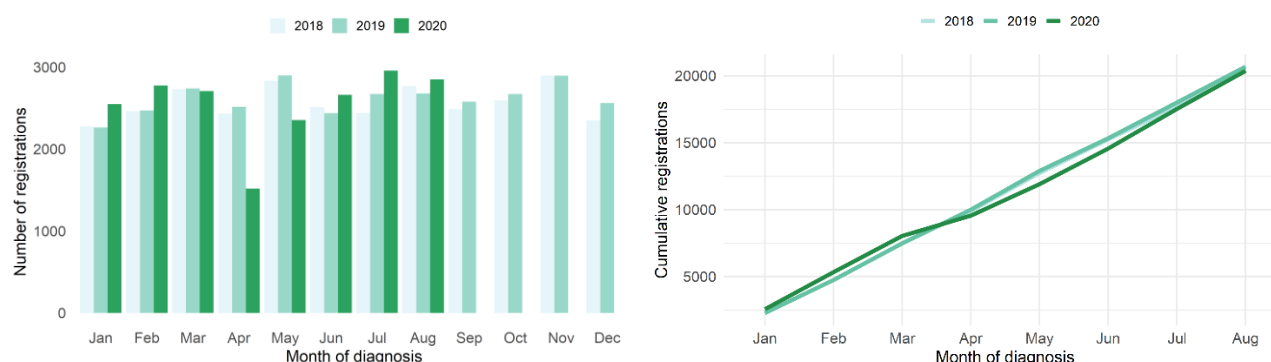


Figure 5: Number of cancer registrations by month and year, by ethnicity

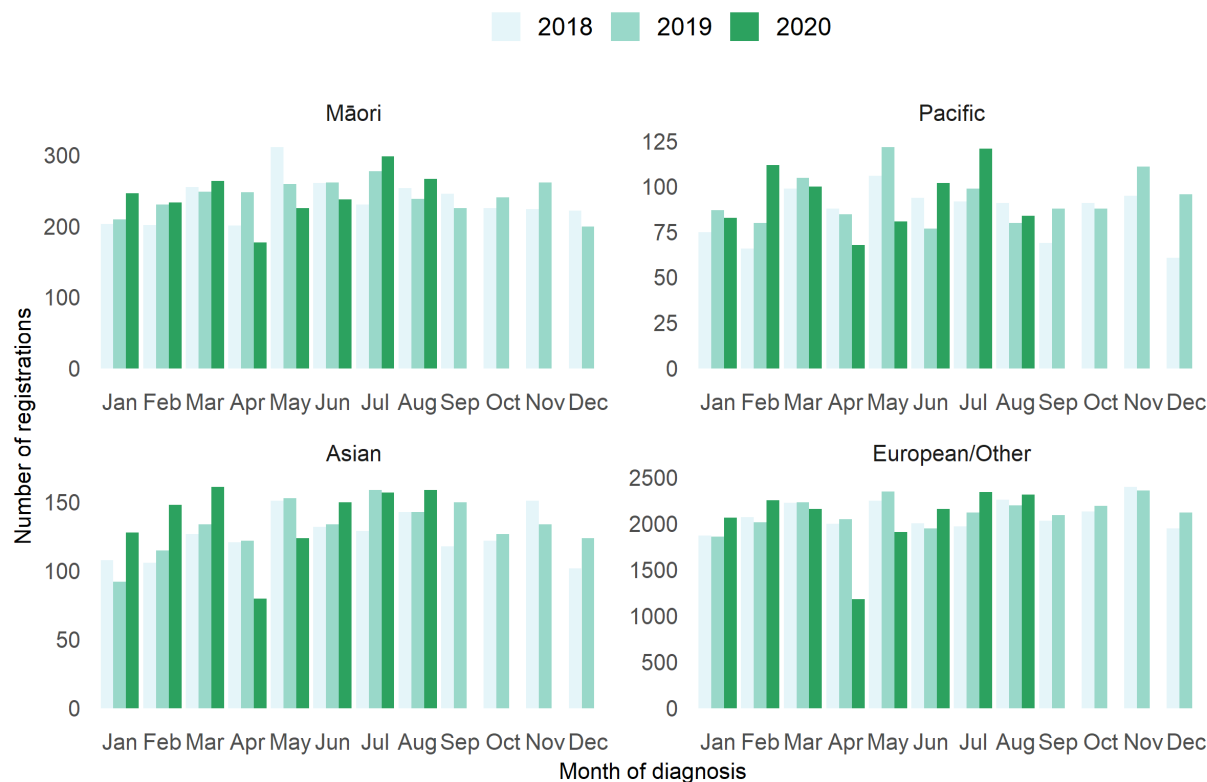


Figure 6: Cumulative number of cancer registrations by year, by ethnicity

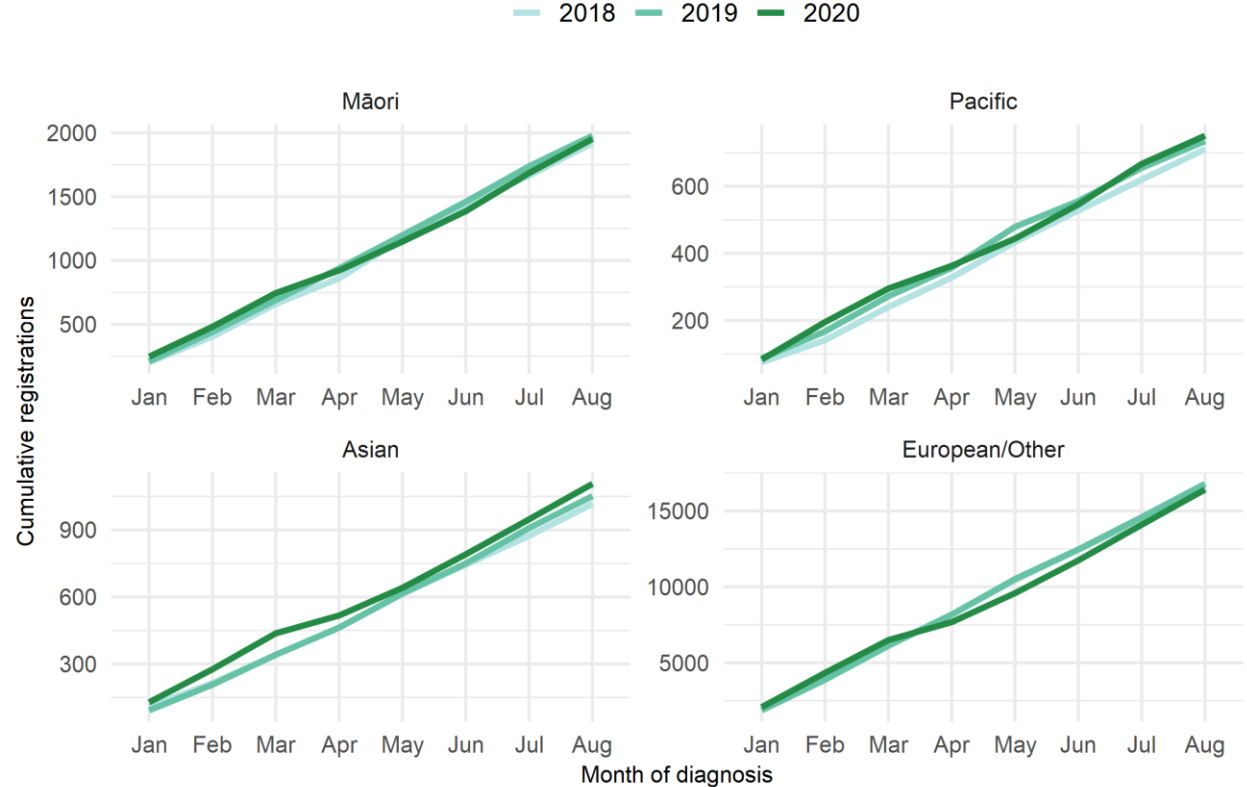


Table 2: Changes in cancer registration for ten most common cancers in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by cancer group

Cancer Group	June 2020		July 2020		August 2020		Year to date*	
	Number	%	Number	%	Number	%	Number	%
Breast	-18	-4.9	34	9	38	10.9	-175	-6.3
Cervix	18	10.6	-1	-0.5	-6	-3	68	5
Colorectal	-2	-0.7	39	14.4	25	9.7	47	2.2
Gynaecology	23	25	-2	-1.8	-4	-3.7	25	3.2
Haematology and lymphoid	14	7.4	14	6.2	2	1	-102	-6.3
Melanoma and non-melanoma skin	44	8.5	115	21.3	86	14.1	-196	-4.1
Other digestive system	42	39.3	-19	-12.4	24	21.2	35	3.4
Prostate	-22	-6.5	10	3.1	-56	-14.4	-279	-10.6
Respiratory and thorax	4	3.4	-4	-2.6	-32	-19	-42	-3.5
Urinary system	15	12.9	36	29	22	19.1	75	7.8

*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 7: Number of cancer registrations by month and year, by cancer group



Figure 8: Cumulative number of cancer registrations by year, by cancer group

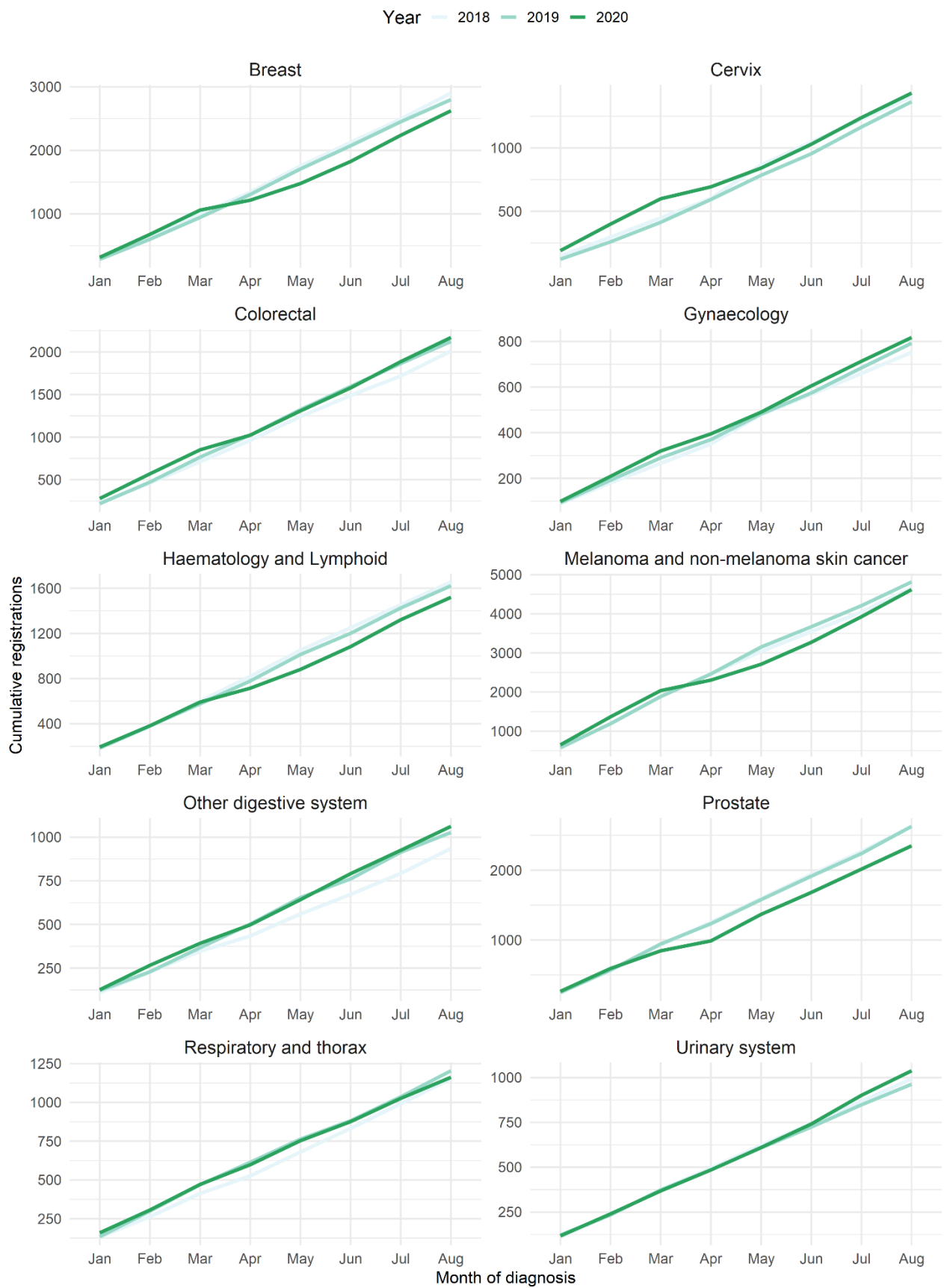


Table 3: Changes in cancer registration in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by DHB of domicile (See Appendix 2 for graphs)

DHB	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Northland	4	3.9	14	11.4	41	36.6	43	4.7
Waitemata	107	40.8	22	6.1	28	7.7	-9	-0.3
Auckland	39	16.9	31	14	51	23.2	4	0.2
Counties Manukau	36	17.5	-8	-3.2	-6	-2.6	-33	-1.8
Waikato	27	14.1	48	22	-5	-2.2	-67	-3.7
Bay of Plenty	-15	-9.7	34	24.6	-2	-1.1	-40	-3.2
Tairāwhiti	9	36	18	90	-7	-25	-14	-6.4
Lakes	-1	-1.7	4	5.4	3	5	-16	-3.2
Taranaki	-7	-8.5	-18	-20.5	-15	-18.1	-30	-4.9
Hawke's Bay	-11	-10.3	-16	-12.8	-10	-9.5	-90	-10.9
Whanganui	6	14.3	23	54.8	13	33.3	36	9.6
MidCentral	4	3.8	5	4.7	1	0.8	55	6.6
Capital & Coast	-1	-0.8	6	4.1	18	12.9	-31	-2.8
Hutt Valley	-10	-11.9	7	9.3	27	37	17	2.8
Wairarapa	8	34.8	15	71.4	11	37.9	35	17.2
Nelson Marlborough	0	0	33	37.1	-18	-17.6	-28	-3.5
West Coast	11	73.3	0	0	2	11.1	-17	-10.4
Canterbury	-34	-11.4	26	8.3	18	6.3	-44	-1.9
South Canterbury	7	20.6	-1	-2.4	-2	-5.4	-8	-2.8
Southern	43	23.5	49	25.1	23	11.2	-89	-5.5

Key points

- For the year to date (up until end of August 2020) there have been 312 fewer cancer registrations compared to the same time period in 2019, a 1.5% decrease. This is a smaller deficit than was seen at the end of July (448 fewer cancers than 2019, a 2.5% decrease).
- The decrease in cancer registrations is similar for Māori (1.3%) and European/Other (2.2%). There are 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 and breast cancers – all have seen a 6-10% decrease for the year to date.

Gastrointestinal endoscopy

Notes on data

- Gastrointestinal endoscopy data were extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) on 28 September 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 4: Absolute number and percentage change in colonoscopy and gastroscopy in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	158	26%	49	7%	13	2%	-81	-2%
Pacific Peoples	94	43%	58	25%	-19	-8%	199	11%
Non-Māori / Non-Pacific	1532	28%	648	10%	8	0%	-2381	-5%
Total Population	1784	29%	755	10%	2	0%	-2263	-4%

Figure 9: Number of gastrointestinal endoscopy procedures by month and year, for the total population (left) and for Māori (right)

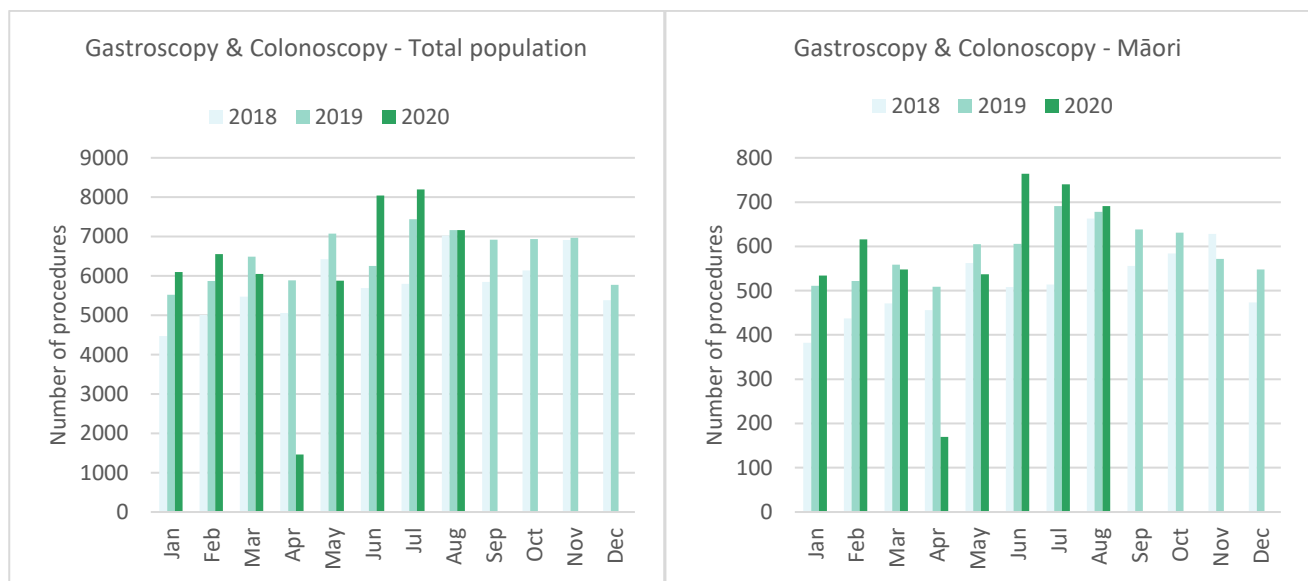
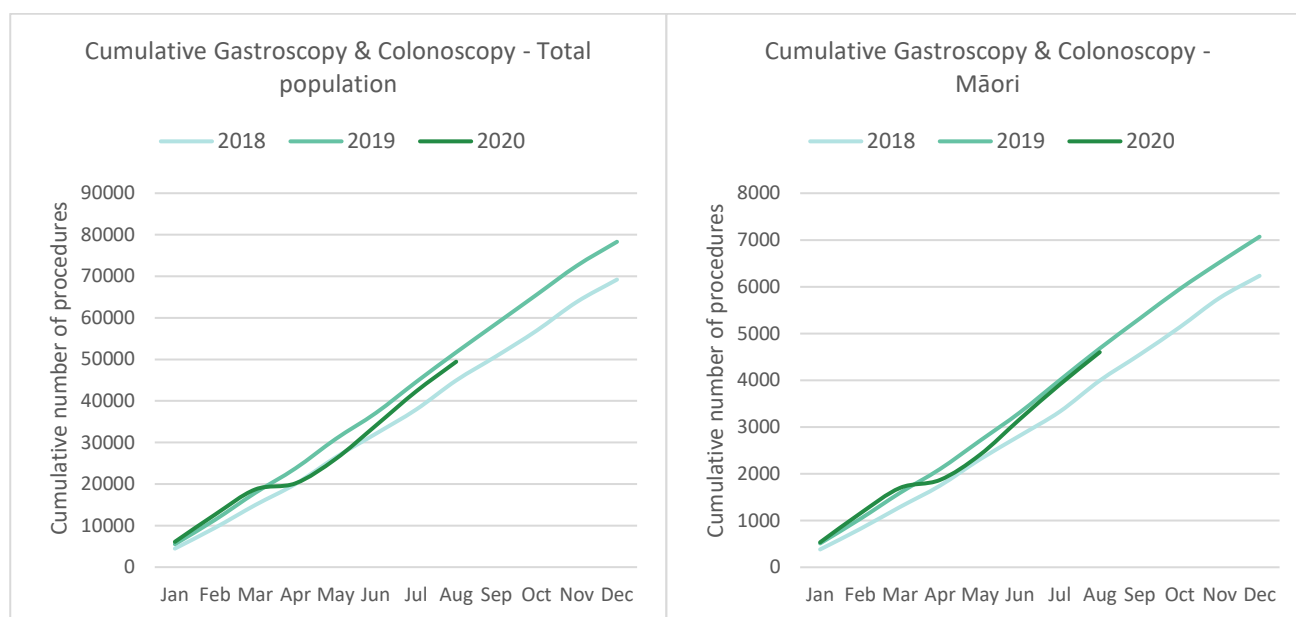


Figure 10: Cumulative number of gastrointestinal endoscopy procedures by year, for the total population (left) and for Māori (right)



Key points

- Gastrointestinal endoscopy services continued to be delivered at pre-COVID volumes in August.
- For the year to date there have been 4% fewer gastrointestinal endoscopies performed in 2020 compared to 2019. This is smaller a gap than was seen at the end of July 2020, when there were 7% fewer gastrointestinal endoscopies performed compared to the same time period in 2019.
- Māori having a smaller cumulative reduction (2%) compared to non-Māori/non-Pacific (5%). There has been a 11% increase in gastrointestinal endoscopies for Pacific Peoples compared to the same time period in 2019.
- Despite the 4% year to date decrease in colonoscopies, there has been a 2% 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.

Bronchoscopy

Notes on data

- Bronchoscopy data were extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) on the 28 September 2020.
- Includes bronchoscopies for any indication (i.e. not just cancer).
- Technical information: Bronchoscopies (Purchase Unit Code - MS02003).

Results

Table 5: Absolute number and percentage change in bronchoscopies in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	0	0%	-2	-6%	-14	-31%	-85	-29%
Pacific Peoples*	-		-		-		-3	-4%
Non-Māori / Non-Pacific	32	23%	13	8%	-7	-4%	-229	-16%
Total Population	31	18%	15	7%	-31	-14%	-317	-18%

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

Figure 11: Number of bronchoscopies by month and year, for the total population (left) and for Māori (right)

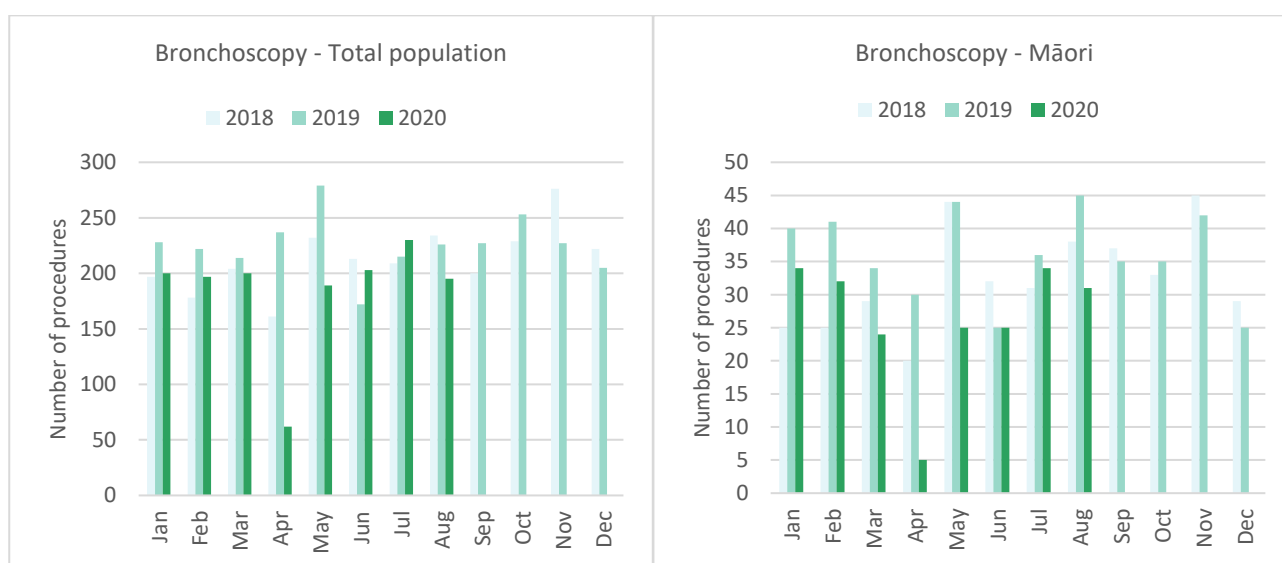
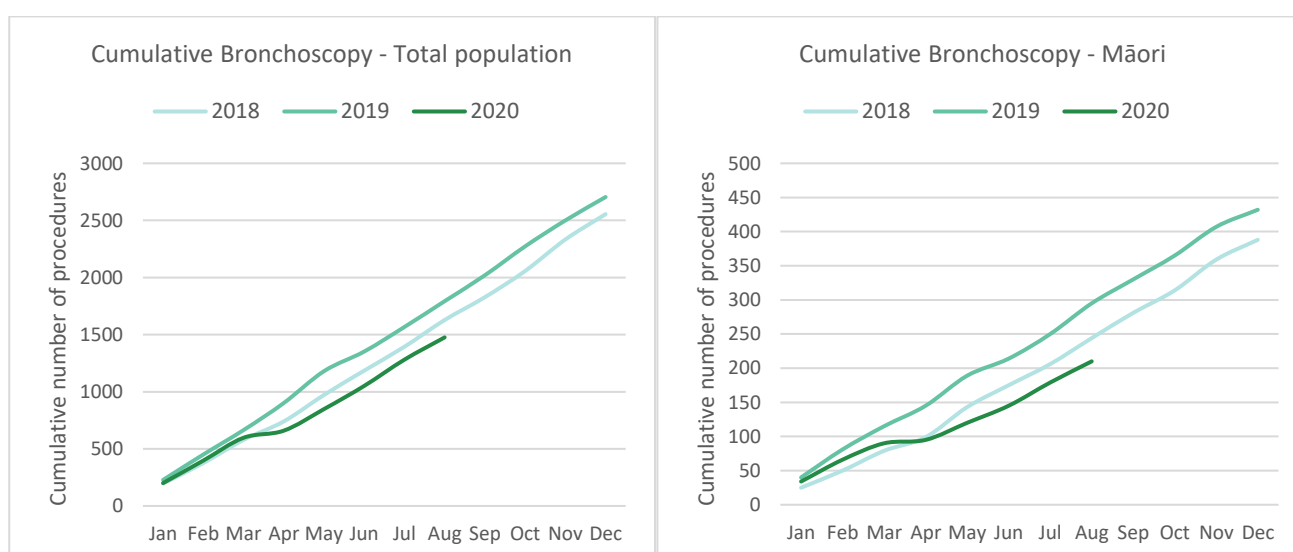


Figure 12: Cumulative number of bronchoscopies procedures by year, for the total population (left) and for Māori (right)



Key points

- There remains a deficit between the number of bronchoscopies performed in 2020 compared to 2019. Overall there were 18% fewer bronchoscopies performed in the first eight months of 2020 compared to the first eight months of 2019.
- Māori have been disproportionately impacted by the cumulative decrease in bronchoscopies (29% decrease for Māori compared to 16% decrease for non-Māori/non-Pacific).
- Despite the 18% decrease in bronchoscopies, there has only been a 3.5% decrease in new diagnoses of respiratory and thorax cancer (see Table 2). However, there is a 16% decrease in new diagnoses of lung cancer for Māori in the first eight 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 28 September 2020.

Results

Table 6: Absolute number and percentage change in curative surgery (colorectal, lung and prostate) in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	26	100%	7	21%	3	13%	51	21%
Pacific Peoples	-4	-40%	-5	-36%	-2	-14%	-22	-26%
Non-Māori / Non-Pacific	1	0%	3	1%	3	1%	-52	-2%
Total Population	23	7%	5	2%	4	1%	-23	-1%

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

Figure 13: Number of curative cancer surgeries (prostate, colorectal, lung) by month and year, for the total population (left) and for Māori (right)

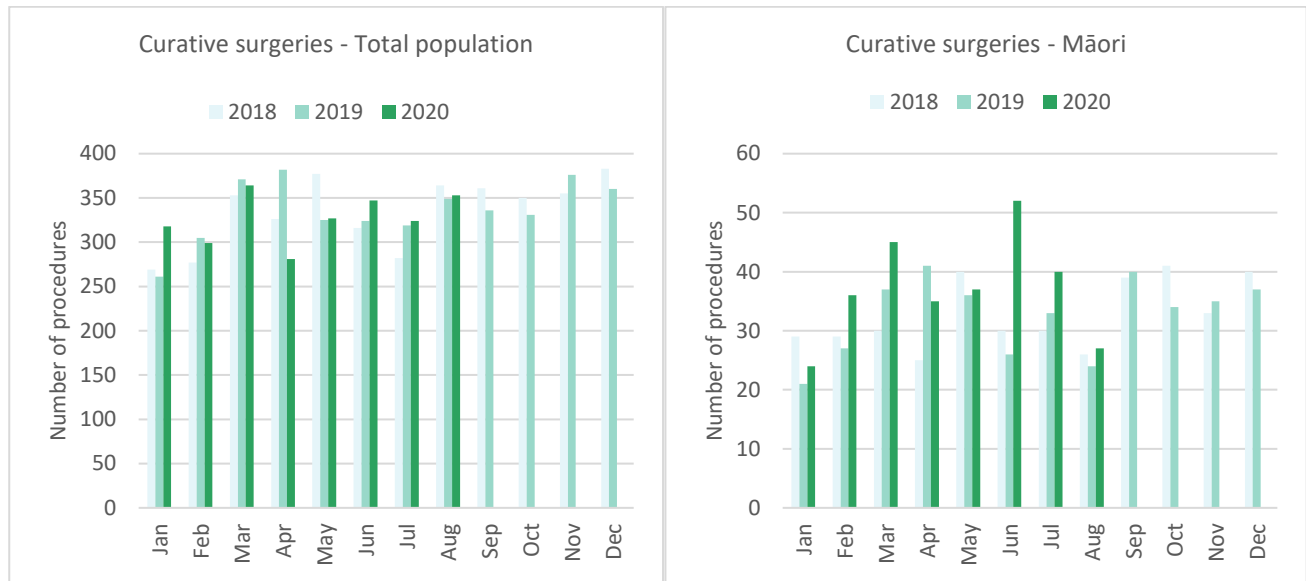
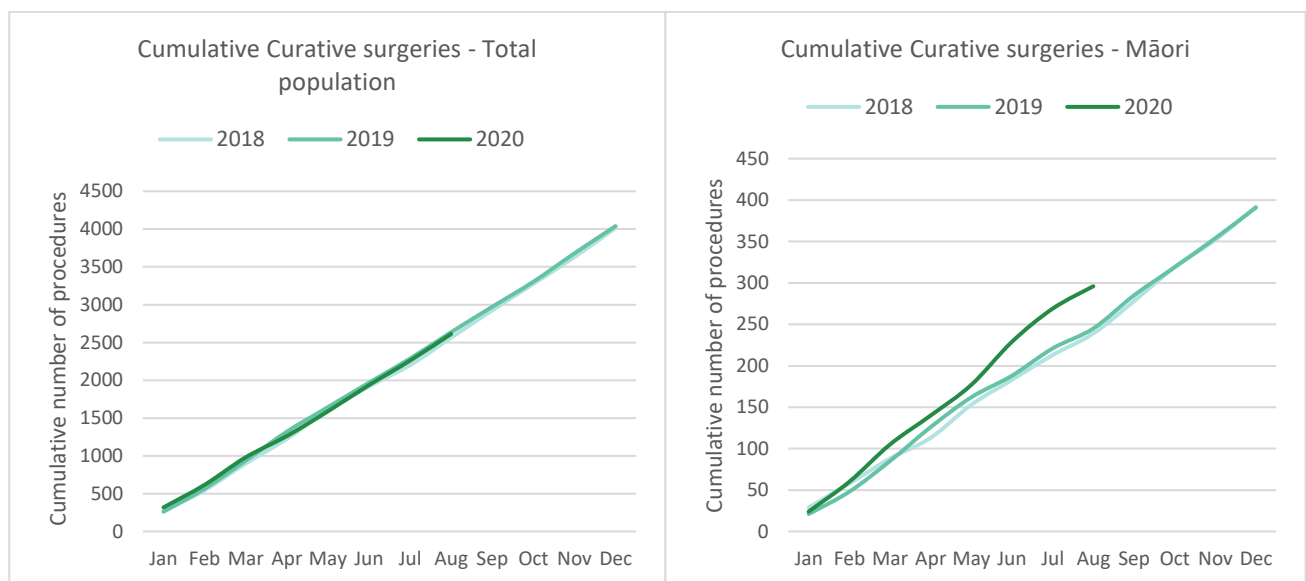


Figure 14: Cumulative number of curative cancer surgeries (colorectal, lung, prostate) by year, for the total population (left) and for Māori (right)



Key points

- Overall, the impact of COVID-19 on cancer surgery volumes has been minimal, with 1% fewer surgeries performed in the first eight months of 2020 compared to the first eight 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 eight 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 28 September 2020.

Results

Table 7: Absolute number and percentage change in curative colorectal cancer surgery in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	13	100%	12	67%	-2	-17%	53	43%
Pacific Peoples	-		-		-		-19	-37%
Non-Māori / Non-Pacific	-7	-4%	-8	-4%	12	6%	-99	-7%
Total Population	2	1%	-2	-1%	8	4%	-65	-4%

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

Figure 15: Number of curative colorectal cancer surgeries by month and year, for the total population (left) and for Māori (right)

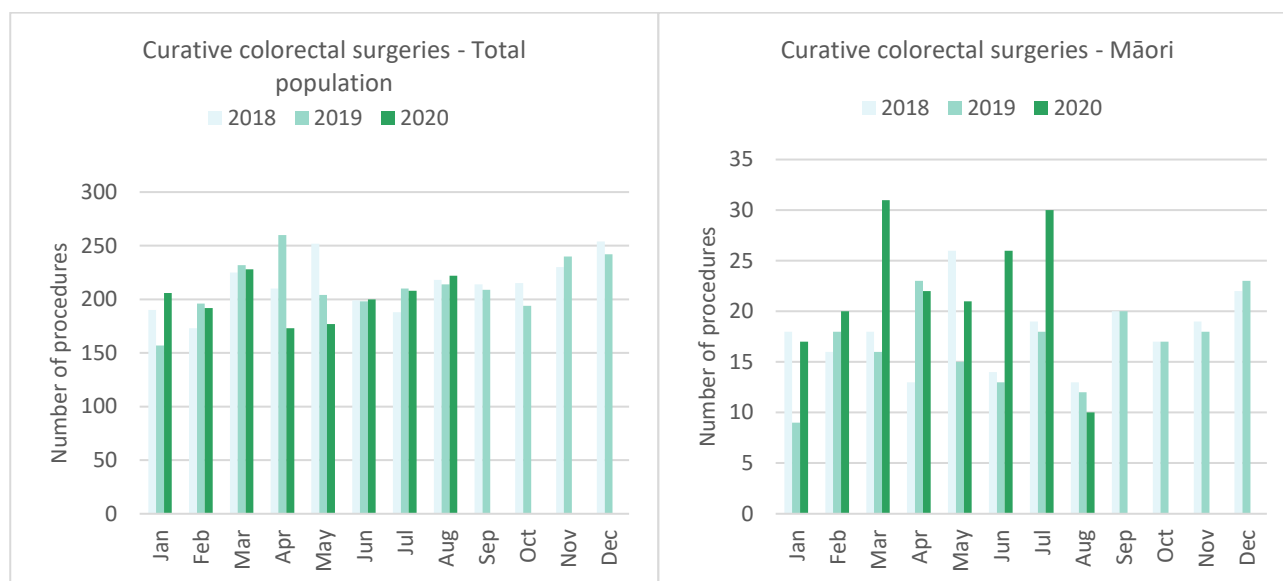
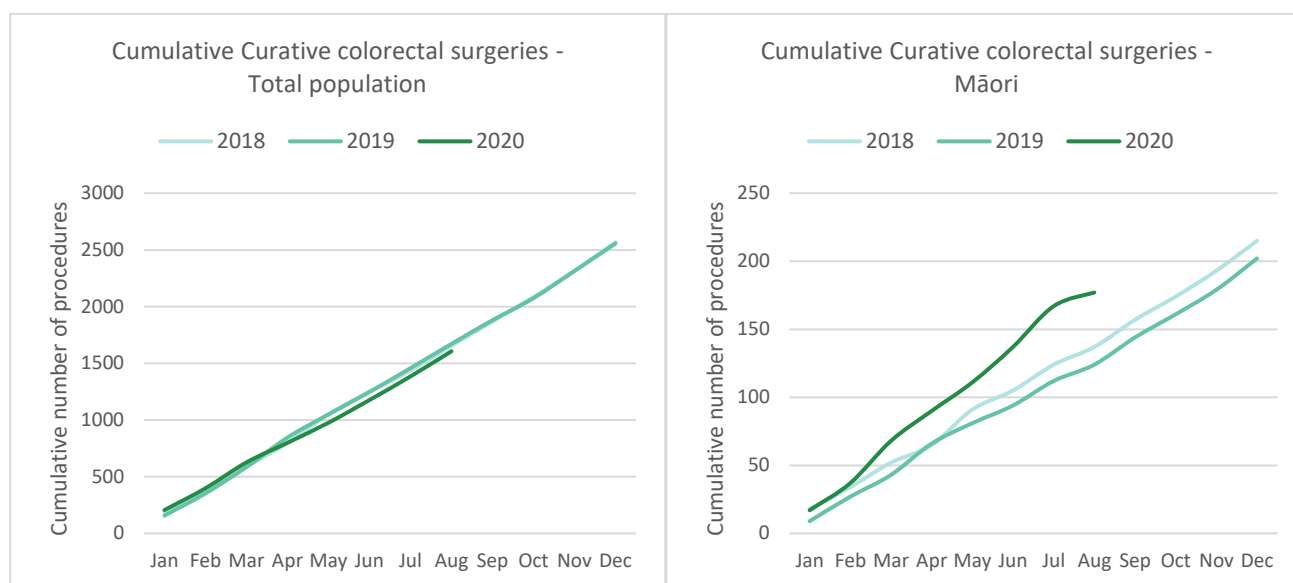


Figure 16: Cumulative number of curative colorectal cancer surgeries by year, for the total population (left) and for Māori (right)



Key points

- Colorectal cancer surgery continues to operate at pre-COVID volumes.
- There has been a 1% decrease in colorectal surgery for the year to date compared to the first eight months of 2020.
- Overall, there has been a 21% 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 28 September 2020.
- The number of lung cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

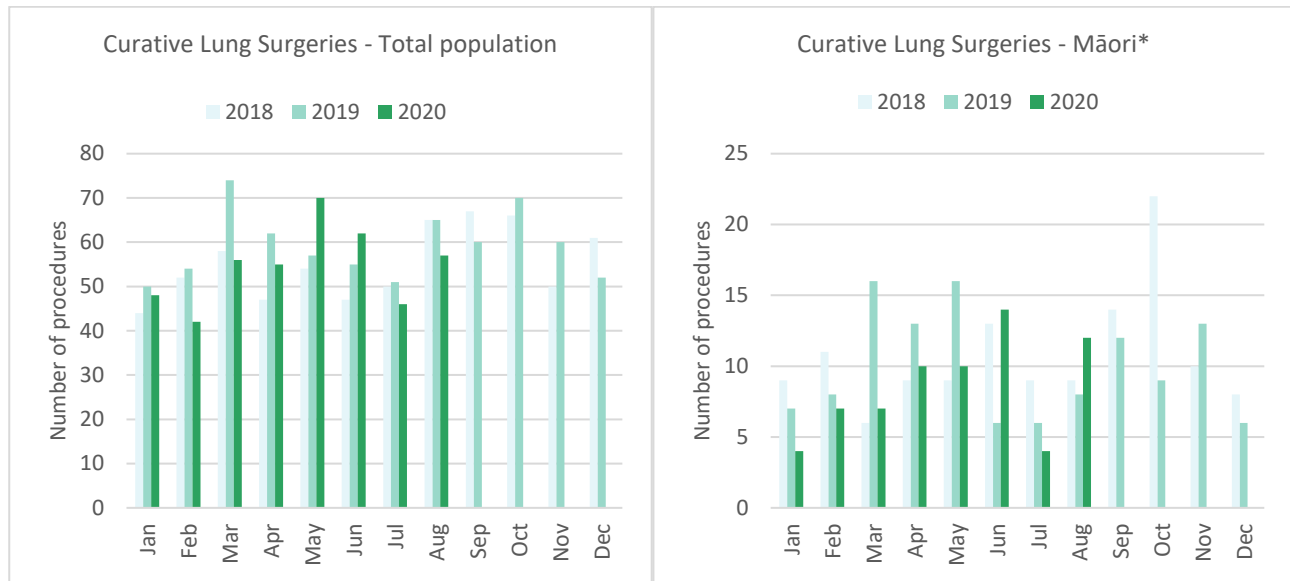
Results

Table 8: Absolute number and percentage change in curative lung cancer surgery in 2020 compared to 2019 by month, and cumulative year to date.

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Total Population	7	13%	-5	-10%	-8	-12%	-32	-7%

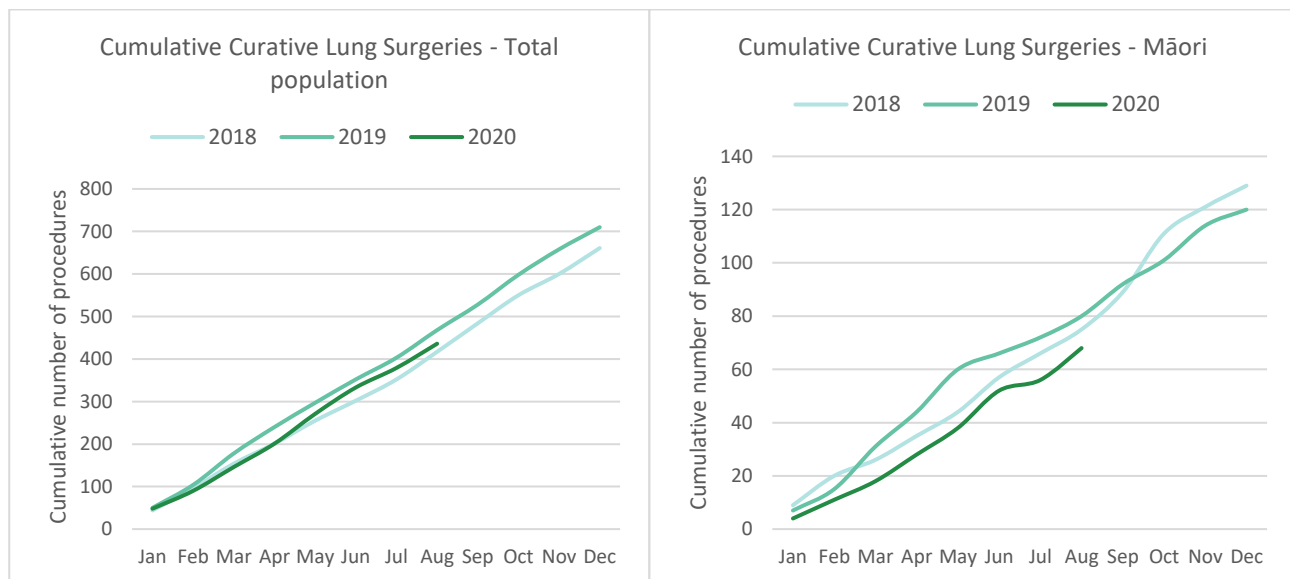
*Due to the small number of surgeries performed each month calculations have only been included for the total population rather than by ethnicity

Figure 17: 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 18: 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 7% 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 28 September 2020.
- The number of curative prostate cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

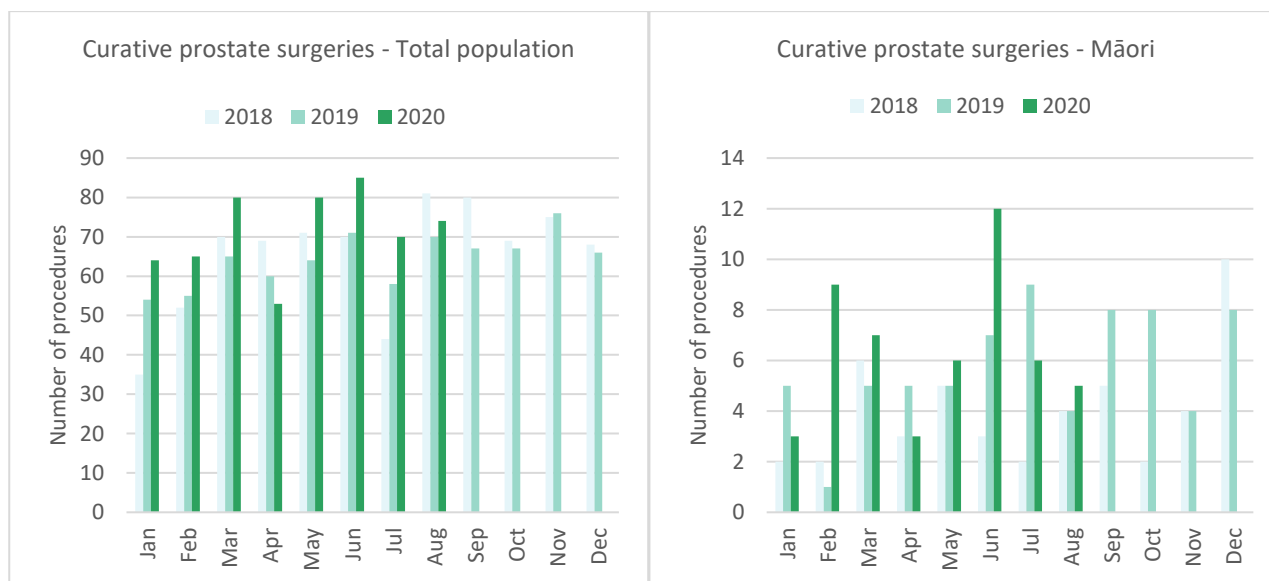
Results

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

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Total Population	14	20%	12	21%	4	6%	74	15%

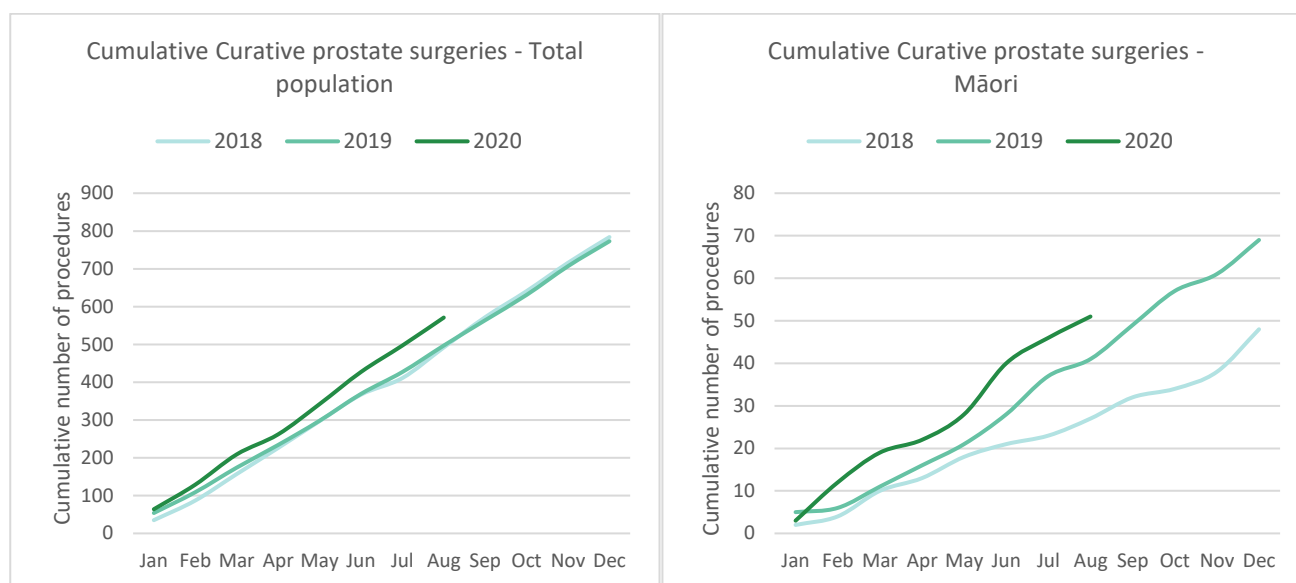
*Due to the small number of surgeries performed each month calculations have only been included for the total population

Figure 19: 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 20: 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 15% increase in prostate cancer surgeries compared to 2019.

Medical oncology

Notes on data

- Extracted from National non-admitted patient collection (Outpatient collection) on 28 September 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 10: Absolute number and percentage change in medical oncology first specialist assessments in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	12	12%	-16	-13%	-21	-15%	-40	-5%
Pacific Peoples	-6	-17%	-6	-14%	8	20%	42	15%
Non-Māori / Non-Pacific	54	9%	-53	-8%	-35	-5%	34	1%
Total Population	60	8%	-75	-9%	-48	-6%	36	1%

Figure 21: Number of medical oncology first specialist assessments by month and year, for the total population (left) and for Māori (right)

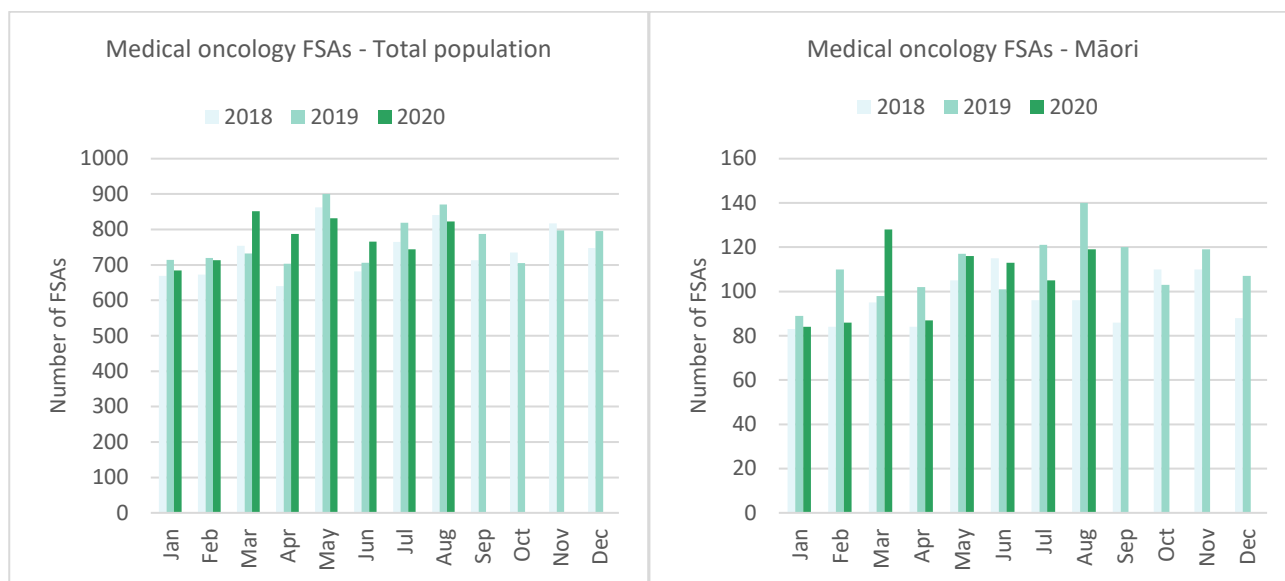


Figure 22: Cumulative number of medical oncology first specialist assessments by year, for the total population (left) and for Māori (right)

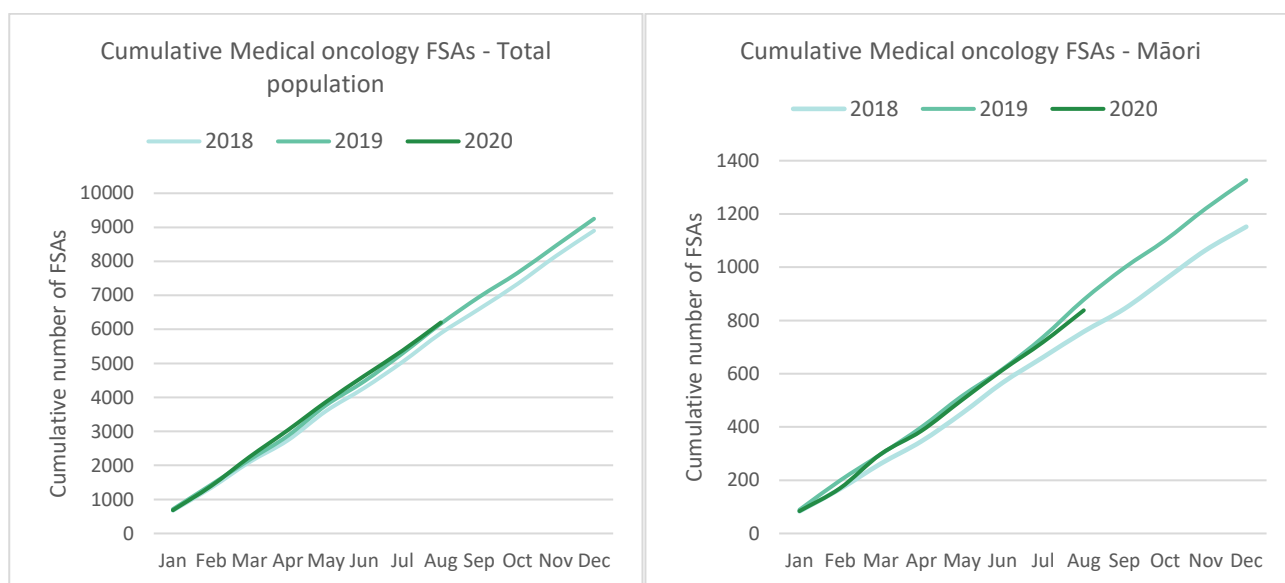


Table 11: Absolute number and percentage change in IV chemotherapy attendances in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	225	33%	72	9%	17	2%	830	14%
Pacific Peoples	57	22%	5	2%	-1	0%	50	2%
Non-Māori / Non-Pacific	577	12%	-174	-3%	-285	-5%	-8	0%
Total Population	859	15%	-97	-1%	-269	-4%	872	2%

Figure 23: Number of attendances for IV chemotherapy by month and year, for the total population (left) and for Māori (right)

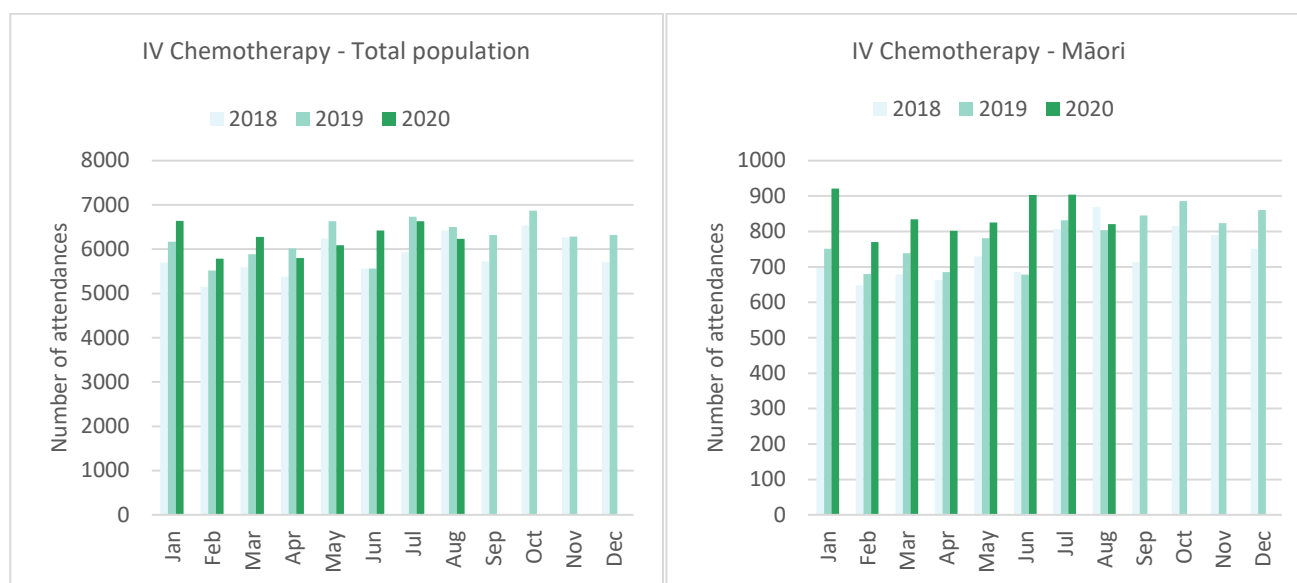
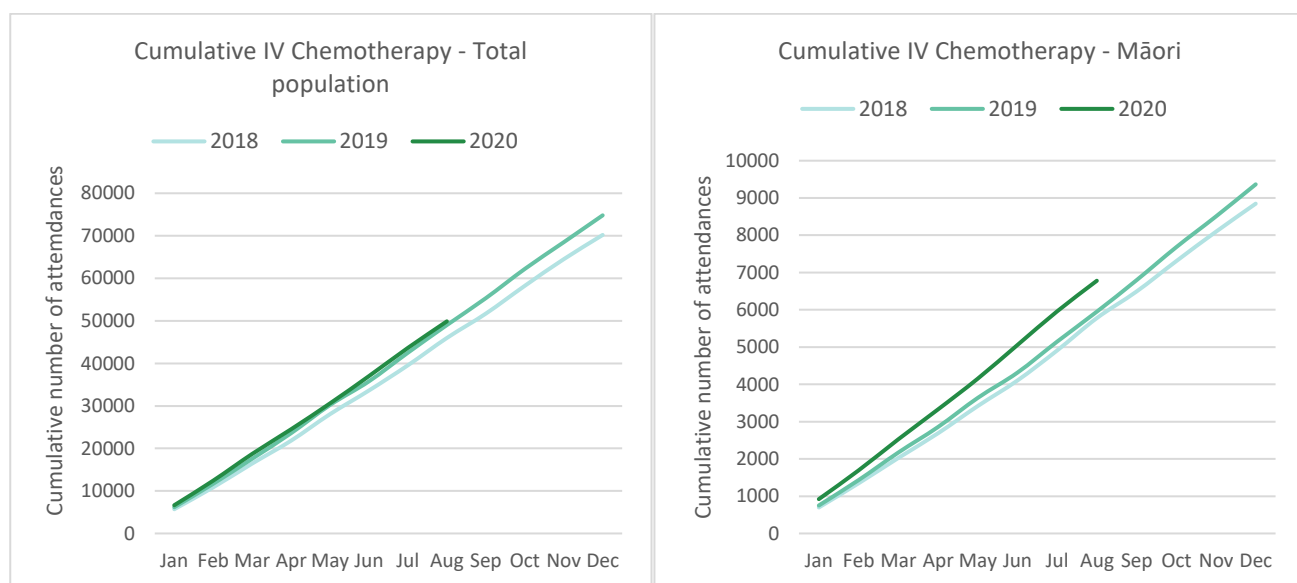


Figure 24: Cumulative number of attendances for IV chemotherapy by year, for the total population (left) and for Māori (right)



Key points

- Overall, for the year to date the number of medical oncology FSAs and attendances for IV chemotherapy in 2020 is comparable to 2019.

Radiation oncology

Notes on data

- Extracted from National Non-admitted patient collection on 28 September 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 12: Absolute number and percentage change in radiation oncology first specialist assessments in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	24	22%	9	7%	-32	-22%	41	4%
Non-Māori / Non-Pacific	95	13%	-193	-19%	-9	-1%	-37	-1%
Pacific Peoples	-16	-36%	-14	-24%	-6	-12%	-39	-10%
Total Population	103	11%	-198	-17%	-47	-4%	-35	0%

Figure 25: Number of radiation oncology first specialist assessments by month and year, total population (left) and for Māori (right)

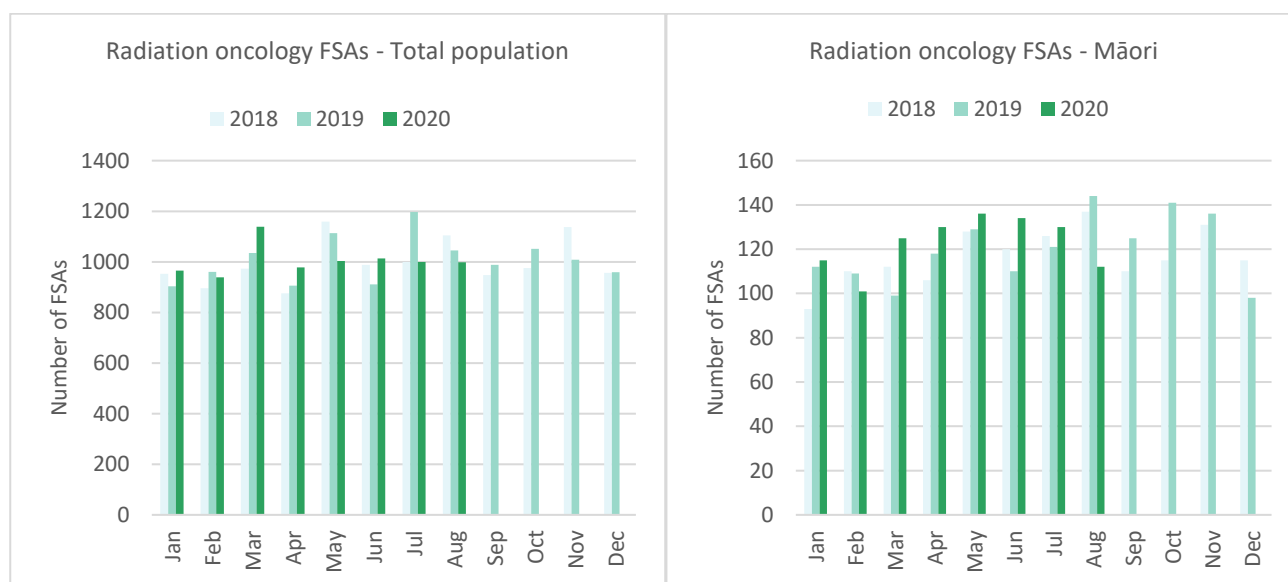


Figure 26: Cumulative number of radiation oncology first specialist assessments by month and year, total population (left) and for Māori (right)

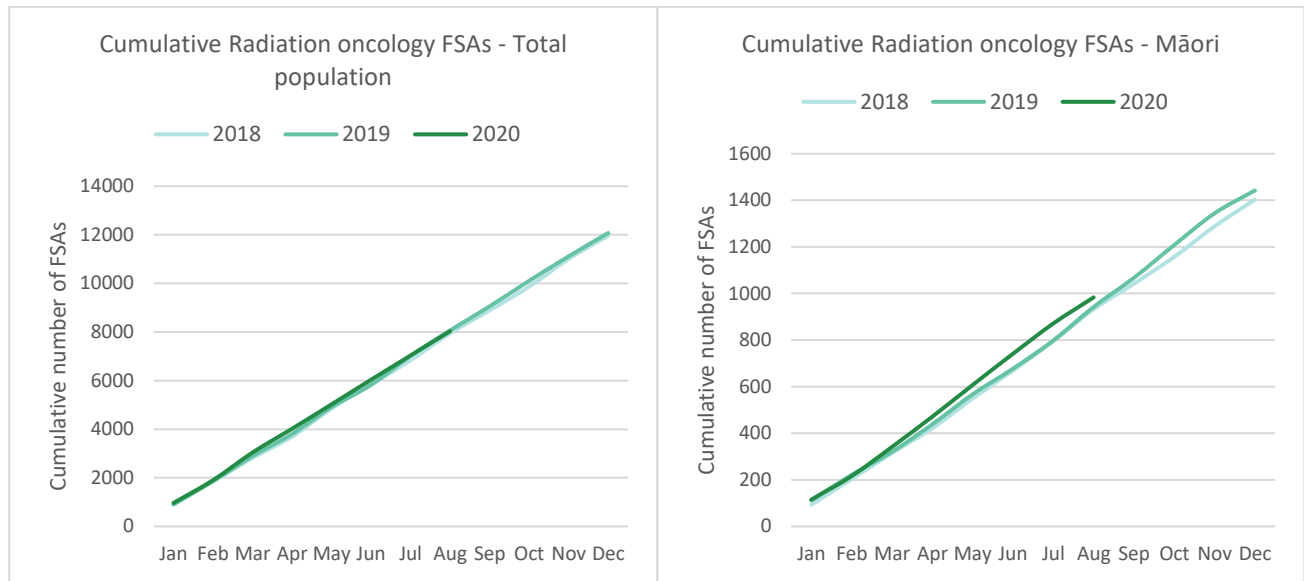


Table 13: Absolute number and percentage change in radiation therapy attendances in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	274	17%	-247	-12%	117	7%	-680	-5%
Pacific Peoples	-3	-1%	-241	-34%	-27	-5%	-9	0%
Non-Māori / Non-Pacific	556	5%	-620	-5%	-1519	-14%	-6776	-8%
Total Population	827	7%	-1108	-7%	-1429	-11%	-7465	-7%

Figure 27: Number of attendances for radiation therapy by month and year, total population (left) and for Māori (right)

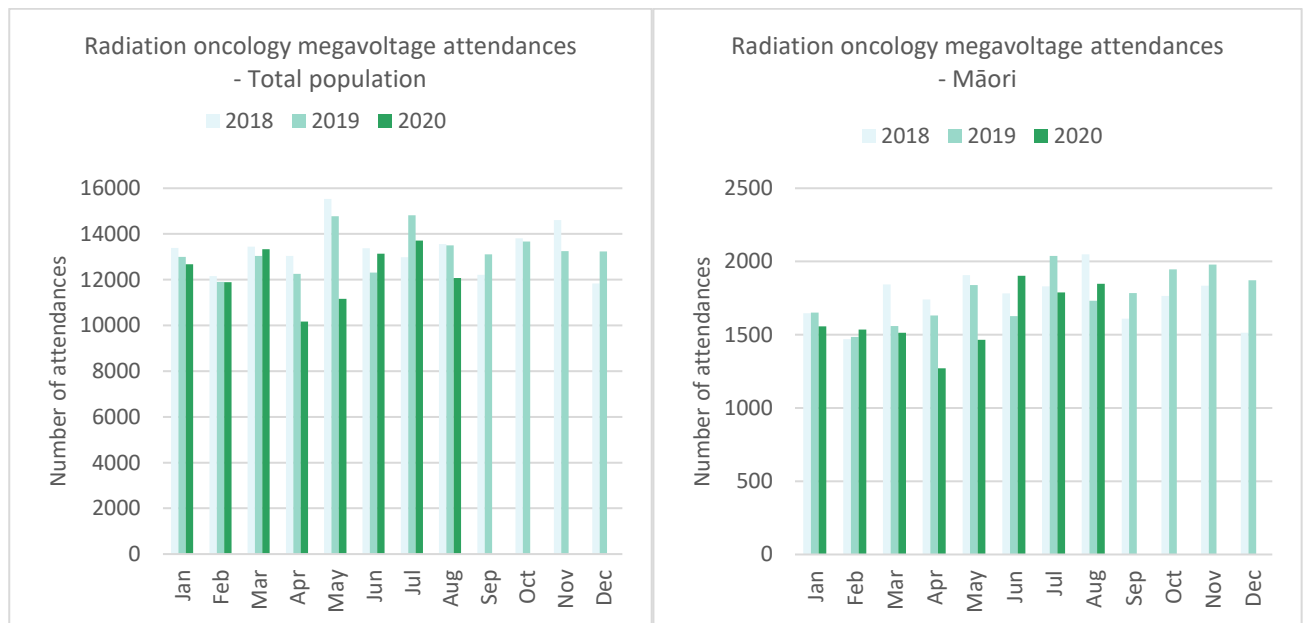
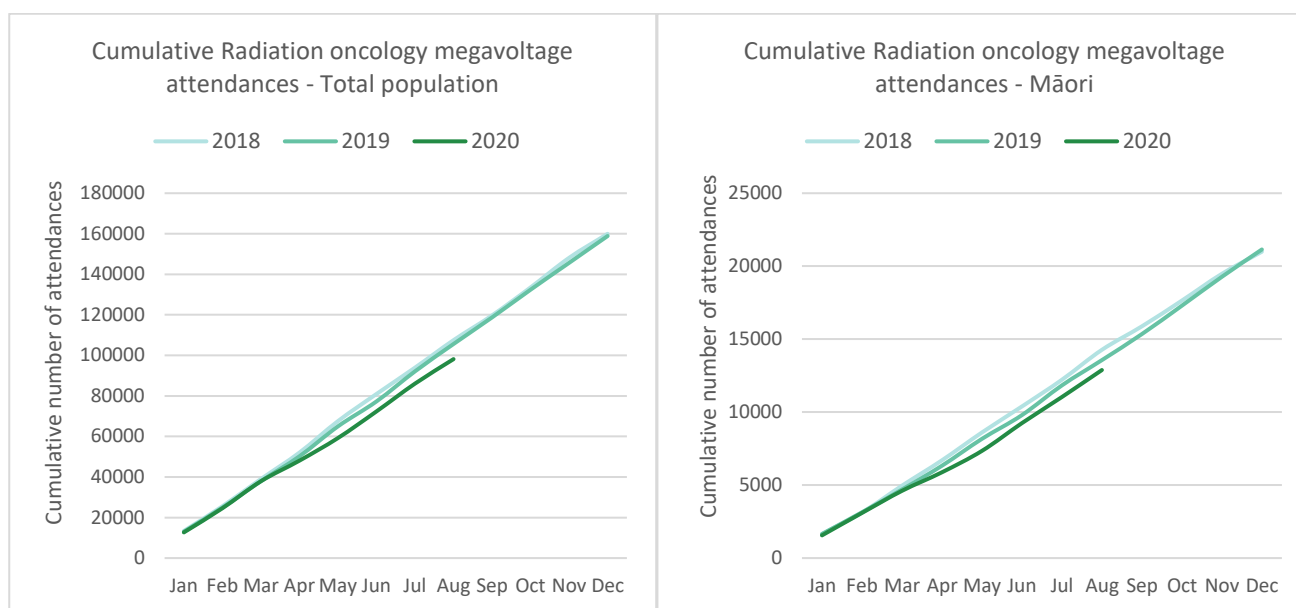


Figure 28: Cumulative number of attendances for radiation therapy by month and year, total population (left) and for Māori (right)



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 (5%) and non-Māori/non-Pacific (8%). This may, in part, be the result of national hypofractionation guidance.

Haematology

Notes on data

- Extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) 28 September 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 Unit Code - M30002), IV haem/chemo (Purchase Unit Code - M30020).

Results

Table 14: Absolute number and percentage change in haematology FSAs in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		July 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	-32	-44%	-1	-2%	9	16%	-8	-2%
Pacific Peoples	5	16%	8	35%	14	64%	16	8%
Non-Māori / Non-Pacific	30	8%	-63	-12%	-13	-3%	-297	-8%
Total Population	3	1%	-56	-10%	10	2%	-289	-7%

Figure 29: Number of haematology first specialist assessments by month and year, total population (left) and for Māori (right)

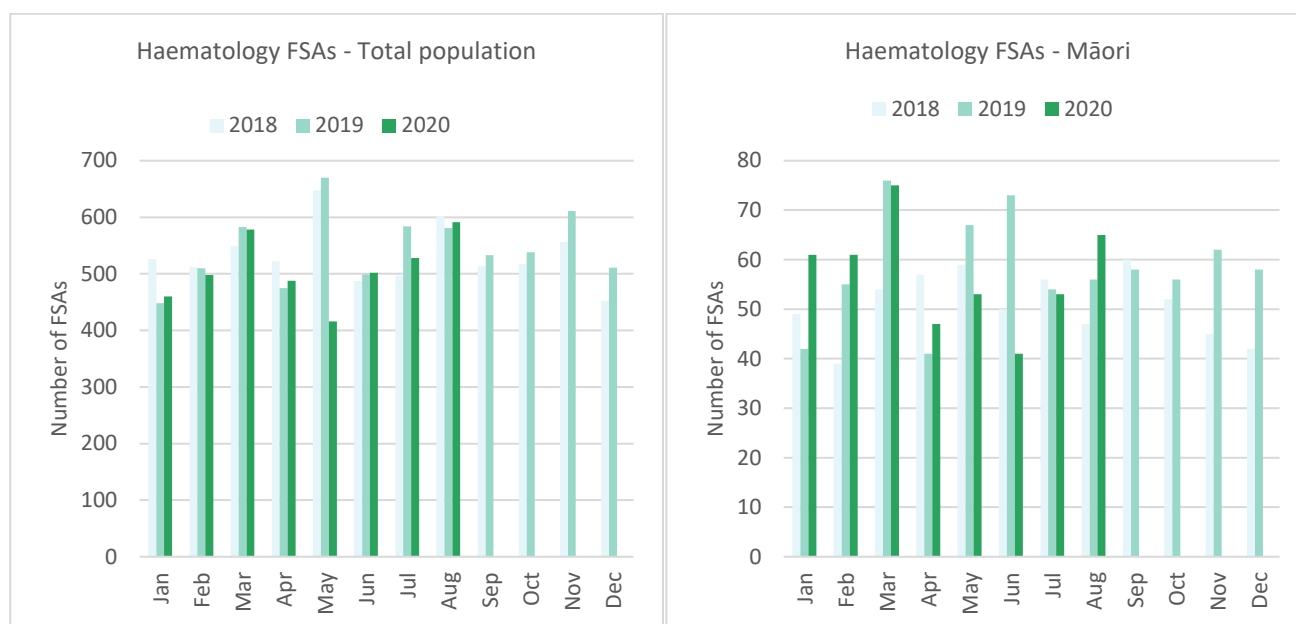


Figure 30: Cumulative number of haematology first specialist assessments by month and year, total population (left) and for Māori (right)

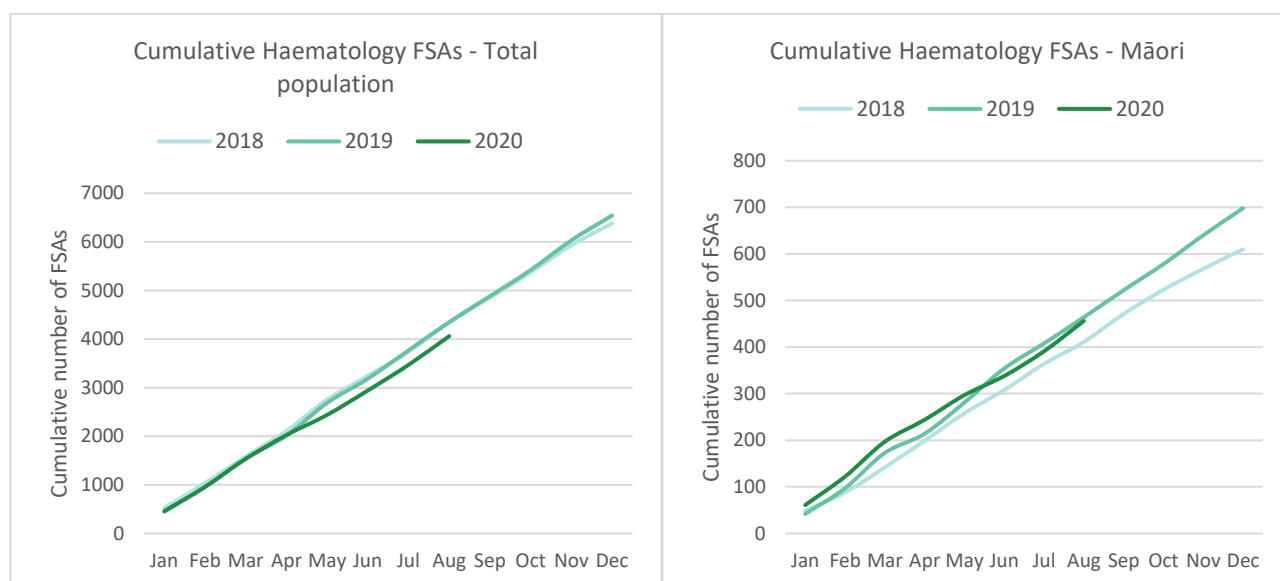


Table 15: Absolute number and percentage change in IV chemotherapy attendances for haematological malignancies in 2020 compared to 2019 by month, and cumulative year to date

	June 2020		July 2020		August 2020		Year to date	
	Number	%	Number	%	Number	%	Number	%
Māori	6	4%	-49	-19%	-42	-17%	-51	-3%
Pacific Peoples	94	162%	65	59%	62	61%	253	36%
Non-Māori / Non-Pacific	381	28%	-105	-5%	-196	-11%	295	2%
Total Population	481	30%	-89	-4%	-176	-8%	497	3%

Figure 31: Number attendances for IV chemotherapy for haematological malignancies by month and year, total population (left) and for Māori (right)

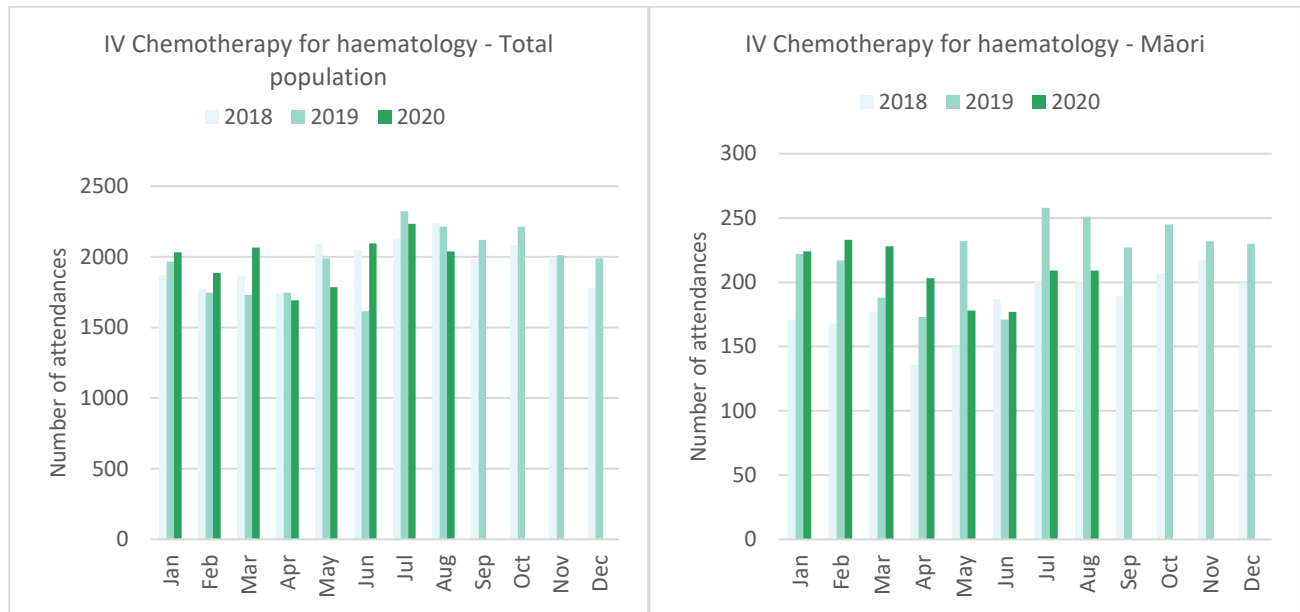
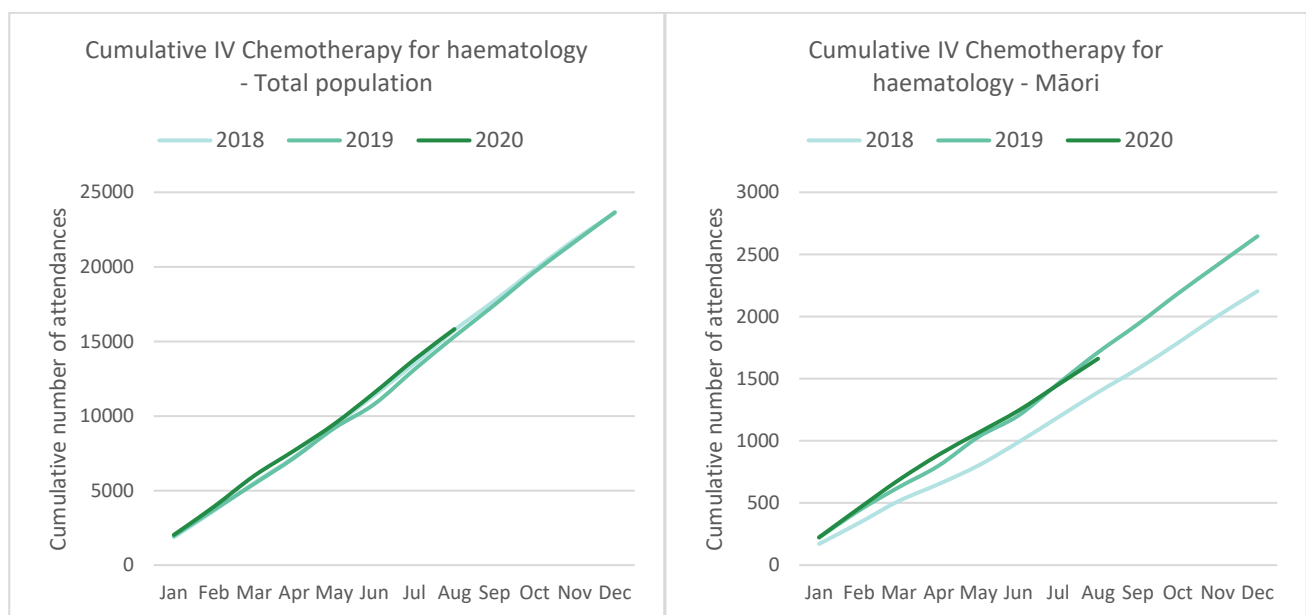


Figure 32: Cumulative number of attendances for IV chemotherapy for haematological malignancies by month and year, total population (left) and for Māori (right)



Key points

- Overall, for the year to date there has been a 7% 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 3% 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.

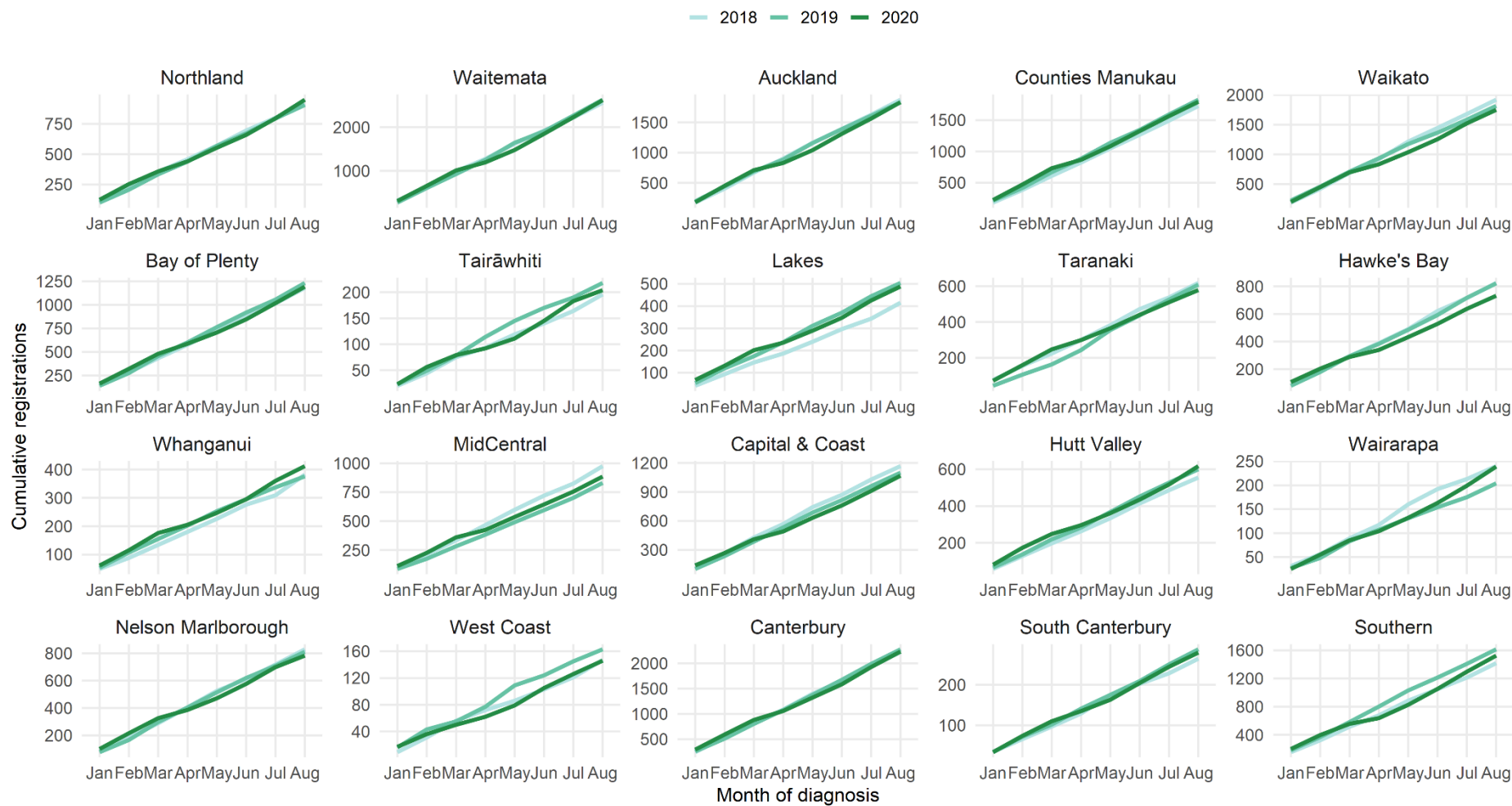
Pathology reports as a data source for providing near real time monitoring cancer diagnoses

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 Population					Māori					European/Other				
	Cumulative number for Jan to Aug			Difference between 2019 and 2020		Cumulative number for Jan to Aug			Difference between 2019 and 2020		Cumulative number for Jan to Aug			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Northland	915	906	949	43	4.7	199	153	188	35	22.9	697	727	745	18	2.5
Waitemata	2561	2630	2621	-9	-0.3	115	124	139	15	12.1	2121	2173	2080	-93	-4.3
Auckland	1874	1830	1834	4	0.2	79	91	79	-12	-13.2	1413	1317	1357	40	3
Counties Manukau	1727	1827	1794	-33	-1.8	177	201	234	33	16.4	1075	1103	1048	-55	-5
Waikato	1918	1815	1748	-67	-3.7	272	261	234	-27	-10.3	1527	1466	1410	-56	-3.8
Bay of Plenty	1181	1234	1194	-40	-3.2	163	180	168	-12	-6.7	1000	1020	999	-21	-2.1
Tairāwhiti	196	218	204	-14	-6.4	57	74	80	6	8.1	138	140	120	-20	-14.3
Lakes	415	504	488	-16	-3.2	100	112	121	9	8	294	365	341	-24	-6.6
Taranaki	618	608	578	-30	-4.9	60	55	54	-1	-1.8	546	548	516	-32	-5.8
Hawke's Bay	825	822	732	-90	-10.9	126	137	111	-26	-19	673	656	594	-62	-9.5
Whanganui	382	376	412	36	9.6	49	65	49	-16	-24.6	325	302	353	51	16.9
MidCentral	975	830	885	55	6.6	105	81	91	10	12.3	839	714	752	38	5.3
Capital & Coast	1167	1099	1068	-31	-2.8	75	83	87	4	4.8	938	897	852	-45	-5
Hutt Valley	555	600	617	17	2.8	68	85	59	-26	-30.6	437	454	502	48	10.6
Wairarapa	240	204	239	35	17.2	24	12	24	12	100	210	188	208	20	10.6
Nelson Marlborough	828	810	782	-28	-3.5	39	33	28	-5	-15.2	771	760	740	-20	-2.6
West Coast	147	163	146	-17	-10.4	9	11	8	-3	-27.3	137	147	137	-10	-6.8
Canterbury	2222	2274	2230	-44	-1.9	126	111	113	2	1.8	1967	2045	1974	-71	-3.5
South Canterbury	264	287	279	-8	-2.8	14	15	10	-5	-33.3	241	270	263	-7	-2.6
Southern	1418	1614	1525	-89	-5.5	62	93	74	-19	-20.4	1318	1487	1402	-85	-5.7

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 August			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	2514	2665	2256	-409	-15%	419	520	417	-103	-20%	2082	1930	1480	-450	-23%
Waitemata	5425	6178	6058	-120	-2%	303	375	334	-41	-11%	4933	4790	4670	-120	-3%
Auckland	4046	4367	3431	-936	-21%	215	198	201	3	2%	3558	3327	2522	-805	-24%
Counties Manukau	5750	6102	6660	558	9%	548	578	667	89	15%	4513	4028	4601	573	14%
Waikato	3445	4368	4340	-28	-1%	405	526	500	-26	-5%	2985	3260	3169	-91	-3%
Bay of Plenty	3294	3218	3280	62	2%	377	417	412	-5	-1%	2900	2408	2382	-26	-1%
Lakes	1319	1314	1169	-145	-11%	235	242	243	1	0%	1063	876	766	-110	-13%
Tairāwhiti	444	556	466	-90	-16%	124	164	136	-28	-17%	318	329	271	-58	-18%
Taranaki	1346	1240	1042	-198	-16%	132	137	87	-50	-36%	1207	965	947	-18	-2%
Whanganui	974	1031	843	-188	-18%	142	135	115	-20	-15%	829	779	611	-168	-22%
Hawke's Bay	1663	1971	1901	-70	-4%	190	245	266	21	9%	1458	1486	1325	-161	-11%
MidCentral	1416	1465	1490	25	2%	94	109	133	24	22%	1308	1144	1179	35	3%
Capital & Coast	1942	1905	2184	279	15%	155	115	172	57	50%	1713	1527	1626	99	6%
Hutt Valley	1531	1980	2094	114	6%	137	152	219	67	44%	1332	1546	1556	10	1%
Wairarapa	620	717	587	-130	-18%	50	64	52	-12	-19%	561	676	543	-133	-20%
Nelson Marlborough	1002	1731	1766	35	2%	51	96	98	2	2%	947	557	437	-120	-22%
West Coast	465	418	444	26	6%	36	26	16	-10	-38%	427	2686	2309	-377	-14%
Canterbury	3957	6340	5505	-835	-13%	225	365	330	-35	-10%	3678	1390	1413	23	2%
South Canterbury	795	836	781	-55	-7%	35	31	35	4	13%	758	335	360	25	7%
Southern	2997	3309	3151	-158	-5%	120	186	167	-19	-10%	2855	5023	4230	-793	-16%
Total	44945	51711	49448	-2263	-4%	3993	4681	4600	-81	-2%	39425	45298	42917	-2381	-5%

Bronchoscopy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	56	52	43	-9	-17%		18	16	14	-2	-13%		37	35	28	-7	-20%	
Waitemata	95	99	96	-3	-3%		7	6	9	3	-		82	91	83	-8	-9%	
Auckland	208	253	187	-66	-26%		25	30	19	-11	-37%		160	203	150	-53	-26%	
Counties Manukau	228	242	212	-30	-12%		43	42	27	-15	-36%		155	162	154	-8	-5%	
Waikato	189	184	134	-50	-27%		40	44	32	-12	-27%		146	138	99	-39	-28%	
Bay of Plenty	102	118	90	-28	-24%		19	32	21	-11	-34%		81	84	69	-15	-18%	
Lakes	60	58	49	-9	-16%		22	18	21	3	17%		38	39	27	-12	-31%	
Tairāwhiti	2	2	17	15	-		1	1	6	5	-		1	1	11	10	-	
Taranaki	29	43	25	-18	-42%		6	7	2	-5	-		23	36	23	-13	-36%	
Whanganui	10	12	10	-2	-17%		4	6	4	-2	-		6	6	6	0	-	
Hawke's Bay	50	45	30	-15	-33%		14	11	8	-3	-27%		36	33	21	-12	-36%	
MidCentral	28	23	20	-3	-13%		3	7	1	-6	-		25	16	19	3	19%	
Capital & Coast	63	64	48	-16	-25%		6	9	7	-2	-		52	54	39	-15	-28%	
Hutt Valley	64	89	60	-29	-33%		8	21	10	-11	-52%		52	66	46	-20	-30%	
Nelson Marlborough	50	45	57	12	27%		4	5	5	0	-		46	40	51	11	28%	
Canterbury	219	291	267	-24	-8%		14	24	16	-8	-33%		203	263	243	-20	-8%	
South Canterbury	9	9	13	4	-		0	1	0	-1	-		9	8	13	5	-	
Southern	166	164	118	-46	-28%		10	15	8	-7	-47%		156	146	110	-36	-25%	
Total	1628	1793	1476	-317	-18%		244	295	210	-85	-29%		1308	1421	1192	-229	-16%	

Colorectal cancer surgery

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	49	65	56	-9	-14%		7	13	15	2	15%		42	51	41	-10	-20%	
Waitemata	167	176	146	-30	-17%		10	12	9	-3	-25%		153	151	134	-17	-11%	
Auckland	130	133	129	-4	-3%		7	8	16	8	-		115	110	106	-4	-4%	
Counties Manukau	93	84	96	12	14%		6	6	15	9	-		75	72	70	-2	-3%	
Waikato	159	135	180	45	33%		19	10	26	16	160%		136	124	153	29	23%	
Bay of Plenty	92	96	122	26	27%		13	7	17	10	-		79	88	105	17	19%	
Lakes	48	56	56	0	0%		9	10	8	-2	-20%		38	44	47	3	7%	
Tairāwhiti	12	19	17	-2	-11%		4	2	5	3	-		8	17	12	-5	-29%	
Taranaki	67	53	42	-11	-21%		7	4	6	2	-		60	49	36	-13	-27%	
Whanganui	31	32	37	5	16%		4	2	3	1	-		27	30	34	4	13%	
Hawke's Bay	97	97	100	3	3%		15	7	14	7	-		82	89	83	-6	-7%	
MidCentral	89	69	80	11	16%		5	5	10	5	-		83	63	70	7	11%	
Hutt Valley	46	43	30	-13	-30%		3	4	2	-2	-		41	39	27	-12	-31%	
Wairarapa	17	10	3	-7	-		2	1	0	-1	-		15	9	3	-6	-	
Capital & Coast	105	109	92	-17	-16%		8	8	10	2	-		92	94	80	-14	-15%	
Nelson Marlborough	60	60	41	-19	-32%		0	6	2	-4	-		60	54	39	-15	-28%	
West Coast	1	4	6	2	-		-	-	-	-	-		1	4	6	2	-	
Canterbury	199	214	193	-21	-10%		11	11	13	2	18%		185	201	177	-24	-12%	
South Canterbury	37	34	27	-7	-21%		0	2	2	0	-		37	32	25	-7	-22%	
Southern	156	182	153	-29	-16%		7	6	4	-2	-		148	174	148	-26	-15%	
Total	1655	1671	1606	-65	-4%		137	124	177	53	43%		1477	1495	1396	-99	-7%	

Lung cancer surgery

Total population						Māori					Non-Māori / Non-Pacific						
Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		Cumulative number for Jan to August			Difference between 2019 and 2020			
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%
Auckland	183	186	172	-14	-8%		28	35	27	-8	-23%		144	135	129	-6	-4%
Counties Manukau	1	2	2	0	-		0	0	1	1	-		0	2	1	-1	-
Waikato	79	92	106	14	15%		24	26	26	0	0%		52	66	79	13	20%
Hawke's Bay	0	0	1	1	-		0	0	0	0	-		-	-	-	-	-
Capital & Coast	77	96	61	-35	-36%		18	15	8	-7	-47%		56	76	50	-26	-34%
Canterbury	52	64	75	11	17%		2	4	4	0	-		50	60	70	10	17%
Southern	24	28	19	-9	-32%		3	0	2	2	-		21	28	17	-11	-39%
Total	417	468	436	-32	-7%		75	80	68	-12	-15%		324	367	346	-21	-6%

Prostate cancer surgery

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to August			Difference between 2019 and 2020		Cumulative number for Jan to August			Difference between 2019 and 2020		Cumulative number for Jan to August			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Northland	35	33	22	-11	-33%	7	4	5	1	-	28	28	17	-11	-39%
Waitemata	54	41	74	33	80%	2	3	2	-1	-	50	38	70	32	84%
Auckland	55	71	89	18	25%	2	6	8	2	-	50	58	77	19	33%
Counties Manukau	0	1	0	-1	-	-	-	-	-	-	0	1	0	-1	-
Waikato	47	40	38	-2	-5%	1	3	3	0	-	46	37	34	-3	-8%
Bay of Plenty	33	32	28	-4	-13%	4	6	5	-1	-	29	26	23	-3	-12%
Lakes	4	7	11	4	-	0	0	6	6	-	4	7	5	-2	-
Tairāwhiti	4	3	6	3	-	1	2	2	0	-	3	1	4	3	-
Taranaki	15	15	21	6	40%	1	2	4	2	-	13	13	17	4	31%
Whanganui	3	4	3	-1	-	1	0	0	0	-	2	4	3	-1	-
Hawke's Bay	10	13	16	3	23%	0	1	4	3	-	10	12	12	0	0%
MidCentral	48	54	58	4	7%	2	8	3	-5	-	46	46	55	9	20%
Capital & Coast	36	49	44	-5	-10%	1	2	2	0	-	32	44	41	-3	-7%
Nelson Marlborough	31	23	27	4	17%	0	2	2	0	-	31	22	27	5	23%
Wairarapa	7	6	7	1	-	1	0	1	1	-	6	6	6	0	-
West Coast	6	3	4	1	-	1	3	3	0	-	6	3	4	1	-
Canterbury	45	39	52	13	33%	0	0	0	0	-	45	37	49	12	32%
South Canterbury	12	7	12	5	-	-	-	-	-	-	12	7	12	5	-
Southern	47	56	59	3	5%	4	2	4	2	-	43	53	55	2	4%
Total	492	497	571	74	15%	27	41	51	10	24%	456	443	511	68	15%

Medical oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	289	335	278	-57	-17%		80	88	75	-13	-15%		209	243	199	-44	-18%	
Auckland	1547	1593	1704	111	7%		181	180	201	21	12%		1163	1210	1261	51	4%	
Waikato	565	530	574	44	8%		121	114	122	8	7%		435	402	445	43	11%	
Bay of Plenty	315	333	352	19	6%		49	75	63	-12	-16%		264	255	287	32	13%	
Lakes	79	133	133	0	0%		31	42	37	-5	-12%		47	87	94	7	8%	
Tairāwhiti	48	99	97	-2	-2%		23	43	44	1	2%		25	56	53	-3	-5%	
Taranaki	156	166	138	-28	-17%		14	21	15	-6	-29%		140	145	122	-23	-16%	
MidCentral	739	704	724	20	3%		106	118	116	-2	-2%		615	574	599	25	4%	
Capital & Coast	590	579	579	0	0%		62	80	75	-5	-6%		494	468	464	-4	-1%	
Nelson Marlborough	291	266	306	40	15%		19	22	15	-7	-32%		271	243	289	46	19%	
West Coast	19	19	11	-8	-42%		0	3	0	-3	-		19	15	11	-4	-27%	
Canterbury	833	904	837	-67	-7%		53	65	52	-13	-20%		770	828	770	-58	-7%	
South Canterbury	6	2	40	38	-		0	0	2	2	-		6	2	38	36	-	
Southern	409	502	428	-74	-15%		19	27	21	-6	-22%		388	472	402	-70	-15%	
Total	5886	6165	6201	36	1%		758	878	838	-40	-5%		4846	5000	5034	34	1%	

Medical oncology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	2125	1937	2070	133	7%		445	454	646	192	42%		1653	1466	1405	-61	-4%	
Auckland	11470	13272	14891	1619	12%		1232	1125	1701	576	51%		8996	10498	11483	985	9%	
Waikato	4758	5137	4235	-902	-18%		753	869	684	-185	-21%		3950	4212	3479	-733	-17%	
Bay of Plenty	3471	3288	3887	599	18%		590	552	787	235	43%		2836	2709	3075	366	14%	
Lakes	1826	2127	2041	-86	-4%		562	556	603	47	8%		1208	1547	1419	-128	-8%	
Tairāwhiti	522	396	375	-21	-5%		226	183	172	-11	-6%		295	213	202	-11	-5%	
Taranaki	1064	1196	1194	-2	0%		149	76	117	41	54%		904	1109	1062	-47	-4%	
Whanganui	91	59	62	3	5%		17	7	8	1	-		74	52	54	2	4%	
Hawke's Bay	19	27	59	32	119%		8	3	49	46	-		11	24	10	-14	-58%	
MidCentral	4384	5286	5219	-67	-1%		638	971	875	-96	-10%		3646	4164	4281	117	3%	
Capital & Coast	4222	4702	4179	-523	-11%		408	500	474	-26	-5%		3627	3969	3460	-509	-13%	
Hutt Valley	79	76	71	-5	-7%		11	2	3	1	-		68	66	62	-4	-6%	
Wairarapa	17	14	50	36	-		0	4	14	10	-		17	10	32	22	220%	
Nelson Marlborough	2059	1816	1988	172	9%		161	146	84	-62	-42%		1875	1637	1885	248	15%	
West Coast	8	31	23	-8	-26%		0	1	4	3	-		8	30	19	-11	-37%	
Canterbury	4518	4028	4157	129	3%		296	263	277	14	5%		4090	3677	3739	62	2%	
South Canterbury	701	724	724	0	0%		6	5	17	12	-		695	707	707	0	0%	
Southern	4640	4893	4657	-236	-5%		276	233	265	32	14%		4339	4614	4323	-291	-6%	
Total	45974	49011	49883	872	2%		5778	5950	6780	830	14%		38292	40706	40698	-8	0%	

Radiation oncology first specialist assessments

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	238	243	189	-54	-22%		68	56	66	10	18%		165	184	122	-62	-34%	
Auckland	2160	2129	2130	1	0%		253	262	248	-14	-5%		1651	1596	1651	55	3%	
Waikato	875	955	985	30	3%		160	158	213	55	35%		696	778	762	-16	-2%	
Bay of Plenty	590	668	604	-64	-10%		86	97	90	-7	-7%		499	564	510	-54	-10%	
Lakes	30	14	10	-4	-29%		7	3	3	0	-		23	11	7	-4	-36%	
Tairāwhiti	58	41	26	-15	-37%		23	14	13	-1	-7%		33	27	13	-14	-52%	
MidCentral	1211	1071	1180	109	10%		151	141	150	9	6%		1044	919	1014	95	10%	
Capital & Coast	922	985	893	-92	-9%		86	96	89	-7	-7%		796	848	756	-92	-11%	
Nelson Marlborough	49	149	117	-32	-21%		4	9	8	-1	-		45	139	108	-31	-22%	
West Coast	4	9	3	-6	-		0	1	0	-1	-		4	8	3	-5	-	
Canterbury	1111	1067	1250	183	17%		58	68	56	-12	-18%		1041	984	1177	193	20%	
Southern	700	738	648	-90	-12%		36	37	47	10	27%		652	692	591	-101	-15%	
Total	7948	8069	8035	-34	0%		932	942	983	41	4%		6649	6750	6714	-36	-1%	

Radiation oncology megavoltage fractions

	Total population					Māori					Non-Māori / Non-Pacific				
	Cumulative number for Jan to August			Difference between 2019 and 2020		Cumulative number for Jan to August			Difference between 2019 and 2020		Cumulative number for Jan to August			Difference between 2019 and 2020	
	2018	2019	2020	Number	%	2018	2019	2020	Number	%	2018	2019	2020	Number	%
Auckland	29892	30301	27103	-3198	-11%	4128	4112	3515	-597	-15%	22502	23290	20741	-2549	-11%
Waikato	13930	15452	12925	-2527	-16%	2676	2633	2844	211	8%	10987	12538	9939	-2599	-21%
Bay of Plenty	12114	10386	11347	961	9%	2230	1729	1906	177	10%	9709	8589	9307	718	8%
MidCentral	14107	16017	14995	-1022	-6%	2045	2204	1987	-217	-10%	11918	13733	12726	-1007	-7%
Capital & Coast	13075	14058	12873	-1185	-8%	1514	1673	1524	-149	-9%	10936	11692	10624	-1068	-9%
Canterbury	19351	15573	16279	706	5%	1320	1016	943	-73	-7%	17637	14319	15185	866	6%
Southern	5030	3832	2627	-1205	-31%	356	198	164	-34	-17%	4557	3586	2446	-1140	-32%
Total	107500	105619	98154	-7465	-7%	14270	13565	12885	-680	-5%	88246	87747	80971	-6776	-8%

Haematology first specialist assessment

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	142	150	173	23	15%		19	34	45	11	32%		121	114	125	11	10%	
Waitemata	493	419	475	56	13%		24	25	31	6	24%		444	381	420	39	10%	
Auckland	656	661	500	-161	-24%		46	54	43	-11	-20%		546	545	394	-151	-28%	
Counties Manukau	526	480	471	-9	-2%		55	59	59	0	0%		386	354	340	-14	-4%	
Waikato	450	510	489	-21	-4%		71	95	82	-13	-14%		371	408	400	-8	-2%	
Bay of Plenty	262	271	210	-61	-23%		47	40	30	-10	-25%		211	226	177	-49	-22%	
Tairāwhiti	31	22	25	3	14%		12	4	6	2	-		19	17	19	2	12%	
Taranaki	92	120	110	-10	-8%		12	7	14	7	-		80	112	96	-16	-14%	
MidCentral	503	525	507	-18	-3%		64	64	63	-1	-2%		433	455	430	-25	-5%	
Capital & Coast	558	511	468	-43	-8%		30	46	50	4	9%		508	442	390	-52	-12%	
Nelson Marlborough	131	104	79	-25	-24%		1	4	3	-1	-		129	99	76	-23	-23%	
Canterbury	296	355	344	-11	-3%		15	18	19	1	6%		272	326	322	-4	-1%	
Southern	192	206	205	-1	0%		13	13	11	-2	-15%		176	189	192	3	2%	
West Coast	11	14	4	-10	-71%		2	0	0	0	-		9	14	4	-10	-71%	
Total	4343	4350	4061	-289	-7%		411	464	456	-8	-2%		3705	3683	3386	-297	-8%	

Haematology IV chemotherapy

	Total population						Māori						Non-Māori / Non-Pacific					
	Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020			Cumulative number for Jan to August			Difference between 2019 and 2020		
	2018	2019	2020	Number	%		2018	2019	2020	Number	%		2018	2019	2020	Number	%	
Northland	1244	1148	932	-216	-19%		297	247	192	-55	-22%		947	856	701	-155	-18%	
Waitemata	2718	2703	2563	-140	-5%		53	102	120	18	18%		2515	2467	2273	-194	-8%	
Auckland	2355	2482	2229	-253	-10%		153	166	89	-77	-46%		1989	2039	1905	-134	-7%	
Counties Manukau*	1579	854	1562	-	-		212	104	145	41	39%		999	615	1173	558	91%	
Waikato	1307	1350	1494	144	11%		181	265	281	16	6%		1114	1083	1213	130	12%	
Bay of Plenty	863	889	707	-182	-20%		102	60	93	33	55%		761	789	612	-177	-22%	
Lakes	118	433	450	17	4%		21	131	114	-17	-13%		97	302	336	34	11%	
Tairāwhiti	148	91	72	-19	-21%		18	10	10	0	0%		114	81	62	-19	-23%	
MidCentral	1800	1850	1618	-232	-13%		214	227	132	-95	-42%		1561	1621	1471	-150	-9%	
Capital & Coast	2062	2320	2201	-119	-5%		41	312	271	-41	-13%		1918	1947	1716	-231	-12%	
Nelson Marlborough	1	1	10	9	-		0	0	0	0	-		1	1	10	9	-	
West Coast	5	11	6	-5	-45%		0	2	0	-2	-		5	9	6	-3	-	
Canterbury*	1410	1028	1806	-	-		98	82	193	111	135%		1295	938	1576	638	68%	
Southern**	144	170	177	7	4%		1	4	21	17	-		143	166	155	-11	-7%	
Total	15754	15330	15827	497	3%		1391	1712	1661	-51	-3%		13459	12914	13209	295	2%	

*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