



COVID-19 and cancer services

Report six

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

December 2020

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Summary of findings

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

There has now been the same number of new cancer diagnoses made in 2020 as were made in 2019. 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. In general, the COVID-19 response does not appear to have increased inequities in the cancer system. The concerning exception is lung cancer, where there has been a decrease in new diagnoses for Māori, with an increase for non-Māori.

Background and data

- This is the sixth report looking at the impact of COVID-19 on cancer services. This report looks at the period until the end of October 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 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.

Lung cancer snapshot

- This report includes a section focusing on lung cancer, as this was one area where inequity concerns had been raised in previous reports. There has been a 7.5% decrease in new diagnoses of lung cancer for Māori in 2020 compared to 2019. The same is not true for European/other, where there has been a stable 4.5% increase in lung cancer diagnoses over 2020.
- Given the overlap of the common presenting symptoms for COVID-19 and lung cancer there are several explanations for why lung cancer diagnoses may have decreased during COVID-19; however, most of these would be expected to impact all population groups equally. It is also possible that there are pathways by which Māori would be further disadvantaged during the COVID-19 pandemic, with exacerbation of existing barriers to diagnosis and treatment; however, this would be expected to be seen across all cancer types, not just lung cancer.
- In terms of routes to diagnosis, the number of people with lung cancer on the Faster Cancer Treatment pathway in 2020 remained stable for Māori. This means that the decrease in new diagnoses is likely to be for people diagnosed via other pathways.
 - We do not have readily available national data that looks at other pathways to presentation and whether these vary by ethnicity, although other work indicates that Māori are more likely to be diagnosed via the emergency department than non-Māori. If this pathway was disrupted during COVID-19 this could account for some of the disparity.
 - The COVID-19 response led to a decrease in hospital admissions for respiratory infections, which may have led to fewer incidental diagnoses of lung cancer. If a larger proportion of Māori are usually diagnosed through this pathway, then a disruption to this pathway could contribute to the observed decrease for Māori.
- Fewer bronchoscopies have been performed in 2020 than in 2019, with Māori having a larger decrease than non-Māori.

- We do not expect to see a complete catch up in bronchoscopies, as during the early stages of the pandemic people received other forms of investigation.
- Despite the inequity in new diagnoses, this does not appear to have translated into new inequities in treatment.
 - The difference in curative lung cancer surgeries for the year to date is similar for Māori to non-Māori/non-Pacific.
 - Lung cancer radiotherapy rates in 2020 appear to be similar to 2019, for both Māori and the populations as a whole.
- We need to ensure Māori with respiratory symptoms are appropriately investigated and diagnosed. The need is made more pressing by the risk of re-emergence of COVID-19, and the potential that clinical evaluation will be restricted to excluding a diagnosis of COVID-19. Te Aho o Te Kahu will continue to work with clinicians and COVID-19 response planners to look at how to address barriers to lung cancer diagnosis in the context of COVID-19, as well as continue broader work to improve the diagnostic pathways for Māori with lung cancer.

Cancer diagnosis

Registrations

- For the year to date (up until the end of October 2020) there have been 104 more cancer registrations than during the same time period in 2019, a 0.4% increase. The cumulative number of cancer registrations in 2020 surpassed the number of registrations in 2019 in September.
- The increase in cancer registrations is similar for Māori (1.5%) and Pacific (1.3%) and, as seen in previous months, remains higher for the Asian ethnic group (9.1%). There remains a small (0.7%) decrease in new cancer registrations for European/other.
- The overall impact of COVID-19 on registrations for the year to date has been most marked for prostate, haematology/lymphoid and melanoma – all have seen a 4-9% decrease overall across the population.

Diagnostics

- There has now been the same number of gastrointestinal endoscopies performed in 2020 compared to 2019. Given that at the end of May 2020 there were nearly 6000 (18%) fewer endoscopies performed than in 2019, this represents significant efforts to provide additional endoscopy services, including DHBs running longer clinics and weekend clinics.
- There has been a 5% increase in the number of endoscopies for Māori and a 13% increase for Pacific peoples in the first ten months of 2020 compared to the same time period in 2019.

Cancer Treatment

Surgery

- Overall, the impact of COVID-19 on cancer surgery volumes has been minimal, with 2% more surgeries performed in the first ten months of 2020 compared to the first ten months of 2019. There has been a 21% increase in surgery for Māori for the first ten months of 2020 compared to the same time period in 2019.
- There has been a 21% decrease in surgeries for Pacific peoples, noting that this represents small numbers (23 fewer surgeries over ten months). This is an area Te Aho o Te Kahu will look into further.
- For the year to date there has been a 13% increase in prostate cancer surgeries compared to 2019. This is unexpected, given the 9.2% decrease in new diagnoses of prostate cancer in 2020.

Chemotherapy and radiotherapy

- **Medical oncology:** 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:** 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 an 8% decrease in attendances for radiation therapy. This is similar for Māori (7%) and non-Māori/non-Pacific (8%). This may, in part, be the result of national hypofractionation guidance¹, and as such the number of attendances in 2020 may never reach the number of attendances in 2019.
- **Haematology:** Overall, for the year to date there has been a 3% decrease in haematology FSAs 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 National Hospital Response Framework. These cases may have been effectively managed in primary care and so the number of FSAs in 2020 may never reach the number of FSAs in 2019. For the year to date there has been a 4% increase in IV chemotherapy for haematology compared to the same time period in 2019.

¹ Hypofractionation is a radiation treatment technique used to treat some cancers, whereby larger doses of radiation are given at a time, meaning that people require fewer sessions to complete their treatment.

Introduction

Purpose of this report

This is the sixth 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 October 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 previous reports 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 October 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
- 31 August: alert level 2.5 Auckland, rest of New Zealand stays at alert level 2
- 22 September: all regions, except Auckland, move to alert level 1
- 24 September: Auckland moves to alert level 2, without extra restrictions on travel and gatherings
- 8 October: all of New Zealand at alert level 1

Lung Cancer Snapshot

Previous COVID-19 and Cancer reports have shown the continuing inequitable impact of COVID-19 on lung cancer diagnosis for Māori. This is of particular concern given the large inequities that already exist with lung cancer and the large and disproportionate burden of disease that lung cancer causes for Māori. It is also of interest, as lung cancer appears to be unique. Table 1 shows the percentage change in new diagnoses of cancer up until the end of October 2020 by cancer type, and shows that impact for Māori has generally been similar, or less severe, to European/other New Zealanders, with lung cancer being a notable exception.

Table 1: Percentage change in new diagnoses of cancer between 2020 and 2019 (up until the end of October), by cancer type and ethnicity

| | Māori | European/other |
|---------------------------------|------------|----------------|
| Breast | 1.4 | -5.3 |
| Cervix | 11.3 | 14 |
| Colorectal | 18.5 | 3.2 |
| Endocrine | 14.3 | 13.2 |
| Gynaecology | 0.7 | 2.1 |
| Haematology and Lymphoid | -3.8 | -7.2 |
| Prostate | -10.3 | -9.4 |
| Respiratory and thorax | -7.5 | 4.5 |
| Total | 1.5 | -0.7 |

This snapshot aims to: a) describe these inequities in detail, and b) consider what the potential drivers for these inequities are. As well as seeing if additional action is required, this will assist with planning in the event of resurgence of COVID-19 to make sure we do not see a similar pattern again.

Lung cancer registrations

Figure 1 shows the cumulative number of lung cancer registrations by year, for European/other and for Māori. This illustrates the decrease in lung cancer diagnoses for Māori, but not European/other, in 2020.

Figure 1: Cumulative number lung cancer registrations by year, European/other (left) and Māori (right)

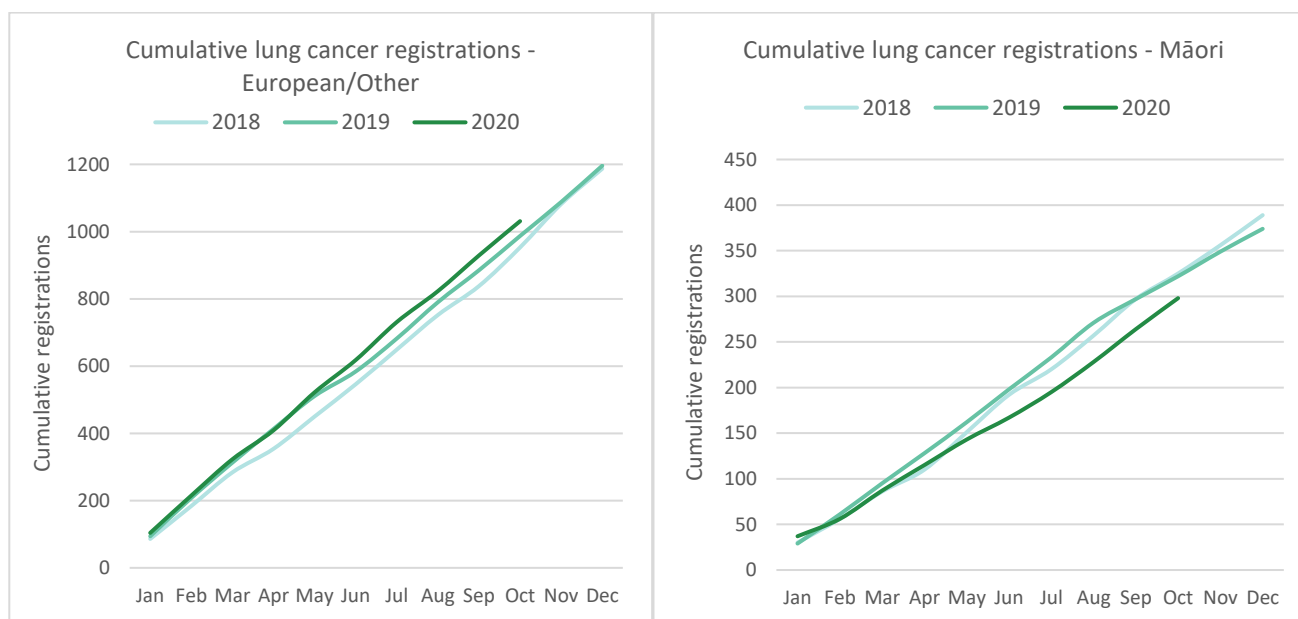


Table 2 shows the number and percentage difference in lung cancer diagnoses at the end of each month in 2020 compared to 2019. By the end of October 2020 there had been a 4.5% **increase** in lung cancer diagnoses for European/other compared to 2019 (44 more cases). In contrast there has been a 7.5% **decrease** in lung cancer diagnoses for Māori in 2020 compared to 2019 (24 fewer cases). The largest gap in new diagnoses for Māori was seen in June-August, 2-3 months after the national lockdown. The 'gap' seems to be closing; however, this may be driven by a plateauing of cases in the last part of 2019 (seen in Figure 1).

Table 2: Absolute number and percentage change in cumulative lung cancer registrations to the end each month in 2020 compared to 2019, by ethnicity

| | European/other | | Māori | |
|------------|----------------|------|--------|-------|
| | Number | % | Number | % |
| Jan | 10 | 10.6 | 8 | 27.6 |
| Feb | 7 | 3.4 | -5 | -8.2 |
| Mar | 10 | 3.2 | -8 | -8.4 |
| Apr | -4 | -1 | -13 | -10.2 |
| May | 11 | 2.2 | -19 | -11.7 |
| Jun | 34 | 5.8 | -31 | -15.7 |
| Jul | 49 | 7.2 | -38 | -16.3 |
| Aug | 33 | 4.2 | -43 | -15.9 |
| Sep | 44 | 5 | -33 | -11.1 |
| Oct | 44 | 4.5 | -24 | -7.5 |

Table 3 shows data until the end of October, and presents the absolute number and percentage change in lung cancer registrations by DHB. This shows the inequity is larger in some DHBs than in others. The most notable decrease in registrations for Māori appears to have occurred in Auckland and Waikato DHBs.

Table 3: Absolute number and percentage change in cumulative lung cancer registrations for the year to date (end of October) in 2020 compared to 2019, by DHB and ethnicity

| DHB | European/Other | | Māori | |
|--------------------|----------------|-------|--------|----------------|
| | Number | % | Number | % ² |
| Auckland | 11 | 25 | -10 | -47.6 |
| Bay of Plenty | -1 | -1.9 | -7 | -20.6 |
| Canterbury | 18 | 14.5 | 8 | |
| Capital & Coast | -13 | -27.1 | -4 | -28.6 |
| Counties Manukau | 9 | 10.6 | 0 | 0 |
| Hawke's Bay | 9 | 25.7 | -3 | -13 |
| Hutt Valley | 1 | 3.7 | -5 | -45.5 |
| Lakes | -1 | -4.2 | 5 | 38.5 |
| MidCentral | -20 | -31.7 | -1 | -9.1 |
| Nelson Marlborough | 6 | 15 | 4 | |
| Northland | 10 | 24.4 | 5 | 16.7 |
| South Canterbury | 4 | 18.2 | -2 | |
| Southern | -10 | -11.2 | 0 | 0 |
| Tairāwhiti | 0 | | 2 | |
| Taranaki | 6 | 20 | -5 | |
| Waikato | 15 | 17.9 | -16 | -30.8 |
| Wairarapa | -4 | -28.6 | 0 | |
| Waitemata | 2 | 1.6 | 1 | 5 |
| West Coast | 6 | 46.2 | 0 | |
| Whanganui | -4 | -16.7 | 4 | |

² Note: to avoid over interpretation of small numbers, percentages are only shown if the number of cases in 2019 exceeds ten.

Diagnosis of lung cancer

Faster cancer treatment pathway: 62-day pathway referrals

If people are referred urgently to secondary care with a high suspicion of cancer, the aim is for them to receive their first treatment (or other management) within 62 days of the referral being received by the hospital. Patients on the 'faster cancer treatment pathway' are tracked, so that timing can be monitored and reported against.

In 2019, of the 1775 new diagnoses of lung cancer, there were 919 (52%) on the FCT pathway. This was a similar proportion for Māori, with 374 lung cancer diagnoses in 2019 and 198 (53%) on the FCT pathway.

Table 4 shows that in 2020 the overall proportion of lung cancer diagnoses on the FCT pathway is similar to 2019, although there was month-to-month variation particularly noticeable for Māori.

Table 4: Proportion of lung cancer diagnoses each month on the FCT pathway in 2020³

| | Total Population | European/other | Māori |
|--------------|------------------|----------------|------------|
| Jan | 44% | 53% | 27% |
| Feb | 48% | 40% | 84% |
| Mar | 49% | 52% | 65% |
| Apr | 65% | 63% | 61% |
| May | 45% | 46% | 43% |
| Jun | 50% | 45% | 79% |
| Jul | 39% | 44% | 29% |
| Aug | 58% | 48% | 82% |
| Sep | 49% | 53% | 47% |
| TOTAL | 49% | 49% | 55% |

Figure 2 shows the number of referrals each month onto the 62-day FCT pathway. This shows a relatively stable number of referrals throughout the year. Figure 3 shows the cumulative number of referrals onto the FCT pathway, with the number of referrals in 2020 being very similar to 2019 for both the total population and for Māori.

Overall, there does not appear to have been a substantial change in FCT pathway diagnoses for Māori in 2020, suggesting that the 'missing' referrals for Māori are likely to be those diagnosed through alternative pathways. We do not have national data that is accessible in 'real time' to look at other pathways to presentation and whether these vary by ethnicity. Other pathways to diagnosis include through the emergency department, incidental findings either during a hospital admission or investigations for other reasons and diagnoses made as part of post-mortems.

³ Note: FCT data is only available until the end of September 2020.

Figure 2: Number of 62-day pathway referrals for lung cancer, for total population (left) and for Māori (right)

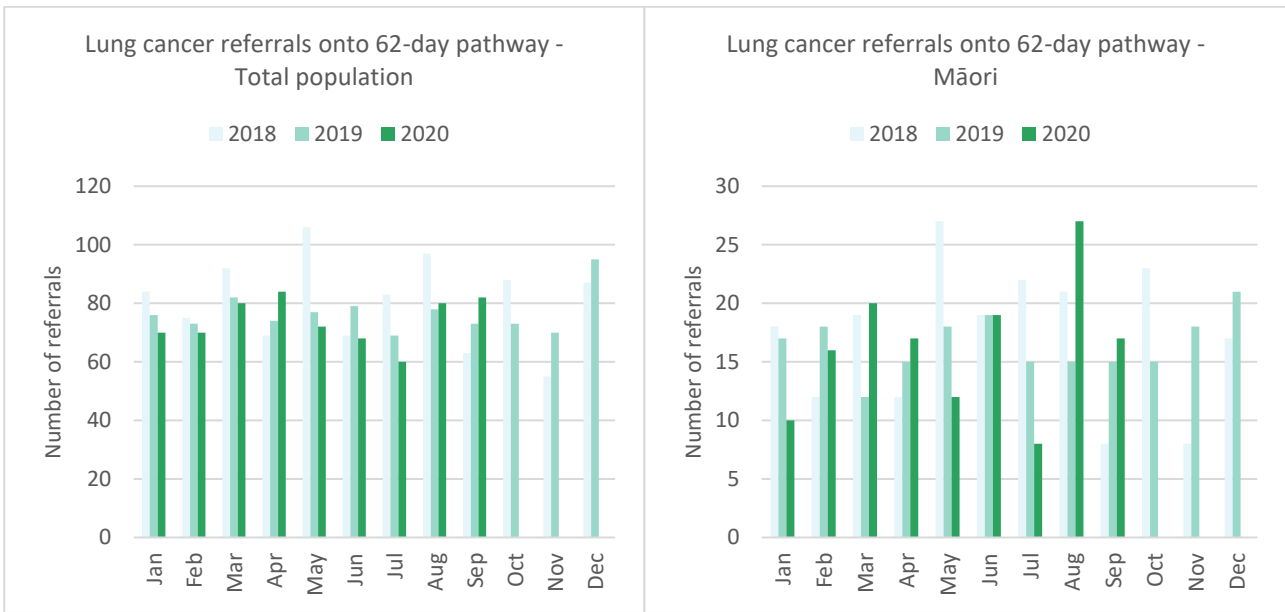
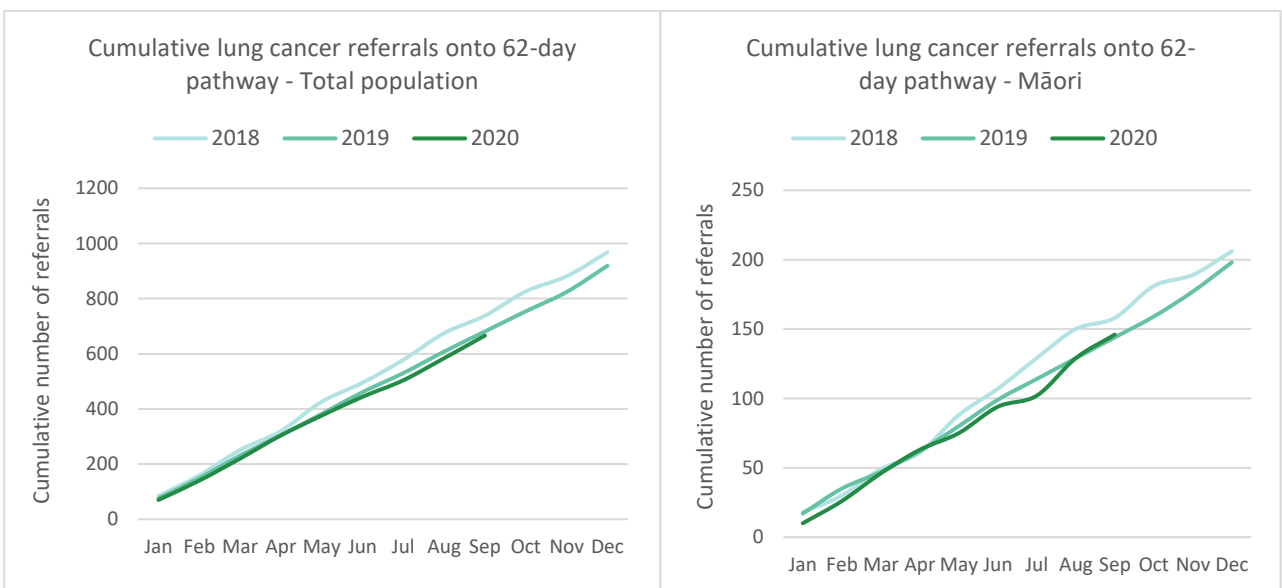


Figure 3: Cumulative number of 62-day pathway referrals for lung cancer, for total population (left) and for Māori (right)



Bronchoscopy

Figure 4 shows the number of bronchoscopies performed each month. This clearly demonstrates the impact of the pandemic, with a marked decrease in bronchoscopies performed in April 2020 – with this impact appearing to be greater for Māori. Of note, when the COVID-19 pandemic first emerged, bronchoscopies were considered extremely high-risk procedures and clinicians were encouraged to pursue an alternative form of investigation where possible e.g. CT guided biopsy.

Figure 4: Number of bronchoscopies by month and year, for the total population (left) and for Māori (right)

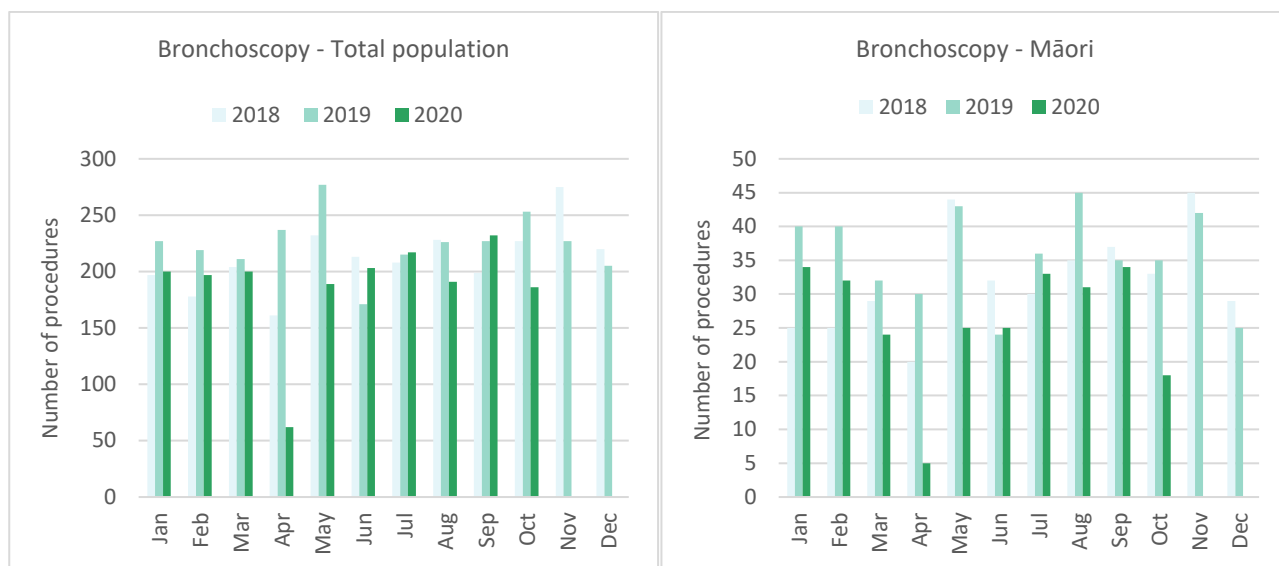
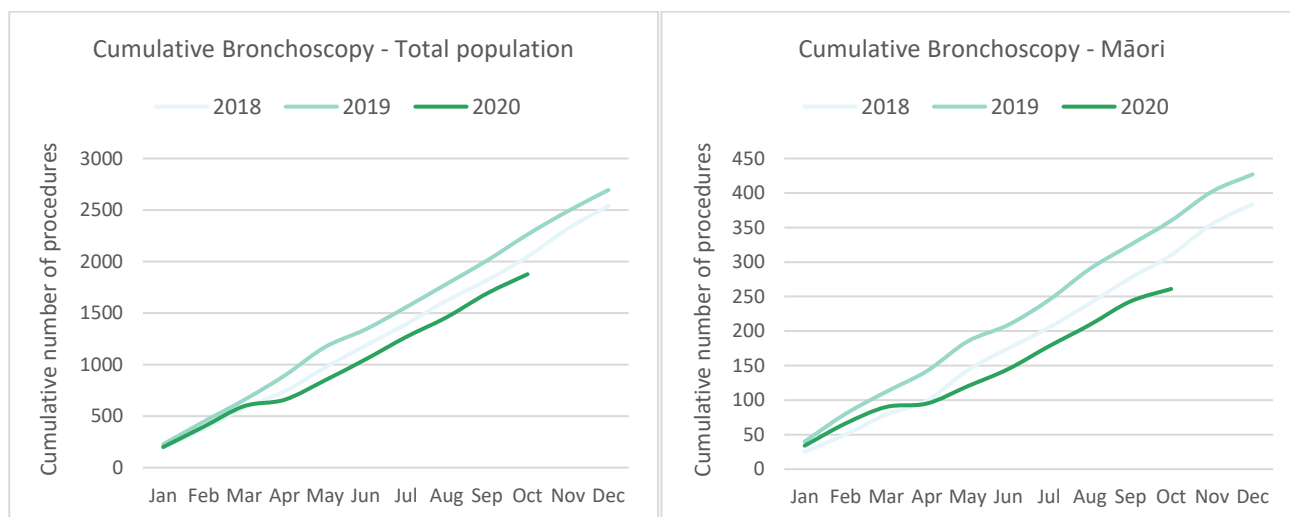


Figure 5 shows the cumulative number of bronchoscopies performed each year. Up until the end of October 2020 there had been a 15% decrease in bronchoscopies for non-Māori/non-Pacific (271 fewer scopes) compared to a 28% decrease for Māori (99 fewer scopes). It is important to note that a complete catch up is not expected, as during the early stages of the pandemic people would have received other forms of investigation.

Figure 5: Cumulative number of bronchoscopies procedures by year, for the total population (left) and for Māori (right)



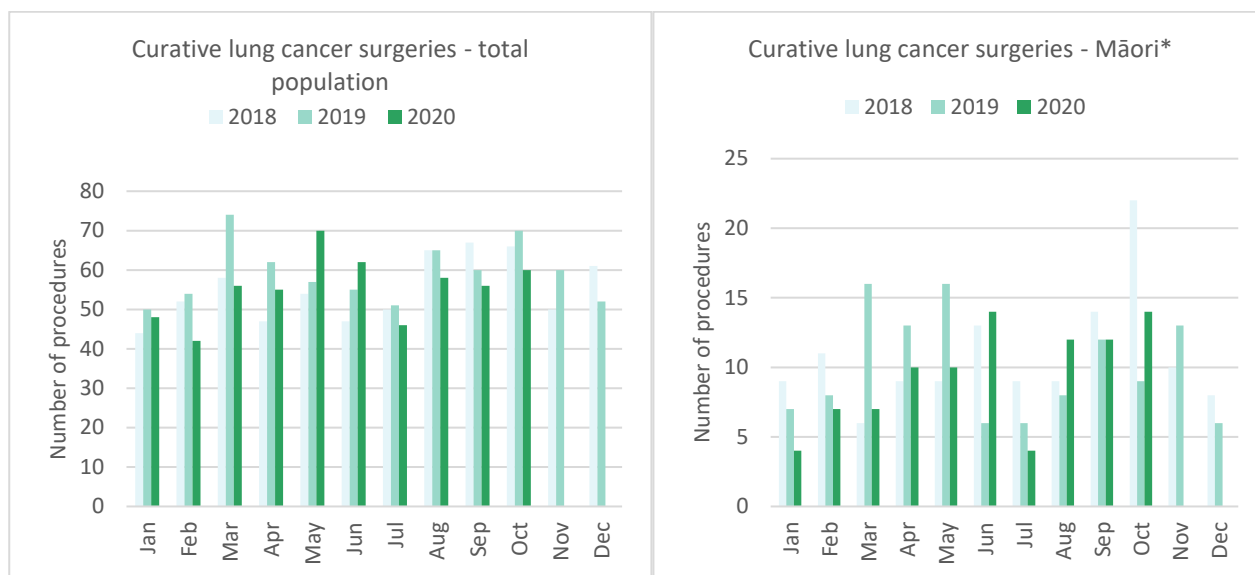
Treatment of lung cancer

Lung cancer surgery

Figure 6 shows the number of curative lung cancer surgeries performed each month and Figure 7 shows the cumulative number of surgeries performed each year. In the first half of 2020 there was marked inequity in surgical procedures, but by the end of October there had been 8% fewer surgeries for non-Māori/non-Pacific (37 surgeries) and 7% fewer surgeries for Māori (7 surgeries).

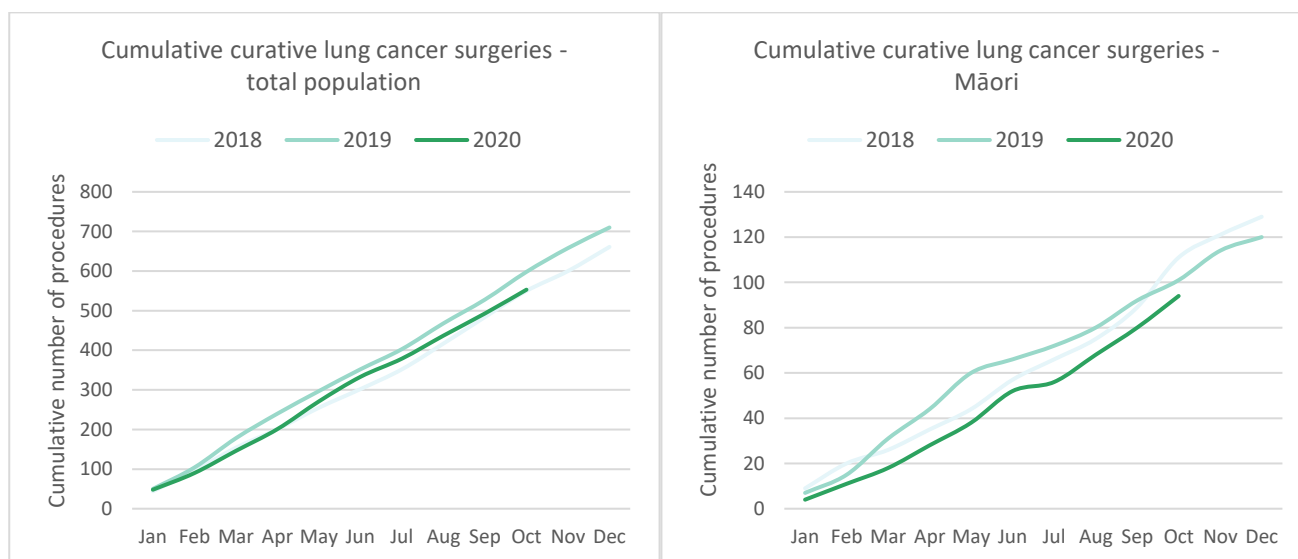
This means that despite a persistent inequity in new diagnoses, this has not translated to persistent COVID-19-related inequities in access to cancer surgery.

Figure 6: 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 7: Cumulative number of curative lung cancer surgeries by year, for the total population (left) and for Māori (right)

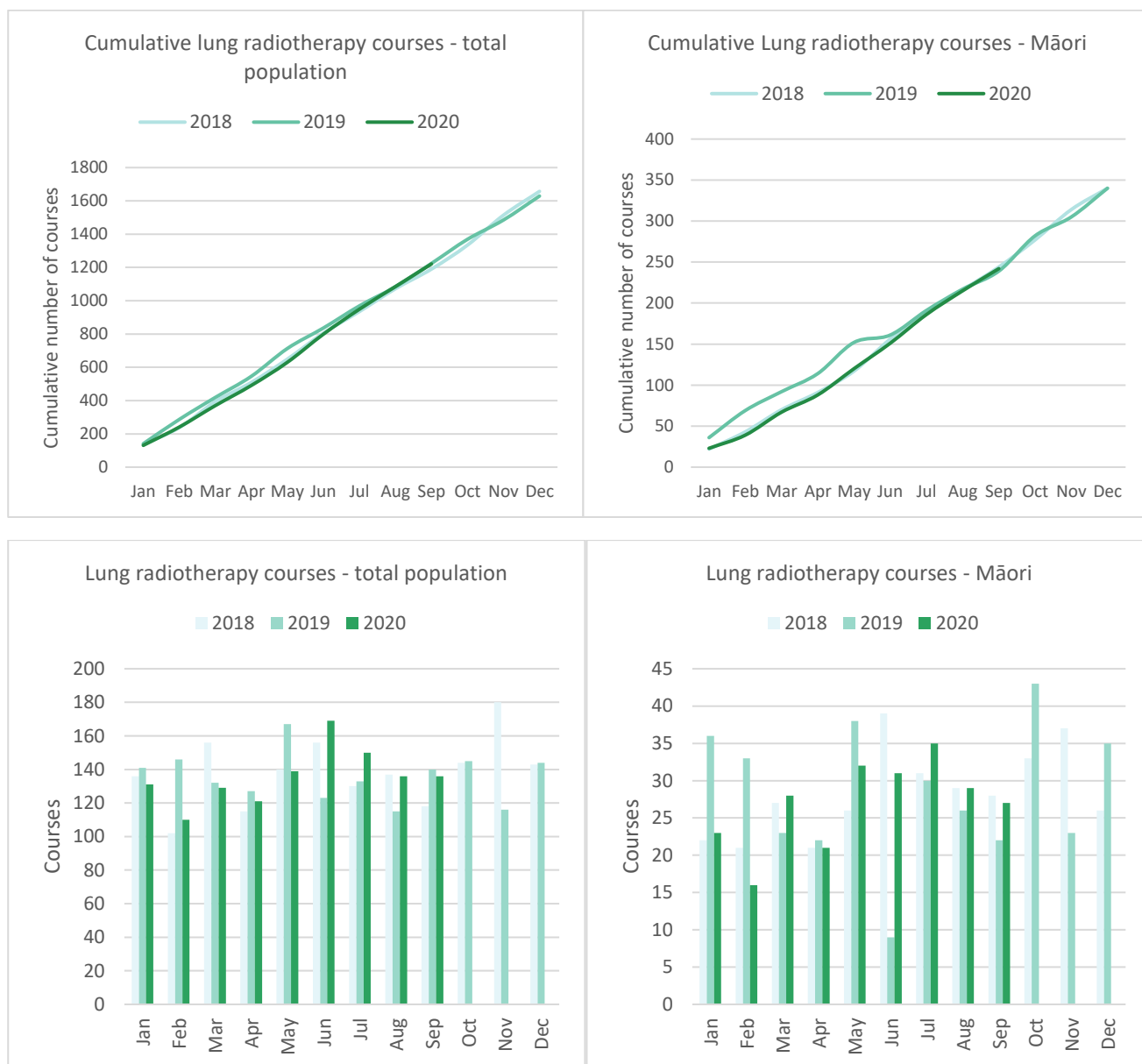


Radiation therapy: lung courses

Figure 8 shows that the cumulative number of lung cancer radiotherapy courses in 2020 is similar to 2019, for both the total population and for Māori. Given the decrease in new diagnose for Māori, this could mean:

- Radiotherapy made up a great proportion of treatment for Māori. It is possible that given the high-risk nature of lung cancer surgery (both from a COVID risk perspective and from the perspective of preserving ICU capacity) that there was a treatment modality shift, from surgery towards radiotherapy for Māori.
- Cancers were being diagnosed at a later stage when surgery was no longer an option and so radiotherapy became the default form of treatment.

Figure 8: Cumulative number of lung cancer radiotherapy courses by year, for total population (left) and Māori (right)



What is driving these inequities for Māori?

One of the challenges of diagnosing lung cancer in the context of the COVID-19 pandemic is that there is overlap of the common presenting symptoms for both COVID-19 and lung cancer. It is plausible that this would contribute to a decrease in new lung cancer diagnoses, as people with coughs and other respiratory symptoms stay home or seek medical care and receive a COVID-19 test rather than a more thorough workup of their symptoms. However, given that the decrease in lung cancer diagnoses was only seen for Māori we need to consider pathways by which there would be a disproportionate impact on Māori.

Around 50% of both Māori and non-Māori diagnosed with lung cancer are on the Faster Cancer Treatment pathway, and the number of people diagnosed on this pathway in 2020 seems to be comparable to 2019. Unfortunately, we do not have easily accessible national data that looks at the other pathways to diagnosis. A review of lung cancer diagnoses between 2015 and 2018 found that Māori were more likely to be diagnosed following an emergency department presentation compared to European/Other ethnicities (49%

compared to 43% of diagnoses)⁴. During the COVID-19 pandemic it is possible that people who presented acutely and would usually have had a chest x-ray and other workup that might have picked up lung cancer, instead received a COVID-19 test. If this pathway is used more by Māori, then this could contribute to the drop in diagnosis.

Some diagnoses of lung cancer occur in the inpatient setting, when people are admitted for other reasons (e.g. respiratory infections). The COVID-19 lockdown response and social distancing virtually eliminated influenza from New Zealand⁵ and there were fewer hospital admissions for other respiratory infections. This may have resulted in fewer incidental findings of lung cancer. Although this would likely impact all population groups, if a larger proportion of Māori are usually diagnosed through this pathway then a disruption to this pathway could contribute to the observed decrease in lung cancer diagnoses for Māori.

It is also possible to think of pathways by which Māori were further disadvantaged during the COVID-19 pandemic, with exacerbations of existing barriers to diagnoses and treatment. However, we would expect to see this across all cancer types, not just lung cancer, which was not the case. Similarly, we know that during the COVID-19 lockdown people with co-morbidities were being encouraged to stay home. Māori have higher rates of co-morbidity than non-Māori and so may have been more impacted by this advice. However, again this would have been expected to impact all cancer types, not just lung cancer, although it is possible that those with chronic respiratory co-morbidities related to smoking - and therefore also at higher risk of lung cancer – may have been additionally cautious.

There are additional challenges to diagnosis that have been identified by respiratory clinicians, including the difficulty of building relationships over the telephone and difficulty for those who had to travel to receive diagnostic tests. Some regions have seen a large increase in lung cancer presentations in the last 1-2 months, to the extent that at least one region has had to put on an additional lung cancer clinic each fortnight. Sadly, many of the recent diagnoses present at an advanced stage and on review symptoms first occurred during lockdown. Further qualitative work to understand the issues people experienced during lockdown will help shape a better response in the event of COVID-19 resurgence.

We need to ensure Māori with respiratory symptoms are appropriately investigated and diagnosed. The need is made more pressing by the risk of re-emergence of COVID-19, and the potential that clinical evaluation will be restricted to excluding a diagnosis of COVID-19. Te Aho o Te Kahu will continue to work with clinicians and COVID-19 response planners to look at how to address barriers to lung cancer diagnosis in the context of COVID-19, as well as continue broader work to improve the diagnostic pathways for Māori with lung cancer.

Key points

- There has been a 7.5% decrease in new diagnoses of lung cancer for Māori in 2020 compared to 2019. The same is not true for European/other, where there has been a stable 4.5% increase in lung cancer diagnoses over 2020.
- Given the overlap of the common presenting symptoms for COVID-19 and lung cancer there are several explanations for why lung cancer diagnoses may have decreased during COVID-19; however, most of these would be expected to impact all population groups equally. It is also possible that there are pathways by which Māori would be further disadvantaged during the COVID-19 pandemic, with exacerbation of existing barriers to diagnosis and treatment; however, this would be expected to be seen across all cancer types, not just lung cancer.

⁴ Te Aho o Te Kahu, Lung Quality Performance Indicator Report – in publication

⁵ https://surv.esr.cri.nz/PDF_surveillance/Virology/FluAnnRpt/InfluenzaAnn2020.pdf

- In terms of routes to diagnosis, the number of people with lung cancer on the Faster Cancer Treatment pathway in 2020 remained stable for Māori. This means that the decrease in new diagnoses is likely to be for people diagnosed via other pathways.
 - We do not have readily available national data that looks at other pathways to presentation and whether these vary by ethnicity, although other work indicates that Māori are more likely to be diagnosed via the emergency department than non-Māori. If this pathway was disrupted during COVID-19 this could account for some of the disparity.
 - The COVID-19 response led to a decrease in hospital admissions for respiratory infections, which may have led to fewer incidental diagnoses of lung cancer. If a larger proportion of Māori are usually diagnosed through this pathway, then a disruption to this pathway could contribute to the observed decrease for Māori.
- Fewer bronchoscopies have been performed in 2020 than in 2019, with Māori having a larger decrease than non-Māori.
 - We do not expect to see a complete catch up in bronchoscopies, as during the early stages of the pandemic people received other forms of investigation.
- Despite the inequity in new diagnoses, this does not appear to have translated into new inequities in treatment.
 - The difference in curative lung cancer surgeries for the year to date is similar for Māori to non-Māori/non-Pacific.
 - Lung cancer radiotherapy rates in 2020 appear to be similar to 2019, for both Māori and the populations as a whole.
- We need to ensure Māori with respiratory symptoms are appropriately investigated and diagnosed. The need is made more pressing by the risk of re-emergence of COVID-19, and the potential that clinical evaluation will be restricted to excluding a diagnosis of COVID-19. Te Aho o Te Kahu will continue to work with clinicians and COVID-19 response planners to look at how to address barriers to lung cancer diagnosis in the context of COVID-19, as well as continue broader work to improve the diagnostic pathways for Māori with lung cancer.

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 may 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 November 2020.
- Further information on this data is included in Appendix 1.

Results

Table 5 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 October 2020).

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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-------------------------|-------------|------------|----------------|-------------|--------------|-------------|--------------|------------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 26 | 10.3 | 52 | 21.4 | 32 | 12.7 | 38 | 1.5 |
| Pacific | 12 | 15.4 | 2 | 2.1 | 11 | 12.9 | 12 | 1.3 |
| Asian | 15 | 10.6 | 34 | 24.3 | 30 | 24.4 | 117 | 9.1 |
| European/Other | 146 | 6.7 | 302 | 14.6 | -86 | -3.9 | -151 | -0.7 |
| Total Population | 201 | 7.5 | 445 | 17.3 | -2 | -0.1 | 103 | 0.4 |

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

Figure 9: Total number of cancer registrations by month and year (left), cumulative number of cancer registrations by month and year (right)

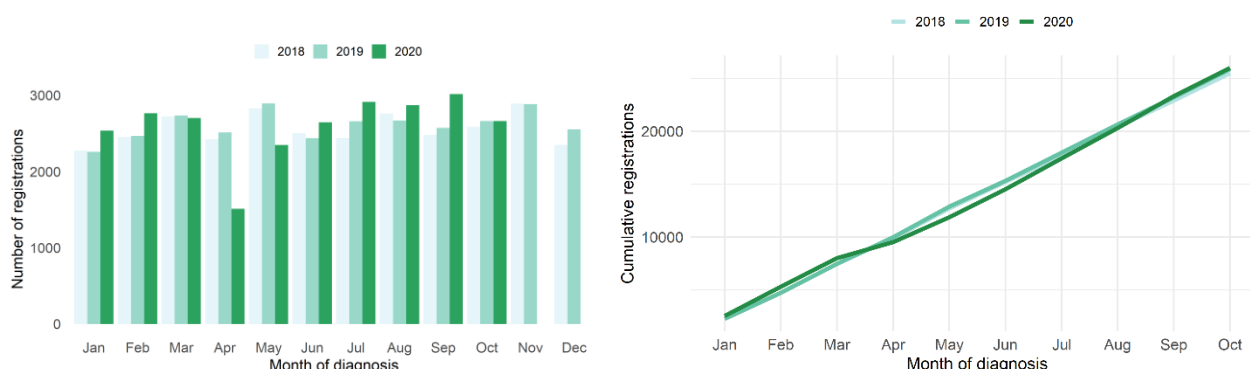


Figure 10: Number of cancer registrations by month and year, by ethnicity

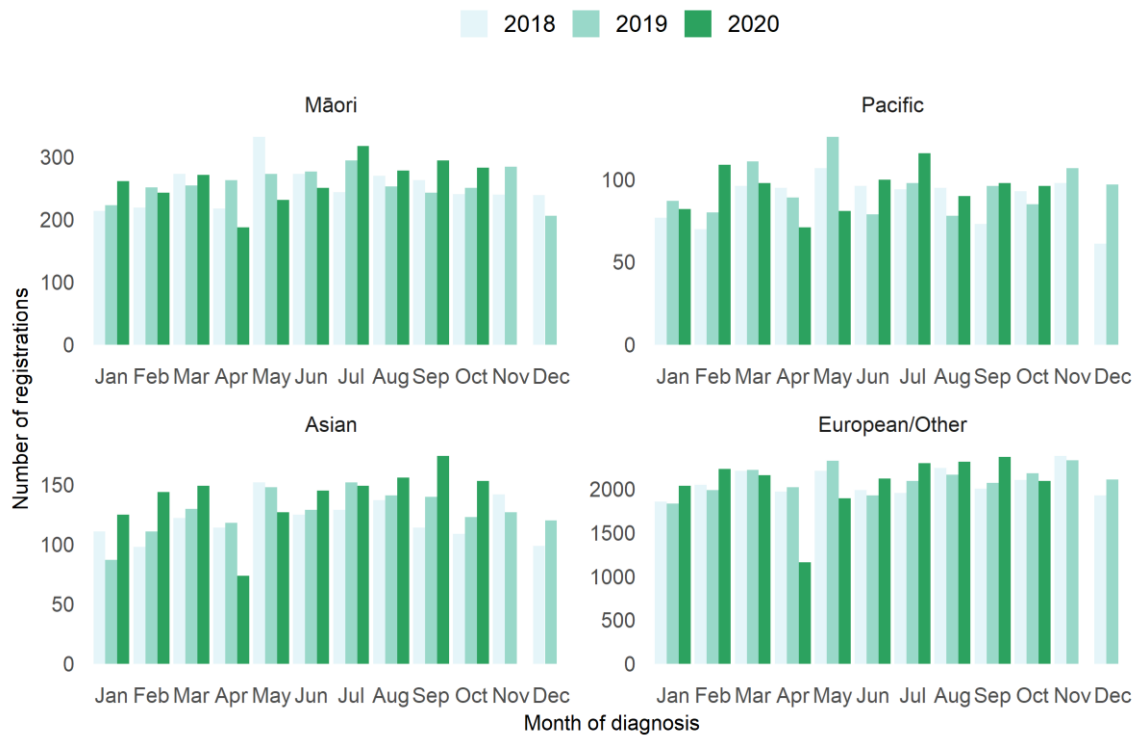


Figure 11: Cumulative number of cancer registrations by year, by ethnicity

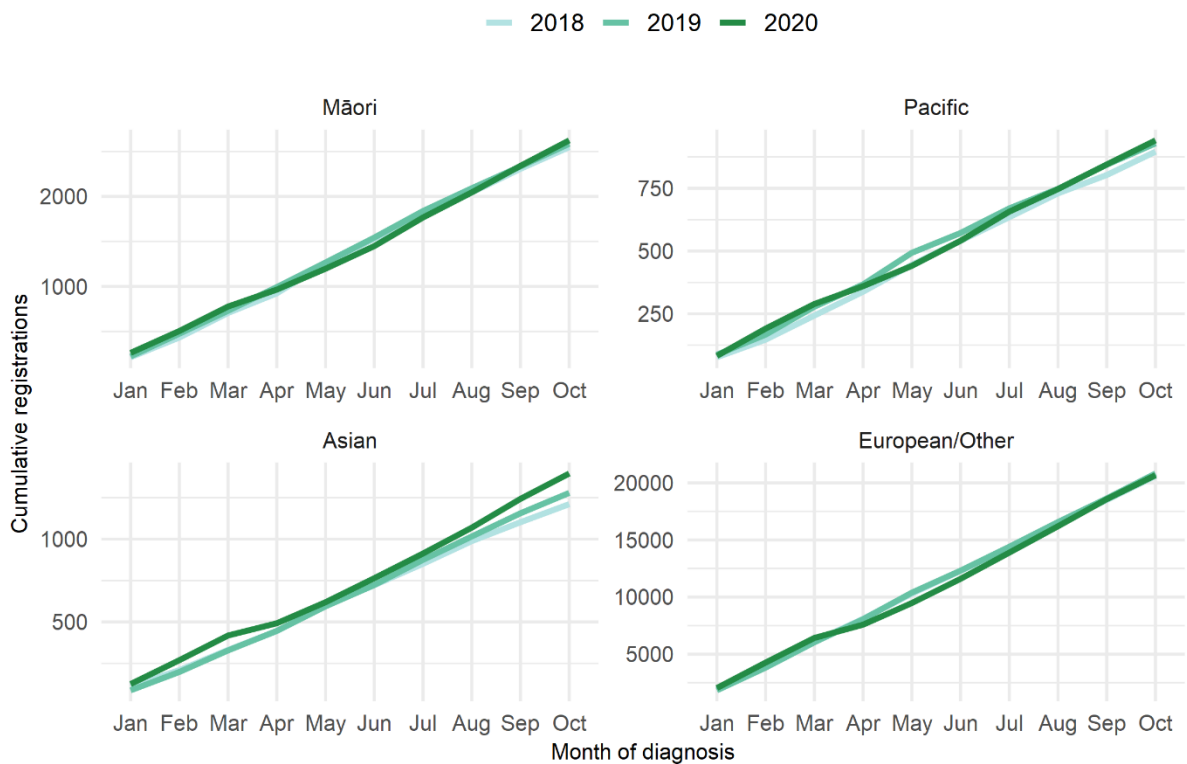


Table 6: Changes in cancer registration for most common cancers in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by cancer group

| Cancer Group | August 2020 | | September 2020 | | October 2020 | | Year to date* | |
|--------------------------------|-------------|-------|----------------|-------|--------------|-------|---------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| Breast | 35 | 10.1 | 75 | 20.9 | -16 | -3.9 | -127 | -3.6 |
| Cervix | -6 | -3 | 138 | 97.9 | 68 | 40.5 | 272 | 16.3 |
| Colorectal | 39 | 15.1 | 64 | 23.9 | -2 | -0.8 | 120 | 4.5 |
| Gynaecology | 3 | 2.8 | 5 | 5.1 | -2 | -2.3 | 40 | 4.1 |
| Haematology and lymphoid | 9 | 4.6 | 2 | 0.9 | -7 | -3.2 | -106 | -5.2 |
| Melanoma and non-melanoma skin | 89 | 14.6 | 53 | 9.3 | -86 | -13.8 | -229 | -3.8 |
| Other digestive system | 30 | 26.5 | 26 | 20.6 | 10 | 8.1 | 107 | 8.4 |
| Prostate | -49 | -12.6 | -39 | -10.3 | 8 | 2.5 | -304 | -9.2 |
| Respiratory and thorax | -30 | -17.9 | 34 | 25.2 | 8 | 5.6 | 26 | 1.8 |
| Urinary system | 17 | 14.8 | 21 | 16.8 | -1 | -0.8 | 88 | 7.3 |

*Note: this analysis uses provisional 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 12: Number of cancer registrations by month and year, by cancer group



Figure 13: Cumulative number of cancer registrations by year, by cancer group

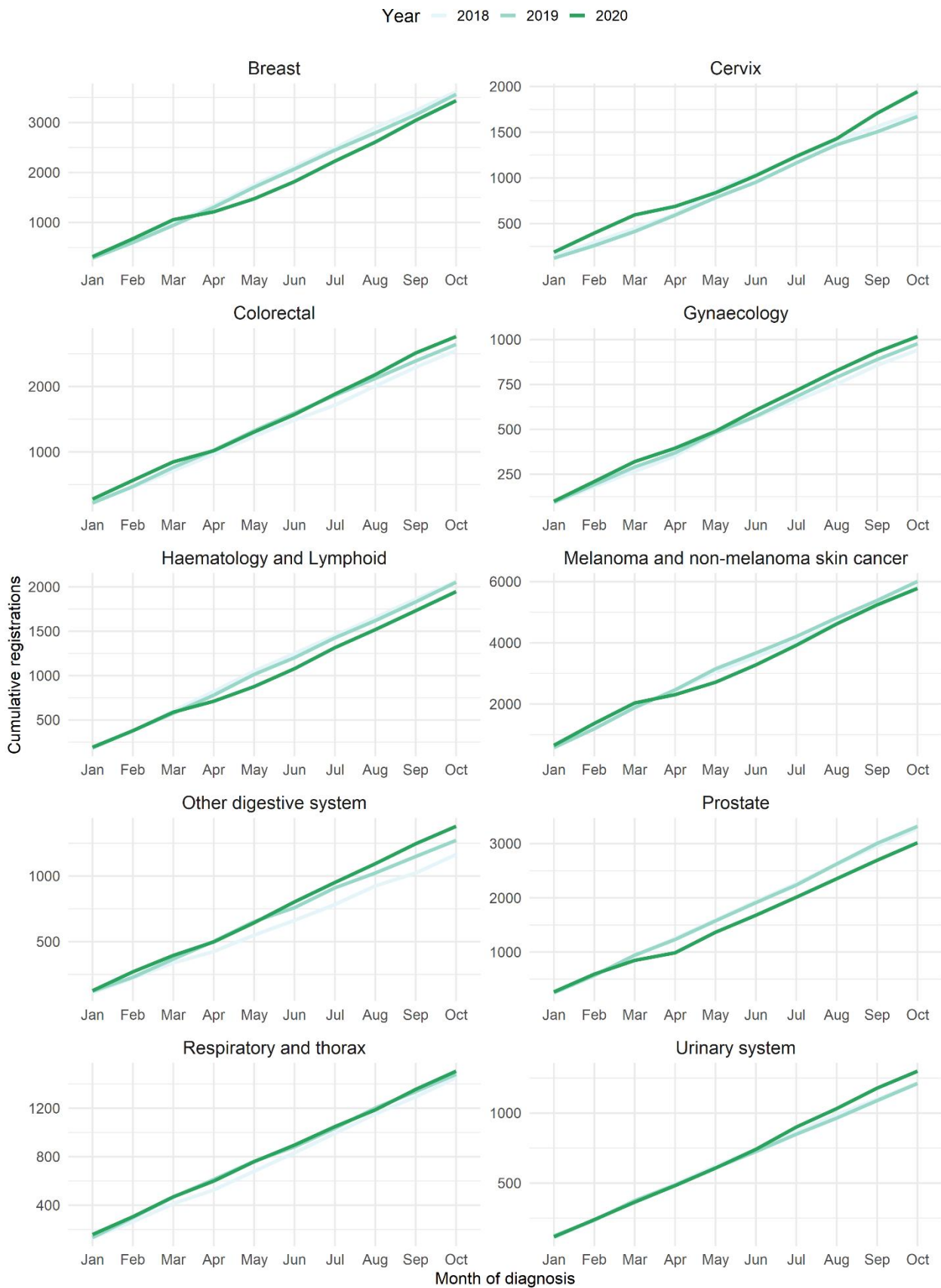


Table 7: Changes in cancer registration in 2020 compared to 2019 by month and for the year to date, absolute difference in number of cases and percentage change, by DHB of domicile (see Appendix 2 for graphs)

| DHB | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|--------------------|-------------|-------|----------------|------|--------------|-------|--------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| Northland | 33 | 29.5 | 37 | 37.4 | -10 | -7.6 | 51 | 4.5 |
| Waitemata | 30 | 8.3 | 28 | 8 | -18 | -5.6 | -1 | 0 |
| Auckland | 60 | 27.3 | 24 | 10.2 | 19 | 8.8 | 53 | 2.3 |
| Counties Manukau | -6 | -2.6 | 66 | 31.6 | -7 | -2.9 | 25 | 1.1 |
| Waikato | -3 | -1.3 | 65 | 31.4 | -3 | -1.4 | -7 | -0.3 |
| Bay of Plenty | -3 | -1.7 | 37 | 28.7 | 5 | 3.3 | 5 | 0.3 |
| Tairāwhiti | -6 | -21.4 | 13 | 43.3 | 14 | 66.7 | 14 | 5.2 |
| Lakes | 4 | 6.7 | 8 | 13.8 | -8 | -13.3 | -18 | -2.9 |
| Taranaki | -13 | -15.7 | 10 | 12 | 19 | 25 | 3 | 0.4 |
| Hawke's Bay | -7 | -6.9 | 21 | 21 | 0 | 0 | -71 | -7 |
| Whanganui | 13 | 33.3 | 14 | 35 | 15 | 38.5 | 66 | 14.5 |
| MidCentral | 2 | 1.6 | 24 | 22.2 | -27 | -19.4 | 54 | 5 |
| Capital & Coast | 20 | 14.4 | 41 | 28.3 | 28 | 20.9 | 34 | 2.5 |
| Hutt Valley | 29 | 39.7 | 4 | 5.5 | 5 | 6.4 | 28 | 3.7 |
| Wairarapa | 15 | 51.7 | 12 | 50 | -21 | -47.7 | 28 | 10.3 |
| Nelson Marlborough | -14 | -13.7 | 3 | 2.8 | -38 | -28.4 | -57 | -5.4 |
| West Coast | 3 | 16.7 | 9 | 64.3 | -2 | -8.3 | -8 | -4 |
| Canterbury | 18 | 6.3 | -16 | -5 | 5 | 1.7 | -65 | -2.2 |
| South Canterbury | -2 | -5.4 | -13 | -31 | 0 | 0 | -22 | -5.9 |
| Southern | 28 | 13.6 | 58 | 29.9 | 22 | 10.9 | -9 | -0.4 |

Key points

- For the year to date (up until the end of October 2020) there have been 104 more cancer registrations than during the same time period in 2019, a 0.4% increase. The cumulative number of cancer registrations in 2020 surpassed the number of registrations in 2019 in September.
- The increase in cancer registrations is similar for Māori (1.5%) and Pacific (1.3%) and, as seen in previous months, remains higher for the Asian ethnic group (9.1%). There remains a small (0.7%) decrease in new cancer registrations for European/other.
- The overall impact of COVID-19 on registrations for the year to date has been most marked for prostate, haematology/lymphoid and melanoma – all have seen a 4-9% decrease.

Gastrointestinal endoscopy

Notes on data

- Gastrointestinal endoscopy data were extracted from National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) on 28 November 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 8: Absolute number and percentage change in colonoscopy and gastroscopy in 2020 compared to 2019 by month, and cumulative year to date

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-----------------------|-------------|-----|----------------|-----|--------------|-----|--------------|-----|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 26 | 4% | 143 | 22% | 135 | 21% | 306 | 5% |
| Pacific peoples | -4 | -2% | 21 | 9% | 41 | 18% | 286 | 13% |
| Non-Māori/Non-Pacific | 277 | 4% | 437 | 7% | 368 | 6% | -592 | -1% |
| Total Population | 299 | 4% | 601 | 9% | 544 | 8% | 0 | 0% |

Figure 14: Number of gastrointestinal endoscopy procedures by month and year, for the total population (left) and for Māori (right)

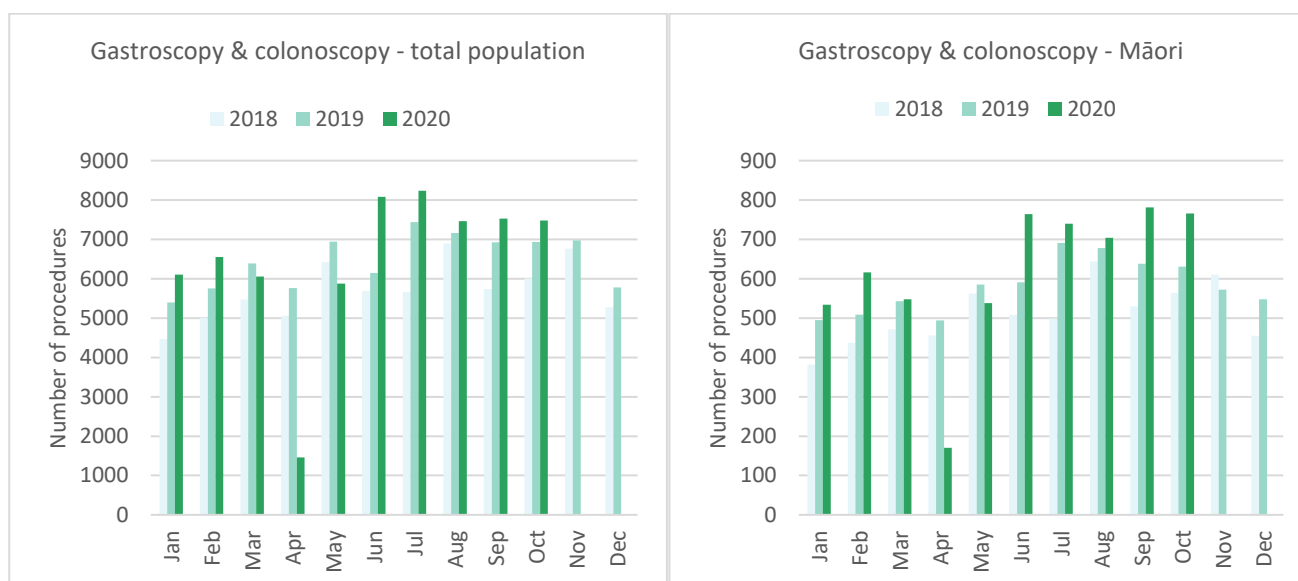
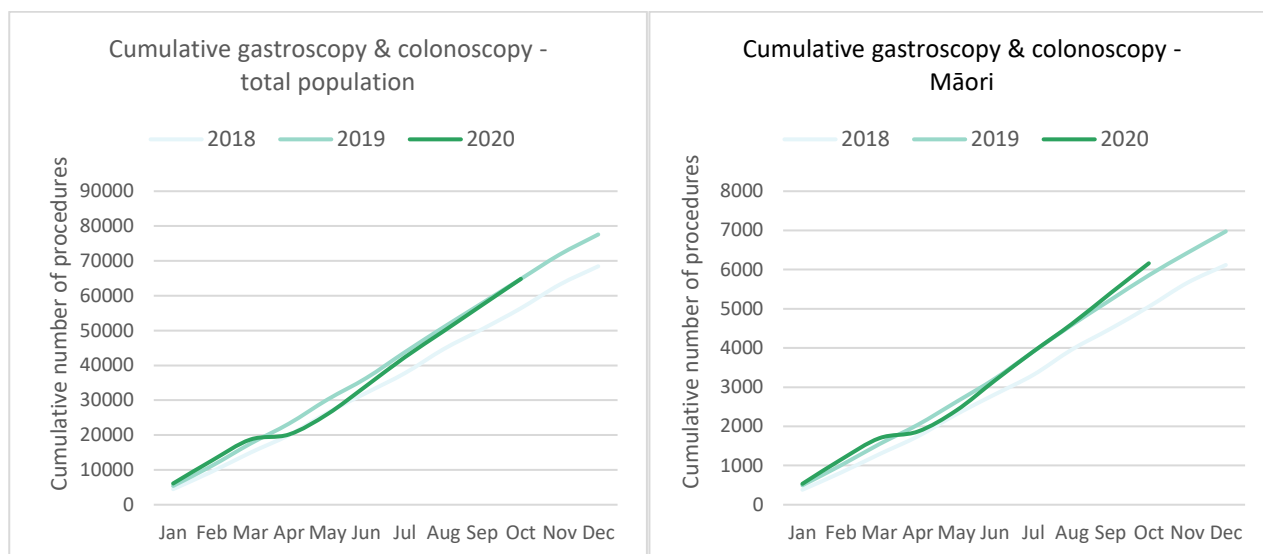


Figure 15: Cumulative number of gastrointestinal endoscopy procedures by year, for the total population (left) and for Māori (right)



Key points

- There has now been the same number of gastrointestinal endoscopies performed in 2020 compared to 2019. Given that at the end of May 2020 there were nearly 6000 (18%) fewer endoscopies performed than in 2019, this represents significant efforts to provide additional endoscopy services, including DHBs running longer clinics and weekend clinics.
- There has been a 5% increase in the number of endoscopies for Māori and a 13% increase for Pacific peoples in 2020 compared to 2019.

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.
- Note: lung cancer surgery data has been included under the lung cancer snapshot (see page 7).
- The data was extracted from the National Minimum Dataset on 28 November 2020.

Results

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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-------------------------|-------------|-----------|----------------|-----------|--------------|------------|--------------|-----------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 7 | 29% | 0 | 0% | 11 | 32% | 68 | 21% |
| Pacific peoples | | | | | | | -23 | -21% |
| Non-Māori/Non-Pacific | 24 | 8% | 5 | 2% | 30 | 11% | 8 | 0% |
| Total Population | 29 | 8% | 6 | 2% | 39 | 12% | 53 | 2% |

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

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

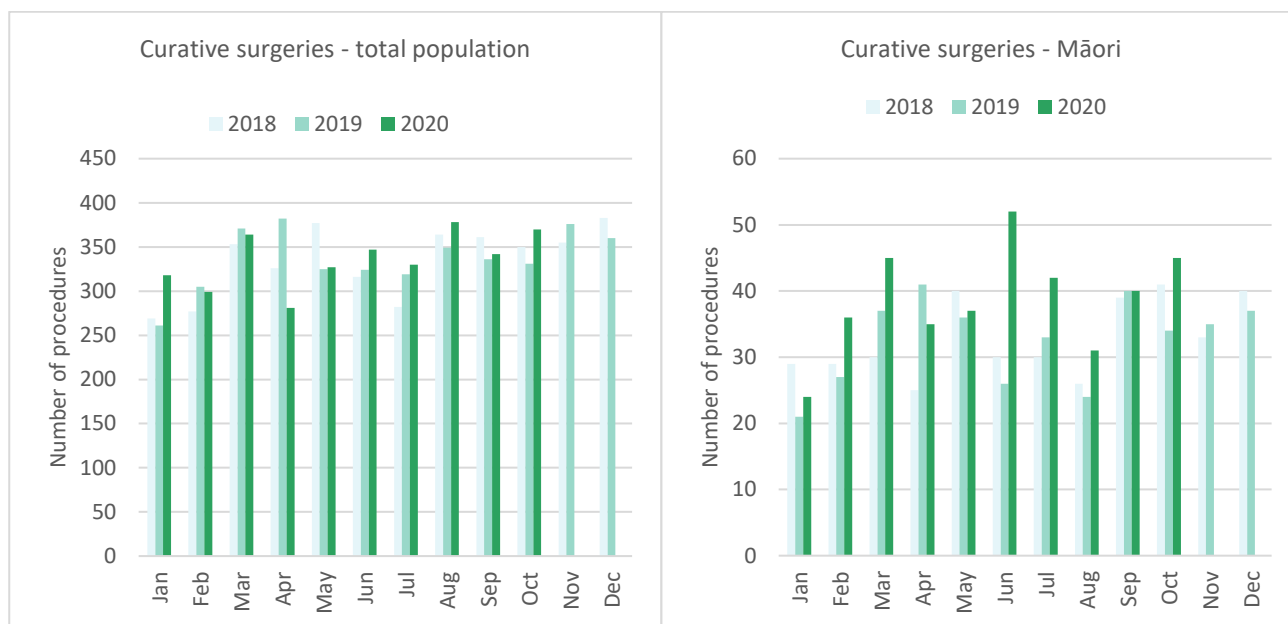
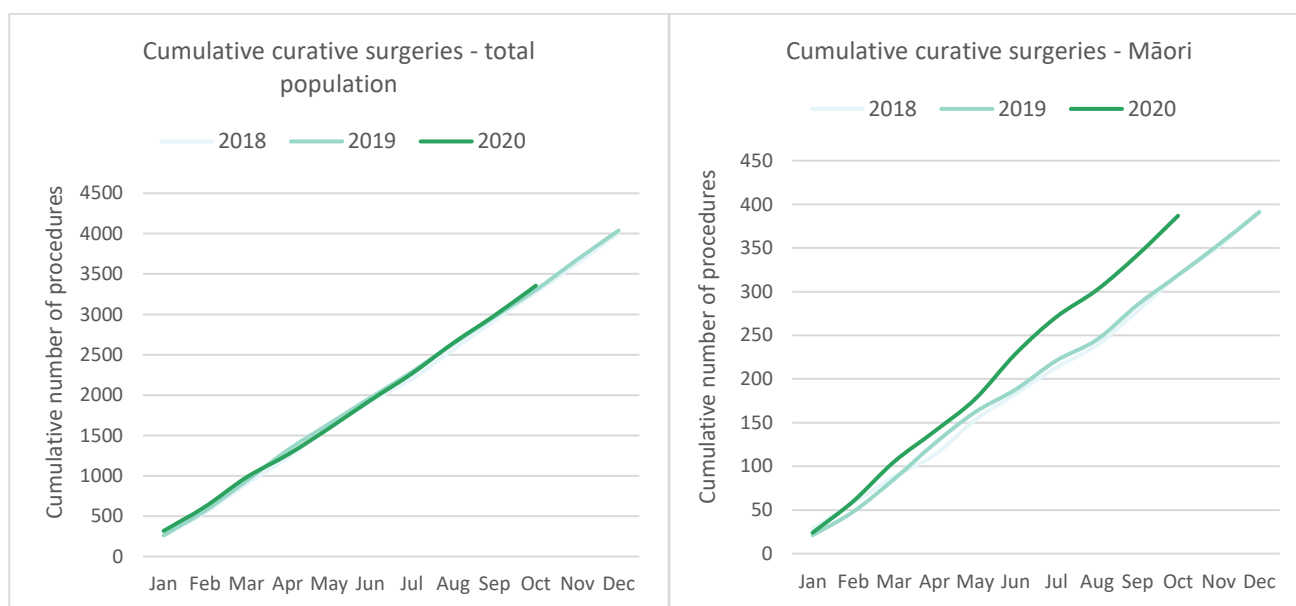


Figure 17: Cumulative number of curative cancer surgeries (colorectal, lung, prostate) by year, for the total population (left) and for Māori (right)



Key points

- Overall, the impact of COVID-19 on cancer surgery volumes has been minimal, with 2% more surgeries performed in the first ten months of 2020 compared to the first ten months of 2019. There has been an 21% increase in surgery for Māori in 2020 compared to 2019.
- There has been a 21% decrease in surgeries for Pacific peoples, noting that this represents small numbers (23 fewer surgeries over ten months).

Colorectal 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 November 2020.

Results

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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-----------------------|-------------|-----|----------------|-----|--------------|-----|--------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 2 | 17% | 2 | 10% | 4 | 24% | 65 | 40% |
| Pacific peoples | -2 | | -1 | | 3 | | -17 | -27% |
| Non-Māori/Non-Pacific | 28 | 14% | 13 | 7% | 34 | 20% | -32 | -2% |
| Total Population | 28 | 13% | 14 | 7% | 41 | 21% | 16 | 1% |

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

Figure 18: Number of curative colorectal cancer surgeries by month and year, for the total population (left) and for Māori (right)

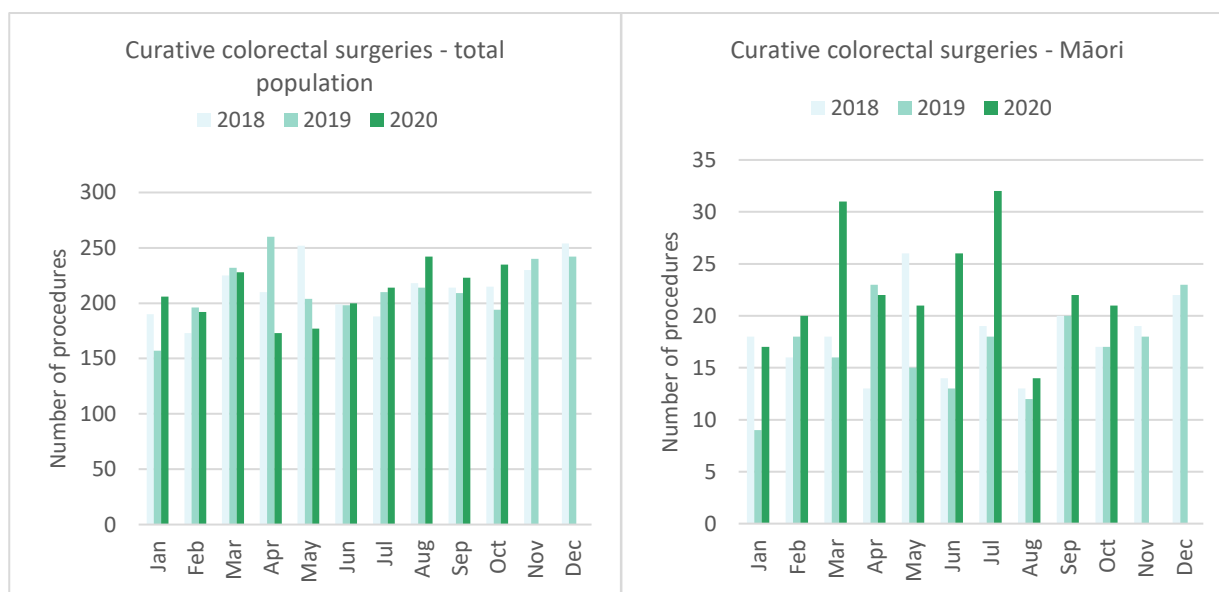
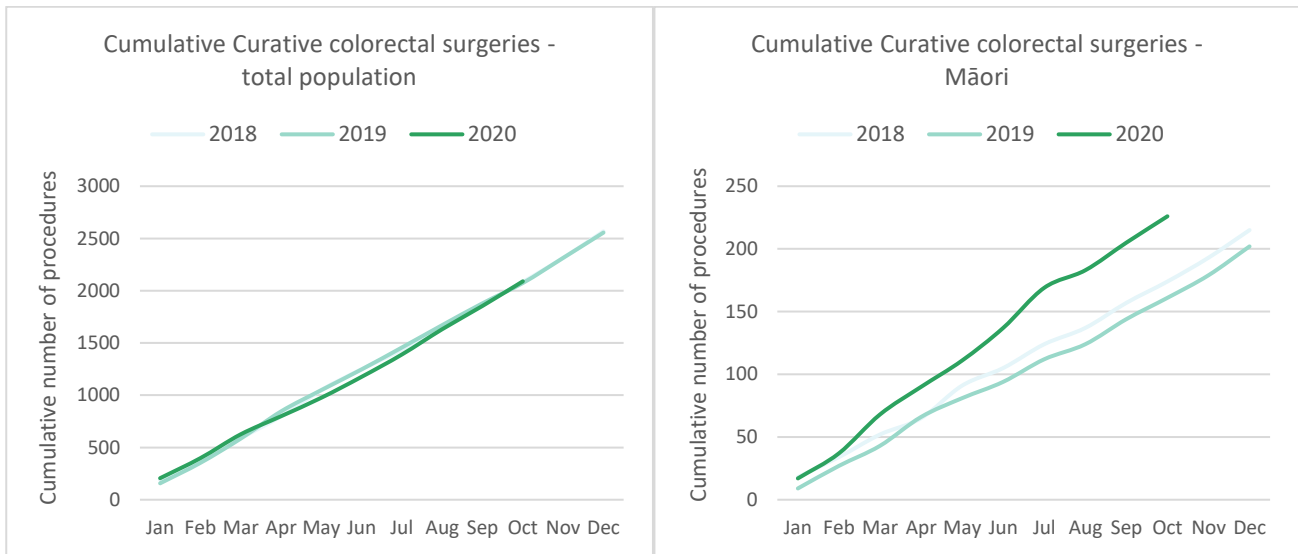


Figure 19: Cumulative number of curative colorectal cancer surgeries by year, for the total population (left) and for Māori (right)



Key points

- There has been a 1% increase in curative colorectal cancer surgeries in 2020 compared to 2019. This includes a 40% increase in surgeries for Māori in the first ten months of 2020 compared to the first ten months of 2019.

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 November 2020.
- The number of curative prostate cancer surgeries performed each month is relatively small, so caution is needed when comparing data by month.

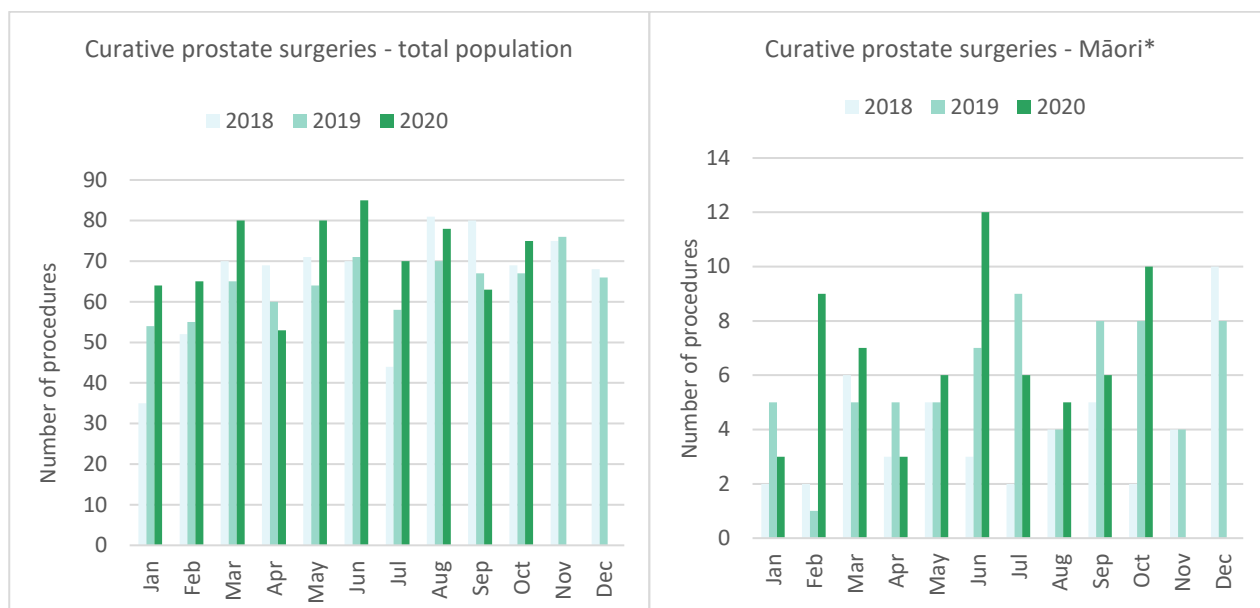
Results

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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|------------------|-------------|-----|----------------|-----|--------------|-----|--------------|-----|
| | Number | % | Number | % | Number | % | Number | % |
| Total Population | 8 | 11% | -4 | -6% | 8 | 12% | 82 | 13% |

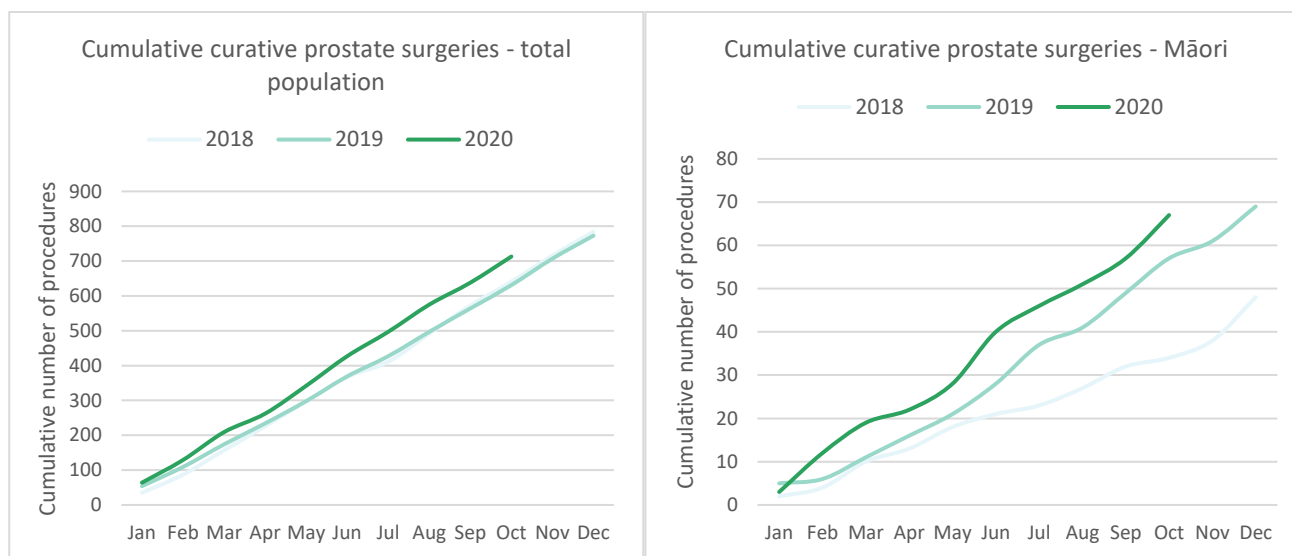
*Due to the small number of surgeries performed each month calculations have only been included for the total population

Figure 20: 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 21: 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 13% increase in prostate cancer surgeries compared to 2019.
 - This is unexpected, given the 9.2% decrease in new diagnoses of prostate cancer in 2020.

Medical oncology

Notes on data

- Data were extracted from National Non-admitted Patient Collection (outpatient collection) on 28 November 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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-----------------------|-------------|------|----------------|------|--------------|-----|--------------|-----|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | -20 | -14% | -13 | -11% | 16 | 16% | -34 | -3% |
| Pacific peoples | 8 | 20% | 11 | 33% | 0 | 0% | 53 | 15% |
| Non-Māori/Non-Pacific | -38 | -6% | -21 | -3% | 23 | 4% | 43 | 1% |
| Total Population | -50 | -6% | -23 | -3% | 39 | 6% | 62 | 1% |

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

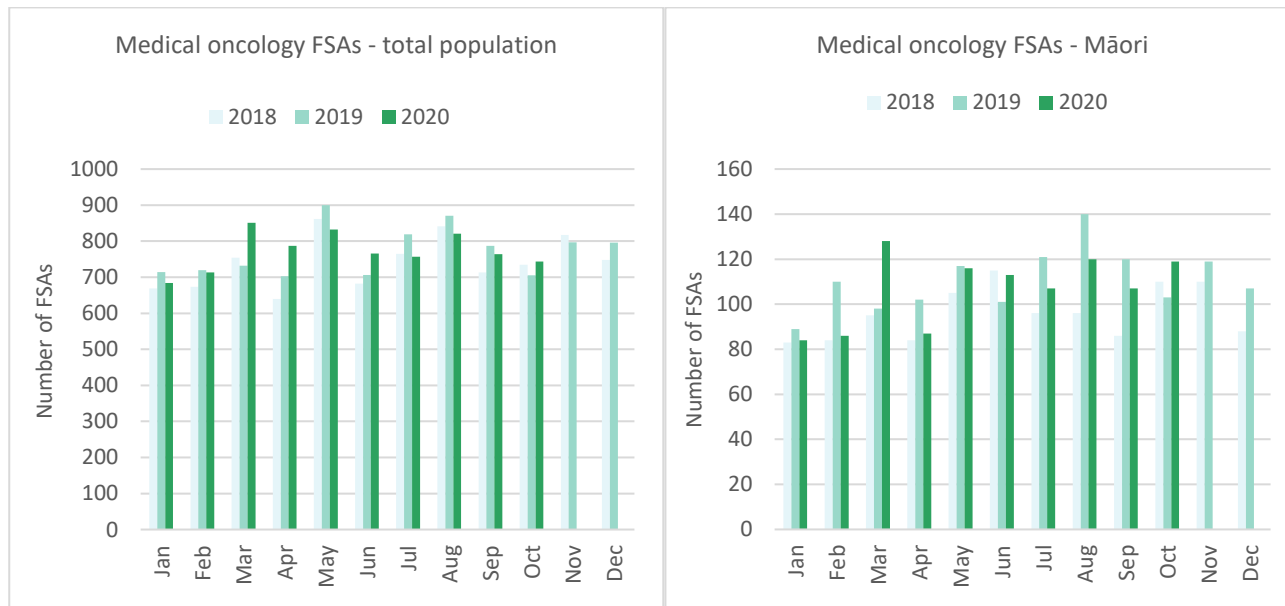


Figure 23: Cumulative number of medical oncology first specialist assessments by year, for the total population (left) and for Māori (right)

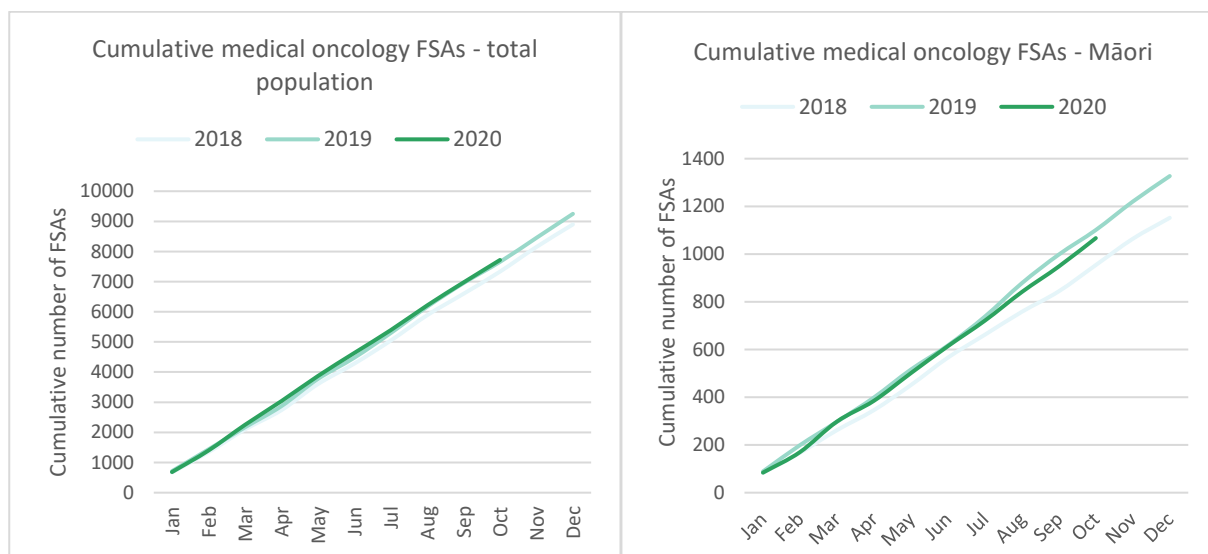


Table 13: Absolute number and percentage change in IV chemotherapy attendances in 2020 compared to 2019 by month, and cumulative year to date

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-------------------------|-------------|------------|----------------|-----------|--------------|-------------|--------------|-----------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 20 | 2% | 29 | 3% | -164 | -19% | 717 | 9% |
| Pacific peoples | -1 | 0% | 7 | 2% | -54 | -16% | 7 | 0% |
| Non-Māori/Non-Pacific | -189 | -3% | 135 | 3% | -882 | -16% | -489 | -1% |
| Total Population | -170 | -3% | 171 | 3% | -1100 | -16% | 235 | 0% |

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

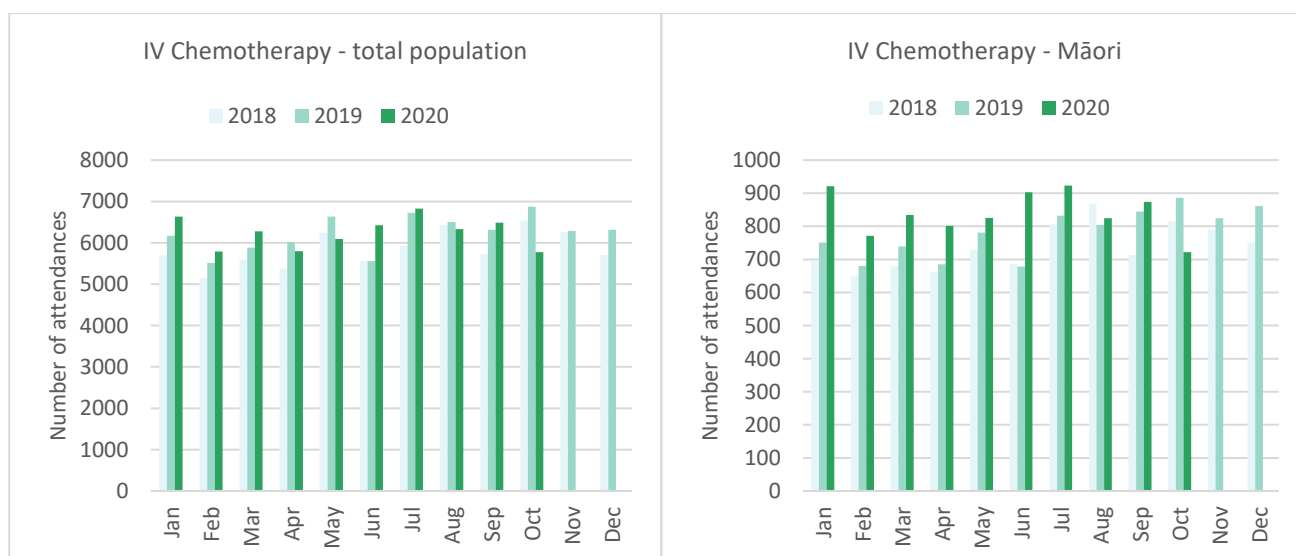
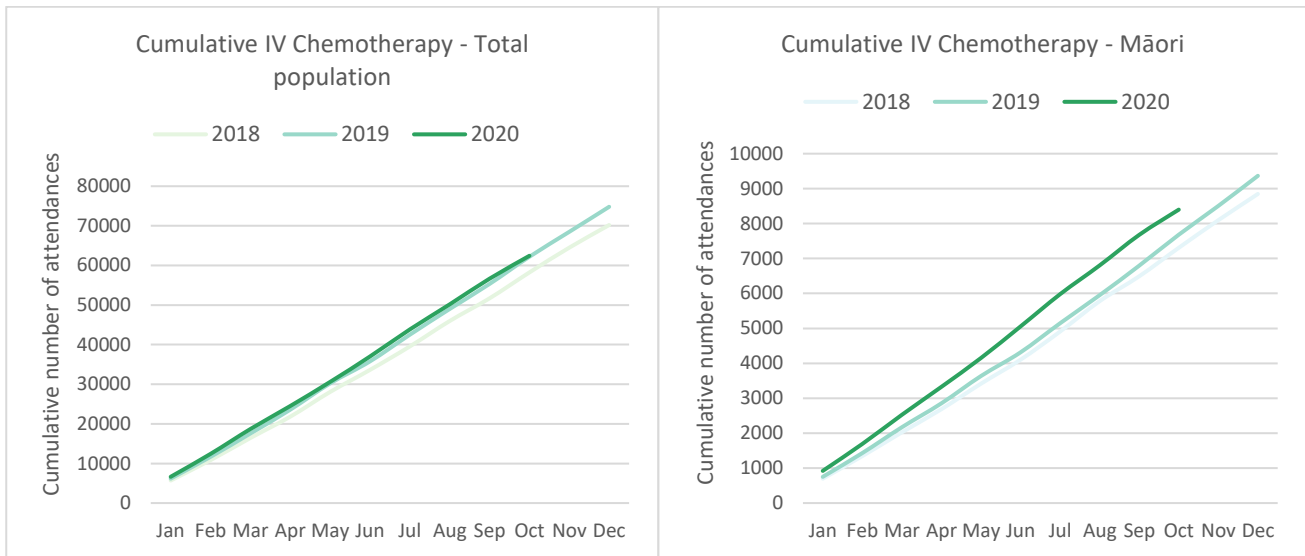


Figure 25: Cumulative number of attendances for IV chemotherapy by year, for the total population (left) and for Māori (right)



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

- Data were extracted from the National Non-admitted Patient Collection on 28 November 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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-----------------------|-------------|------|----------------|-----|--------------|------|--------------|------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | -31 | -22% | 3 | 2% | -26 | -18% | 18 | 1% |
| Pacific peoples | -6 | -12% | 8 | 22% | -14 | -26% | -46 | -10% |
| Non-Māori/Non-Pacific | -17 | -2% | 63 | 8% | -120 | -14% | -105 | -1% |
| Total Population | -54 | -5% | 74 | 7% | -160 | -15% | -133 | -1% |

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

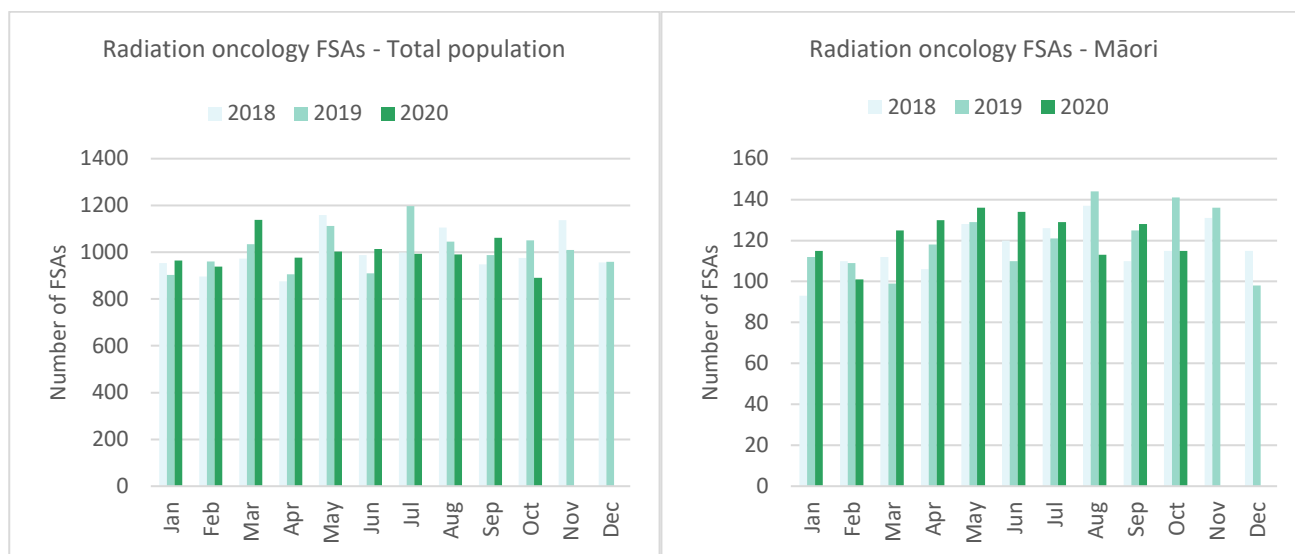


Figure 27: Cumulative number of radiation oncology first specialist assessments by month and year, total population (left) and for Māori (right)

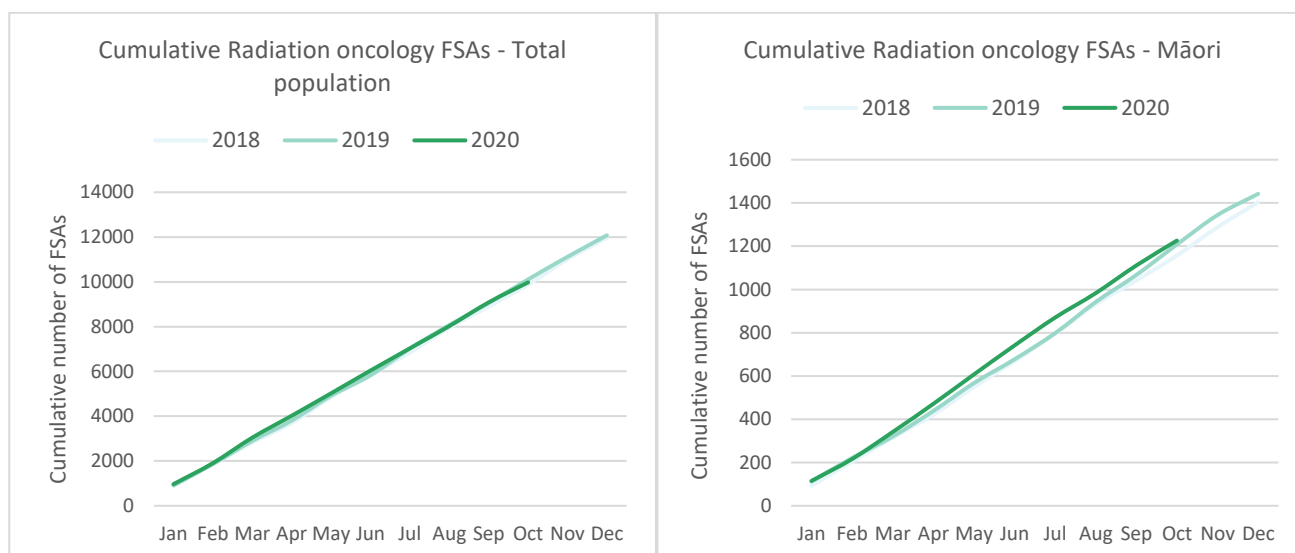


Table 15: Absolute number and percentage change in radiation therapy attendances in 2020 compared to 2019 by month, and cumulative year to date

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-------------------------|--------------|-------------|----------------|------------|--------------|-------------|---------------|------------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 117 | 7% | -58 | -3% | -462 | -24% | -1211 | -7% |
| Pacific peoples | -27 | -5% | 77 | 13% | -145 | -21% | -65 | -1% |
| Non-Māori/Non-Pacific | -1548 | -14% | -435 | -4% | -1692 | -15% | -8999 | -8% |
| Total Population | -1458 | -11% | -416 | -3% | -2299 | -17% | -10275 | -8% |

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

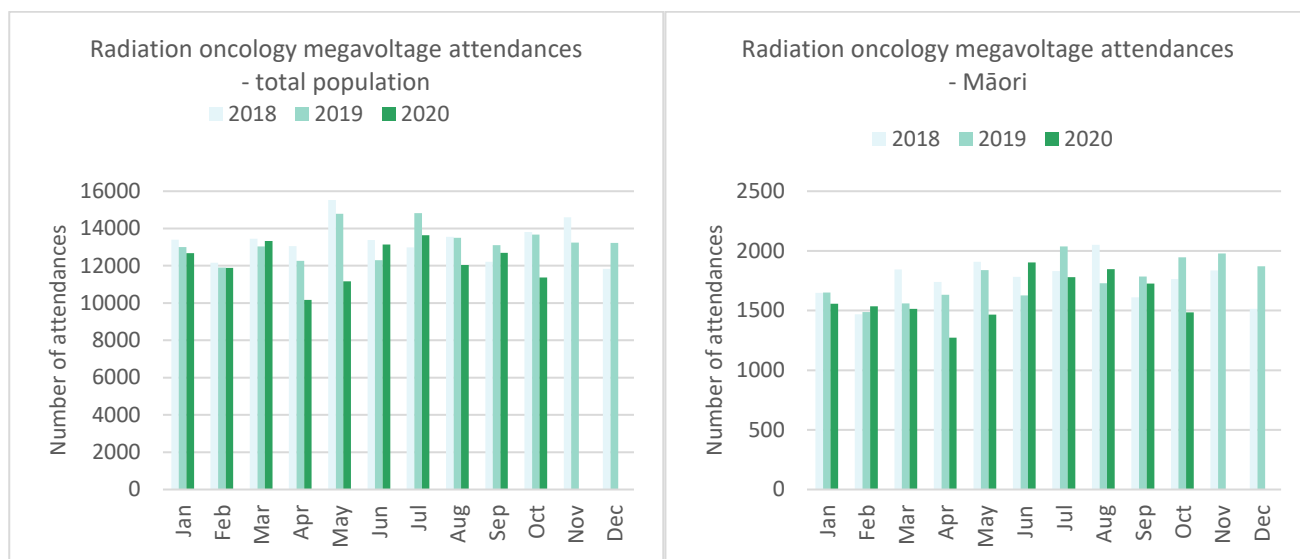
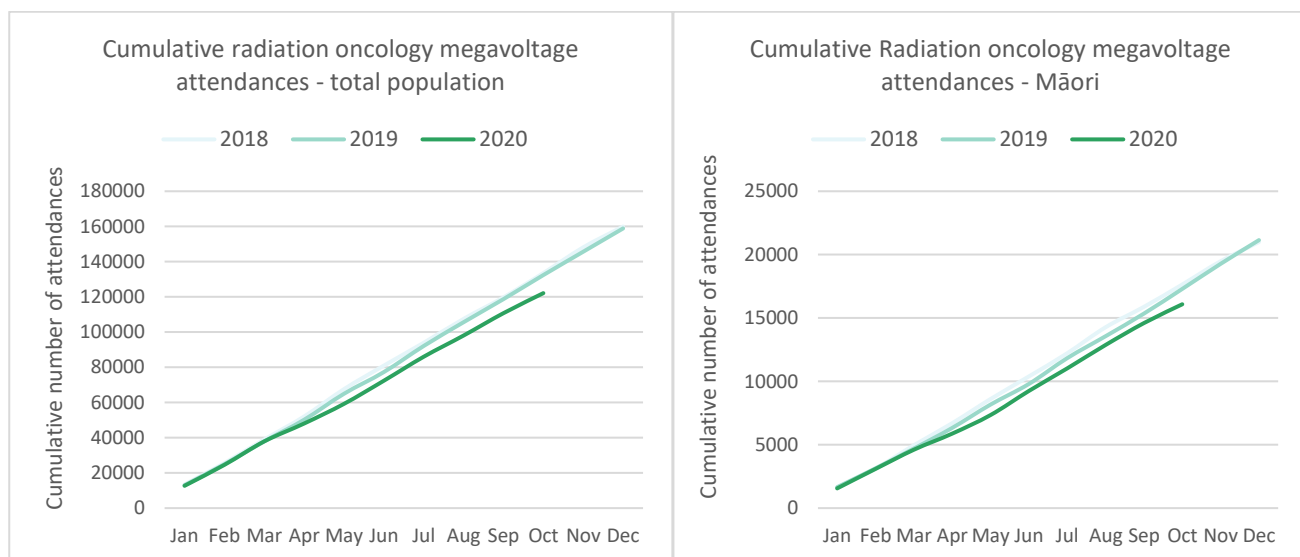


Figure 29: Cumulative number of attendances for radiation therapy by month and year, total population (left) and for Māori (right)



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 an 8% decrease in attendances for radiation therapy. This is similar for Māori (7%) and non-Māori/non-Pacific (8%). This may, in part, be the result of national hypofractionation guidance, and as such the number of attendances in 2020 may never reach the number of attendances in 2019.

Haematology

Notes on data

- Data were extracted from the National Non-admitted Patient Collection (outpatient) and National Minimum Dataset (inpatient) 28 November 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

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-----------------------|-------------|-----|----------------|-----|--------------|------|--------------|-----|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | 10 | 18% | 19 | 33% | 12 | 21% | 26 | 4% |
| Pacific peoples | 14 | 64% | 5 | 19% | -7 | -23% | 15 | 6% |
| Non-Māori/Non-Pacific | -13 | -3% | 48 | 11% | 29 | 6% | -212 | -5% |
| Total Population | 11 | 2% | 72 | 14% | 34 | 6% | -171 | -3% |

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

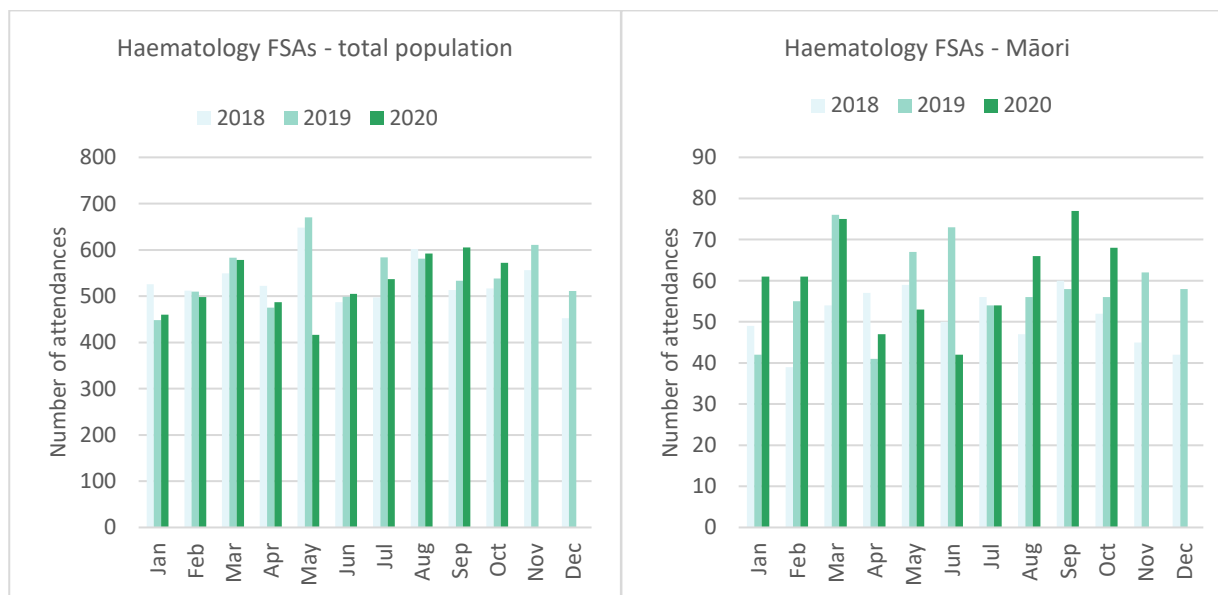


Figure 31: Cumulative number of haematology first specialist assessments by month and year, total population (left) and for Māori (right)

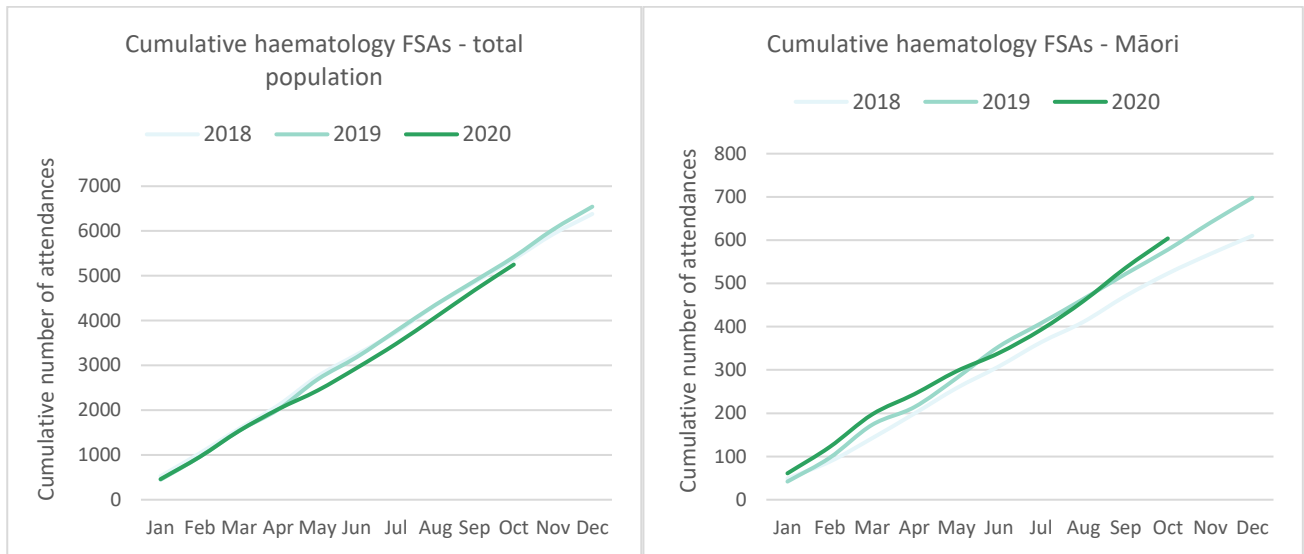


Table 17: Absolute number and percentage change in IV chemotherapy attendances for haematological malignancies in 2020 compared to 2019 by month, and cumulative year to date

| | August 2020 | | September 2020 | | October 2020 | | Year to date | |
|-------------------------|-------------|------------|----------------|------------|--------------|------------|--------------|-----------|
| | Number | % | Number | % | Number | % | Number | % |
| Māori | -41 | -16% | 12 | 5% | -31 | -13% | -69 | -3% |
| Pacific peoples | 66 | 65% | 71 | 86% | 96 | 113% | 424 | 49% |
| Non-Māori/Non-Pacific | -152 | -8% | 237 | 13% | -139 | -7% | 436 | 3% |
| Total Population | -127 | -6% | 320 | 15% | -74 | -3% | 791 | 4% |

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

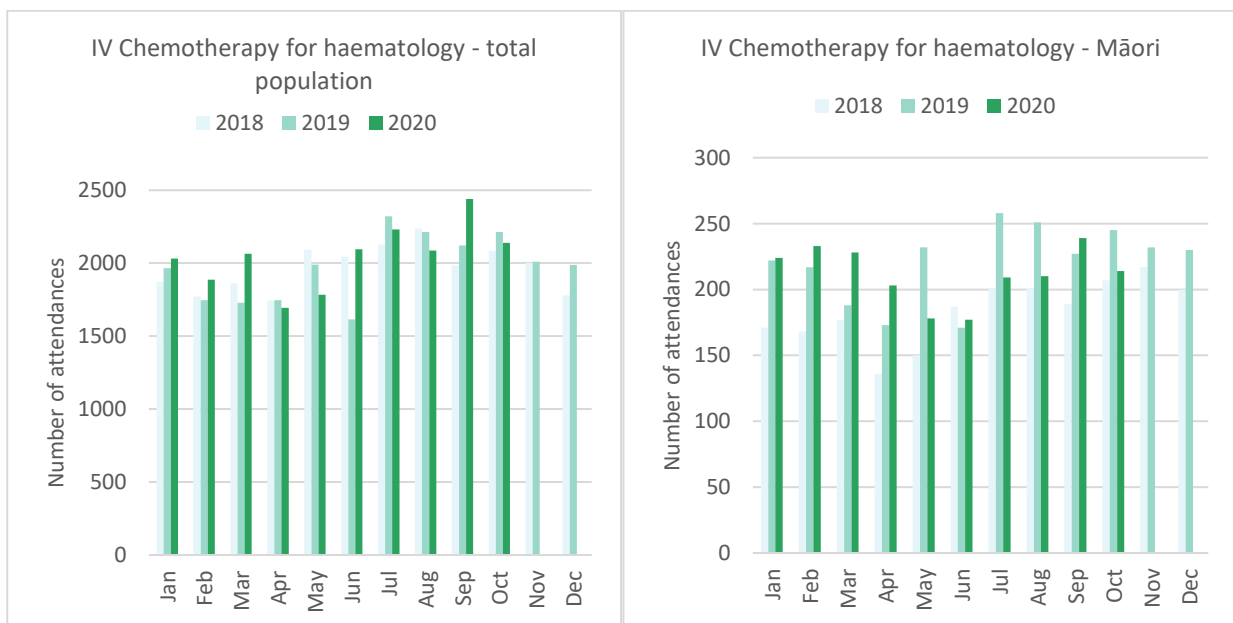
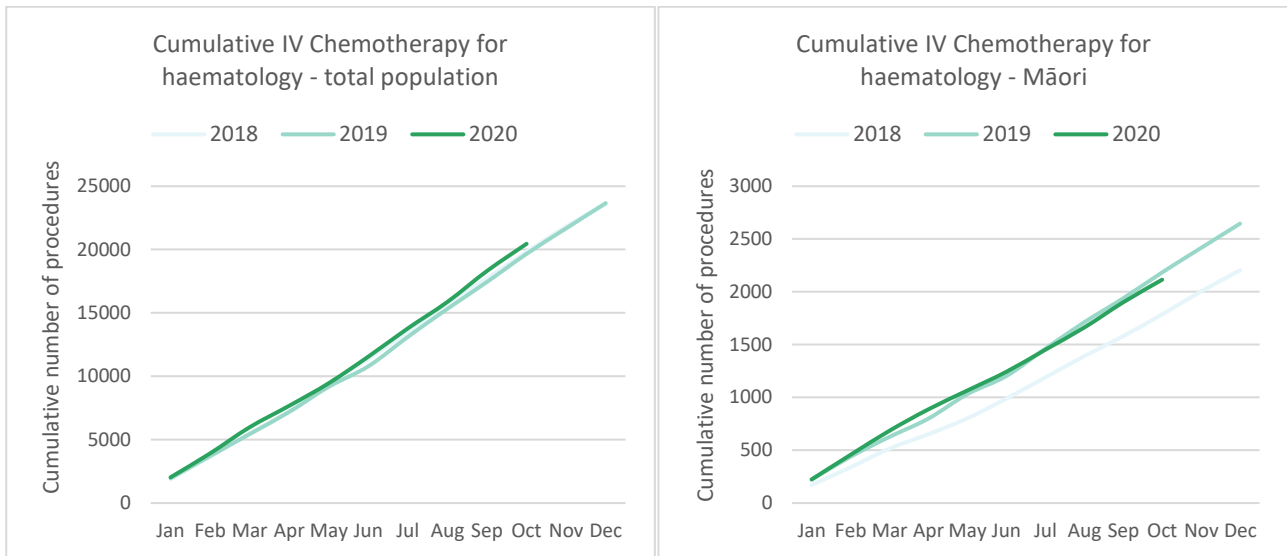


Figure 33: Cumulative number of attendances for IV chemotherapy for haematological malignancies by month and year, total population (left) and for Māori (right)



Key points

- Overall, for the year to date there has been a 3% 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 the number of FSAs in 2020 may never reach the number of FSAs in 2019.
- For the year to date there has been a 4% 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.

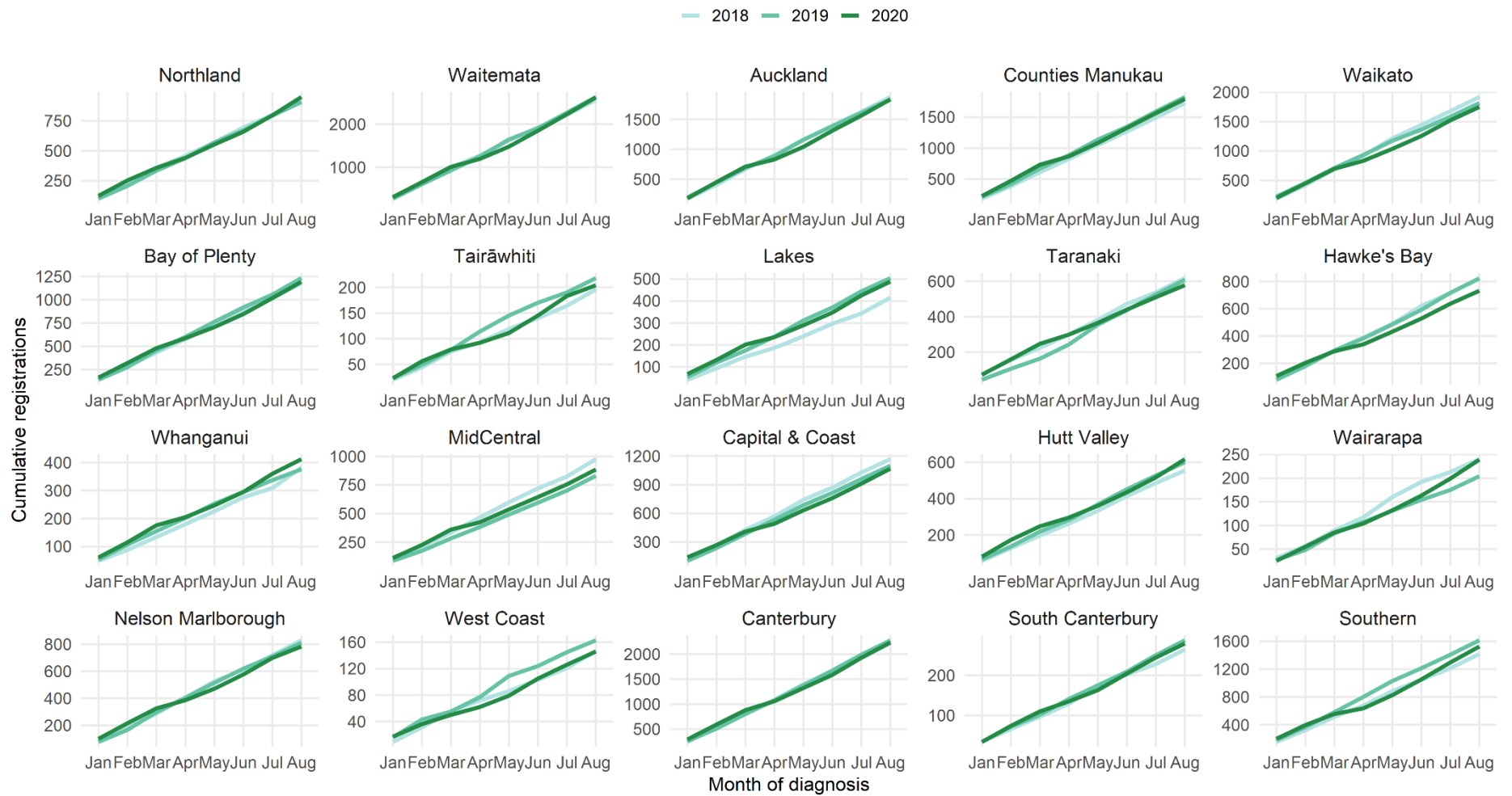
Pathology reports as a data source for providing near real time monitoring cancer diagnoses

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 Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 1143 | 1137 | 1188 | 51 | 4.5 | 258 | 208 | 247 | 39 | 18.8 | 866 | 901 | 917 | 16 | 1.8 |
| Waitemata | 3196 | 3301 | 3300 | -1 | 0 | 161 | 186 | 206 | 20 | 10.8 | 2610 | 2672 | 2569 | -103 | -3.9 |
| Auckland | 2337 | 2280 | 2333 | 53 | 2.3 | 117 | 123 | 114 | -9 | -7.3 | 1739 | 1630 | 1678 | 48 | 2.9 |
| Counties Manukau | 2167 | 2277 | 2302 | 25 | 1.1 | 237 | 267 | 307 | 40 | 15 | 1326 | 1329 | 1327 | -2 | -0.2 |
| Waikato | 2413 | 2242 | 2235 | -7 | -0.3 | 356 | 327 | 302 | -25 | -7.6 | 1938 | 1810 | 1796 | -14 | -0.8 |
| Bay of Plenty | 1469 | 1515 | 1520 | 5 | 0.3 | 219 | 241 | 229 | -12 | -5 | 1222 | 1234 | 1254 | 20 | 1.6 |
| Tairāwhiti | 244 | 269 | 283 | 14 | 5.2 | 80 | 91 | 104 | 13 | 14.3 | 162 | 172 | 171 | -1 | -0.6 |
| Lakes | 511 | 623 | 605 | -18 | -2.9 | 119 | 146 | 159 | 13 | 8.9 | 368 | 444 | 417 | -27 | -6.1 |
| Taranaki | 766 | 766 | 769 | 3 | 0.4 | 81 | 73 | 77 | 4 | 5.5 | 667 | 684 | 670 | -14 | -2 |
| Hawke's Bay | 1012 | 1011 | 940 | -71 | -7 | 157 | 165 | 150 | -15 | -9.1 | 817 | 807 | 753 | -54 | -6.7 |
| Whanganui | 476 | 455 | 521 | 66 | 14.5 | 71 | 78 | 68 | -10 | -12.8 | 397 | 364 | 436 | 72 | 19.8 |
| MidCentral | 1170 | 1077 | 1131 | 54 | 5 | 127 | 99 | 118 | 19 | 19.2 | 993 | 934 | 954 | 20 | 2.1 |
| Capital & Coast | 1447 | 1378 | 1412 | 34 | 2.5 | 104 | 109 | 117 | 8 | 7.3 | 1161 | 1115 | 1123 | 8 | 0.7 |
| Hutt Valley | 742 | 752 | 780 | 28 | 3.7 | 92 | 105 | 80 | -25 | -23.8 | 585 | 567 | 622 | 55 | 9.7 |
| Wairarapa | 295 | 272 | 300 | 28 | 10.3 | 31 | 21 | 32 | 11 | 52.4 | 257 | 244 | 257 | 13 | 5.3 |
| Nelson Marlborough | 1006 | 1050 | 993 | -57 | -5.4 | 54 | 50 | 41 | -9 | -18 | 926 | 967 | 918 | -49 | -5.1 |
| West Coast | 182 | 200 | 192 | -8 | -4 | 20 | 15 | 11 | -4 | -26.7 | 161 | 180 | 179 | -1 | -0.6 |
| Canterbury | 2753 | 2892 | 2827 | -65 | -2.2 | 160 | 149 | 145 | -4 | -2.7 | 2411 | 2578 | 2486 | -92 | -3.6 |
| South Canterbury | 342 | 374 | 352 | -22 | -5.9 | 17 | 18 | 13 | -5 | -27.8 | 312 | 352 | 328 | -24 | -6.8 |
| Southern | 1821 | 2010 | 2001 | -9 | -0.4 | 87 | 114 | 103 | -11 | -9.6 | 1683 | 1833 | 1811 | -22 | -1.2 |

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 Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 3157 | 3271 | 3099 | -172 | -5% | 534 | 641 | 587 | -54 | -8% | 2605 | 2602 | 2485 | -117 | -4% |
| Waitemata | 7162 | 8184 | 8025 | -159 | -2% | 400 | 481 | 448 | -33 | -7% | 6513 | 7449 | 7226 | -223 | -3% |
| Auckland | 5112 | 5314 | 5031 | -283 | -5% | 284 | 256 | 301 | 45 | 18% | 4479 | 4697 | 4335 | -362 | -8% |
| Counties Manukau | 7344 | 7966 | 8038 | 72 | 1% | 723 | 769 | 816 | 47 | 6% | 5743 | 6165 | 6106 | -59 | -1% |
| Waikato | 4350 | 5490 | 5615 | 125 | 2% | 526 | 663 | 655 | -8 | -1% | 3759 | 4764 | 4884 | 120 | 3% |
| Bay of Plenty | 4130 | 4112 | 4284 | 172 | 4% | 477 | 520 | 574 | 54 | 10% | 3632 | 3573 | 3694 | 121 | 3% |
| Lakes | 1639 | 1649 | 1613 | -36 | -2% | 293 | 306 | 323 | 17 | 6% | 1322 | 1319 | 1263 | -56 | -4% |
| Tairāwhiti | 567 | 709 | 621 | -88 | -12% | 160 | 210 | 186 | -24 | -11% | 404 | 493 | 426 | -67 | -14% |
| Taranaki | 1631 | 1545 | 1777 | 232 | 15% | 159 | 161 | 153 | -8 | -5% | 1463 | 1377 | 1610 | 233 | 17% |
| Whanganui | 714 | 564 | 1105 | 541 | 96% | 108 | 74 | 162 | 88 | 119% | 605 | 482 | 934 | 452 | 94% |
| Hawke's Bay | 2038 | 2491 | 2543 | 52 | 2% | 233 | 315 | 358 | 43 | 14% | 1783 | 2145 | 2146 | 1 | 0% |
| MidCentral | 1754 | 1924 | 1912 | -12 | -1% | 128 | 147 | 169 | 22 | 15% | 1608 | 1760 | 1718 | -42 | -2% |
| Capital & Coast | 2419 | 2290 | 2787 | 497 | 22% | 189 | 142 | 223 | 81 | 57% | 2138 | 2048 | 2466 | 418 | 20% |
| Hutt Valley | 1938 | 2478 | 2777 | 299 | 12% | 178 | 195 | 290 | 95 | 49% | 1683 | 2206 | 2387 | 181 | 8% |
| Wairarapa | 830 | 889 | 780 | -109 | -12% | 74 | 79 | 74 | -5 | -6% | 747 | 804 | 701 | -103 | -13% |
| Nelson Marlborough | 1425 | 2296 | 2302 | 6 | 0% | 67 | 125 | 135 | 10 | 8% | 1347 | 2162 | 2149 | -13 | -1% |
| West Coast | 593 | 531 | 574 | 43 | 8% | 44 | 35 | 26 | -9 | -26% | 547 | 493 | 544 | 51 | 10% |
| Canterbury | 4799 | 7932 | 6900 | -1032 | -13% | 275 | 466 | 401 | -65 | -14% | 4457 | 7349 | 6401 | -948 | -13% |
| South Canterbury | 1019 | 1068 | 969 | -99 | -9% | 41 | 36 | 50 | 14 | 39% | 975 | 1029 | 917 | -112 | -11% |
| Southern | 3797 | 4136 | 4087 | -49 | -1% | 160 | 234 | 230 | -4 | -2% | 3609 | 3876 | 3809 | -67 | -2% |
| Total | 56418 | 64839 | 64839 | 0 | 0% | 5053 | 5855 | 6161 | 306 | 5% | 49419 | 56793 | 56201 | -592 | -1% |

Bronchoscopy

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|----------------------------------|------|------|----------------------------------|------|----------------------------------|------|------|----------------------------------|------|----------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 64 | 72 | 63 | -9 | -13% | 21 | 19 | 22 | 3 | 16% | 42 | 52 | 40 | -12 | -23% |
| Waitemata | 117 | 119 | 123 | 4 | 3% | 7 | 6 | 11 | 5 | - | 103 | 108 | 106 | -2 | -2% |
| Auckland | 279 | 344 | 250 | -94 | -27% | 40 | 45 | 27 | -18 | -40% | 208 | 272 | 203 | -69 | -25% |
| Counties Manukau | 294 | 309 | 271 | -38 | -12% | 55 | 52 | 36 | -16 | -31% | 201 | 203 | 194 | -9 | -4% |
| Waikato | 223 | 233 | 176 | -57 | -24% | 47 | 55 | 34 | -21 | -38% | 171 | 175 | 138 | -37 | -21% |
| Bay of Plenty | 127 | 155 | 110 | -45 | -29% | 27 | 38 | 26 | -12 | -32% | 98 | 115 | 84 | -31 | -27% |
| Lakes | 73 | 76 | 71 | -5 | -7% | 27 | 24 | 24 | 0 | 0% | 45 | 51 | 44 | -7 | -14% |
| Tairāwhiti | 2 | 8 | 22 | 14 | - | 1 | 3 | 10 | 7 | - | 1 | 5 | 12 | 7 | - |
| Taranaki | 40 | 56 | 37 | -19 | -34% | 9 | 8 | 4 | -4 | - | 31 | 48 | 33 | -15 | -31% |
| Whanganui | 3 | 3 | 11 | 8 | - | 0 | 2 | 5 | 3 | - | 3 | 1 | 6 | 5 | - |
| Hawke's Bay | 58 | 50 | 38 | -12 | -24% | 15 | 11 | 8 | -3 | -27% | 41 | 37 | 29 | -8 | -22% |
| MidCentral | 39 | 28 | 23 | -5 | -18% | 4 | 9 | 2 | -7 | - | 35 | 19 | 21 | 2 | 11% |
| Capital & Coast | 84 | 76 | 59 | -17 | -22% | 8 | 9 | 8 | -1 | - | 70 | 65 | 49 | -16 | -25% |
| Hutt Valley | 80 | 110 | 75 | -35 | -32% | 11 | 25 | 12 | -13 | -52% | 64 | 83 | 58 | -25 | -30% |
| Nelson Marlborough | 63 | 62 | 71 | 9 | 15% | 4 | 6 | 6 | 0 | - | 59 | 56 | 64 | 8 | 14% |
| Canterbury | 278 | 362 | 305 | -57 | -16% | 16 | 30 | 18 | -12 | -40% | 259 | 327 | 281 | -46 | -14% |
| South Canterbury | 13 | 12 | 15 | 3 | 25% | 0 | 1 | 0 | -1 | - | 13 | 11 | 15 | 4 | 36% |
| Southern | 210 | 188 | 157 | -31 | -16% | 18 | 17 | 8 | -9 | -53% | 192 | 168 | 148 | -20 | -12% |
| Total | 2047 | 2263 | 1877 | -386 | -17% | 310 | 360 | 261 | -99 | -28% | 1636 | 1796 | 1525 | -271 | -15% |

Colorectal cancer surgery

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|----------------------------------|------|------|----------------------------------|------|----------------------------------|------|------|----------------------------------|------|----------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | | Cumulative number for Jan to Oct | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 63 | 85 | 70 | -15 | -18% | 10 | 18 | 16 | -2 | -11% | 53 | 66 | 53 | -13 | -20% |
| Waitemata | 200 | 220 | 180 | -40 | -18% | 11 | 15 | 11 | -4 | -27% | 183 | 190 | 166 | -24 | -13% |
| Auckland | 168 | 154 | 171 | 17 | 11% | 10 | 11 | 19 | 8 | 73% | 139 | 125 | 143 | 18 | 14% |
| Counties Manukau | 132 | 103 | 121 | 18 | 17% | 8 | 8 | 16 | 8 | - | 107 | 86 | 88 | 2 | 2% |
| Waikato | 205 | 170 | 235 | 65 | 38% | 26 | 16 | 35 | 19 | 119% | 175 | 151 | 199 | 48 | 32% |
| Bay of Plenty | 114 | 112 | 158 | 46 | 41% | 14 | 10 | 25 | 15 | 150% | 100 | 101 | 133 | 32 | 32% |
| Lakes | 57 | 63 | 65 | 2 | 3% | 10 | 10 | 9 | -1 | -10% | 46 | 51 | 55 | 4 | 8% |
| Tairāwhiti | 18 | 23 | 25 | 2 | 9% | 7 | 4 | 8 | 4 | - | 11 | 19 | 17 | -2 | -11% |
| Taranaki | 79 | 67 | 72 | 5 | 7% | 7 | 4 | 9 | 5 | - | 72 | 63 | 63 | 0 | 0% |
| Whanganui | 40 | 39 | 45 | 6 | 15% | 6 | 5 | 3 | -2 | - | 34 | 34 | 42 | 8 | 24% |
| Hawke's Bay | 115 | 123 | 126 | 3 | 2% | 17 | 8 | 18 | 10 | - | 98 | 114 | 104 | -10 | -9% |
| MidCentral | 113 | 80 | 100 | 20 | 25% | 6 | 6 | 12 | 6 | - | 106 | 73 | 87 | 14 | 19% |
| Hutt Valley | 56 | 60 | 46 | -14 | -23% | 4 | 8 | 3 | -5 | - | 50 | 52 | 42 | -10 | -19% |
| Wairarapa | 21 | 16 | 5 | -11 | -69% | 2 | 1 | 0 | -1 | - | 19 | 15 | 5 | -10 | -67% |
| Capital & Coast | 132 | 133 | 114 | -19 | -14% | 14 | 9 | 13 | 4 | - | 112 | 117 | 98 | -19 | -16% |
| Nelson Marlborough | 74 | 77 | 59 | -18 | -23% | 0 | 6 | 4 | -2 | - | 74 | 70 | 55 | -15 | -21% |
| West Coast | 1 | 6 | 8 | 2 | - | - | - | - | - | - | 1 | 6 | 8 | 2 | - |
| Canterbury | 249 | 271 | 253 | -18 | -7% | 14 | 13 | 17 | 4 | 31% | 232 | 256 | 233 | -23 | -9% |
| South Canterbury | 45 | 42 | 37 | -5 | -12% | 0 | 2 | 2 | 0 | - | 45 | 40 | 35 | -5 | -13% |
| Southern | 202 | 230 | 200 | -30 | -13% | 8 | 7 | 6 | -1 | - | 193 | 220 | 191 | -29 | -13% |
| Total | 2084 | 2074 | 2090 | 16 | 1% | 174 | 161 | 226 | 65 | 40% | 1850 | 1849 | 1817 | -32 | -2% |

Lung cancer surgery

| | Total population | | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|------------------|--------------------------------------|------|------|----------------------------------|------|------|--------------------------------------|------|--------|----------------------------------|------|--------------------------------------|------|--------|----------------------------------|--|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | |
| Auckland | 249 | 248 | 217 | -31 | -13% | 45 | 49 | 41 | -8 | -16% | 188 | 178 | 158 | -20 | -11% | |
| Counties Manukau | 1 | 2 | 2 | 0 | - | 0 | 0 | 1 | 1 | - | 0 | 2 | 1 | -1 | - | |
| Waikato | 102 | 116 | 128 | 12 | 10% | 33 | 28 | 29 | 1 | 4% | 66 | 88 | 98 | 10 | 11% | |
| Taranaki | 1 | 0 | 0 | 0 | - | - | - | - | - | - | 1 | 0 | 0 | 0 | - | |
| Hawke's Bay | 0 | 0 | 1 | 1 | - | 0 | 0 | 0 | 0 | - | - | - | - | - | - | |
| Capital & Coast | 95 | 114 | 81 | -33 | -29% | 23 | 19 | 12 | -7 | -37% | 69 | 90 | 66 | -24 | -27% | |
| Canterbury | 68 | 77 | 95 | 18 | 23% | 6 | 4 | 7 | 3 | - | 62 | 73 | 86 | 13 | 18% | |
| Southern | 34 | 41 | 29 | -12 | -29% | 4 | 1 | 4 | 3 | - | 30 | 40 | 25 | -15 | -38% | |
| Total | 550 | 598 | 553 | -45 | -8% | 111 | 101 | 94 | -7 | -7% | 416 | 471 | 434 | -37 | -8% | |

Prostate cancer surgery

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|-----|--------------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 47 | 46 | 30 | -16 | -35% | 9 | 5 | 6 | 1 | - | 38 | 40 | 24 | -16 | -40% |
| Waitemata | 67 | 62 | 88 | 26 | 42% | 2 | 5 | 5 | 0 | - | 62 | 56 | 80 | 24 | 43% |
| Auckland | 70 | 88 | 110 | 22 | 25% | 3 | 11 | 11 | 0 | 0% | 63 | 66 | 93 | 27 | 41% |
| Counties Manukau | 0 | 1 | 2 | 1 | - | 0 | 0 | 1 | 1 | - | 0 | 1 | 1 | 0 | - |
| Waikato | 59 | 48 | 48 | 0 | 0% | 2 | 3 | 3 | 0 | - | 56 | 45 | 44 | -1 | -2% |
| Bay of Plenty | 41 | 42 | 36 | -6 | -14% | 4 | 7 | 5 | -2 | - | 37 | 35 | 31 | -4 | -11% |
| Lakes | 6 | 9 | 15 | 6 | - | 0 | 0 | 7 | 7 | - | 5 | 9 | 8 | -1 | - |
| Tairāwhiti | 4 | 3 | 6 | 3 | - | 1 | 2 | 2 | 0 | - | 3 | 1 | 4 | 3 | - |
| Taranaki | 20 | 25 | 28 | 3 | 12% | 1 | 3 | 5 | 2 | - | 18 | 22 | 23 | 1 | 5% |
| Whanganui | 3 | 4 | 5 | 1 | - | 1 | 0 | 0 | 0 | - | 2 | 4 | 5 | 1 | - |
| Hawke's Bay | 14 | 15 | 22 | 7 | 47% | 0 | 3 | 5 | 2 | - | 14 | 12 | 17 | 5 | 42% |
| MidCentral | 60 | 66 | 68 | 2 | 3% | 2 | 9 | 4 | -5 | - | 58 | 57 | 64 | 7 | 12% |
| Capital & Coast | 50 | 58 | 59 | 1 | 2% | 3 | 3 | 4 | 1 | - | 43 | 52 | 53 | 1 | 2% |
| Nelson Marlborough | 42 | 33 | 37 | 4 | 12% | - | - | - | - | - | 42 | 32 | 37 | 5 | 16% |
| Wairarapa | 8 | 6 | 7 | 1 | - | 1 | 0 | 1 | 1 | - | 7 | 6 | 6 | 0 | - |
| West Coast | 8 | 4 | 6 | 2 | - | 0 | 0 | 0 | 0 | - | 8 | 4 | 6 | 2 | - |
| Canterbury | 61 | 48 | 60 | 12 | 25% | 0 | 2 | 3 | 1 | - | 61 | 46 | 56 | 10 | 22% |
| South Canterbury | 15 | 8 | 12 | 4 | - | - | - | - | - | - | 15 | 8 | 12 | 4 | - |
| Southern | 66 | 65 | 74 | 9 | 14% | 5 | 4 | 5 | 1 | - | 60 | 60 | 69 | 9 | 15% |
| Total | 641 | 631 | 713 | 82 | 13% | 34 | 57 | 67 | 10 | 18% | 592 | 556 | 633 | 77 | 14% |

Medical oncology first specialist assessments

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 357 | 399 | 351 | -48 | -12% | 104 | 103 | 99 | -4 | -4% | 252 | 291 | 248 | -43 | -15% |
| Auckland | 1923 | 1977 | 2150 | 173 | 9% | 227 | 230 | 252 | 22 | 10% | 1444 | 1501 | 1603 | 102 | 7% |
| Waikato | 672 | 652 | 710 | 58 | 9% | 143 | 139 | 152 | 13 | 9% | 520 | 497 | 551 | 54 | 11% |
| Bay of Plenty | 382 | 416 | 438 | 22 | 5% | 60 | 101 | 80 | -21 | -21% | 319 | 312 | 354 | 42 | 13% |
| Lakes | 113 | 156 | 183 | 27 | 17% | 41 | 53 | 57 | 4 | 8% | 70 | 99 | 124 | 25 | 25% |
| Tairāwhiti | 66 | 122 | 125 | 3 | 2% | 31 | 53 | 52 | -1 | -2% | 35 | 67 | 72 | 5 | 7% |
| Taranaki | 193 | 210 | 196 | -14 | -7% | 18 | 29 | 21 | -8 | -28% | 173 | 180 | 174 | -6 | -3% |
| MidCentral | 929 | 913 | 920 | 7 | 1% | 135 | 152 | 153 | 1 | 1% | 774 | 749 | 756 | 7 | 1% |
| Capital & Coast | 748 | 717 | 732 | 15 | 2% | 76 | 93 | 91 | -2 | -2% | 629 | 587 | 592 | 5 | 1% |
| Nelson Marlborough | 365 | 336 | 373 | 37 | 11% | 24 | 26 | 19 | -7 | -27% | 340 | 308 | 352 | 44 | 14% |
| West Coast | 22 | 31 | 17 | -14 | -45% | 1 | 5 | 0 | -5 | - | 21 | 25 | 17 | -8 | -32% |
| Canterbury | 1058 | 1107 | 940 | -167 | -15% | 71 | 77 | 60 | -17 | -22% | 974 | 1016 | 863 | -153 | -15% |
| South Canterbury | 7 | 2 | 52 | 50 | - | 0 | 0 | 2 | 2 | - | 7 | 2 | 50 | 48 | - |
| Southern | 499 | 619 | 532 | -87 | -14% | 23 | 40 | 29 | -11 | -28% | 473 | 574 | 495 | -79 | -14% |
| Total | 7334 | 7657 | 7719 | 62 | 1% | 954 | 1101 | 1067 | -34 | -3% | 6031 | 6208 | 6251 | 43 | 1% |

Medical oncology IV chemotherapy

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|-------|-------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|-------|-------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 2606 | 2456 | 2359 | -97 | -4% | 567 | 588 | 732 | 144 | 24% | 1999 | 1847 | 1607 | -240 | -13% |
| Waitemata | 1 | 2 | 1 | -1 | - | - | - | - | - | - | 1 | 2 | 1 | -1 | - |
| Auckland | 14568 | 17073 | 18596 | 1523 | 9% | 1566 | 1507 | 2096 | 589 | 39% | 11431 | 13436 | 14359 | 923 | 7% |
| Waikato | 6072 | 6459 | 5586 | -873 | -14% | 969 | 1090 | 903 | -187 | -17% | 5036 | 5291 | 4576 | -715 | -14% |
| Bay of Plenty | 4327 | 4309 | 4793 | 484 | 11% | 750 | 757 | 989 | 232 | 31% | 3532 | 3512 | 3762 | 250 | 7% |
| Lakes | 2368 | 2723 | 2614 | -109 | -4% | 715 | 732 | 758 | 26 | 4% | 1591 | 1962 | 1829 | -133 | -7% |
| Tairāwhiti | 624 | 483 | 502 | 19 | 4% | 252 | 226 | 230 | 4 | 2% | 371 | 251 | 271 | 20 | 8% |
| Taranaki | 1338 | 1578 | 1720 | 142 | 9% | 185 | 122 | 173 | 51 | 42% | 1139 | 1443 | 1528 | 85 | 6% |
| Whanganui | 107 | 75 | 76 | 1 | 1% | 18 | 9 | 9 | 0 | - | 89 | 66 | 67 | 1 | 2% |
| Hawke's Bay | 27 | 43 | 64 | 21 | 49% | 12 | 11 | 54 | 43 | 391% | 15 | 32 | 10 | -22 | -69% |
| MidCentral | 5550 | 6591 | 6336 | -255 | -4% | 839 | 1182 | 1083 | -99 | -8% | 4588 | 5240 | 5178 | -62 | -1% |
| Capital & Coast | 5344 | 5856 | 5169 | -687 | -12% | 501 | 665 | 563 | -102 | -15% | 4610 | 4900 | 4295 | -605 | -12% |
| Hutt Valley | 95 | 99 | 98 | -1 | -1% | 13 | 3 | 8 | 5 | - | 82 | 83 | 83 | 0 | 0% |
| Wairarapa | 29 | 22 | 63 | 41 | 186% | 0 | 4 | 19 | 15 | - | 29 | 18 | 36 | 18 | 100% |
| Nelson Marlborough | 2599 | 2338 | 2540 | 202 | 9% | 189 | 174 | 99 | -75 | -43% | 2380 | 2120 | 2419 | 299 | 14% |
| West Coast | 11 | 37 | 29 | -8 | -22% | 0 | 2 | 5 | 3 | - | 11 | 35 | 24 | -11 | -31% |
| Canterbury | 5787 | 5127 | 5302 | 175 | 3% | 370 | 312 | 354 | 42 | 13% | 5255 | 4699 | 4784 | 85 | 2% |
| South Canterbury | 873 | 903 | 906 | 3 | 0% | 6 | 8 | 24 | 16 | - | 866 | 883 | 882 | -1 | 0% |
| Southern | 5912 | 6027 | 5682 | -345 | -6% | 354 | 289 | 299 | 10 | 3% | 5525 | 5684 | 5304 | -380 | -7% |
| Total | 58238 | 62201 | 62436 | 235 | 0% | 7306 | 7681 | 8398 | 717 | 9% | 48550 | 51504 | 51015 | -489 | -1% |

Radiation oncology first specialist assessments

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|-------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 296 | 294 | 237 | -57 | -19% | 85 | 73 | 83 | 10 | 14% | 206 | 218 | 152 | -66 | -30% |
| Auckland | 2669 | 2681 | 2688 | 7 | 0% | 313 | 329 | 316 | -13 | -4% | 2037 | 2006 | 2083 | 77 | 4% |
| Waikato | 1107 | 1183 | 1237 | 54 | 5% | 198 | 204 | 261 | 57 | 28% | 887 | 959 | 960 | 1 | 0% |
| Bay of Plenty | 723 | 837 | 700 | -137 | -16% | 109 | 126 | 105 | -21 | -17% | 608 | 701 | 590 | -111 | -16% |
| Lakes | 36 | 18 | 15 | -3 | -17% | 12 | 6 | 5 | -1 | - | 24 | 12 | 10 | -2 | -17% |
| Tairāwhiti | 65 | 50 | 33 | -17 | -34% | 27 | 19 | 18 | -1 | -5% | 36 | 31 | 15 | -16 | -52% |
| MidCentral | 1498 | 1370 | 1487 | 117 | 9% | 185 | 187 | 196 | 9 | 5% | 1294 | 1171 | 1272 | 101 | 9% |
| Capital & Coast | 1156 | 1214 | 1121 | -93 | -8% | 102 | 116 | 108 | -8 | -7% | 1004 | 1049 | 958 | -91 | -9% |
| Nelson Marlborough | 82 | 190 | 141 | -49 | -26% | 5 | 10 | 8 | -2 | -20% | 77 | 179 | 132 | -47 | -26% |
| West Coast | 7 | 10 | 7 | -3 | -30% | 0 | 1 | 0 | -1 | - | 7 | 9 | 7 | -2 | - |
| Canterbury | 1392 | 1342 | 1482 | 140 | 10% | 75 | 89 | 67 | -22 | -25% | 1302 | 1236 | 1395 | 159 | 13% |
| Southern | 841 | 919 | 827 | -92 | -10% | 46 | 48 | 59 | 11 | 23% | 781 | 862 | 754 | -108 | -13% |
| Total | 9872 | 10108 | 9975 | -133 | -1% | 1157 | 1208 | 1226 | 18 | 1% | 8263 | 8433 | 8328 | -105 | -1% |

Radiation oncology megavoltage fractions

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|--------|--------|----------------------------------|------|--------------------------------------|-------|-------|----------------------------------|------|--------------------------------------|--------|--------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Auckland | 37443 | 38422 | 35119 | -3303 | -9% | 5165 | 5286 | 4639 | -647 | -12% | 28465 | 29257 | 26924 | -2333 | -8% |
| Waikato | 17328 | 19332 | 16179 | -3153 | -16% | 3479 | 3347 | 3612 | 265 | 8% | 13483 | 15610 | 12337 | -3273 | -21% |
| Bay of Plenty | 14416 | 13209 | 12538 | -671 | -5% | 2551 | 2131 | 2074 | -57 | -3% | 11684 | 10967 | 10285 | -682 | -6% |
| MidCentral | 18046 | 19865 | 18781 | -1084 | -5% | 2581 | 2935 | 2568 | -367 | -13% | 15286 | 16850 | 15839 | -1011 | -6% |
| Capital & Coast | 16168 | 17177 | 16228 | -949 | -6% | 1825 | 2009 | 1821 | -188 | -9% | 13621 | 14332 | 13469 | -863 | -6% |
| Nelson Marlborough | 0 | 0 | 6 | 6 | - | 0 | 0 | 3 | 3 | - | 0 | 0 | 3 | 3 | - |
| Canterbury | 24029 | 19681 | 20498 | 817 | 4% | 1669 | 1345 | 1203 | -142 | -11% | 21899 | 18078 | 19070 | 992 | 5% |
| Southern | 6097 | 4712 | 2774* | | | 374 | 242 | 164 | -78 | -32% | 5602 | 4422 | 2590 | -1832 | -41% |
| Total | 133527 | 132398 | 122123 | -10275 | -8% | 17644 | 17295 | 16084 | -1211 | -7% | 110040 | 109516 | 100517 | -8999 | -8% |

Note: there was a delay in receiving data from Southern DHB, so the 2020 total is not accurate and number and percentage changes have not been presented. After this report was finalised, late data from Southern DHB was received for this metric. The refreshed October 2020 total has increased from 2,774 to 3,558. Due to timing, the tables and graphs throughout the report were not updated.

Haematology first specialist assessment

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 173 | 191 | 232 | 41 | 21% | 30 | 44 | 60 | 16 | 36% | 141 | 144 | 169 | 25 | 17% |
| Waitemata | 619 | 536 | 595 | 59 | 11% | 34 | 31 | 38 | 7 | 23% | 553 | 488 | 528 | 40 | 8% |
| Auckland | 797 | 840 | 664 | -176 | -21% | 59 | 68 | 56 | -12 | -18% | 658 | 693 | 525 | -168 | -24% |
| Counties Manukau | 670 | 573 | 580 | 7 | 1% | 68 | 64 | 69 | 5 | 8% | 499 | 421 | 415 | -6 | -1% |
| Waikato | 557 | 606 | 599 | -7 | -1% | 92 | 114 | 101 | -13 | -11% | 457 | 484 | 489 | 5 | 1% |
| Bay of Plenty | 320 | 323 | 282 | -41 | -13% | 57 | 53 | 41 | -12 | -23% | 258 | 265 | 238 | -27 | -10% |
| Lakes | 0 | 2 | 1 | -1 | - | 0 | 1 | 0 | -1 | - | 0 | 1 | 1 | 0 | - |
| Tairāwhiti | 41 | 25 | 40 | 15 | 60% | 15 | 6 | 11 | 5 | - | 26 | 18 | 29 | 11 | 61% |
| Taranaki | 111 | 147 | 150 | 3 | 2% | 13 | 13 | 22 | 9 | 69% | 98 | 133 | 127 | -6 | -5% |
| MidCentral | 645 | 656 | 677 | 21 | 3% | 78 | 76 | 98 | 22 | 29% | 559 | 573 | 564 | -9 | -2% |
| Capital & Coast | 678 | 662 | 615 | -47 | -7% | 41 | 62 | 65 | 3 | 5% | 606 | 570 | 519 | -51 | -9% |
| Nelson Marlborough | 152 | 136 | 96 | -40 | -29% | 1 | 6 | 4 | -2 | - | 150 | 128 | 92 | -36 | -28% |
| West Coast | 11 | 16 | 6 | -10 | -63% | 2 | 0 | 0 | 0 | - | 9 | 16 | 6 | -10 | -63% |
| Canterbury | 358 | 453 | 436 | -17 | -4% | 17 | 24 | 23 | -1 | -4% | 332 | 414 | 410 | -4 | -1% |
| Southern | 241 | 255 | 277 | 22 | 9% | 16 | 16 | 16 | 0 | 0% | 222 | 235 | 259 | 24 | 10% |
| Total | 5373 | 5421 | 5250 | -171 | -3% | 523 | 578 | 604 | 26 | 4% | 4568 | 4583 | 4371 | -212 | -5% |

Haematology IV chemotherapy

| | Total population | | | | | Māori | | | | | Non-Māori / Non-Pacific | | | | |
|--------------------|--------------------------------------|-------|-------|----------------------------------|------|--------------------------------------|------|------|----------------------------------|------|--------------------------------------|-------|-------|----------------------------------|------|
| | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | | Cumulative number for Jan to October | | | Difference between 2019 and 2020 | |
| | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % | 2018 | 2019 | 2020 | Number | % |
| Northland | 1503 | 1370 | 1060 | -310 | -23% | 354 | 308 | 219 | -89 | -29% | 1149 | 1003 | 796 | -207 | -21% |
| Waitemata | 3443 | 3433 | 3178 | -255 | -7% | 59 | 117 | 133 | 16 | 14% | 3174 | 3160 | 2849 | -311 | -10% |
| Auckland | 2950 | 3156 | 2852 | -304 | -10% | 182 | 197 | 121 | -76 | -39% | 2488 | 2605 | 2404 | -201 | -8% |
| Counties Manukau* | 2018 | 1208 | 2162 | | | 236 | 153 | 229 | 76 | 50% | 1331 | 881 | 1582 | 701 | 80% |
| Waikato | 1662 | 1774 | 1949 | 175 | 10% | 247 | 362 | 375 | 13 | 4% | 1400 | 1410 | 1574 | 164 | 12% |
| Bay of Plenty | 1106 | 1111 | 955 | -156 | -14% | 140 | 73 | 128 | 55 | 75% | 966 | 998 | 821 | -177 | -18% |
| Lakes | 207 | 556 | 604 | 48 | 9% | 54 | 161 | 165 | 4 | 2% | 153 | 395 | 439 | 44 | 11% |
| Tairāwhiti | 160 | 123 | 90 | -33 | -27% | 24 | 10 | 21 | 11 | 110% | 120 | 113 | 69 | -44 | -39% |
| MidCentral | 2302 | 2291 | 1934 | -357 | -16% | 277 | 282 | 150 | -132 | -47% | 2000 | 2007 | 1763 | -244 | -12% |
| Capital & Coast | 2593 | 2870 | 2833 | -37 | -1% | 78 | 390 | 321 | -69 | -18% | 2393 | 2413 | 2210 | -203 | -8% |
| Nelson Marlborough | 4 | 1 | 10 | 9 | - | 1 | 0 | 0 | 0 | - | 3 | 1 | 10 | 9 | - |
| West Coast | 6 | 16 | 9 | -7 | -44% | 1 | 3 | 0 | -3 | - | 5 | 13 | 9 | -4 | -31% |
| Canterbury* | 1690 | 1552 | 2275 | | | 133 | 121 | 214 | 93 | 77% | 1540 | 1413 | 2018 | 605 | 43% |
| Southern** | 179 | 204 | 545 | 341 | 167% | 1 | 7 | 39 | 32 | - | 178 | 197 | 501 | 304 | 154% |
| Total | 19823 | 19665 | 20456 | 791 | 4% | 1787 | 2184 | 2115 | -69 | -3% | 16900 | 16609 | 17045 | 436 | 3% |

*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.

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 |