2023

AHS Physician Workforce Forecast

FORECAST & REPORT

2022-23

ALBERTA HEALTH SERVICES

Table of Contents

Executive Summary

Specialties

The 2022-23 Specialist Forecast anticipates that the Albertan specialist physician workforce could increase by 1,390[1] FTE over the next 10 years to maintain the same level of service and patient care access as today. That translates to a compound annual net new FTE increase rate of 2.8%.

During this same span, nearly 2,100 FTE will need to be replaced due to current specialist physicians departing[2] the workforce.

AHS's 10-year total specialist physician FTE recruitment (new and replacement) is estimated at 3,490.

Compared to the previous year (2021-22):

1. The opening roster (i.e. existing physician) FTE has decreased in Alberta by 2.4%[3].
2. The net new recruitment forecast has decreased by 10%[4].
3. The Replacement Recruitment rate remains unchanged, while separation (i.e. retirement) rate has decreased by 9.6%.
4. 23% increase in the rate of physicians leaving Alberta than coming in.

Psychiatry, Diagnostic Imaging, Pediatric Medicine and Anesthesiology have the highest projected FTE growth rate over the next 10 years (roughly 35%-45%) for this year's forecast[5]. To maintain the same level of service and to be able to respond to the province's growing needs in the next 10 years, the province may need to recruit 248 and 178 new FTE Psychiatrists and Pediatricians respectively. Mental Health, Surgery, and Pediatric care are all emerging as big priorities following the COVID-19 pandemic, and deliberate workforce strategies will be required to support service delivery across these areas. The Pediatric Surgery and OBGYN forecasted growth rates are the lowest.[6]

The majority of Alberta specialty groups will need to replace almost half of their current workforce throughout the next 10 years due to workforce retirement, migration and gender shift.

Diagnostic Imaging and Emergency Medicine anticipate the lowest replacement rate of all specialty groups at approximately 40% of their current workforce.

Although the total projected replacement FTE volumes are small, Pediatric Surgery forecasts a replacement recruitment need of 19 FTE (70% of their current workforce) with Cancer Control projecting 49 FTEs (60% of their current workforce) over the next 10 years.[7]

[1] Including Planning Variables
[2] Retirements, Migrations, and Gender-Shift
[3] The decrease is due to removing inactive physicians from the application.
[4] Due to effects of Covid Pandemic on the past two years of health data.
[5] Psychiatry and Anesthesiology have always been on top of the list in respect of needing newer FTE for the past consecutive years
[6] Table 1: 10 Year Need
[7] Table 2: 10 Year Replacement

Retention of existing physicians and finding ways to extend the career-span of our existing physicians should be a top priority for AHS and our healthcare partners over the next several years.

Total Recruitment includes the forecasted net new FTE (Need), the replacement recruitment FTE (Supply) and forecast adjustment by Zones Medical Leaders to account for future policy and infrastructure changes (Planning Variables).

Psychiatry and Pediatric Medicine may need to recruit 491 and 406 FTE respectively (more than 90% of their current roster size) through the next 10 years.

Family Medicine

The 2022-23 Family Medicine Physician Forecast anticipates that the Albertan Family Physician workforce could increase by 1,260[8] FTE over the next 10 years to maintain the same level of service. That translates to a compound annual net new FTE increase of 2.62%.

During this same span, nearly 1,933 FTE will need to be replaced due to family medicine physicians leaving the workforce.

The 10-year family medicine physician FTE total recruitment need (new and replacement) is estimated at 3,190[9].

Family Medicine is not a homogenous group. Although this report is developed by Alberta Health Services (AHS), the forecast is comprised of all family medicine/general practitioner physicians in Alberta (including those working exclusively within private community clinics).

In total, the forecast includes FTE projections for 13 different groups of family medicine physicians.

The largest group is Family Medicine Community/Primary Care. Over the next 10 years, this group could be expected to grow by more than 825 FTE.

The other 12 subspecialties of family medicine include groups of physicians with enhanced skills, specialized training, and experience:

- FM Addiction Medicine
- FM Anesthesia
- FM Cancer Care
- FM Care of the Elderly/Seniors Care
- FM Child and Adolescent Health
- FM Enhanced Surgical Skills
- FM Hospital Medicine
- FM Mental Health
- FM Obstetrical Surgical Skills/ Maternal & Newborn Care
- FM Palliative Care
- FM Respiratory Medicine
- FM Sport and Exercise Medicine

These physician groups may more commonly practice within AHS facilities. The total net new growth for these 12 subspecialties of family medicine over the next 10-years is projected to be roughly 435 FTE. More detail on these individual subspecialties can be found starting on page 36.

[8] Including Planning Variables

[9] Including 14 FTE Planning Variables

FM Care of the Elderly/Seniors Care[10] projects to have the largest 10-year FTE growth rate (83%) this year followed by FM Addiction Medicine (51%). To maintain the same level of service and to be able to respond to the province's aging population and growing needs in the next 10 years, the province may need to recruit 179 new FTE Family Physicians with Seniors Care skills. FM Care of the Elderly/Seniors Care has projected to be the highest growth need area within Family Medicine since AHS began family medicine workforce forecasting in 2019-20.

The majority of Family Medicine Physicians with special skills may need to replace almost 48% of their current workforce throughout the next 10 years due to workforce attrition (which includes retirement and migration out of province, among other factors). The total replacement recruitment rate for Family Physicians in the community follows the same rate.

The recruitment rate (total recruitment to opening FTE) is over 83% on average.

FM Care of the Elderly/Seniors Care and FM Addiction Medicine may need to recruit 127% and 99% of the size of their current roster respectively. This includes both net new and replacement recruitment.

[10] FM Care of Elderly/Senior Care has been on top of our list for the past few years.

Methodology

Specialist physician workforce forecasting is supported by a software application, providing data-driven forecasts organized by Royal College of Physicians and Surgeons of Canada (RCPSC) specialties for specialist physicians and Canadian College of Family Physician (CCFP) categories of added competency or special interest for Family Medicine physicians. The plan's projections are based on data regarding population health needs, changes in population growth, current workforce, retirements and departures, gender mix, service delivery methods and volumes, and AHS and Covenant Health facility capacity. It also considers anticipated replacement of physicians, based on current medical school and residency program enrollment across Canada. Together, these inputs shape a forecast of workforce need.

Additional data has been collected from the College of Physicians & Surgeons of Alberta (CPSA), the Alberta Health Interactive Health Data Application (IHDA), the AHS Appointment & Privileging application, and the Canadian Institute for Health Information (CIHI).

See Appendix A for more information about data collection, the Physician Workforce Planning (PWP) software application, and the forecast methodologies.

Integrated Workforce Planning Approach

AHS develops multiple strategic workforce plans that help lead the organization from where it is now to where it would like to be. Many of these plans - including this one - are provider specific. As such, the target audiences, plan-to-plan, are different. This may lead to differences in plan format and content.

It is important to remember that the report is a conversation tool/guide to stimulate thinking around trends and developments in medicine service delivery models, capital planning and population health services need in Alberta. The report is intended to help AHS make decisions on service planning and influence choices made by Alberta Health, Faculties of Medicine, medical students, residents, etc.

The numbers provided in this forecast are not a target; but rather a projection. The forecast is not a recruitment plan and AHS is not committed to realizing the projections found within this report. These (recruitment) increases could not be supported without operational and infrastructure changes. New models of care may drive physician FTE changes, but it could also drive more Nurse Practitioners, Physician Assistants, and other care providers to support and extend our existing physician workforce. Future physician forecasts will need to continue to account for changes in medical practice, resource requirements, and new policies. However, Medical Affairs works closely with Health Professions Strategy & Practice, Human Resources, and other stakeholders to develop

an integrated approach to workforce planning. Many sources of data used within the Physician Forecast are also used as part of Midwifery or Nurse Practitioner workforce planning. Plans are also shared and discussed between groups and can often influence each other. From a physician forecasting perspective, we must keep aware of policy changes or new service delivery models that will have direct or indirect effects on physician planning.

AHS's four organizational goals provide a common ground for alignment across all AHS workforce plans:

1. Improve patients' and families' experiences.
2. Improve patient and population health outcomes.
3. Improve the experience and safety of our people.
4. Improve financial health and value for money.

Planning Variables

(Forecast Adjustment)

Planning variables need to be applied to account for physician net new need associated with program expansion, incoming policy changes, infrastructure developments, etc., as these are areas the application cannot predict.

Before adding extra FTE as a planning variable, the followings should be considered:

a. The current forecasted need: making sure the "extra" need is above and beyond the forecasted net new FTE need by the tool.
b. Feasibility; considering the economic climate.
c. Applying the most accurate timeframe/fiscal year to produce accurate yearly forecast reports.

Although, planning variables are mostly used to address extra "need", there are situations where negative planning variables could be applied.

a. There could be change in policies that can affect workforce expansion negatively. They need to be addressed through planning variables.
b. When there is no planned recruitment in (near) future, add negative FTE(s) to zero out the specific fiscal year(s) FTE.
c. Since the forecasted need is distributed evenly (linear) throughout a 10-year period, usually it would not align with the zone/department/section's strategic planning. Adding or subtracting planning variable FTEs to each year could better align the forecast with the recruitment plans.

Planning variables can enhance workforce forecasting process and outcome while overestimated or inappropriate ones can damage the creditability of the result.

2022-23 vs 2021-22

The COVID-19 pandemic has affected many aspects of our life since March 2020. One of which is the health service delivery methods that have been adapted to mitigate the harsh effects of the disease and to increase and to improve Albertans access to health facilities.

The rapid increase in demand of acute care and decrease or delay of surgical procedures have affected the health data set gathered by CIHI for the 2022-23 and 2021-22 fiscal years. These data sets, compared to previous years, show lower than average patient volumes, physician billings, etc. which affected our forecast anticipated future net new need.

Using the skewed health data due to aforementioned reasons, affected the validity of our 10-year forecast significantly resulting in almost 28% decrease in net new FTE total.

AHS has decided to replace the 2020-21 HPG data (the most affected health data by COVID-19 Pandemic) with its prior year (2019-20)[11]. The real HPG data was used for both last year and this year as usual. We will continue to watch how the COVID-19 pandemic evolves in the future to apply best method to suit the next year(s)' forecast.

As a result, the forecasted net new FTE this year is following last year's and pre-COVID healthcare workforce trends reasonably closely.

[11] Each year's forecast uses the prior year's health data, and so forth. For example, 2022-23 (current fiscal year's PWP forecast) would have used 2021-22 health data. Last PWP forecast (2021-22) was utilizing 2019-20 (before COVID-19 Pandemic) health data.

Family Medicine

This is the third year that Family Medicine forecasting matches our forecasting methodology for Royal College of Physicians and Surgeons of Canada (RCPSC) specialties. The Family Medicine categories are broken down into the following 13 sub-categories and the abbreviations used for this report:

Family Medicine Sub-Categories	**FM Sub-Categories abbreviation**
Family Medicine (Community/Primary Care)	FM Community
FM Addiction Medicine	FM Addiction
FM Anesthesia	FM Anes
FM Cancer Care	FM Cancer
FM Care of the Elderly/Seniors Care	FM Elderly
FM Child and Adolescent Health	FM C&A
FM Enhanced Surgical Skills	FM Surg
FM Hospital Medicine	FM Hospital
FM Mental Health	FM Mental
FM Obstetrical Surgical Skills/ Maternal & Newborn Care	FM Obstetrics
FM Palliative Care	FM Palliative
FM Respiratory Medicine	FM Resp
FM Sport and Exercise Medicine	FM Sport

Family Medicine physicians will be sorted into the above categories based on a combination of AHS Appointment information and CPSA licensing information.

The application will include all Family Medicine physicians in Alberta, including both with and without an AHS Appointment.

Please note: Due to scope of the Family Medicine Community/Primary Care group, in relation to the other 12 groups combined the report will be broken into two categories:

1) Family Medicine (Community/Primary Care)
2) Family Medicine with Special Skills (12 sub-categories)

Demographics[12]

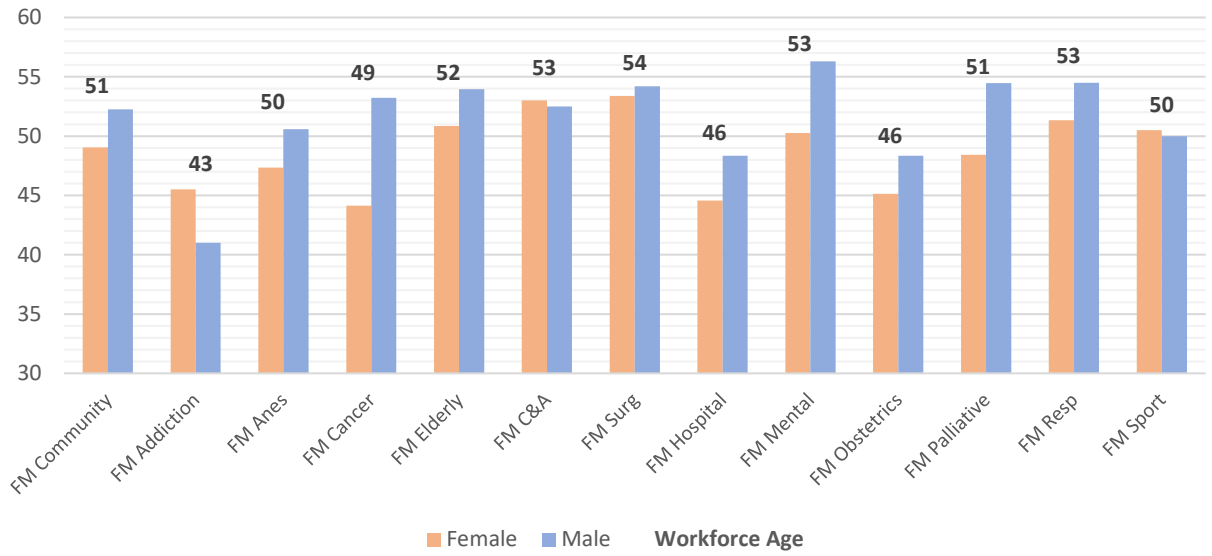
47% of the current Family Medicine workforce (4,435) are Female. The average age of active Family Physicians is 47 years old. The Headcount to FTE (total – i.e. a calculation that offers insight into how much each individual is working) ratio is almost 97%[13].

Categories	Female FTE	Female HC	Male FTE	Male HC	Total FTE	Total HC	Female FTE/HC	Male FTE/HC	Workforce FTE/HC	Female %	Female Age	Male Age	Workforce Age
Family Medicine (Community/Primary Care)	1,500.6	1,616	1,788.2	1,963	3,288.8	3,579	92.9%	91.1%	91.9%	45.2%	49	52	51
FM Addiction Medicine	1.6	2	2.5	3	4.1	5	80.0%	83.3%	82.0%	40.0%	46	41	43
FM Anesthesia	26.4	29	63.9	69	90.3	98	91.0%	92.5%	92.1%	29.6%	47	51	50
FM Cancer Care	13.0	14	17.0	17	30.0	31	92.9%	100.0%	96.8%	45.2%	44	53	49
FM Care of the Elderly/Seniors Care	106.6	123	103.7	115	210.2	238	86.6%	90.2%	88.3%	51.7%	51	54	52
FM Child and Adolescent Health	14.0	15	12.0	12	26.0	27	93.3%	100.0%	96.3%	55.6%	53	53	53
FM Enhanced Surgical Skills	28.5	29	40.7	43	69.2	72	98.3%	94.7%	96.1%	40.3%	53	54	54
FM Hospital Medicine	115.2	139	116.4	138	231.6	277	82.9%	84.3%	83.6%	50.2%	45	48	46
FM Mental Health	39.0	39	33.5	35	72.5	74	100.0%	95.7%	98.0%	52.7%	50	56	53
FM Obstetrical Surgical Skills/ Maternal & Newborn Care	156.3	166	39.0	41	195.3	207	94.2%	95.0%	94.3%	80.2%	45	48	46
FM Palliative Care	27.4	34	16.5	23	43.9	57	80.5%	71.7%	77.0%	59.6%	48	54	51
FM Respiratory Medicine	3.0	3	6.0	6	9.0	9	100.0%	100.0%	100.0%	33.3%	51	55	53
FM Sport and Exercise Medicine	1.0	2	4.0	5	5.0	7	50.0%	80.0%	71.4%	28.6%	51	50	50
Total	**2,032.6**	**2,211**	**2,243.2**	**2,470**	**4,275.8**	**4,681**	**91.9%**	**90.8%**	**91.3%**	**47.2%**	**49**	**52**	**50**

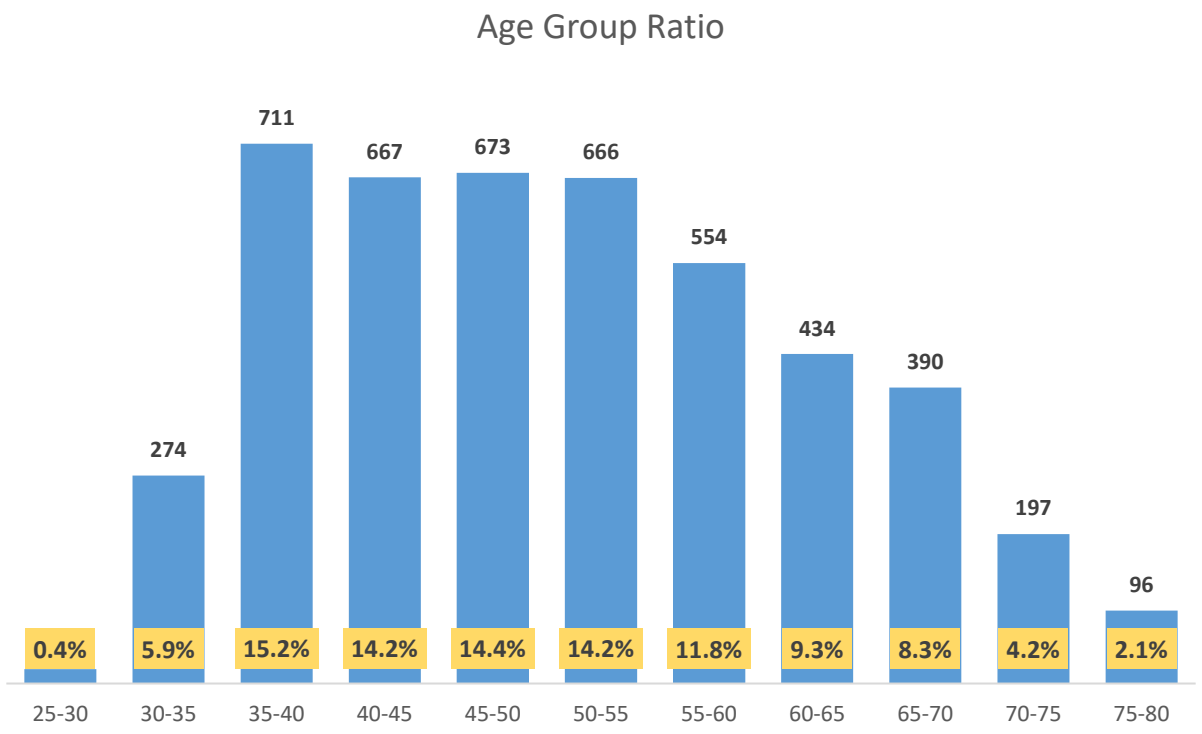
[12] Physicians older than 80 years of age have been removed from the demographic report.

[13] Over 76% of the Family Medicine roster are the physicians that listed under FM Community/Primary Care and almost 36% of them have no affiliation with AHS; therefore, their headcount has been used as their clinical FTE. Hence, the FTE/HC for this group has been calculated at 1.0 as a result the total FTE/Headcount ratio for the Family Medicine group has been skewed.

The following graphs present the Family Medicine workforce age distribution.



Almost 15% of the workforce are 65 years or older; and over one third of the workforce are older than 55 years of age.



Specialties

Due to limited space and for better visibility, the following abbreviations have been used instead of the specialties' full name.

Specialties	**Specialties' abbreviations**
Anesthesiology	Anes
Cancer	Cancer
Diagnostic Imaging	DI
Emergency Medicine	EM
Lab Medicine & Pathology	Lab
Medicine	Med
Medicine - Pediatric	Med-Ped
Obstetrics & Gynecology	OBGYN
Psychiatry	Psych
Public Health	PH
Surgery	Surg
Surgery - Pediatric	Surg - Ped

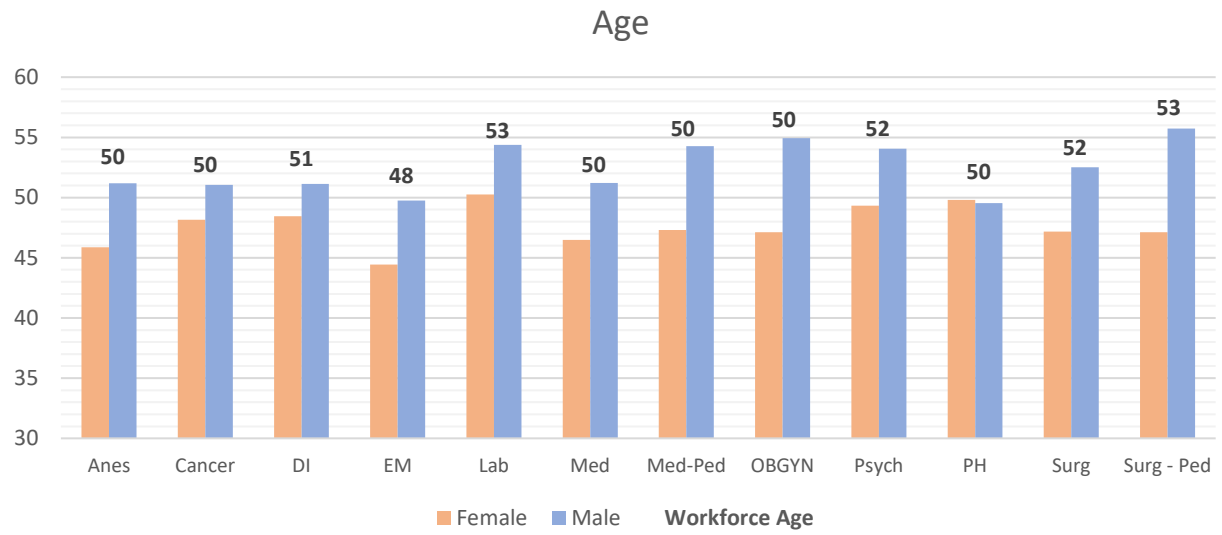
Demographics[14]

37% (2,275) of the Specialists workforce (6,221) are Female. The average age of active Specialists is 49 years old. The Headcount to FTE (total) ratio is around 68%.

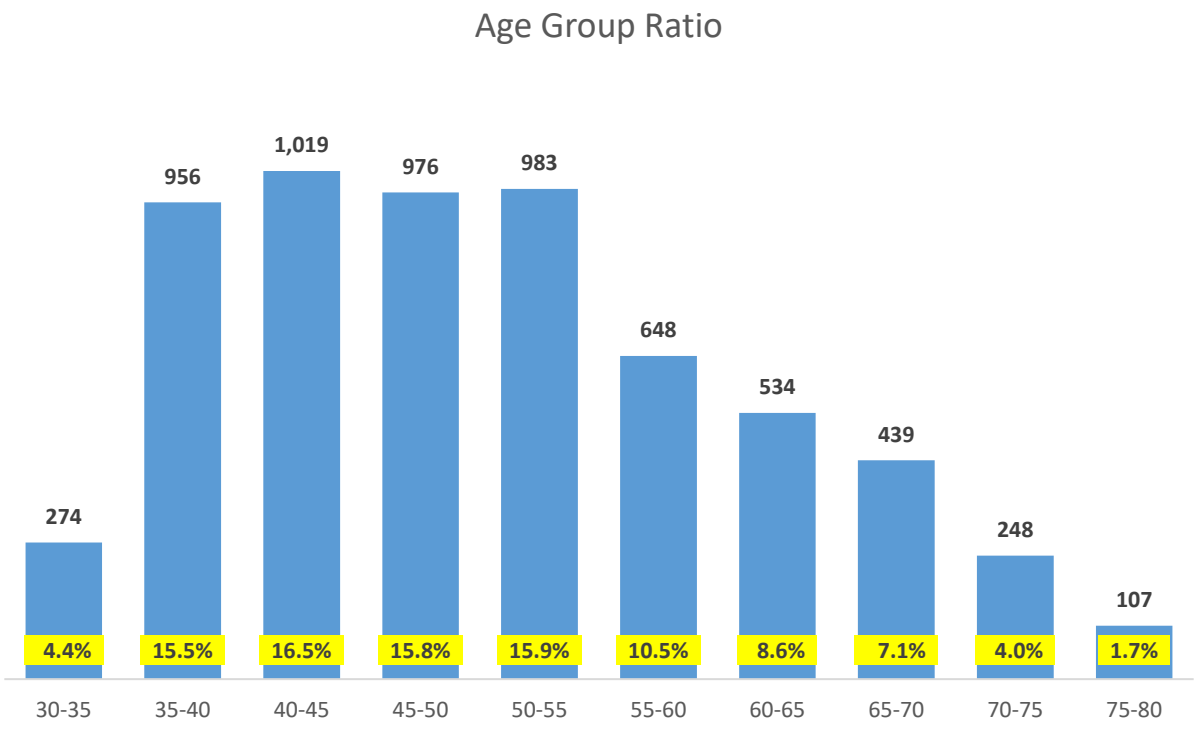
Specialties	Female FTE	Female HC	Male FTE	Male HC	Total FTE	Total HC	Female FTE/HC	Male FTE/HC	Workforce FTE/HC	Female %	Female Age	Male Age	Workforce Age
Anesthesiology	85.4	146	206.5	325	292.0	471	58.5%	63.5%	62.0%	31.0%	46	51	50
Cancer	31.9	51	53.0	89	84.9	140	62.6%	59.5%	60.7%	36.4%	48	51	50
Diagnostic Imaging	86.1	103	306.3	377	392.3	480	83.5%	81.2%	81.7%	21.5%	48	51	51
Emergency Medicine	178.2	227	356.9	435	535.2	662	78.5%	82.0%	80.8%	34.3%	44	50	48
Lab Medicine & Pathology	96.5	138	111.0	167	207.5	305	69.9%	66.4%	68.0%	45.2%	50	54	53
Medicine	340.0	579	655.3	1,039	995.3	1,618	58.7%	63.1%	61.5%	35.8%	46	51	50
Medicine - Pediatric	256.4	381	186.4	272	442.8	653	67.3%	68.5%	67.8%	58.3%	47	54	50
Obstetrics & Gynecology	131.8	187	65.3	98	197.1	285	70.5%	66.7%	69.2%	65.6%	47	55	50
Psychiatry	222.6	284	311.5	393	534.1	677	78.4%	79.3%	78.9%	41.9%	49	54	52
Public Health	13.8	20	8.8	22	22.6	42	69.0%	40.0%	53.8%	47.6%	50	50	50
Surgery	82.3	142	443.4	694	525.7	836	57.9%	63.9%	62.9%	17.0%	47	53	52
Surgery - Pediatric	9.8	17	17.7	35	27.5	52	57.8%	50.6%	52.9%	32.7%	47	56	53
Total	**1,534.8**	**2,275**	**2,722.1**	**3,946**	**4,256.8**	**6,221**	**67.5%**	**69.0%**	**68.4%**	**36.6%**	**46**	**51**	**49**

The following graphs present the Specialists' workforce age distribution.

Almost 13% of the workforce are 65 years or older; and over 32% are 55 and older.



[14] Physicians older than 80 years of age have been removed from the demographic report.



The following graph shows active FTE for each age category. Physicians between the age of 30 and 50 have the highest FTE rate (0.73).

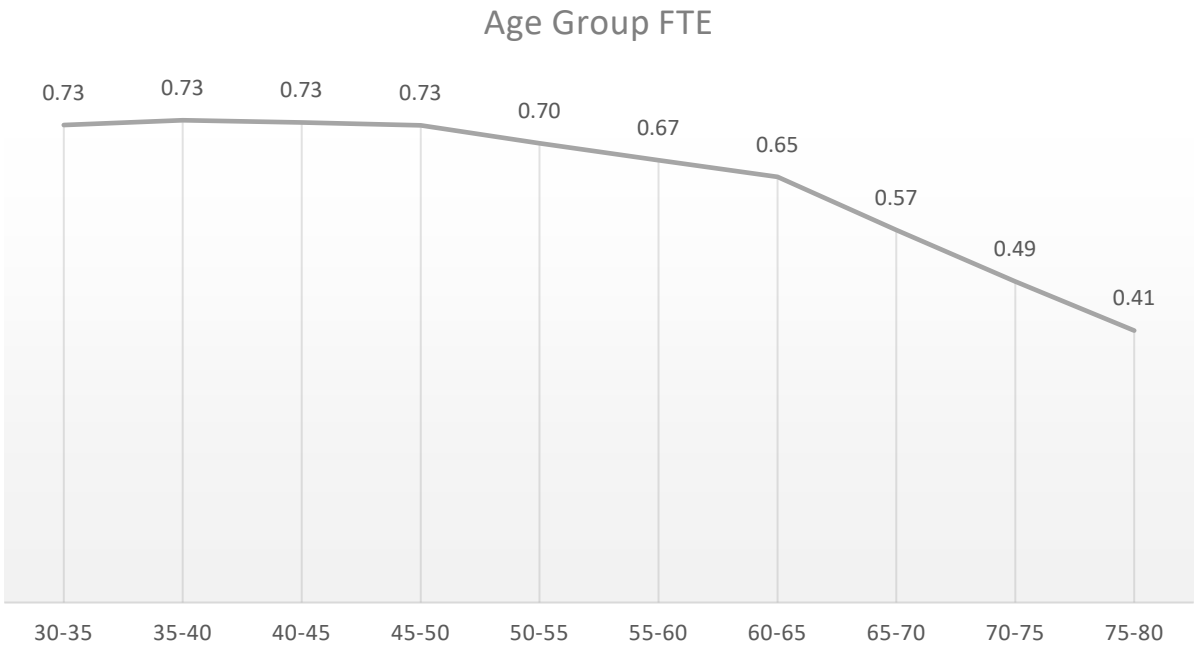
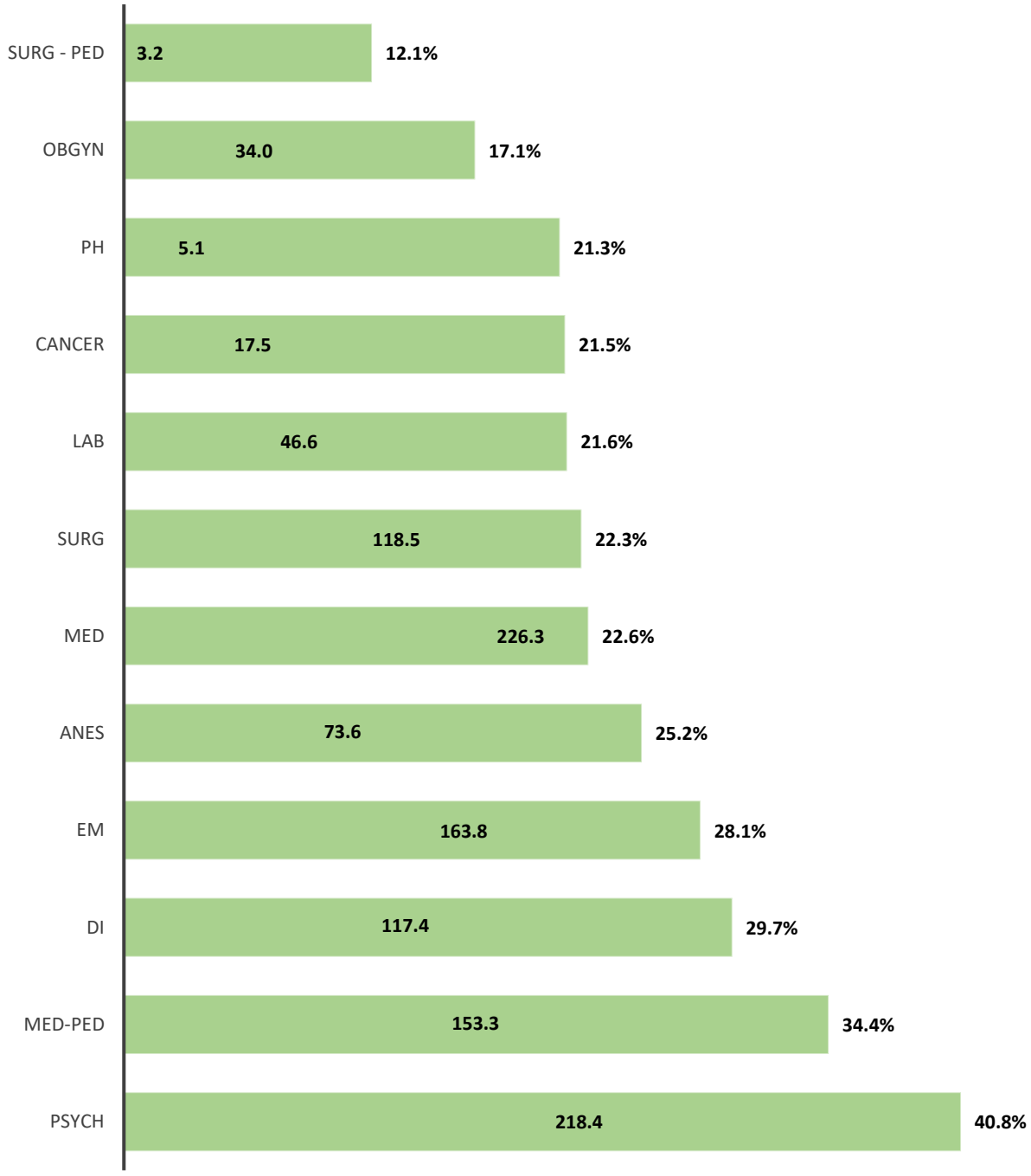
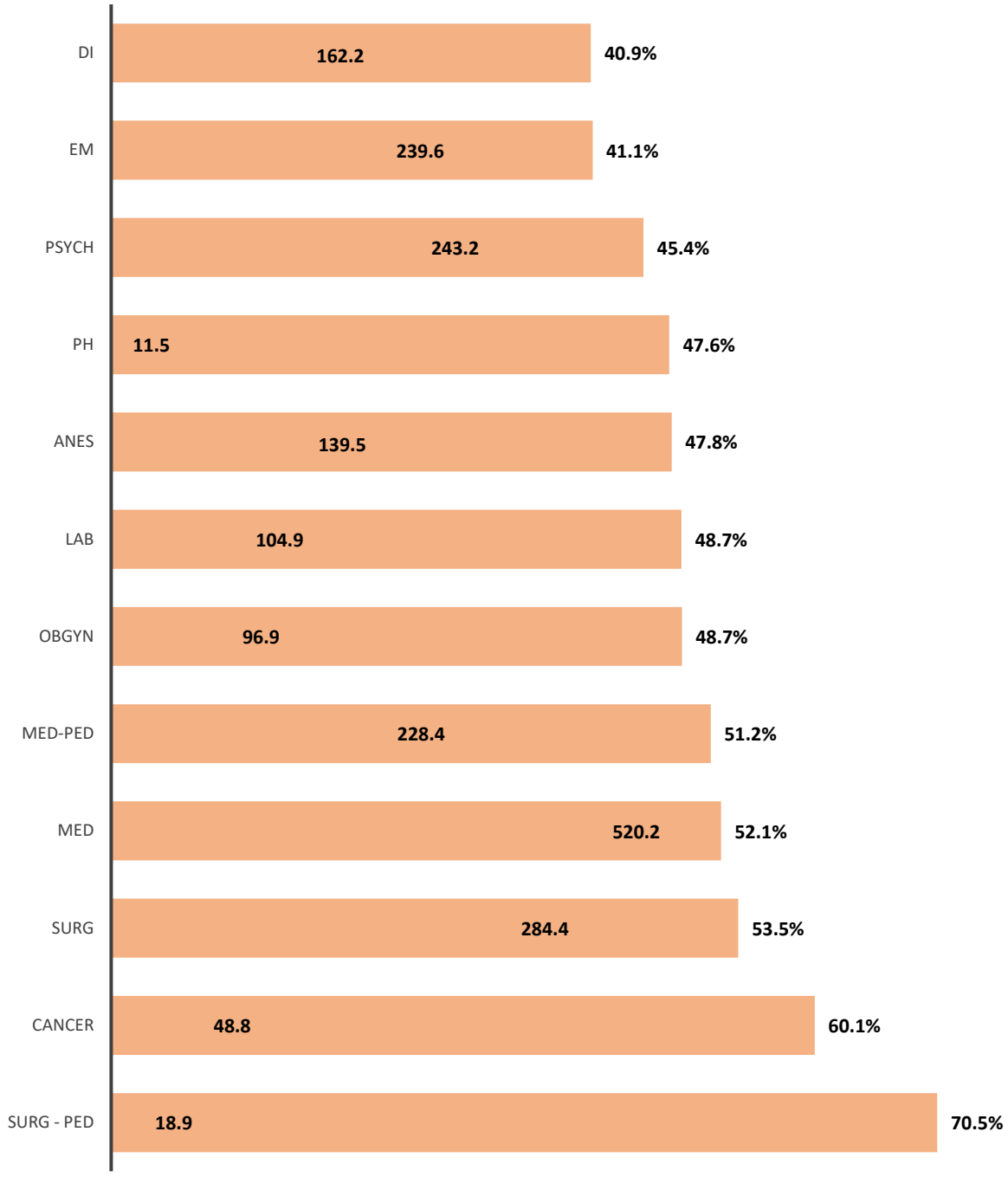


Table 1: 10 Year New FTE and Total Growth Rate (%)[15]



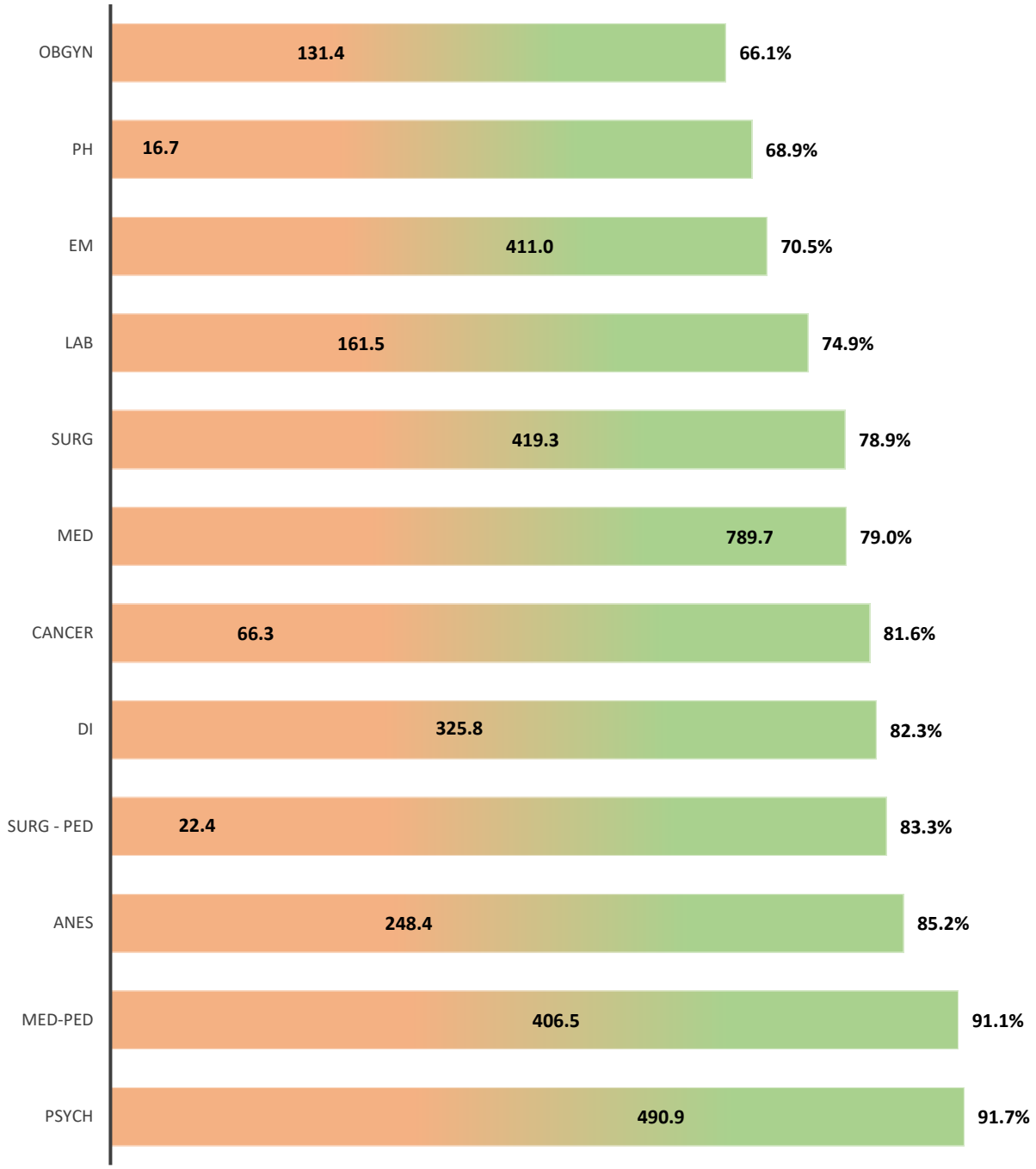
[15] The numbers on the pillars refer to the anticipated net new FTE Need and the percentages above the pillars indicate the net new to current workforce FTE ratio.

Table 2: 10 Year Replacement FTE and Total Replacement Rate (%)[16]



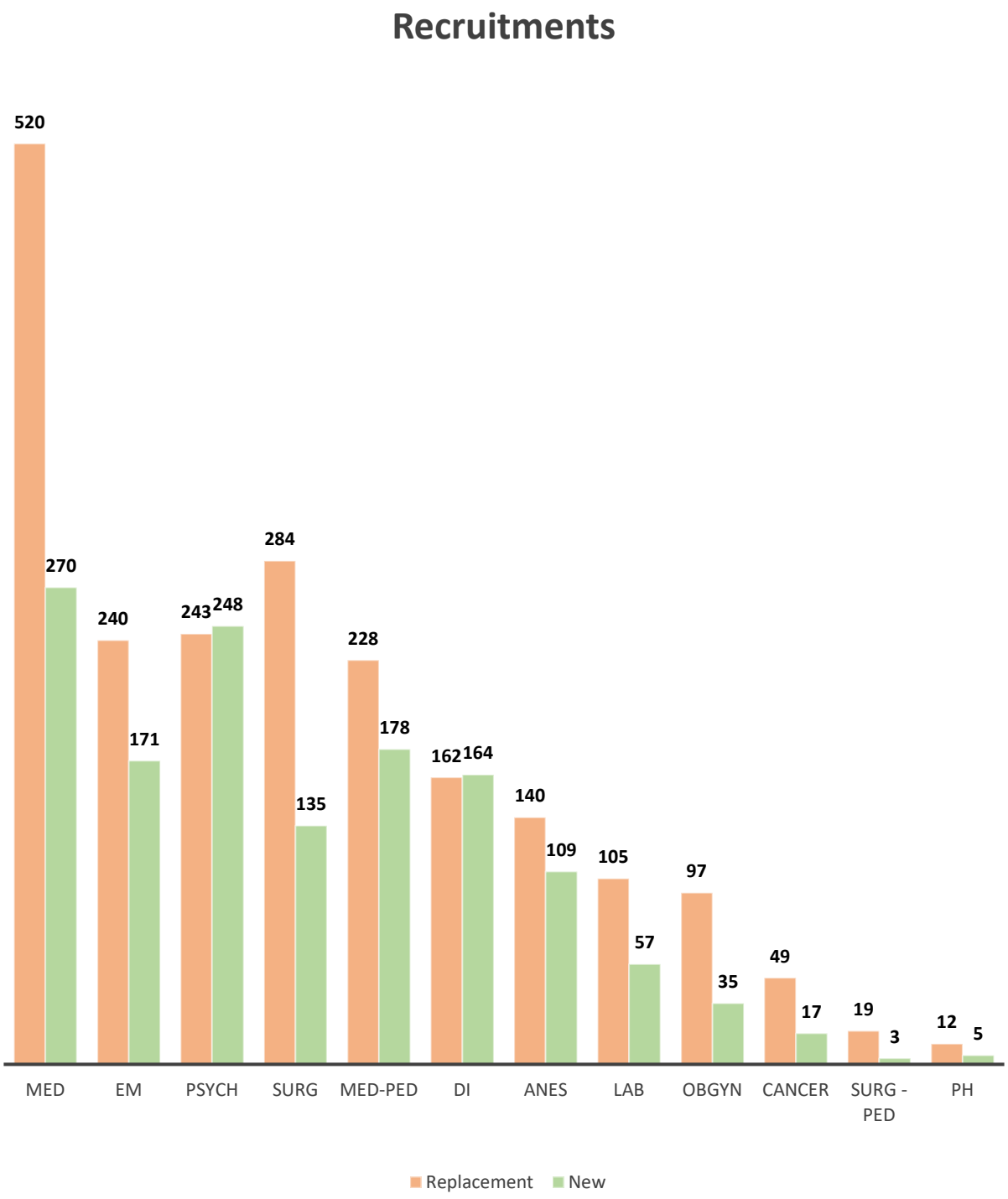
[16] The numbers on the pillars refer to the anticipated replacement FTE and the percentages above the pillars indicate the replacement to current workforce FTE ratio.

Table 3: 10 Year Recruitment and Total Recruitment Rate (%)[17]



[17] The numbers on the pillars refer to the total anticipated recruitment FTE and the percentages above the pillars indicate the 10 years recruitment to the current workforce FTE ratio.

Table 4: New vs Replacement[18]

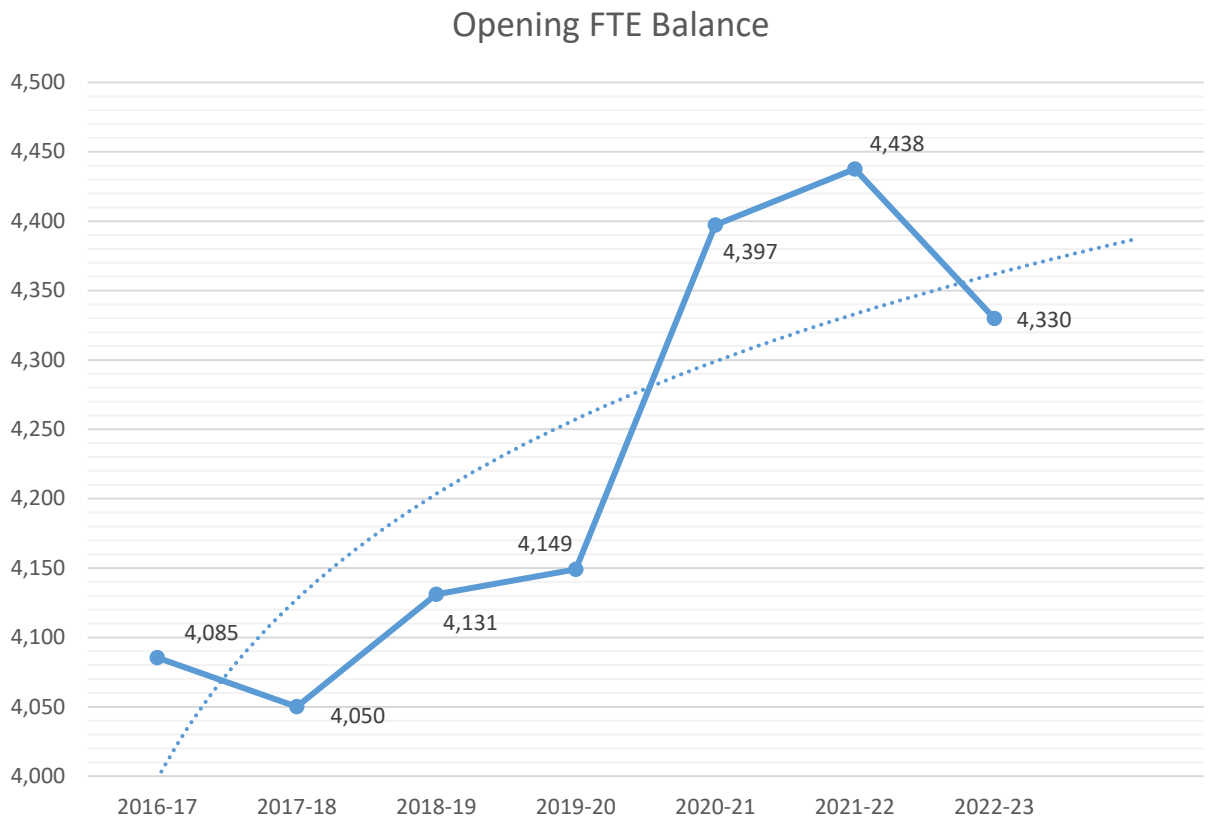


[18] The specialties are sorted by descending order based on the current workforce FTE size.

7 Years Trend Analysis

1) Opening Roster FTE

The opening roster in this year's forecast (2022-23) shows a decrease of less than 2.5% compared to last year[19][20]. Over the past 7 years, physician FTE growth has increased by roughly 6%. It's anticipated an increase of 1.35% in opening FTE for the next year, based on the overall trend.

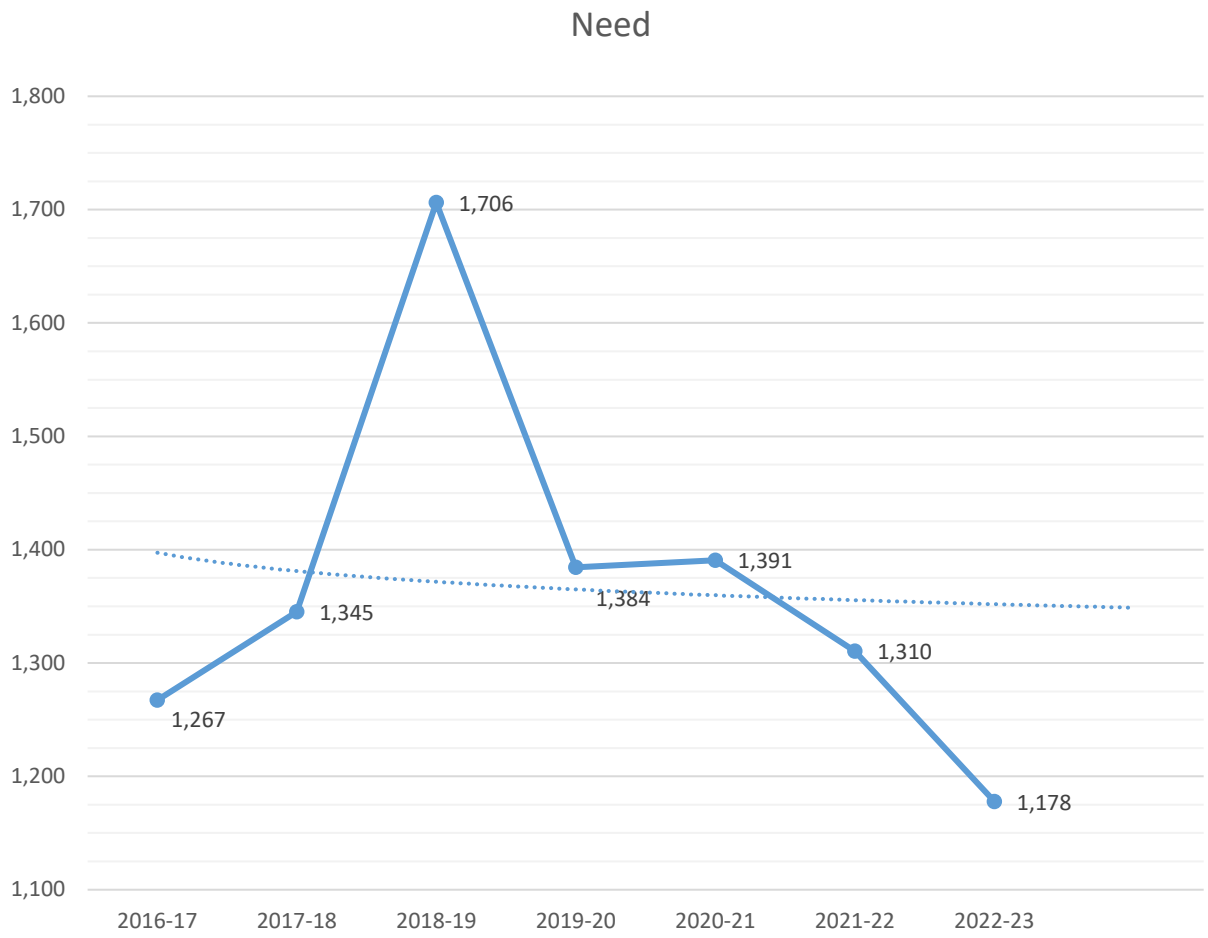


[19] The unusual FTE growth 2020-21 vs 2019-2020 was due to FTE update methodology change, not the actual recruitment.

[20] The drop in opening FTE this year comparing to year 2021-22 is due to removing inactive physicians from the application.

2) Forecasted New (Need)

The forecasted new FTE has decreased by 10% compared to last year[21][22]. Based on the net new forecasts prior to 2020-2021 (pre-COVID-19 pandemic) and the trend line (below in dotted line) we anticipate Net New of approximately 1,350 FTE represents a fair assumption of the next 10 years Need.

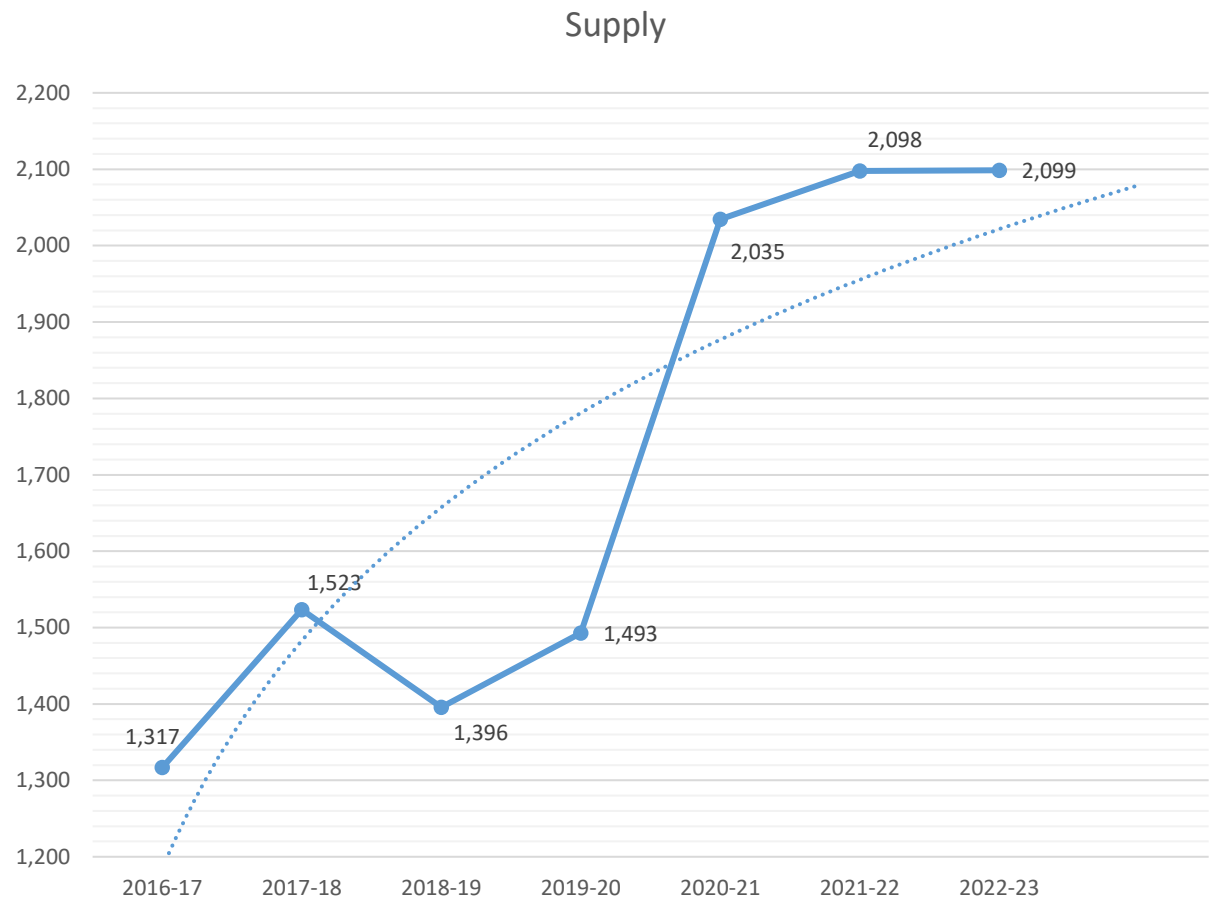


[21] The decline in Net New (Need) FTE forecast is due data manipulation mentioned earlier on page 6 to minimize the effect of COVID-19 pandemic on our health data.

[22] Please note, that 2018-19 abnormal high need was due to significant spike in the first year of certain specialty forecasts based on the available data at the time (CRGs). In 2019-20, AHS switched to CIHI HPG methodologies, which created a more even net new increase projection in the forecast.

3) Anticipated Replacement Recruitment (Supply)[23]

A gradually increasing Replacement Recruitment (Supply) forecast is becoming a growing concern. This year's forecast indicates 2,100 FTEs are needed throughout the next 10 years to fill in replacement positions. It is 78% higher than the anticipated Net New FTE (Need) forecast[24]. On average, 130 FTEs exit (retire) from the workforce per year; it follows a very low and steady declining trend. In addition to the separation, the replacement section includes Gender Shift and NIPM/RFA, which both are increasing rapidly.



[23] Due to some methodology challenges from 2016-2019, the numbers are not reflecting the accurate replacement figures. The problem was addressed and corrected last year.

[24] Considering the assumed anticipated Need forecast mentioned earlier on page 18 to neutralize the effect of COVID-19 pandemic on health data, the 78% ratio can be decreased to %55.

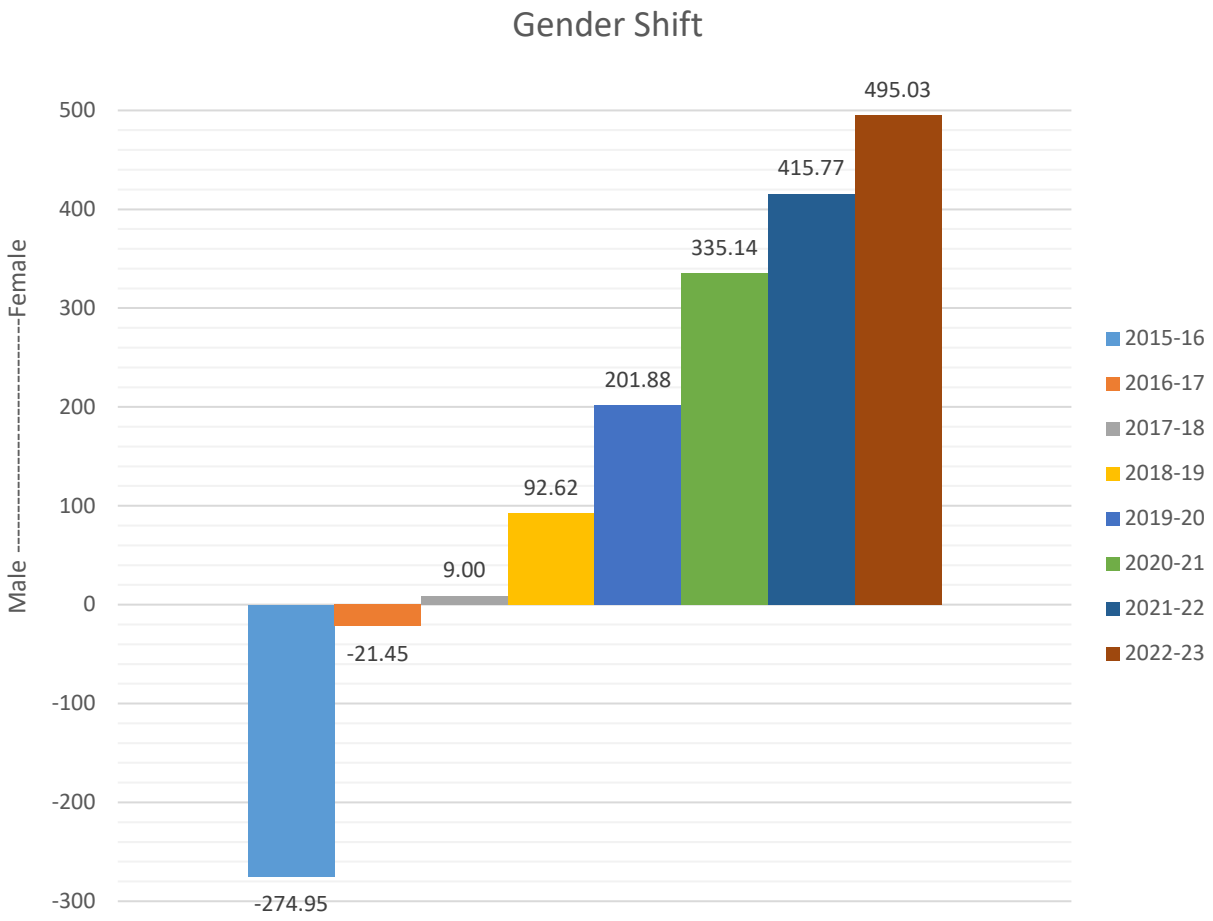
3.1) Gender Shift

Gender Shift measures the relative workload productivity, as expressed by Full Time Equivalency (FTE) values, between male and female physicians to adjust the forecast FTE according to the current and predicted male/female mix.

Data showing different FTEs worked at different life stages, and that the methodology is somewhat connected to billing data which doesn't translate perfectly to time spent with patients; therefore negative numbers suggest the male workforce FTE is increasing and the positive values indicate the increase in female workforce FTE. We are reviewing new studies and exploring new data points on FTE related to Gender Shift in next year forecast. New evidence may become available that suggests a gender shift may not result in the same level of replacement recruitment need.

Following the 8 years of our workforce data, the workforce suggests shifting towards female physicians is increasing. The linear trend anticipates gender shift will increase to around 625 FTE. It means we need 625 more FTE to neutralize the effect of shifting recruitment more towards female physicians.

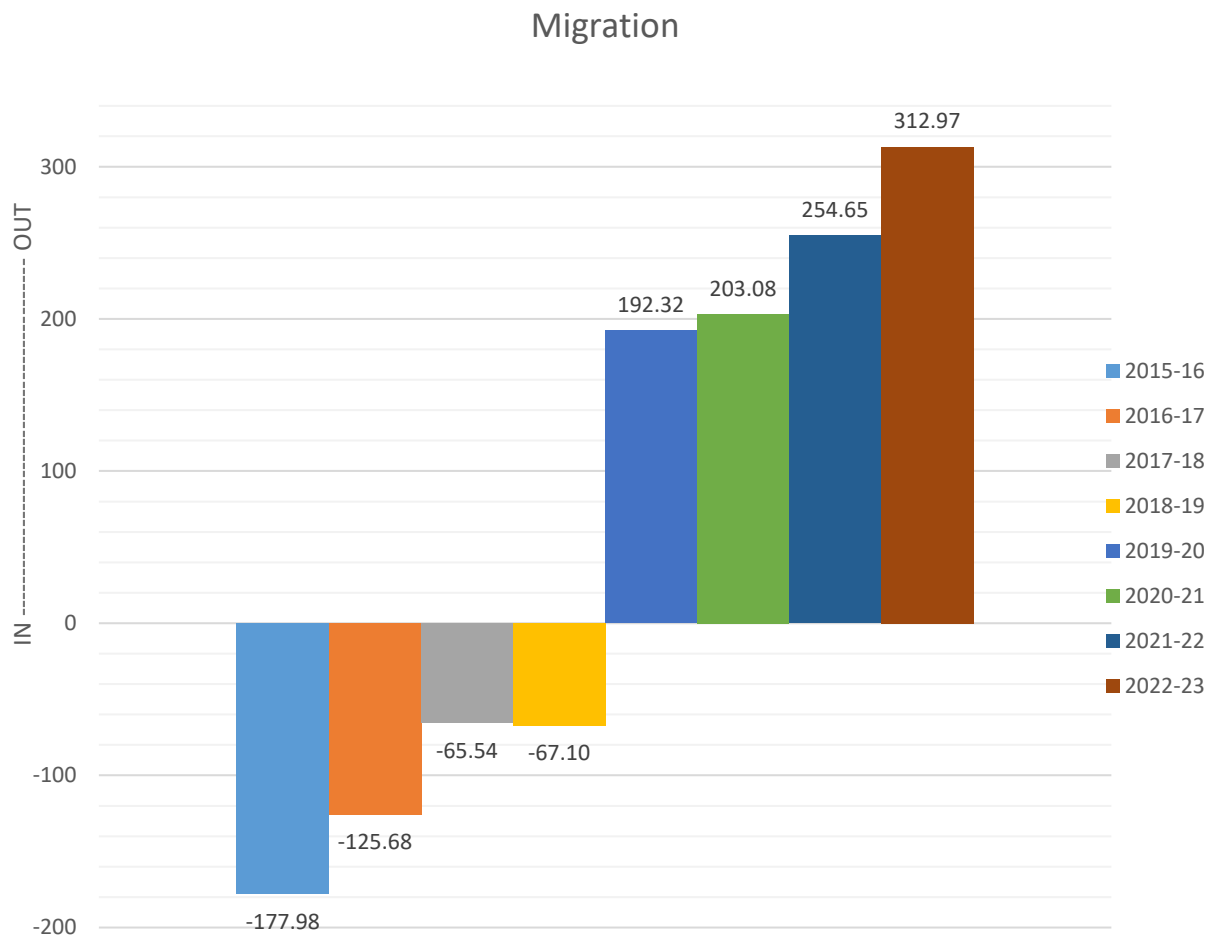
3.2)



NIPM / RFA

Rate of physicians' Net Inter-Provincial Migration (NIPM) and rate of Return From Abroad (RFA). To adjust future supply for the predicted number of physicians who will migrate into and out of province within Canada (NIPM) and for the predicted number of physicians who will migrate into the province from out of country and migrate out of country from within the province (RFA).

Our 8 year workforce data trend shows a negative migrating trade off. Basically, more and more workforce is leaving our province to other provinces or countries. The linear trend anticipates NIPM / RFA will increase to around 410 FTE. It means we need 410 more FTE to neutralize the effect of migrations out of Province and out of country.

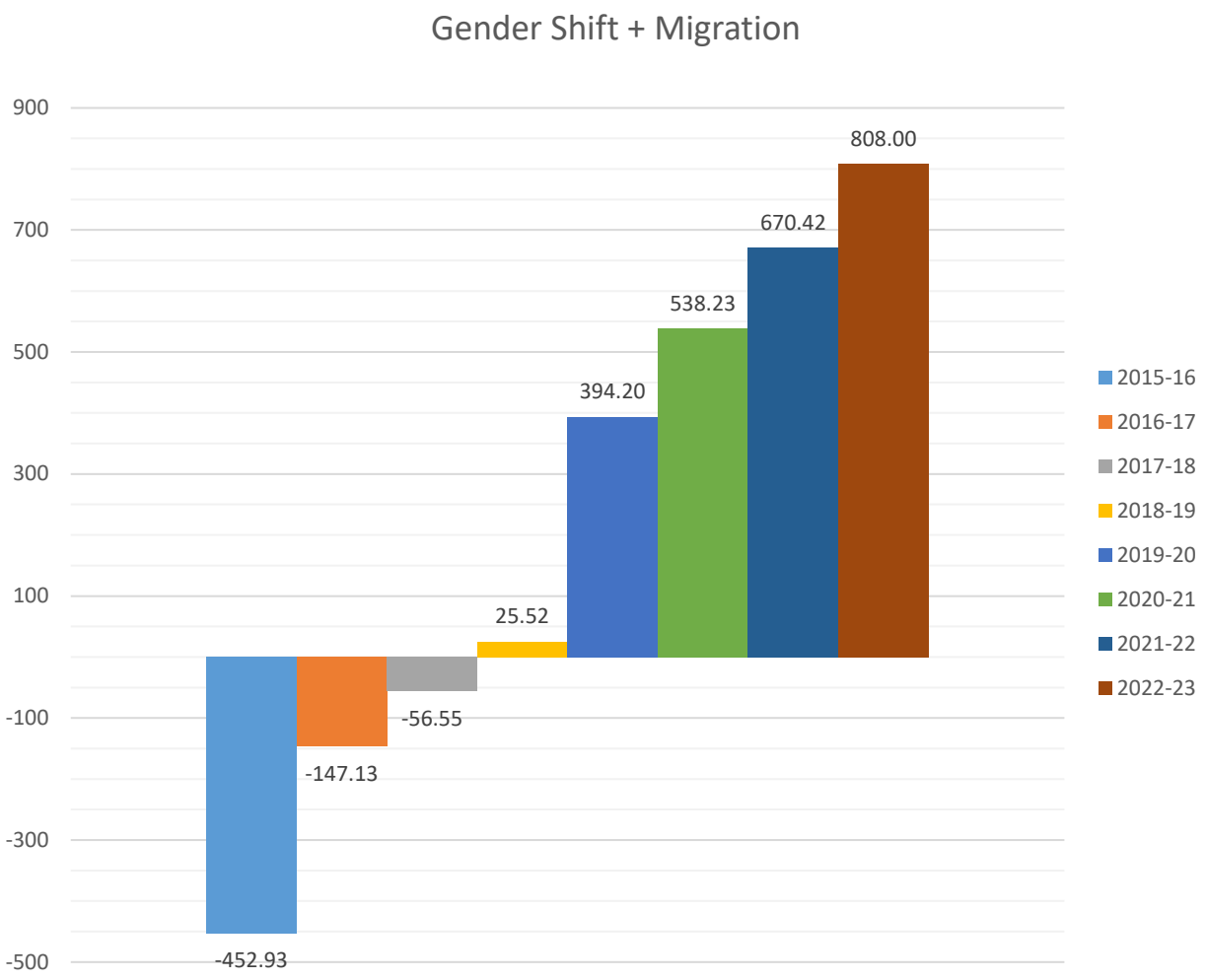


3.3) Impact of Migration and Gender Shift on Overall Replacement Need

Besides Retirement, Gender Shift and Migration are the two other major factors on the Replacement FTE forecast.

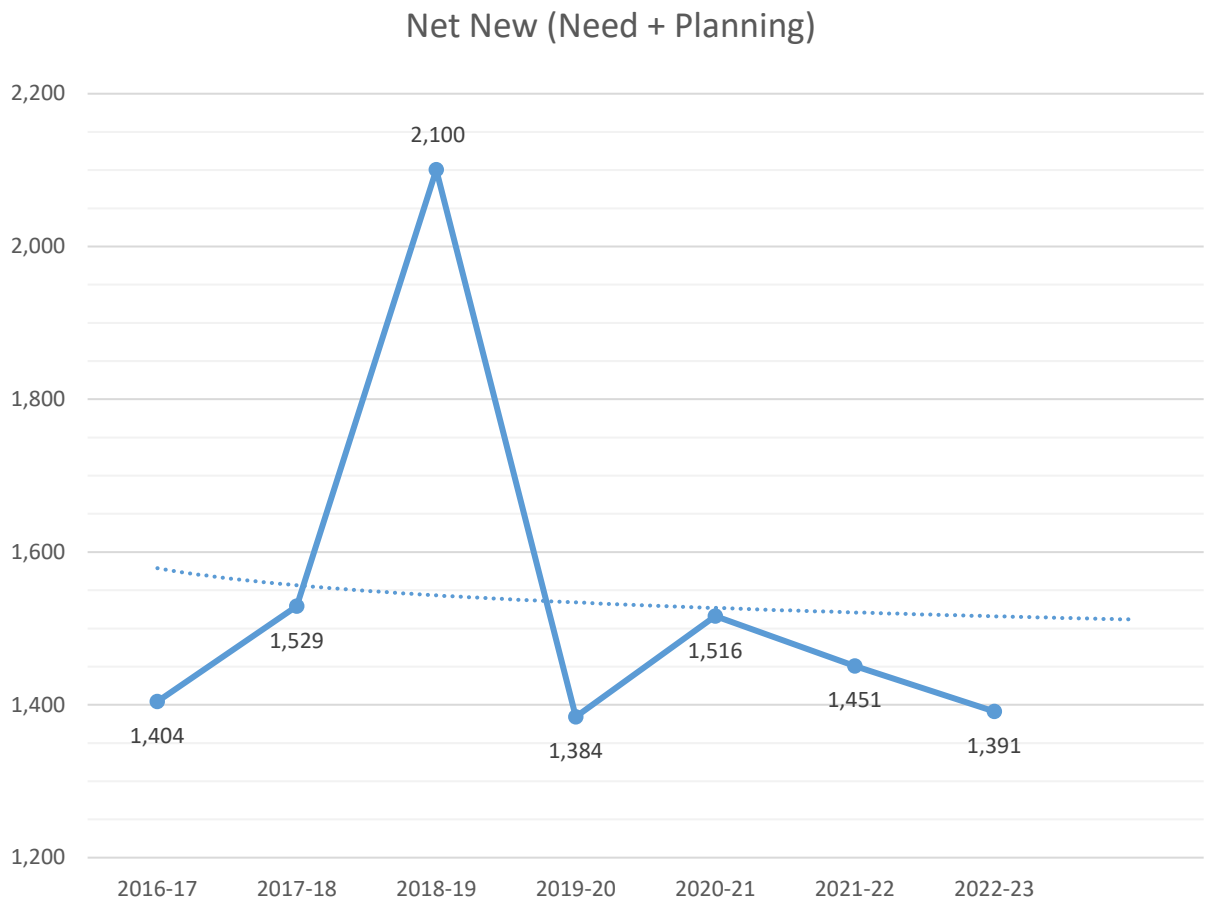
These effects can put more pressure on our workforce planning; regardless, there will be consequences that cannot be ignored.

Throughout the past 8 years, changes in our provinces' environment have driven the replacement rate higher. There is a shift of almost 1,260 FTEs since 2015



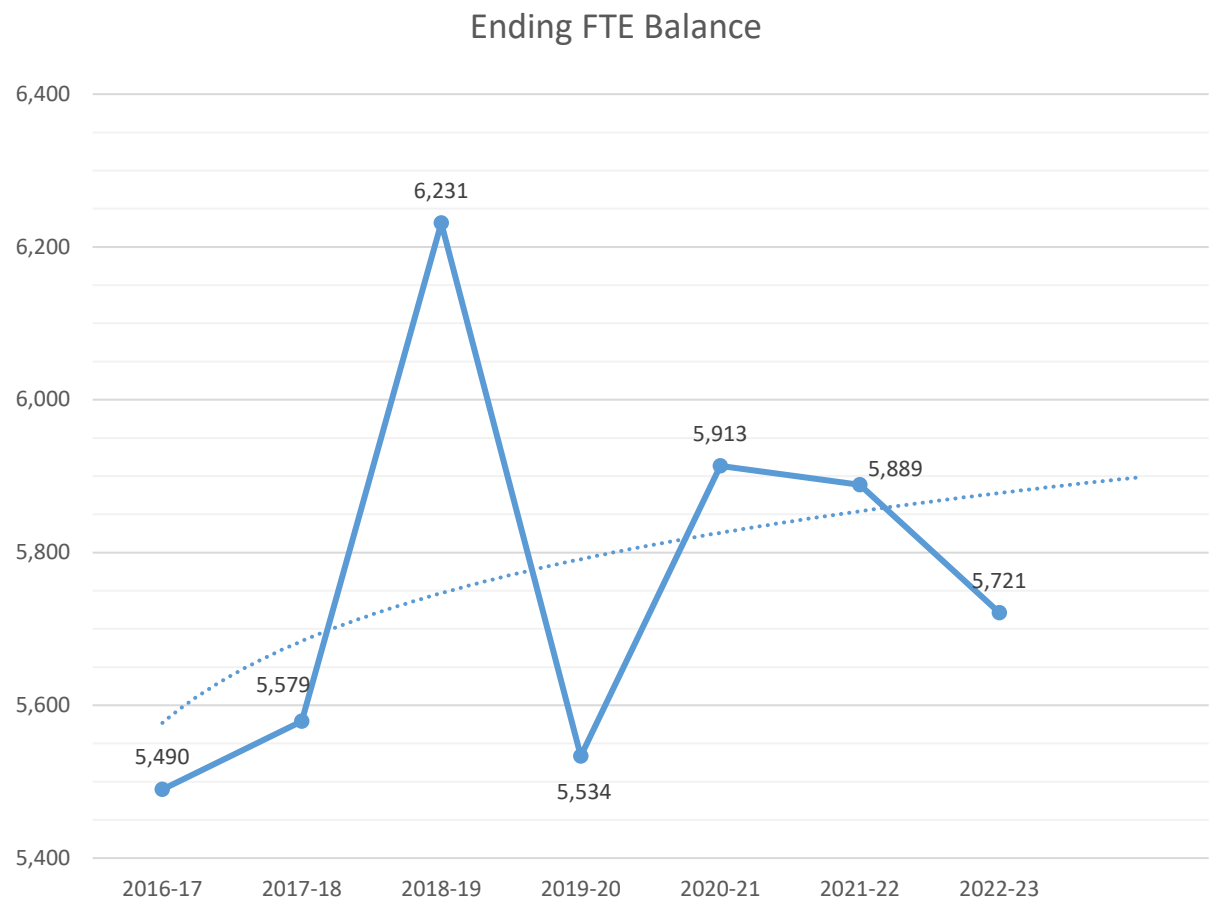
4) Net New (New Need + Planning Variables)

The forecasted need FTE and the planning variables' FTE combined form the total Net New FTEs. Except 2018-19 due to aforementioned spike in the first year forecast, the total need follows a steady almost flat trend.


Net New (Need + Planning)
2,200
2,000
1,800
1,600
1,400
1,200
2,100
1,529
1,404
1,384
1,516
1,451
1,391
2016-17
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23

5) Ending FTE Balance

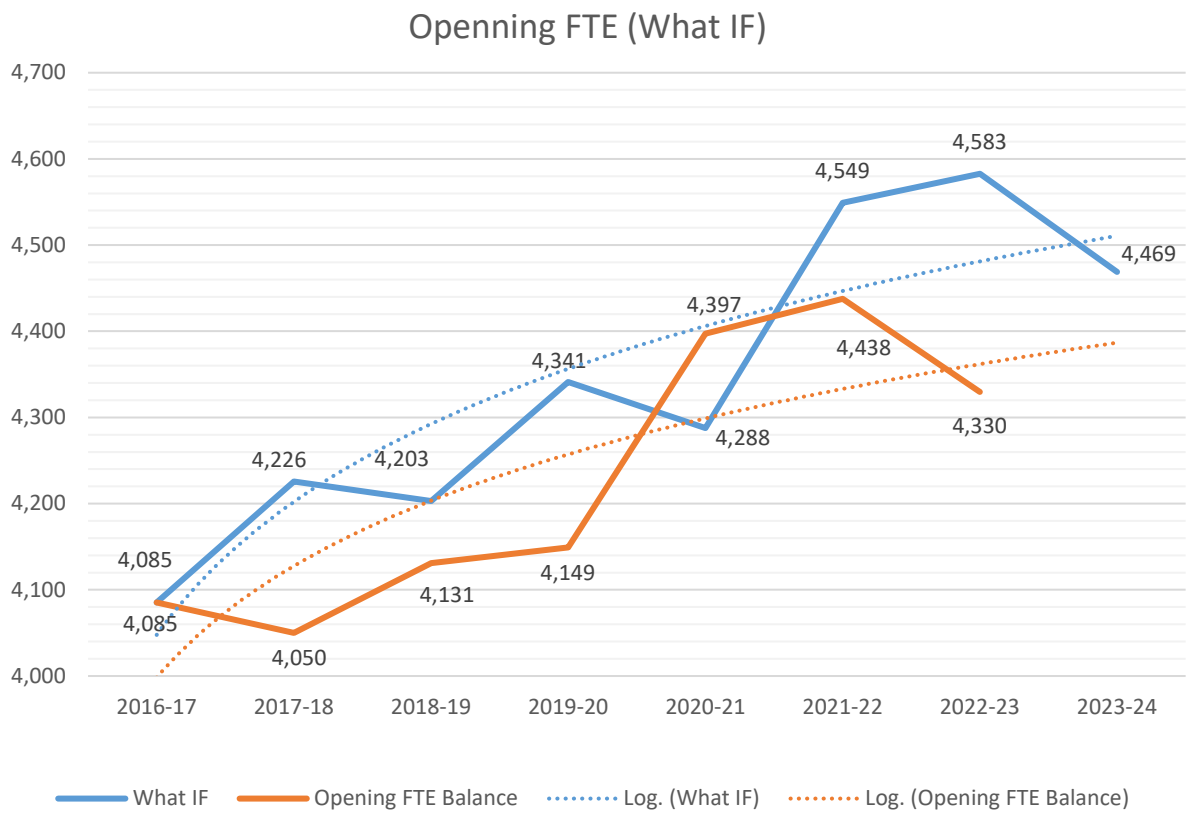
The ending (10 years) FTE balance is equal to current roster FTEs plus Net New FTEs plus Planning Variables FTEs considering all replacement positions been filled. Lower opening FTE as mentioned in page 17 footnote and lower forecasted Net New FTE this year comparing to last year have resulted this year's anticipated ending FTE to be lower than the prior year's.



6) What IF

In the following graph, the actual opening FTE is compared with the forecasted opening FTE balance (the forecasted ending FTE of the prior year). The "What If" value is the actual opening FTE of the prior year plus the anticipated net new need of the same year, which represents the next year's anticipated opening FTE. For example, this year's opening FTE is 4,330 (orange solid line). Based on the last year (2021-22) net new need forecast (145) and its opening FTE (4438) the opening FTE for this year should have been 4,583 (blue solid line) IF all suggested net new FTEs were recruited successfully. This year we have a total annual gap of 253[25] FTE.

The gap between the Opening FTE trend line (dotted orange) and the What If trend line (dotted blue) measures the recruitment success. The wider the gap the lesser the success in recruitment. The data trend points to a consistent slowly growing gap year-over-year, between our anticipated net new need and our actual annual FTE growth (~120 FTE)[26]. The "What If" forecast suggests almost 80 FTE (1.8%) FTE deficit for the next year (2023-24).



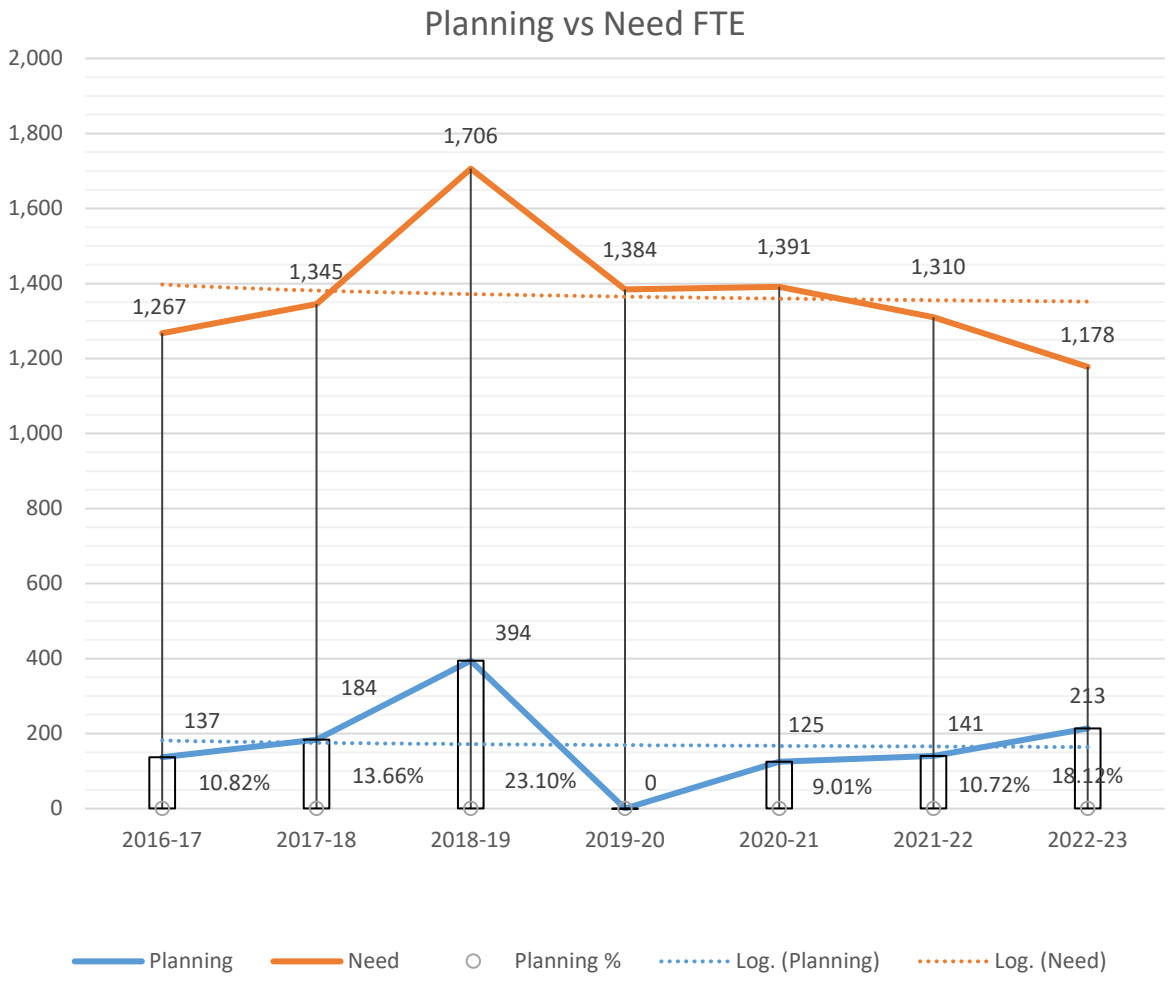
[25] Almost 50% of this year's FTE gap is due to the removal of the inactive specialists in the application.

7) Planning vs Need FTE

The following graph shows the magnitude of the adjustment (by Zones) to the forecasted FTE, so called Planning Variables.

This graph in addition to earlier (6. What If) graph provides better insight on workforce forecasting and recruitment planning. By applying proper planning variables, we can present a more realistic workforce forecast to fit our recruitment planning reality.

Having said that, in coming year(s) planning variables will play a major role to adjust the net new forecast due to irregularity in health data that has caused by the COVID-19 pandemic[27].



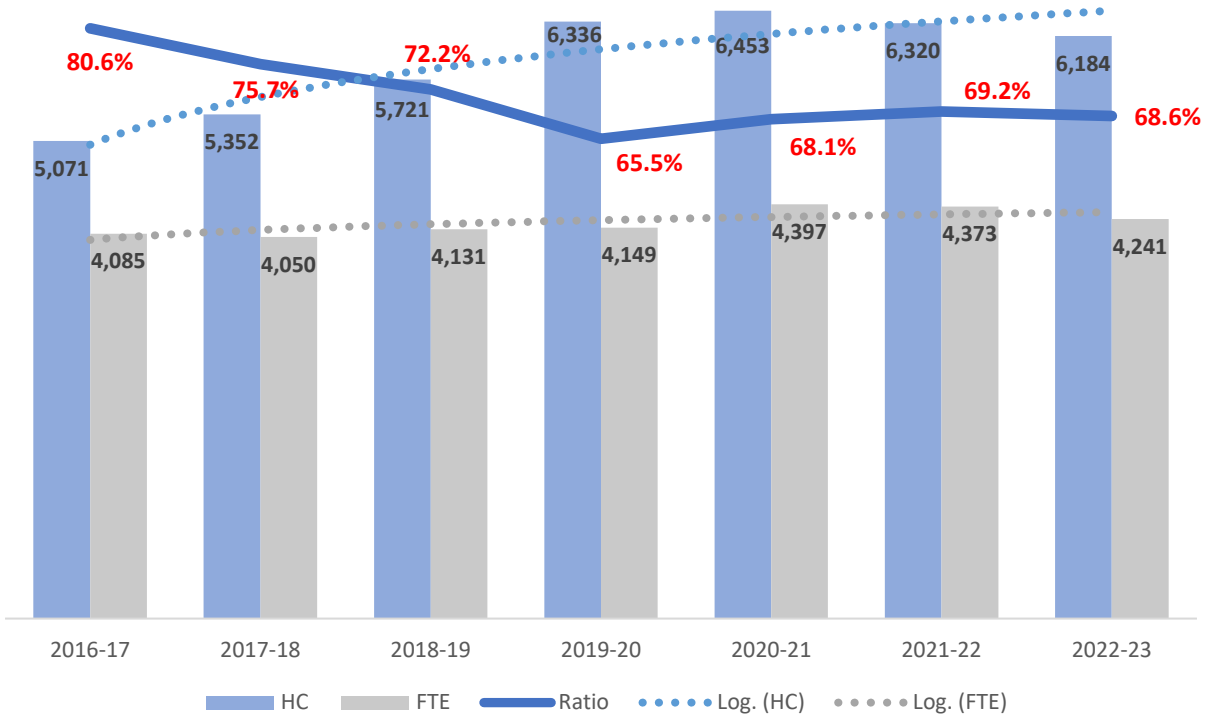
[27] The growth in planning variables application in this year is mainly applied to compensate for the lower net new forecast due to irregular health data trend due to COVID 19 Pandemic.

FTE vs Headcount (Specialists)

The workforce forecasting methodology focuses on physicians FTE (full-time equivalent) rather than headcount[28]. Studying the relationship between headcount and FTE can contribute to better recruitment planning.

Seven years of specialist workforce data has been used to explore the evolving relationship between the physician workforce headcount and FTE.

1. The recent year data shows steady and stablished FTE/HC ratio at around 69%. The solid blue line represents this change throughout the past six years.
2. The dotted blue line shows the increasing trend of the headcount.
3. The FTE trend is almost flat (dotted grey line).
4. Since year 2016, our workforce headcount has increased by almost 22% while the FTE has increased by less than 4%.

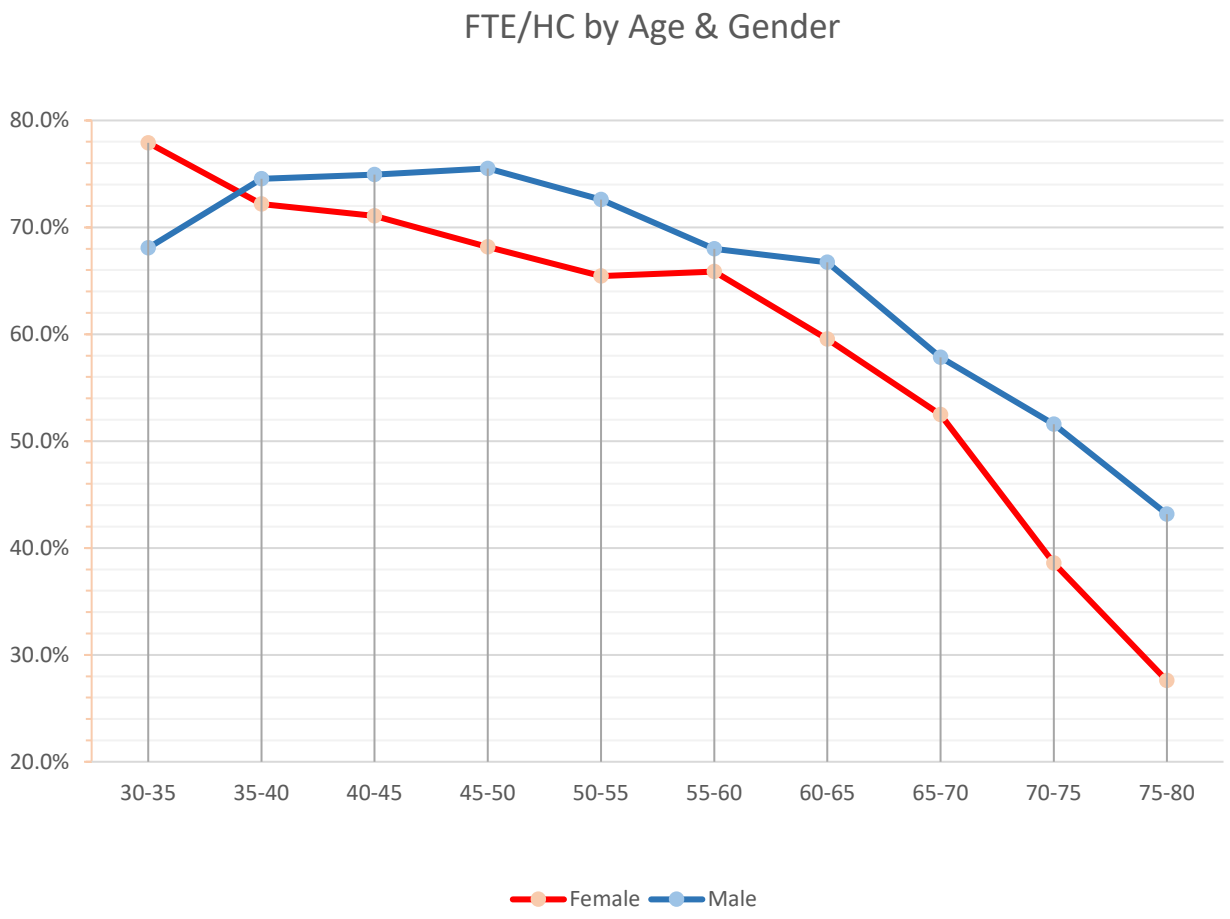


[28] In occasions that FTE is not available the headcount (FTE=1) will be applied.

FTE vs Headcount by Age and Gender (Specialists)

The table below shows The FT/HC by gender and age group.

Statistical test shows there are no sufficient evidence to prove male and female FTE to headcount ratio are equal.



Physicians Supply vs Service Demand (PGME vs PWP)

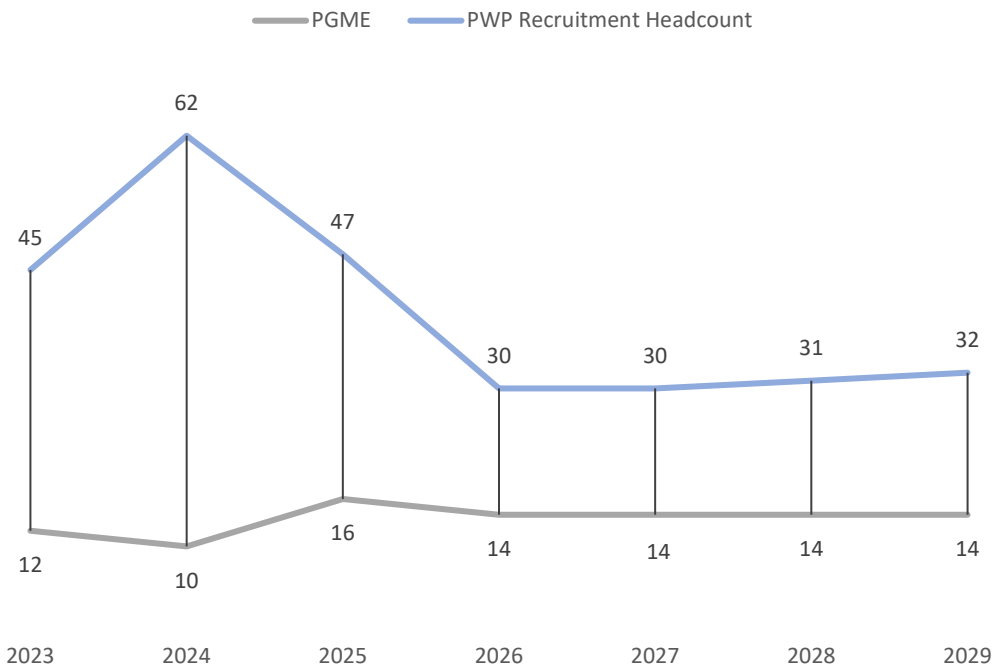
This year's forecast suggests there will be 2,099 replacement and 1,391 net new FTE (including planning variables) needed over the next 10 years to maintain the same level of service. This would suggest a yearly recruitment need of 349 FTE. Considering the FTE to Headcount ratio (70%), that translates to approximately 499 physicians per year to meet the anticipated workforce growth.

Using our annual forecast numbers and Alberta's resident physician training volumes, AHS can plot out a basic supply and demand visual for various specialties and family medicine disciplines.

The chart below illustrates a sample Supply/Demand analysis comparing University of Alberta and University of Calgary Anesthesiology graduating residents against the annual forecasted need identified for Provincial anesthesiology.

Anesthesiology has been selected as example only.

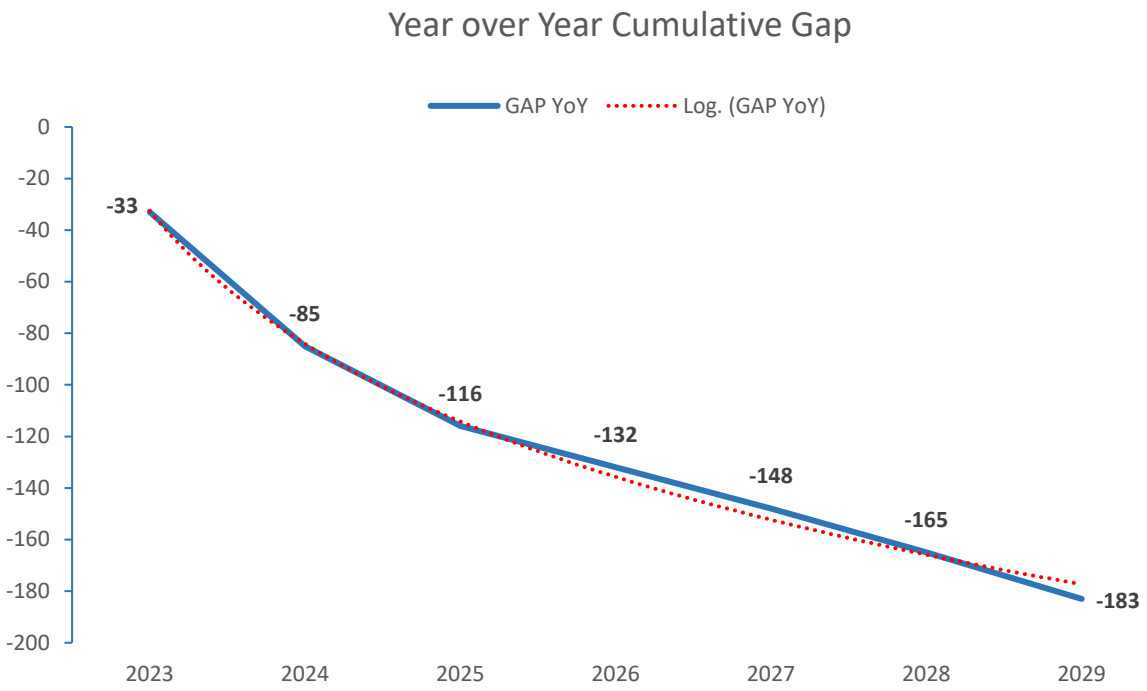
The average specialists FTE/HC has been used for Anesthesiology is assumed 70%[29]. The PGME retention rates is applied at 100%[30].



[29] This is based on the average specialties FTE/HC ratio.
[30] Based on our historical average the PGME's retention rate should be adjusted to 75%. Considering that, the gap will be much wider than what it has been represented in this graph.

The graph shows a big gap for the years 2023, 2024 and 2025 due to use of 36 FTE as planning variables.

The following graph shows the year over year shortage of Anesthesiologists for the next 7 years[31].



This is an example of reports that can be done correlating our endogenous supply with our projected needs. This can be prepared for specialties in urban areas or province wide.

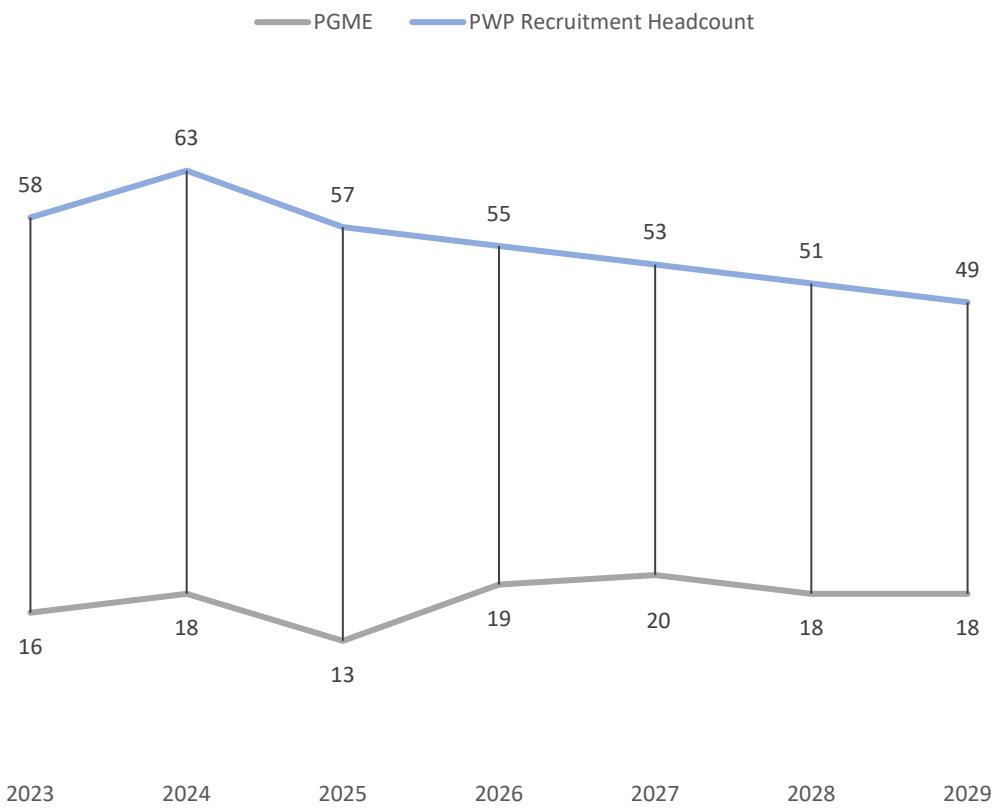
[31] PGME 2028 and 2029 graduates are an estimate based on the 2023 to 2027 report.

Physicians Supply vs Service Demand (PGME vs PWP) Continue …

The chart below illustrates a sample Supply/Demand analysis comparing University of Alberta and University of Calgary Psychiatry graduating residents against the annual forecasted need identified for Provincial Psychiatry.

Psychiatry has been selected as example only.

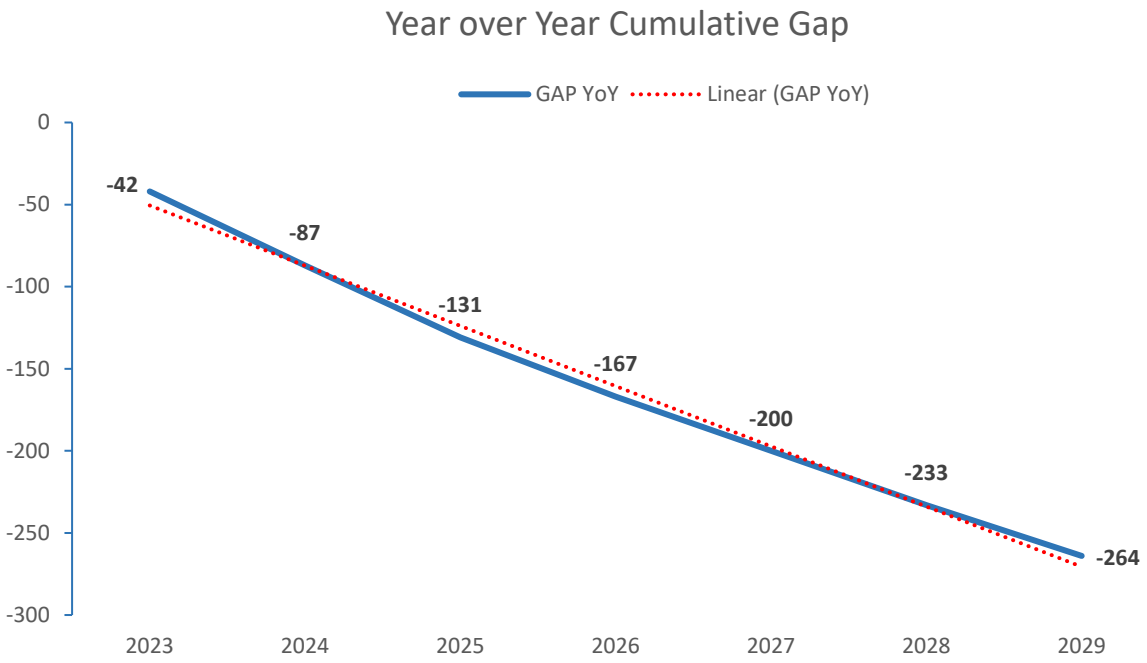
The average specialists FTE/HC has been used for Psychiatry is assumed 70%[32]. The PGME retention rates is applied at 100%[33].



[32] This is based on the average specialties FTE/HC ratio.

[33] Based on our historical average the PGME's retention rate should be adjusted to 75%. Considering that, the gap will be much wider than what it has been represented in this graph

The following graph shows the year over year shortage of Anesthesiologists for the next 7 years[34].



This is an example of reports that can be done correlating our endogenous supply with our projected needs. This can be prepared for specialties in urban areas or province wide.

[34] PGME 2028 and 2029 graduates are an estimate based on the 2023 to 2027 report.

Policy Opportunities

Physician Retention

When considering workforce forecasting, net new resources and expansion of services to meet growing demand can often take centre stage. And while the 2023 physician workforce forecast *does* predict a 10-year net new increase in physician FTE of roughly 2,600, the growing need to replace existing physicians who are retiring or leaving the province over this same time span is becoming a clear priority.

For the past three forecasting cycles, replacement recruitment has eclipsed anticipated net new recruitment need. In 2023, the forecast is expecting a 10-year replacement recruitment total of over 4,000 FTE (including both specialist and family medicine physicians). This translates to approximately 5,000 physicians (who are currently practicing) leaving the Alberta workforce over the next decade and needing to be replaced in order to sustain existing service levels. This presents a significant recruitment challenge, even if you exclude the anticipated net new FTE need on top of that.

Our forecast measures replacement recruitment primarily based on the current age of our existing physician workforce. At the time of this report, 34% of Alberta's family physician workforce and 32% of our specialist physician workforce are 55 years of age or older. Statistical evidence from previous forecasts suggests that FTE begins to significantly wind down and/or physicians begin to retire from practice entirely around age 65. Given physician workforce shortages happening locally, nationally, and globally, retaining existing physicians and enabling practitioners to extend their clinical careers into their 60s will be an important priority for AHS and Alberta going forward.

The forecast also uses data available by specialty from the Canadian Institute of Health Information (CIHI) to anticipate physicians leaving and coming to Alberta. Over the past several years, the trend has been skewing unfavourably for Alberta, with more physicians exiting practice in Alberta in favour other locations in Canada. Alberta will need to ensure that our recruitment and retention efforts promote the advantages of practice in Alberta and understand what physicians are looking for in both their careers and in a place to live.

Physician Experience Office

AHS Medical Affairs established a Physician Experience office in 2022. Among other things, the aim of this new program has been to support physician wellness, amplify physician leadership, improve physician orientation, and enhance physician experiences with AHS across their course of their clinical careers.

It is hoped that the Physician Experience office can play a big part in helping retain physicians who may be considering leaving Alberta or winding down their practice.

Extending Careers

Alberta physicians between the ages of 30 and 50 typically work a clinical FTE of nearly 0.75. However, for physicians who continue their clinical practice into the 65-70 age range, this figure drops to 0.57, and this does not factor in physicians who retire from practice completely before or at this range.

AHS, in particular, will need to consider respectful and meaningful ways in which we can potentially extend the careers of our aging physician workforce. This could include earlier conversations between medical leaders and physicians regarding retirement plans; limiting on-call requirements for physicians 60 and older and finding ways to promote the knowledge and experience of our older workforce before they leave practice.

Some Departments, like Pediatrics in the Calgary Zone, have already instituted practices such as reduced or no on-call for physicians over 60. More areas may follow suit in the coming years.

Continued Expansion of Alternative Providers

Given current Alberta workforce shortages and high global competition for healthcare providers, Alberta will not be able to recruit enough physicians to meet service delivery growth expectations while also replacing our retiring physician workforce in the decade to come. Although AHS will continue to prioritize and aggressively recruit Canadian and internationally trained physicians to our vacancies, additional recruitment and service delivery plan strategies are also being put into place.

AHS expects alternative providers to play a big role in the sustainability and growth of physician services over the next decade. This includes expanding the use of providers already working in Alberta like clinical assistants (internationally trained physicians who do not qualify for independent licensure with the College of Physician and Surgeons of Alberta), physician assistants, midwives, nurse practitioners, and more. These providers are currently deployed in various clinical areas across Alberta and have had a positive impact on patient care, complementing and extending our existing physician workforce.

Alternative provider expansion also includes service-specific providers that may be common in other Canadian provinces, but are only just getting a foothold in Alberta, such as anesthesia assistants (AAs). AHS has begun implementation of proof-of-concept anesthesia assistant programs in Edmonton and Calgary, wherein Respiratory Therapists (RTs) are deployed within ophthalmology clinics to extend the existing anesthesiologist workforce. Ultimately, AHS's goal will be to build on the RT role with opportunities to receive enhanced training in order to practice in other clinical settings, including orthopedic surgery and endoscopy. Given the current provincial and national shortage of anesthesiologists, this work could allow our existing anesthesiologists to take on the cases where they are needed most and support delivery of Alberta Surgical Initiative deliverables. AHS is also working with stakeholders towards establishment of a provincial-based training program for AAs.

With the regulation of Physician Assistants (PAs) in 2021, Zones have also begun to increase PA recruitment with aims to support surgery units and acute care coverage. PAs help perform patient rounds, allowing surgeons and other physicians to spend more time in the operating room and/or treating additional patients where their skills are most needed. PA placement priorities include primary care, and tier 1 intensive care units. The University of Calgary has recently announced development of a Master of Physician Assistant Program, funded by the province, with the aim to launch the program as soon as possible.

When it comes to use of AAs and PAs, AHS Medical Affairs is working with Health

Professions Strategy and Practice (HPSP) and HR to understand the current environment for these health professions in Canada and determine if changes need to be made to our current salary structure / incentive package in order to successfully recruit qualified candidates. In late 2022, AHS established funding for the recruitment of up to 100 new full-time clinical assistants, physician assistants, and/or nurse practitioners dedicate to acute care or surgery coverage. To put this into perspective, over the next three years, the specialty of general internal medicine could have a total recruitment need of more than 70 FTE. If even 20 of the 100 earmarked acute care providers are recruited to support internal medicine units/programs, this will help cut into our recruitment need by nearly 30%.

PGME Expansion

In spring 2023, Alberta already announced planned expansion of medical school seats and medical residency spots, with these plans potentially expanding the number of graduation medical residents by 25%. Similarly, Alberta Health has committed to expanding the number of residency training spaced reserved for international medical graduates (IMGs) by 40 over the next 5 years. This will assist in addressing Alberta's physician workforce needs in the future.

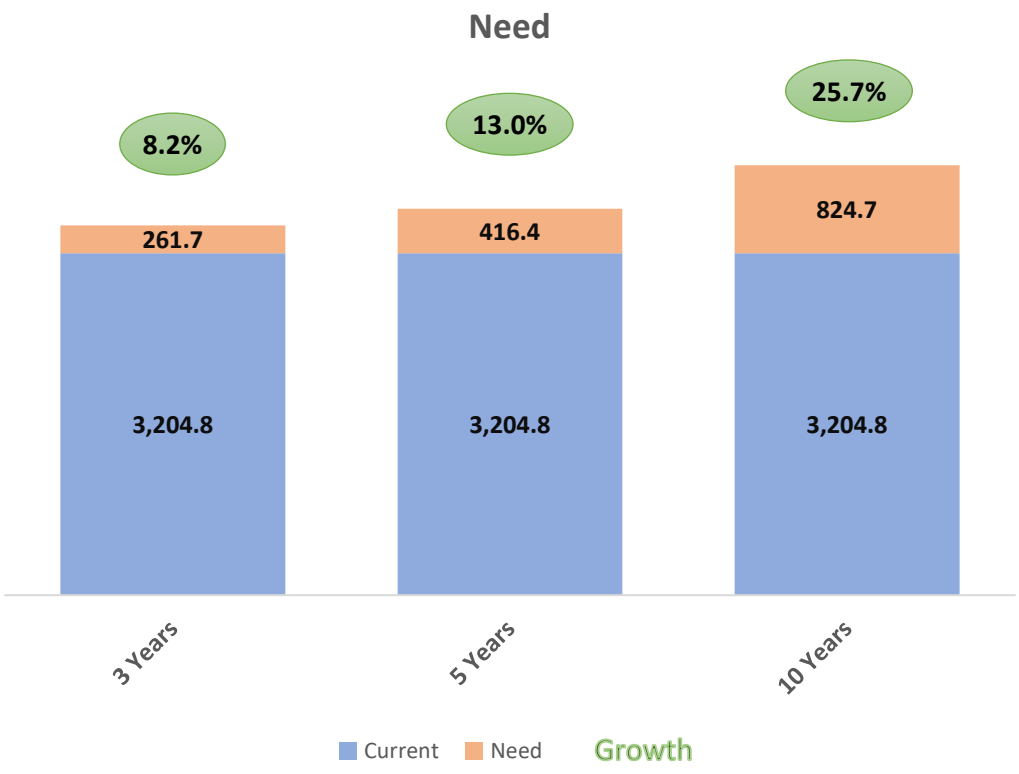
This expansion to IMG seats is coming at a time when more and more Albertans are choosing to go overseas for medical school. With more available residency seats, more opportunity will be afforded these Albertans who wish to return to the province upon graduation. However, additional consideration may still be required to ensure that these Albertan medical school graduates have a clear path back to the province. Currently in Alberta, all internationally trained medical school graduates must complete an externship pre-residency in order to be accepted into a residency program. This policy prevents many applicants, including Albertans training abroad from graduating from medical school and successfully entering into Alberta residency within the same year. These potential residents must either wait a full year after graduating medical school to return to Alberta residency or they may choose to apply for residency in another province, instead. While this may represent only a small number of potential lost recruits, Alberta should be prioritizing the return of Albertans who wish to practice here.

Family Medicine Forecast

Community / Primary Care

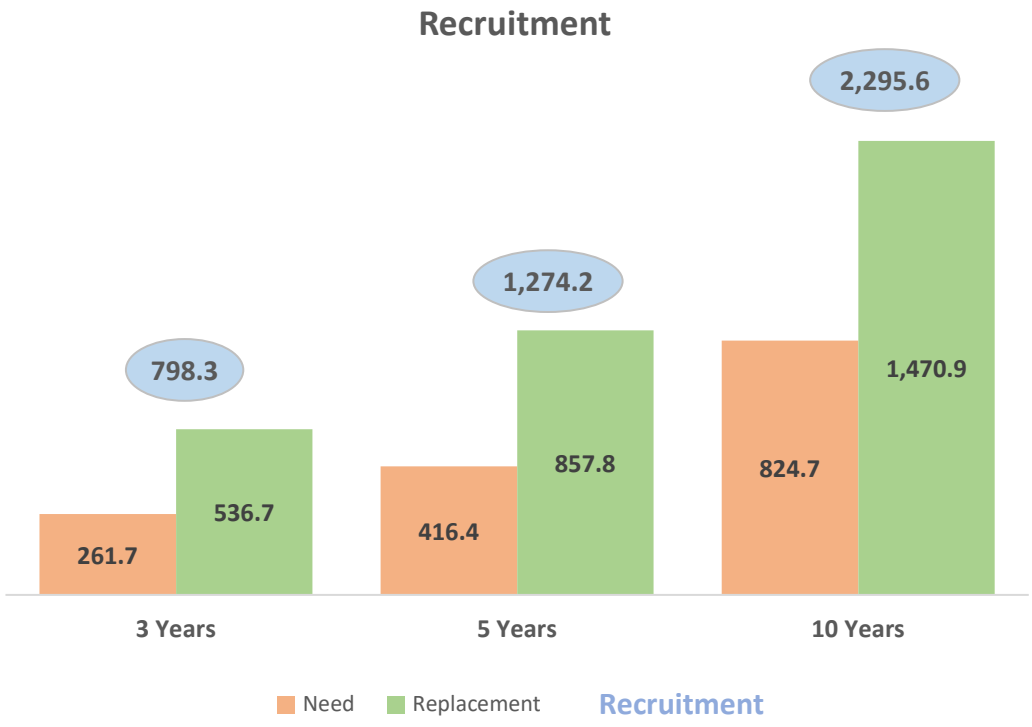
Net New (Need)

The blue shows the current roster (2022) and the orange shows anticipated net new clinical FTE throughout the next 3, 5 and 10 years.



New vs Replacement

In the table below, the orange columns show the forecasted net new FTE and the green columns present the replacement recruitment anticipated throughout the next 3, 5 and 10 years.



Total Recruitment

46% of the current roster could leave the workforce throughout the next 10 years. This is almost double the net new FTE needed (26%) for the next 10 years.

Roughly 2,300 FTE physicians may need to be recruited in either new or replacement positions[35].

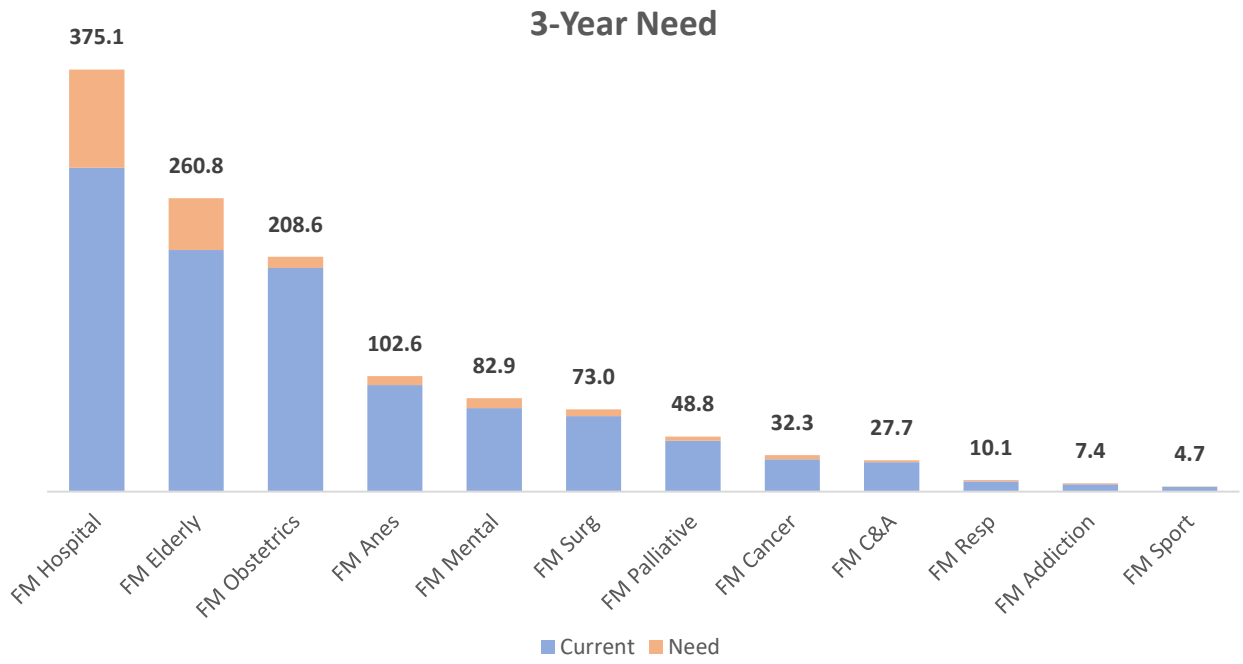
[35] This is not AHS's goal/target and many factors will determine whether this type of recruitment can even be possible in Alberta.

Family Medicine with Special Skills

3-year forecast

Net New (Need)

FM Hospital Medicine (30.4%) and FM Care of the Elderly/Seniors Care (21.6%) are projecting the highest net new positions, while FM Obstetrical Surgical Skills/Maternal & Newborn Care (4.9%) anticipates the lowest net new growth.



New vs Replacement

Overall, replacement recruitment projects almost same size of net new recruitment.

On average, 16.7% of the current workforce may need to be replaced throughout the next 3 years.

FM Respiratory Medicine and FM Child and Adolescent Health have the highest replacement recruitment rates (almost 25%) amongst the group. This ratio for the FM Addiction Medicine is 8.4%, which is lowest among all family medicine categories.

Total Recruitment

On average, the total anticipated recruitment rate (recruitment to current roster ratio) is over 27%.

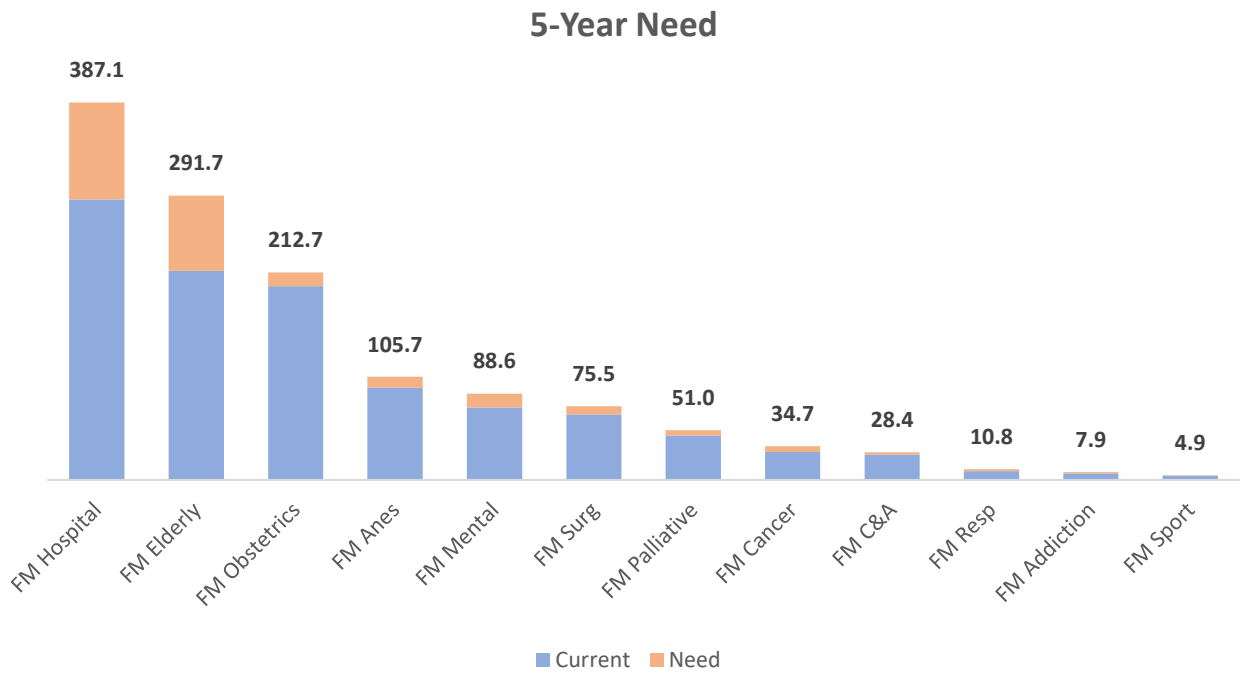
FM Obstetrical Surgical Skills/ Maternal & Newborn Care has the lowest recruitment rate (19.3%) and FM Hospital Medicine has the highest at 36%.

350 physicians FTE may need to be recruited in either new or replacement positions.

5-year forecast

Net New (Need)

FM Care of the Elderly/Seniors Care (36%) and FM Hospital Medicine (34.6%) are expected to have the highest net new growth. On the other hand, FM Obstetrical Surgical Skills/Maternal & Newborn Care (7%) and FM Child and Adolescent Health (9.3%) have the lowest expansion rate. The other categories are expected to increase their current roster on average by roughly 16% throughout of the next five years.

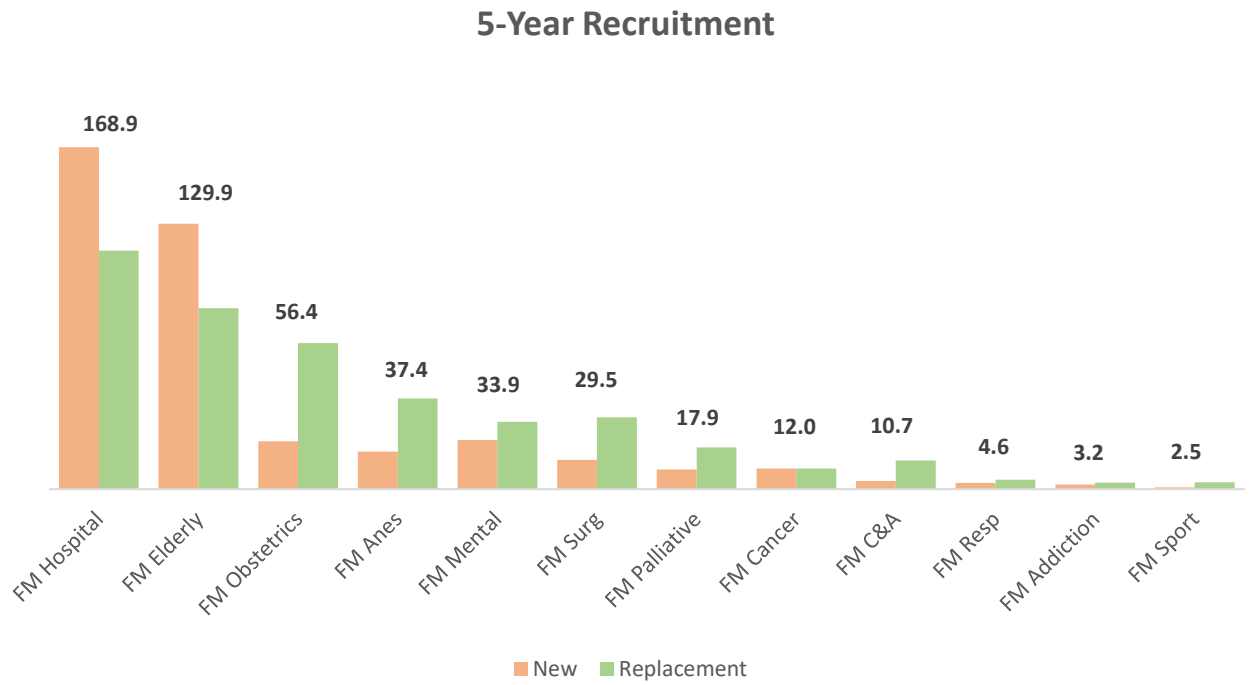


New vs Replacement

Overall, replacement recruitment projects almost 10% more than net new recruitment.

On average, 25% of the current roster may need to be replaced throughout the next 5 years.

FM Sport and Exercise Medicine (46%) and FM Child and Adolescent Health have the highest replacement rates (32%) amongst the group. This ratio for the FM Cancer Care and FM Obstetrical Surgical Skills/ Maternal & Newborn Care is 21%, which is lowest among all family medicine categories.



Total Recruitment

On average, the total forecasted recruitment rate for all 12 family medicine subspecialist groups over the next five years is around 47%.

FM Obstetrical Surgical Skills/ Maternal & Newborn Care's recruitment rate is the lowest with almost 28%; FM Addiction Medicine and FM Care of the Elderly/Seniors Care are the highest, with almost 61%.

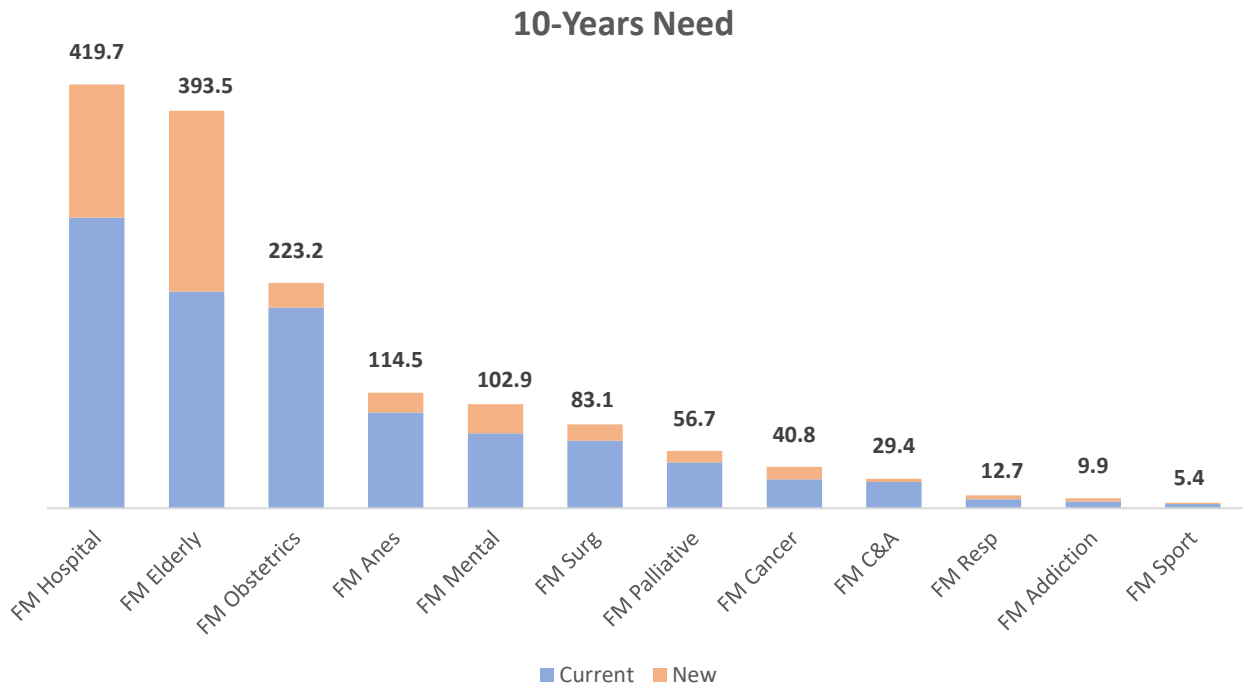
507 physicians FTE may need to be recruited in either new or replacement positions.

10-year forecast

Net New (Need)

FM Care of the Elderly/Seniors Care anticipates the highest overall need for net new FTE growth at 83%[36]. FM Obstetrical Surgical Skills/Maternal & Newborn Care and FM Child and Adolescent Health (almost 13%) show the lowest potential for net new FTE growth.

Other categories' net new FTE growth is anticipated at approximately 34%.



New vs Replacement

Over the next 10 years, on average, replacement recruitment projects almost 6% more than net new recruitment.

FM Obstetrical Surgical Skills/ Maternal & Newborn Care (38.1%) and FM Sport Medicine (with 74.2%) represent the subspecialties with the lowest and highest replacement recruitment need, respectively.

[36] The Family Medicine Care of the Elderly / Seniors Care uses Methodology C, which is based on the population growth. Alberta's rapidly aging population creates more demand for Senior Care.

On average, 48% of the current roster may need to be replaced throughout the next 10 years.

Total Recruitment

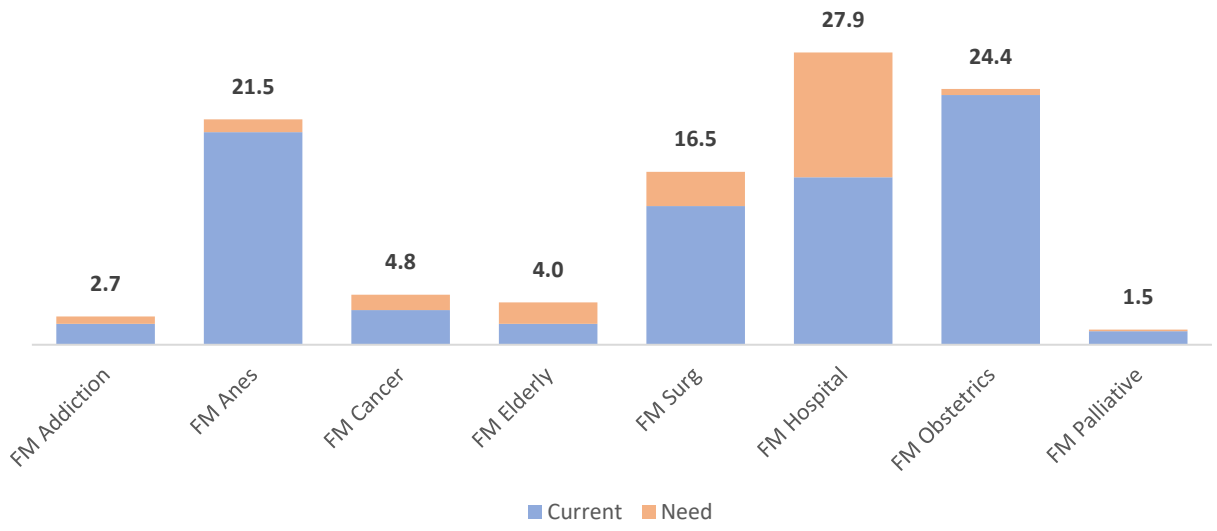
On average, the total anticipated recruitment rate of 10 years is forecasted over 83%.

FM Obstetrical Surgical Skills/ Maternal & Newborn Care anticipates the lowest total recruitment rate (50%), while FM Care of the Elderly/Seniors Care and project the highest 10 years recruitments vs their current FTE rate (127%).

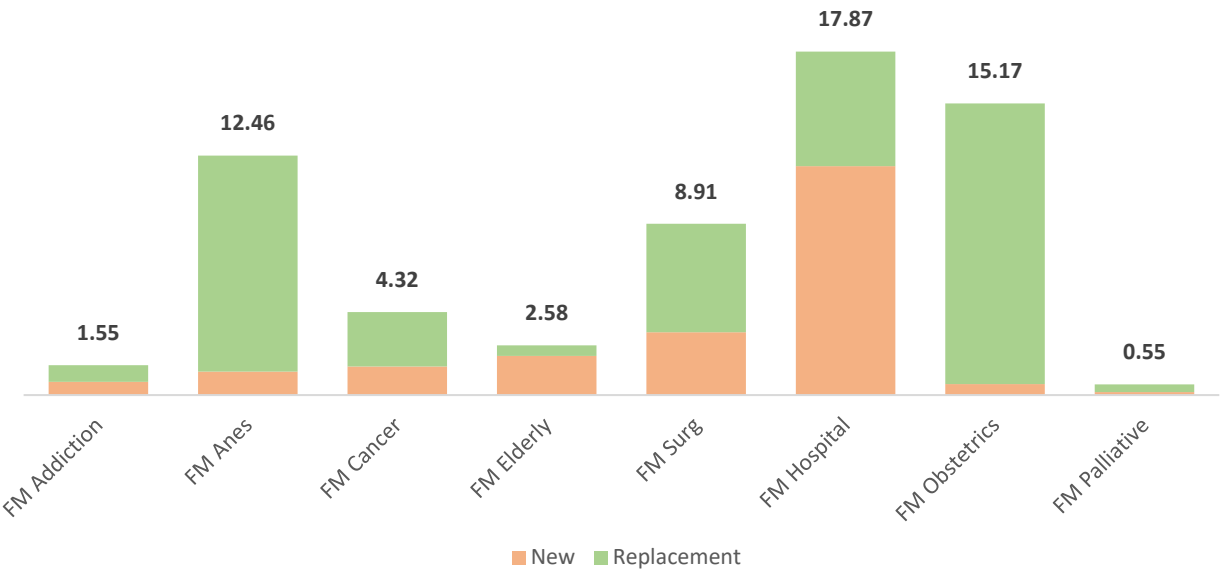
897 physicians FTE may be required to fill either net new or replacement positions throughout the next 10 years.

North Zone – 10 Year Forecast

It is anticipated that North Zone Family Medicine with Special Skills grow by over 26% by the end of year 10. Even so, within the next 10 years, North Zone may need to recruit 63 FTE out of which 21 will be net new FTE.

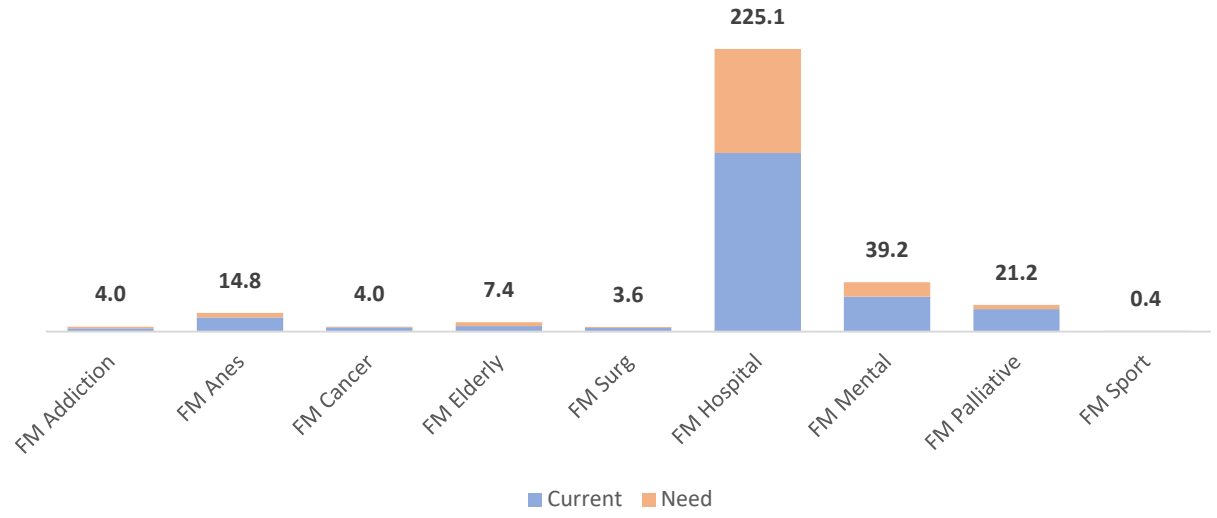


FM Care of the Elderly/Seniors Care with over 102% and FM Obstetrical Surgical Skills/ Maternal & Newborn Care with 2.4% are the two end of the net new FTE need spectrum.

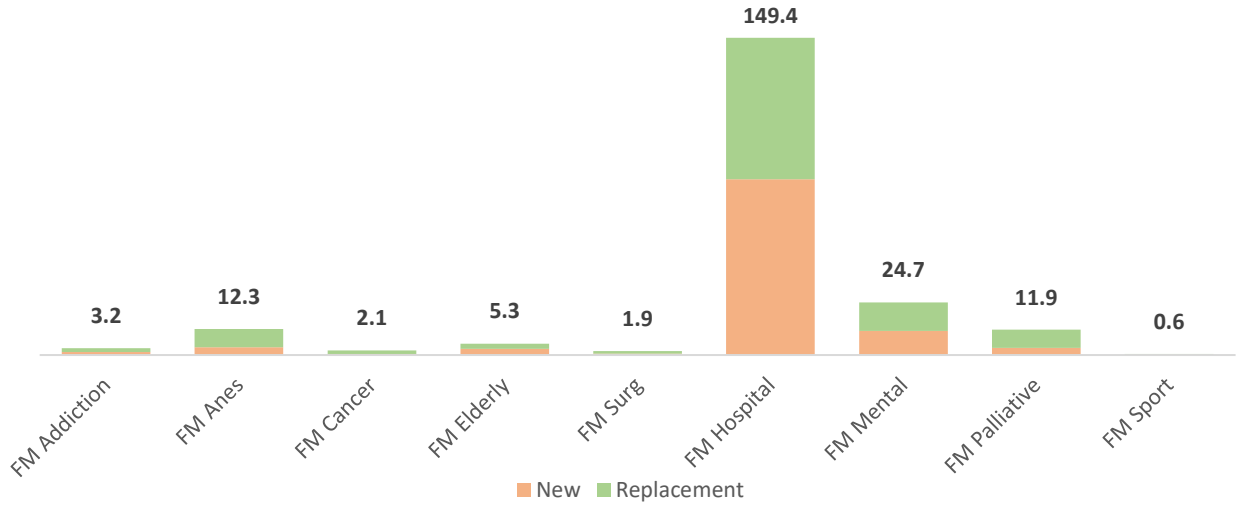


Edmonton Zone – 10 Year Forecast

Edmonton Zone Family Medicine with Special Skills workforce is estimated to grow by over 50% by the end of year 10; this is the highest growth rate among all zones. Within the next 10 years, Edmonton Zone may need to recruit 211 FTE in total. Replacement recruitments are almost as big as the net new recruitments (approximately 105 FTE)[37].



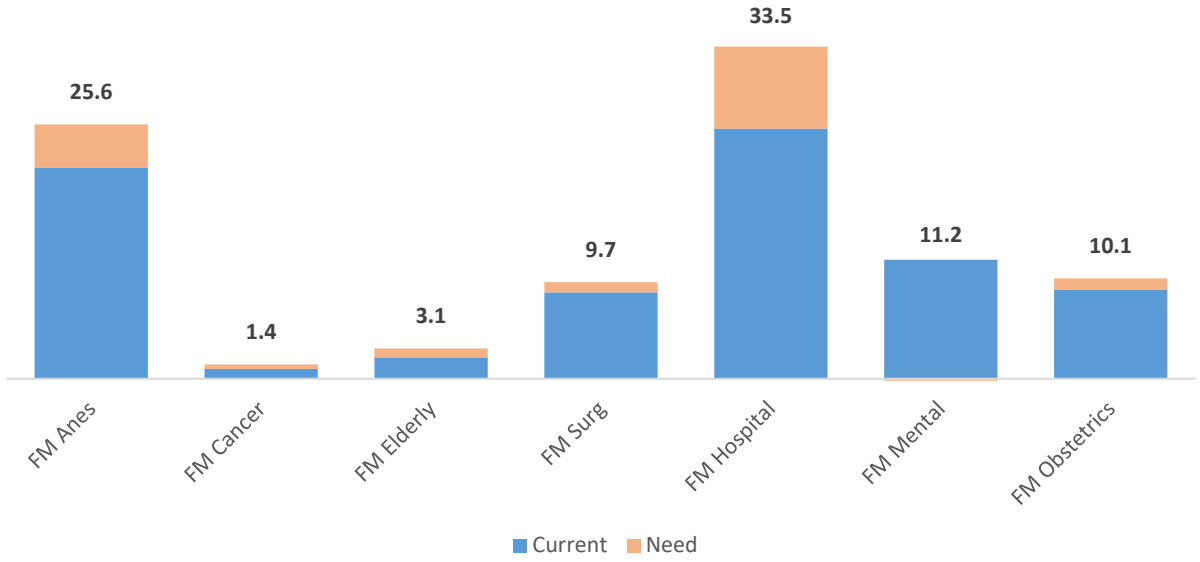
FM Enhanced Surgical Skills current roster is expected to expand by almost 50%, while the expansion rate for FM Cancen Care is anticipated to be 17%.



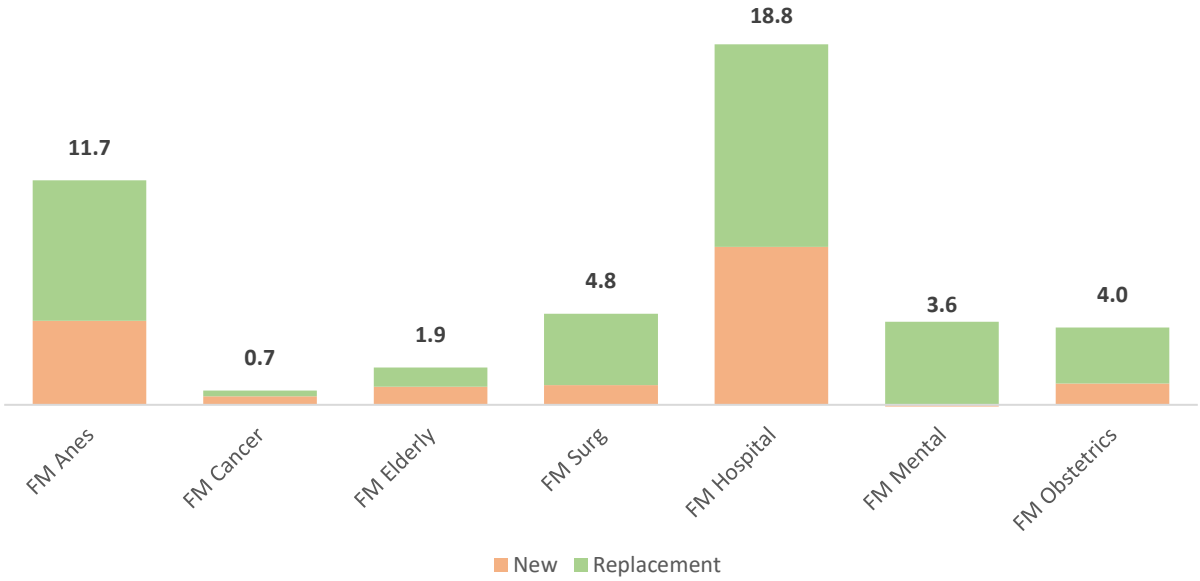
[37] Switching almost 20 FTE from other skills to FM Hospital Medicine this year has change the forecast distribution.

Central Zone – 10 Year Forecast

Central Zone Family Medicine with Special Skills may grow by 19% within the next 10 years; their growth rate is the lowest among the other zones. Central Zone's total recruitment is anticipated to be almost 46 FTEs. The majority (two times) of the recruitment efforts are expected to be focused on filling the replacement positions (30 FTE).

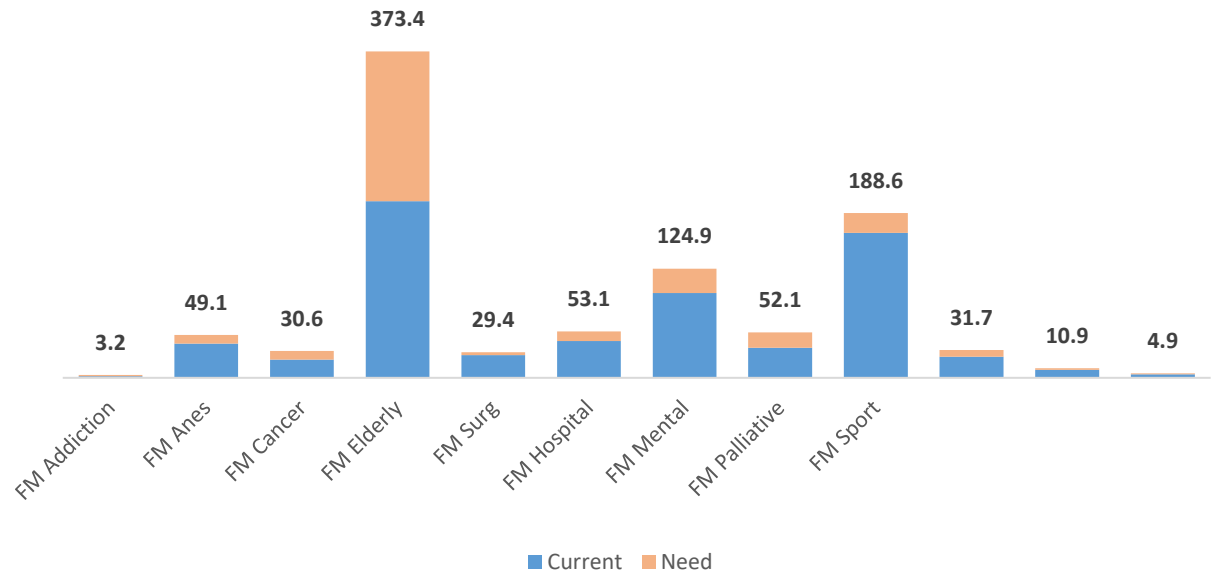


FM Care of the Elderly/Seniors Care and FM Cancer Care are anticipated to grow by 45%. On the other hand it is anticipated that the FM Mental Health shrinks by almost 7%.

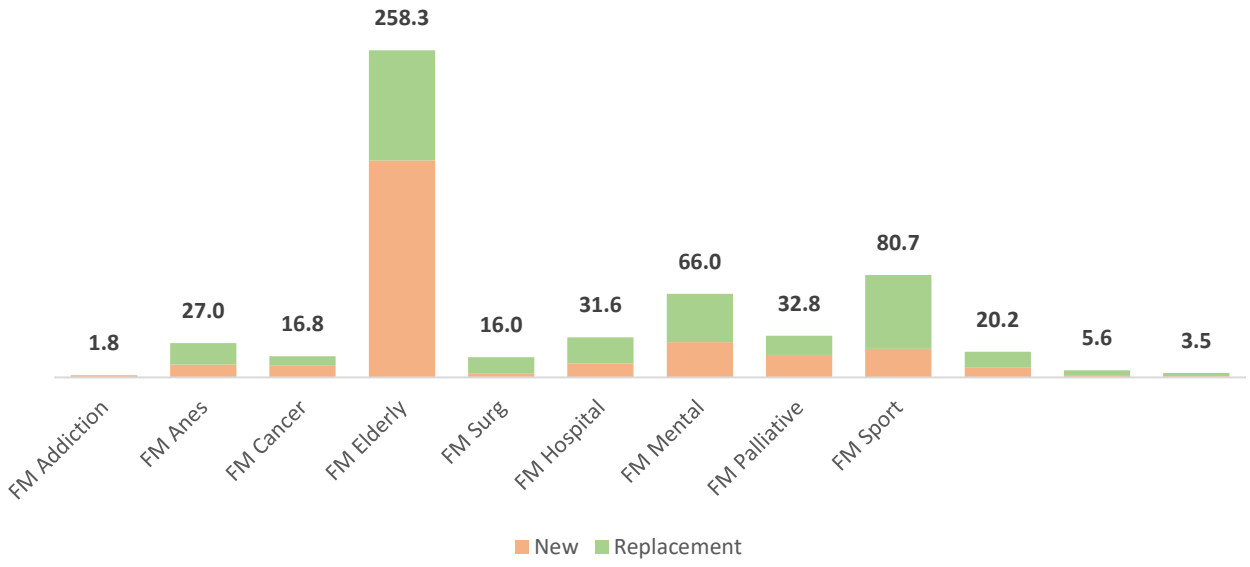


Calgary Zone – 10 Year Forecast

It is anticipated that Calgary Zone Family Medicine with Special Skills grows by over 43% by the end of year 10. Within the next 10 years, Calgary Zone may need to recruit 560 FTE in total and out of which 285 FTE will be net new.

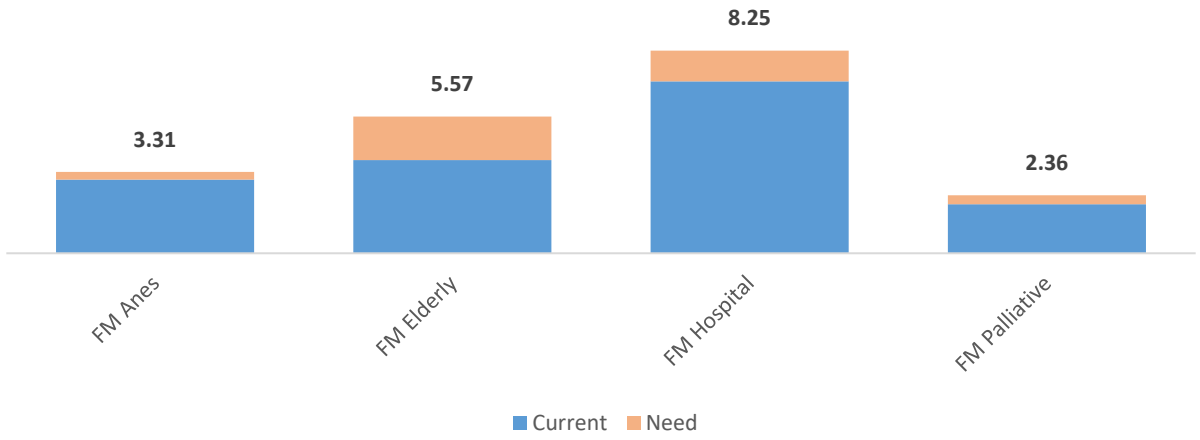


FM Care of the Elderly/Seniors Care net new recruitments is expected to be almost two times larger than their replacement recruitment. FM Child and Adolescent Health and FM Obstetrical Surgical Skills/ Maternal & Newborn Care are anticipated to expand by 13%.

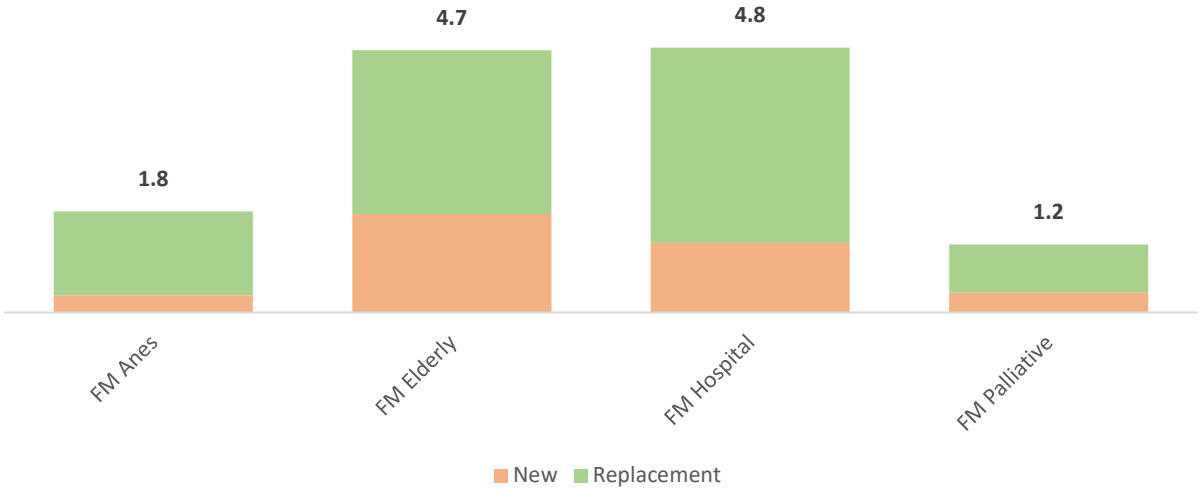


South Zone – 10 Year Forecast

South Zone Family Medicine with Special Skills could be expected to grow by almost 23% within the next 10 years. Even so, within the next 10 years, South Zone may need to recruit 12.54 FTE out of which 3.7 will be net new FTE.



FM Care of the Elderly/Seniors Care has the highest net new Need and Replacement ratio to their current roster (47% and 77% respectively).

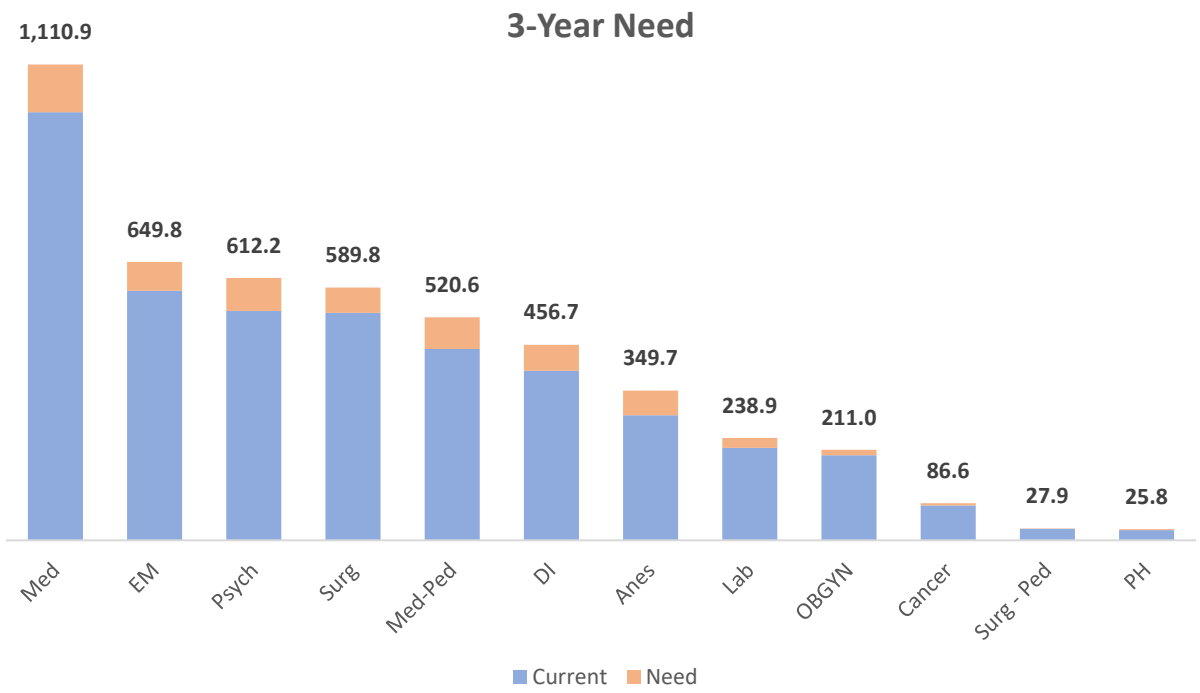


Specialists Forecast

3-year forecast

Net New (Need)

Anesthesiology (20%) and Pediatric Surgery (3.8%) are the two ends of Net New Need to Current Roster FTE ration. Average ratio for all other specialties are around 11%.



New vs Replacement

Overall, anticipated replacement recruitment is 40% greater than new recruitment for the next 3 years.

Pediatric Surgery may be expected to recruit almost six times more physicians to replace their current workforce than new physicians as per the need growth in the next three years. It's followed by OBGYN and Cancer at 300%.

Anesthesiology's Net New recruitment is showing almost 20% higher that their Replacement recruitments.

Total Recruitment

On average, the total anticipated recruitment rate (recruitment to current roster ratio) is almost 30%.

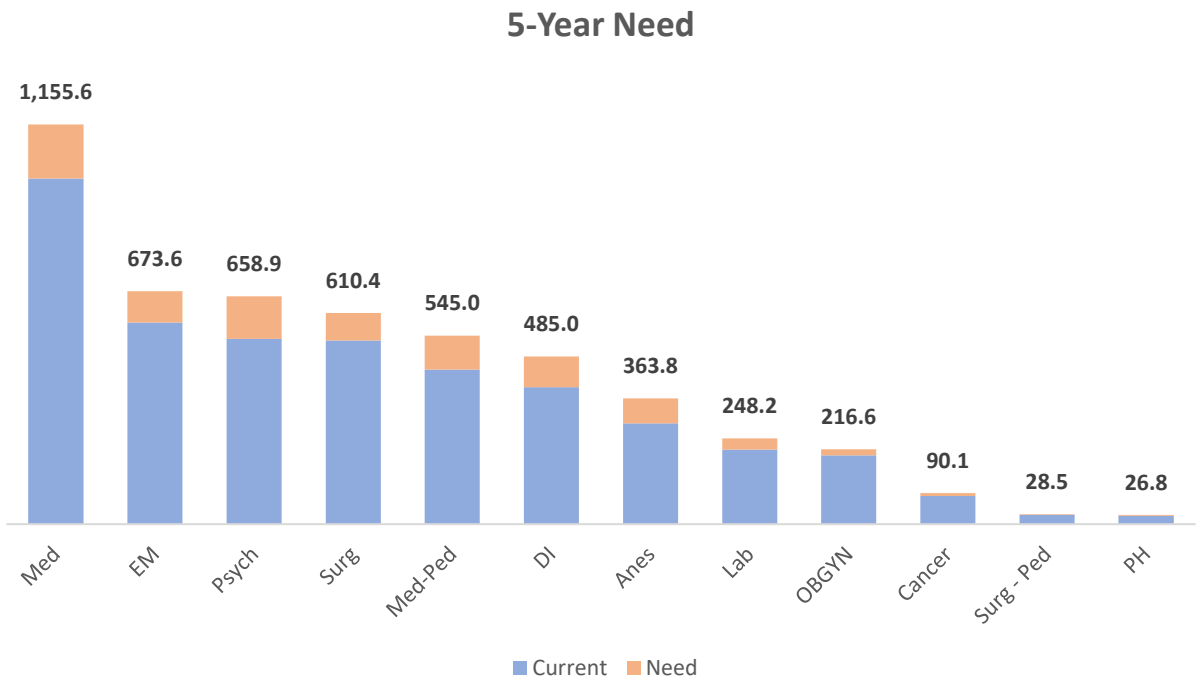
Public Health's recruitment rate is the lowest (23%); its rate for last year was the highest at 56%. Anesthesiology have the highest rate among the group at around 37% and 35% respectively.

Based on the forecasts assumptions, the data compiled, and the planning variables added by Zones, 1,335 physicians FTE may be required to fill new FTE (550) and replacement FTE (785) over the next 3 years. Medicine is on top of the list with 320 and Public Health on the bottom with 6 FTE total Recruitment.

5-year forecast

Net New (Need)

Anesthesiology (25%) is anticipated to have the highest net new need. Conversely, Pediatric Surgery (6.4%) is at the bottom in terms of New Need to Current Roster ratio. The other specialties are expected to increase their current roster on average by 16% through out of the next five years.



New vs Replacement

Forecasted Replacement recruitment is 56% higher than Net New recruitment within the next 5 years.

Pediatric Surgery is expected to recruit almost five times more physicians to a replacement position than to a new position.

As a contrary, Anesthesiology and Diagnostic Imaging's tradeoffs are at par.

Total Recruitment

On average, the forecasted 5-year total recruitment to current roster rate is around 44%.

Public Health's recruitment rate is the lowest at around 35%; Pediatrics, Anesthesiology and Psychiatry are the highest at around 50%.

1,978 FTE physicians may need to be recruited in either new positions or replacement positions over the next 5-years. Medicine is on top of the list with 465 FTE and is followed by Psychiatry and Surgery with roughly 250 FTE each. Public Health (8.5 FTE) and Pediatric Surgery (11 FTE) have the lowest recruitment among other specialties.

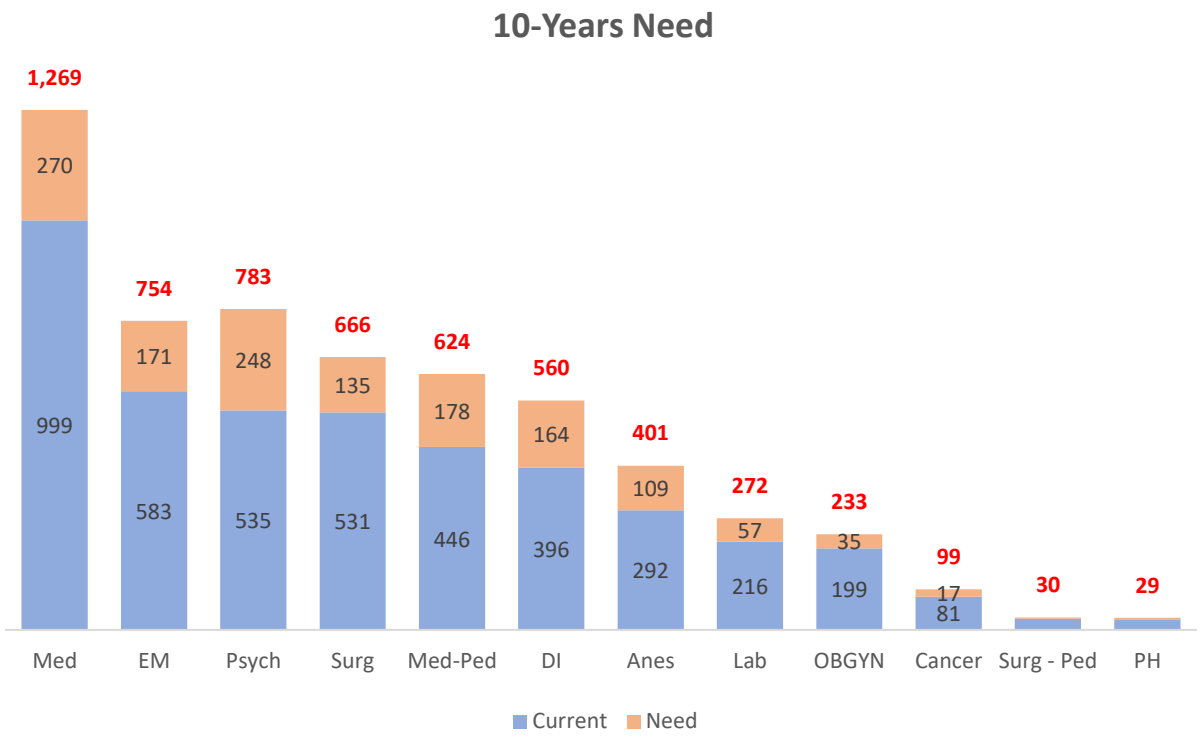
10-year forecast

Net New (Need)

Psychiatry with 46% Net New Need to Current Roster ratio is the highest in need of new, followed by Diagnostic Imaging and Pediatrics at around 40%.

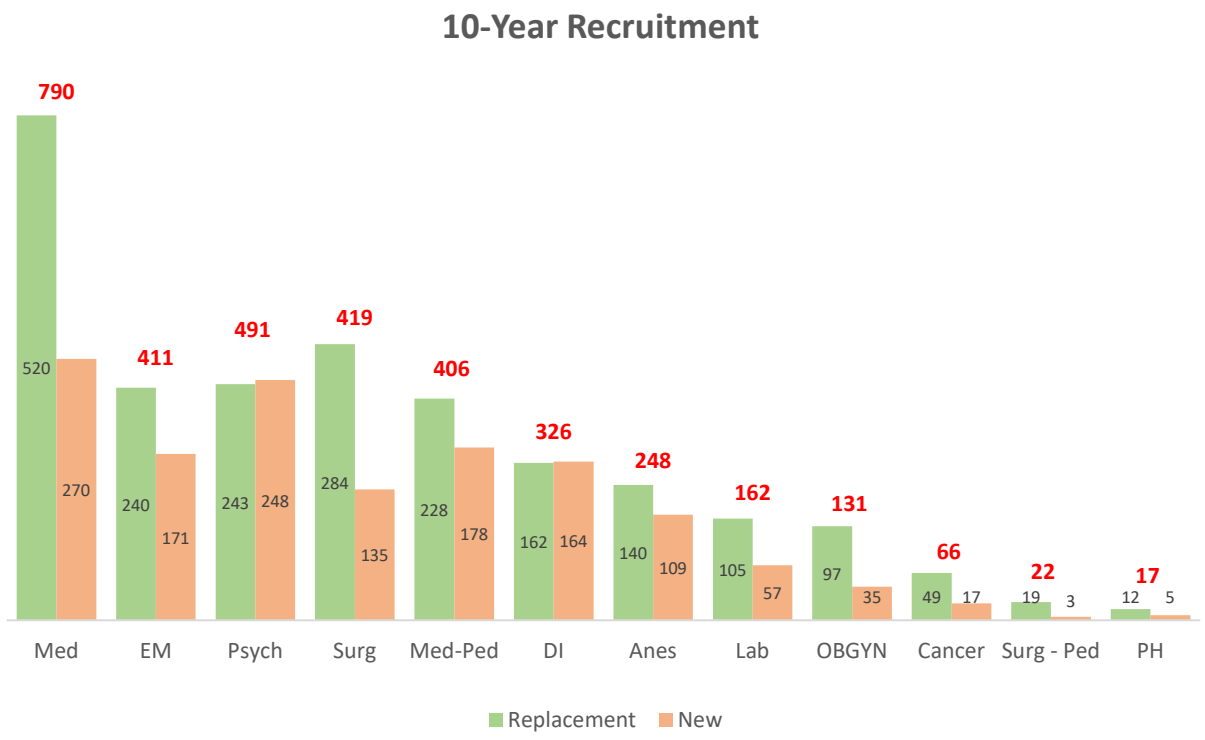
When compared to the other specialties, Pediatric Surgery is expected to have the smallest growth rate (13%) within the next 10 years.

Other specialties' net new FTE average is forecasted at approximately 26% of their current roster FTE.



New vs Replacement

Throughout of the next 10 years, approximately 1,390 new and 2,100 replacement FTE are anticipated. Having said that, Pediatric Surgery recruitment efforts are expected to be more focused on filling their replacement FTE. Their Replacement recruitment is 5 and a half times larger than their Net New need. This rate for Psychiatry and Diagnostic Imaging is around 100%. Other specialties average Replacement recruitments are double the size of their Net New ones.



Total Recruitment

Average total anticipated recruitment rate (recruitment to current roster ratio) is forecasted at around 80% in over the next ten years. The anticipated replacement rate is estimated to be at around 50%. The current roster is anticipated to grow by one third due to growing healthcare demand.

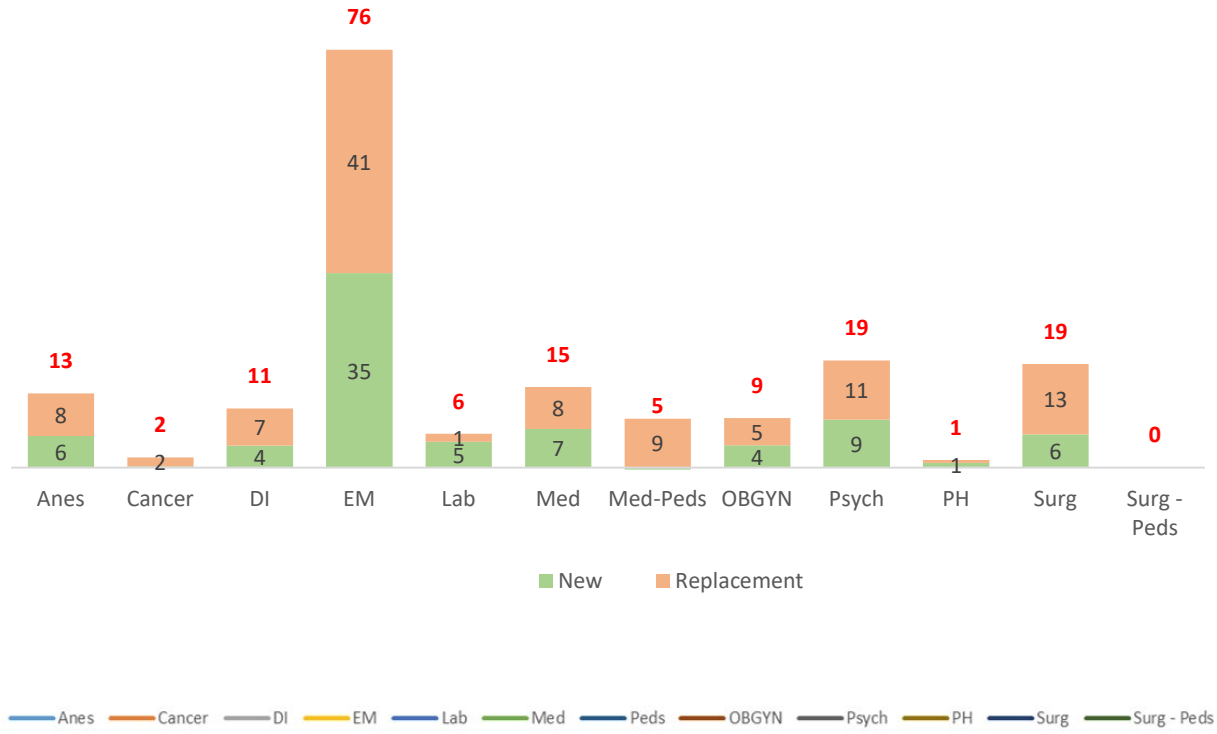
OBGYN's recruitment rate is the lowest (60%) and Psychiatry and Pediatrics are the highest at around 90%.

The forecast projects that Alberta may need 3,500 physician FTE physicians in either new or replacement positions between 2023 and 2033. Medicine is on top of the list with 790 FTE, followed by Psychiatry 490 FTE.

Public Health and Pediatric Surgery are on the bottom of the list with 17 and 22 FTE recruitment, respectively.

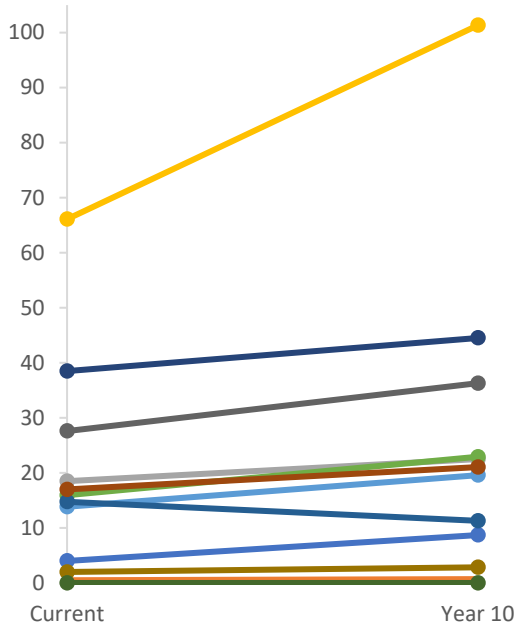
North Zone – 10 Year Forecast

North Zone's current specialist physician FTE (219) can be anticipated to grow by 33%. Within the next 10 years, North Zone may need to recruit 104 FTE (73 net new).



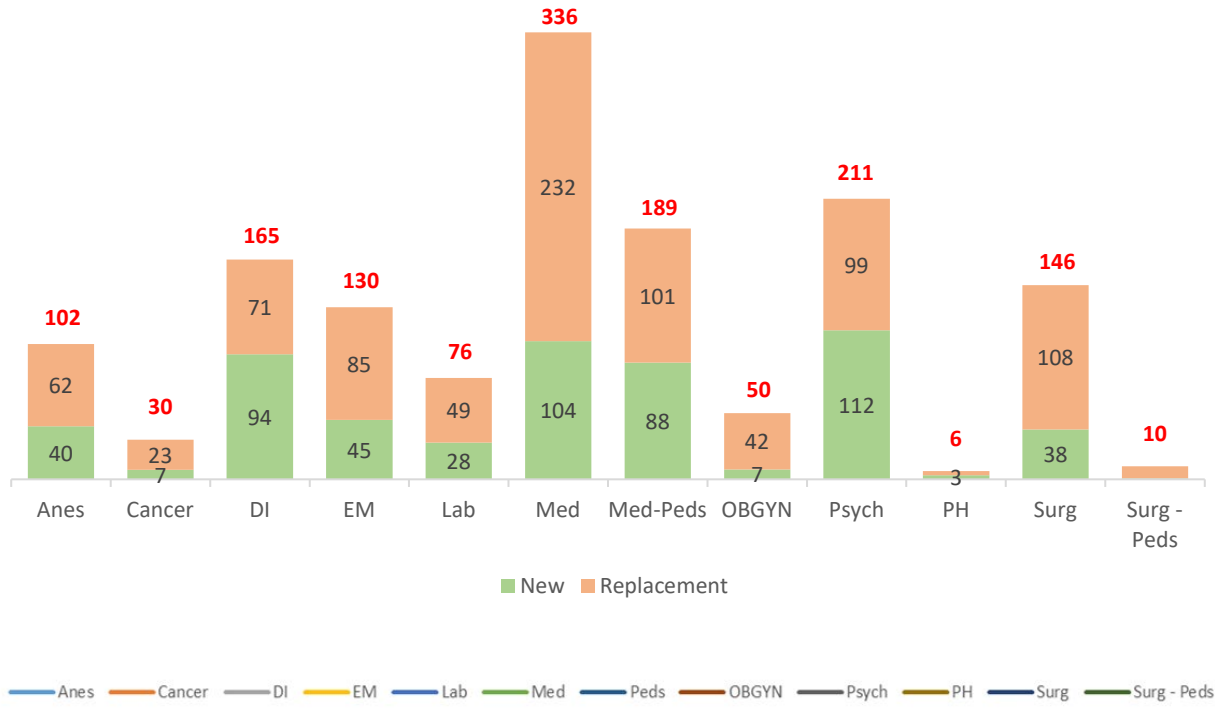
The majority of the specialties are expected to grow by almost 35%. Lab Medicine is expected to grow by 120%. On the other hand, Pediatric is anticipated to shrink by 25%

North Zone has deliberately reduced their total Net New Need from 100 FTE to 73 FTE using planning variables. Majority of these negative planning variables have been applied to Diagnostic Imaging, Emergency Medicine and Psychiatry.



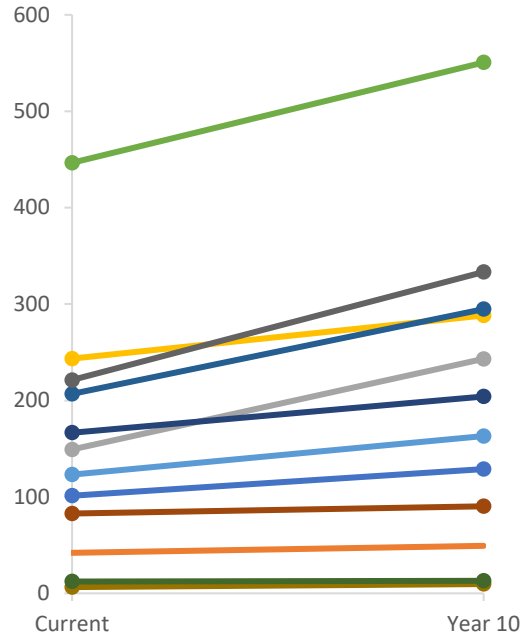
Edmonton Zone – 10 Year Forecast

The current workforce of 1,802 FTE could be expected to grow to 2,368 FTE; equivalent to 31% growth. Within the next 10 years, Edmonton Zone may need to recruit 1,451 clinical FTE, of which 566 FTE will be net new.



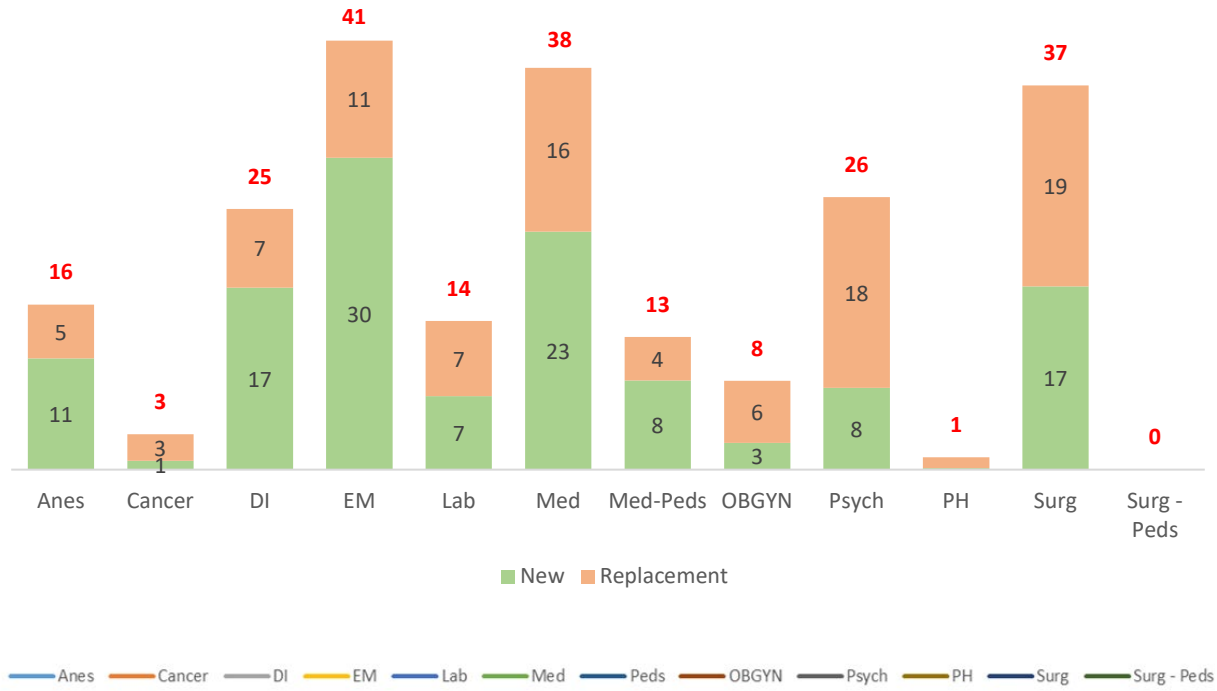
The highest expected growth rate belongs to Diagnostic Imaging (63%) followed by Psychiatry (51%). Pediatric Surgery (6%) and Obstetrics & Gynecology (%9%) show the lowest expansion rate among all specialties.

Edmonton Zone has used 173 FTE planning variables in total to increase their total Net New Need from 393 FTE to 566 FTE. Majority of these planning variables have been applied to Diagnostic Imaging, Psychiatry and Anesthesiology. It's been three consecutive years that Edmonton Zones emphasizes on shortage of Anesthesiology by using planning variables.



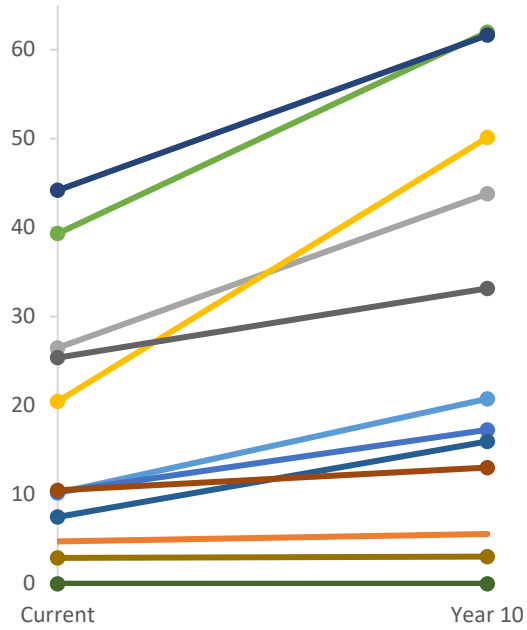
Central Zone – 10 Year Forecast

Central Zone's has the highest anticipated workforce growth rate (44%) in Alberta. 222 FTEs are forecasted as total potential recruitments throughout the next 10 years; 124 FTE are net new positions.



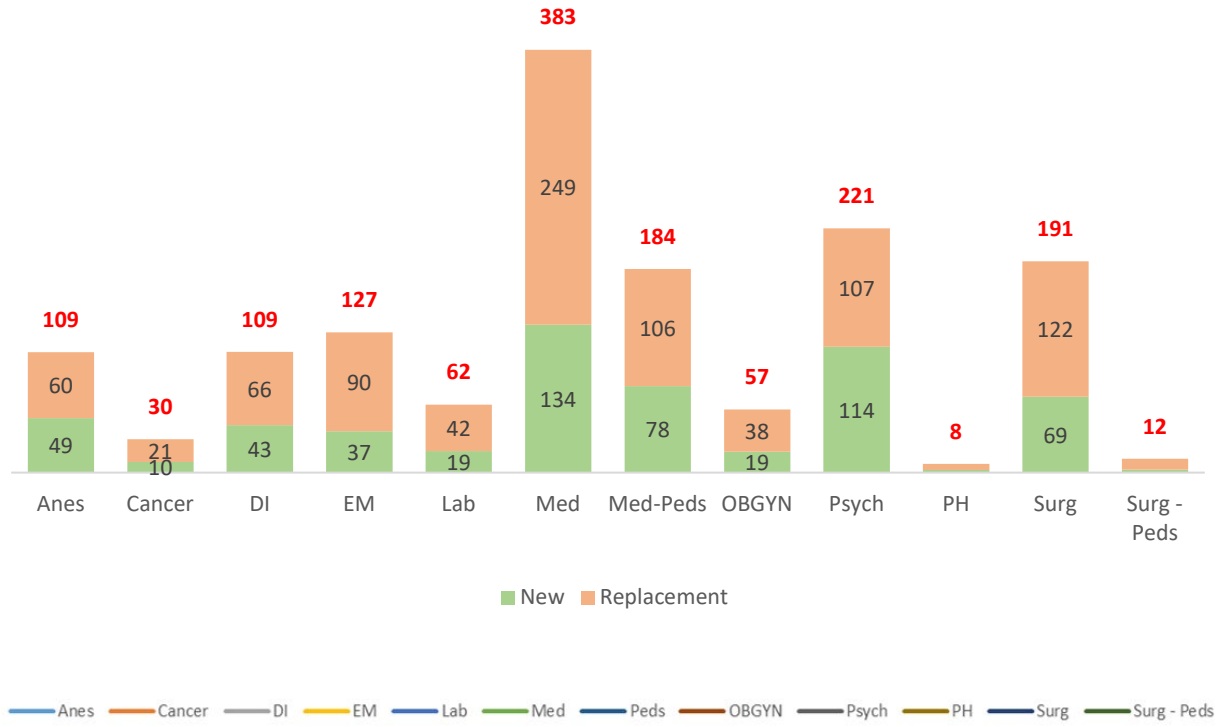
Public Health and Cancer Control have the lowest anticipated growth rate among other specialties; 3% and 5.6% respectively. Emergency Medicine and Pediatric Medicine are expected to grow by over 145% and 113% respectively throught the next 10 years.

Central Zone has used almost 40 FTE planning variables in total to increase their total Net New Need from 85 FTE to 124 FTE. Anesthesiology, Emergency Medicine and Diagnostic Imaging are the top three in terms of using planning variables to increase the forecasted Net New need FTE.



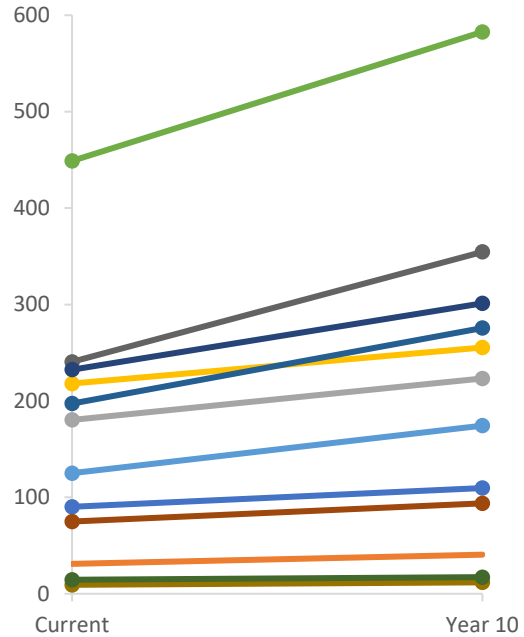
Calgary Zone – 10 Year Forecast

Within the next 10 years, Calgary zone is expected to recruit 1,494 clinical FTE, of which 578 are new positions.



Psychiatry is expected to grow by 47%, the highest rate in the zone. Public Health and Emergency Medicine have the lowest at around 17% growth rate. The zone's average growth rate is expected to be at around 31%.

Calgary Zone has used only 11 FTE planning variables in total to increase their total Net New Need from 567 FTE to 578 FTE.

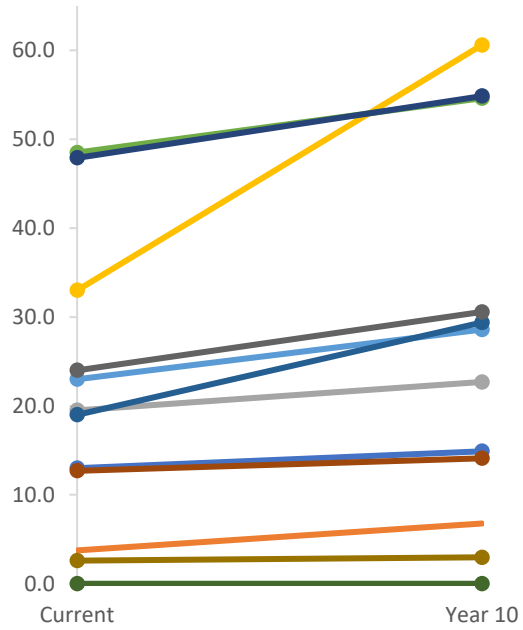


South Zone – 10 Year Forecast

South zone's physician FTE can be anticipated to grow by 21%; this is the lowest growth rate among zones. Total recruitment is forecasted at around 148 FTE throughout the next 10 years; of which, 51 FTE are net new positions.

Emergency Medicine has the highest expected growth rate with a projected increase of almost 80%. On the other hand Public Health is expected to shrink by 43%; reducing the current 3.5 FTE to 2 FTE throughout the next 10 years. Lab Medicine and Cancer Care's current workforce are also anticipared to shrink by 22% and 11% respectively.

South Zone has used only 9 FTE planning variables in total to increase their total Net New Need from 42 FTE to 53 FTE.



Appendix A - Data Collection

Physician Workforce Planning (PWP) Software Application

The PWP software application gathers and reports data related to specialist physicians in terms of clinical FTE. This software application produces standardized forecasts reflective of population health needs, service delivery requirements, planning and resource allocation, and AHS business plans.

The PWP application scope includes:

All specialist physicians licensed for independent practice by the CPSA, including physicians working in AHS facilities and Community-based physicians

Canadian College of Family Physicians (Emergency Medicine) Certificates: family medicine physicians with an AHS primary appointment in Emergency Medicine and family medicine physicians with an AHS supplementary appointment in emergency medicine who work in a facility with 24 hours on-site emergency coverage.

The PWP application does not include short-term locums (physicians who are working in the same role/position less than 12 months), physicians with limited practice licenses (e.g., limited to clinical assisting or surgical assisting), or dentists/oral & maxillofacial surgeons/podiatrists.

There are three essential parts to the PWP forecast: Needs Assessment, Replacement Assessment, and Planning Adjustment.

Needs Assessment

Four methodologies are used to forecast specialist need.

The software application provides a data driven, statistical platform to review the 77 Royal College of Physicians and Surgeons of Canada (RCPSC) specialties regarding their current commitment in clinical FTE by Zone and at a provincial level, over a period of 10 years.

In the PWP software application, each RCPSC specialty has one forecast method set as default.

Method A uses CIHI HPG data (based on AH physician Fee-For-Service (FFS) claims data, AHS emergency and ambulatory care visits, aggregated from the previous 10 years) and is directly assignable to the RCPSC specialty in question.

Where there is insufficient claims data, **Method B** uses proxy HPGs as these specialties cannot be linked to HPGs directly.

For specialties using **Method C**, little FFS and hospital admission data is available, and specialties cannot be linked to another specialty as a proxy. Therefore, forecast need is linked to incidence of HPGs related to the specialty's work across the total weighted population.

In contrast with methodologies A, B and C, **Method D** is used where the requirement for physician services is driven by coverage requirements rather than volume of services, such as a certain number of hours of coverage in a defined facility and service. Typically, this methodology is used only for critical care medicine and emergency medicine.

Replacement Assessment

The Replacement Assessment uses current physician workforce demographic data (e.g. age), information on new Canadian graduates,

gender shifts, rate net inter-provincial migrations, and retirement/departures from practice to further refine the forecast.

Planning Adjustment

The PWP software application cannot anticipate adjustments in required net new clinical FTE due to development of new policies, AHS service delivery changes, facility development, and/or changes in medical practice (e.g. new technologies, philosophical changes in medicine). Zone Clinical Department Heads and Section Chiefs review their current roster, review the Needs and Replacement Assessments, and may still choose to adjust the forecast further to account for some of the factors mentioned above.

Appendix B - 10 Year Forecast

PROVINCE-WIDE SUMMARY REPORT: By Specialty By Variable, - 10 Year Totals											
SPECIALTY_NAME (RCPSC)	ROSTER		Results - Supply					SUBTOTALs		TOTAL	ROSTER
	Opening FTE Balance	Need	Gender Shift	NIPM /RFA	Separations	Subtotal	Planning	Replacement Recruitment	Need	10-Year Recruitment	Ending FTE Balance
Anesthesiology	291.66	73.62	47.23	18.54	73.75	139.52	35.30	139.52	108.92	248.44	400.58
Cancer	81.31	17.49	9.54	7.68	31.62	48.83	0.00	48.83	17.49	66.32	98.80
Diagnostic Imaging	396.05	117.43	34.02	25.21	102.94	162.16	46.21	162.16	163.64	325.80	559.69
Emergency Medicine	582.91	163.83	83.36	37.57	118.63	239.55	7.65	239.55	171.48	411.03	754.39
Lab Medicine & Pathology	215.57	46.57	13.46	15.34	76.14	104.93	10.03	104.93	56.60	161.53	272.17
Medicine	999.27	226.27	130.86	80.04	309.30	520.20	43.25	520.20	269.52	789.71	1,268.79
Medicine - Pediatric	446.39	153.35	48.73	34.28	145.40	228.42	24.72	228.42	178.07	406.49	624.46
Obstetrics & Gynecology	198.90	34.05	25.00	13.80	58.11	96.91	0.49	96.91	34.54	131.45	233.44
Psychiatry	535.36	218.39	36.01	35.68	171.54	243.24	29.28	243.24	247.67	490.91	783.03
Public Health	24.20	5.14	3.64	1.65	6.24	11.53	0.00	11.53	5.14	16.67	29.34
Surgery	531.36	118.50	58.89	40.66	184.89	284.45	16.34	284.45	134.84	419.29	666.20
Surgery - Pediatric	26.82	3.24	4.31	2.52	12.08	18.91	0.20	18.91	3.44	22.35	30.26
ALL SPECIALTIES	4,329.80	1,177.88	495.03	312.97	1,290.65	2,098.65	213.47	2,098.65	1,391.35	3,490.00	5,721.15

For more detailed information please visit our interactive Tableau report at the link below:

Physician Workforce Forecasting Report: Snapshot - AHS Tableau Server (albertahealthservices.ca)

This report can be modified / reproduced for each zones or specialties upon request.

For more information, please contact Provincial Medical Affair, Physician Recruitment and Workforce Planning team.

Thank You!