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**Appendix A - Data Collection**  
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**Appendix D - Family Medicine Physician Forecast Results**
The 2018/19 Physician Forecast anticipates that the Albertan specialist physician workforce could increase by 2,058 FTE over the next 10 years. That translates to a compound annual net new FTE increase of 4.0%.

During this same span, nearly 1,400 FTE will need to be replaced due to current specialist physicians leaving the workforce.

AHS’s 10-year specialist physician FTE total recruitment need (new and replacement) is estimated at roughly 3,458.

The largest areas of growth, in terms of overall FTE increases, are expected within Medicine (+494), Psychiatry (+303), and Pediatrics (+302). However, the specialty of Oncology will also represent a great area of need over the next 10 years. Although the total FTE of medical and radiation oncologist FTE will only increase by +42, this represents a 58% increase of that current workforce.

The Family Medicine workforce expects similar growth over the next three years. Between 2018/19 and 2021/22, AHS is projecting a net new increase of 273 physicians (headcount, not FTE). During that same time, 281 family medicine physicians could leave practice and need to be replaced across the province. Calgary Zone (240), Central Zone (114), and North Zone (96) will be challenged with the highest total recruitment need over the next three years.

The growth within specialist FTE and family medicine headcount is largely driven by Alberta’s aging population, the increased burden of disease, and desire to improve access to care in rural areas. Health claims data from the past three fiscal years (2015/16, 2016/17, 2017/18), in particular, suggests an increased number of diagnoses specific to diabetes, cerebrovascular diseases, neurological diseases, mental diseases/disorders, and other chronic conditions. If this upward trend continues, as the tool presumes, physician FTE increases should be expected.

Planned service changes also provide some insight into the projected growth. System capacity changes such as new facilities, policy changes, and clinical service programs bring health system realities and upcoming changes into the forecast. In many cases, these adjustments may be apparent within the next few years, but their impact on required physician FTE may still have an impact by years 8, 9, and 10. Some of the most prominent planned service changes include but are not limited to, the completion of the Grande Prairie Regional Hospital (2020), anticipation of the Edmonton Child & Adolescent Mental Health Centre (2025), development of an Academic Medicine Health Services Program agreement within Addiction & Mental Health, fundamental changes in service delivery within Calgary Anatomical Pathology and Diagnostic Imaging, and anticipated facility development/updates relevant to Edmonton Zone Emergency Medicine.

These forecast adjustments estimate FTE requirements to the best of our ability, but are subject to change in future years.

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. They are a projection. The forecast is not a recruitment plan and AHS is not committed to realizing the projections found within this report.

The 2019 forecast projects high percentage increases for many specialties; roughly +10% on total 10 year net new increase compared to the 2018 forecast. These increases could not be supported without operational and infrastructure changes. However, it is likely that they never will be realised. New models of care may drive physician FTE increase, but it could also drive more Nurse Practitioners, Physician Assistants, and other care providers. Future physician forecasts will need to continue to account for changes in medical practice, resource requirements, and new policy.
Methodology.

Specialist physician workforce forecasting is supported by a software application, providing data-driven forecasts organized by Royal College of Physicians and Surgeons (RCPSC) specialties. The plan’s projections are based on assumptions regarding population health need, current workforce, retirements/departures from AHS, gender mix, service delivery methods/volumes, and AHS and Covenant Health facility capacity. It also considers anticipated supply 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). There are plans for including family medicine in this software application by 2021. Until then, family medicine forecasting is limited to a three-year horizon.

See Appendix A for more information about data collection, the specialist Physician Workforce Planning (sPWP) 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.

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. See pg 43 for more detail.

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.
Specialist Forecasts.

The image below represents the makeup of our specialist physician workforce. Click the buttons on the right to see how each area of specialty practice will change over the next three, seven, and ten years.

- = 1 FTE

- Anesthesiology
- Cancer
- Diagnostic Imaging
- Emergency Medicine
- Lab & Pathology
- Medicine
- Obstetrics & Gynecology
- Pediatrics
- Psychiatry
- Public Health
- Surgery
- Pediatric Surgery
10-year FTE Recruitment Need (#)

The specialties of Medicine, Psychiatry, and Pediatrics expect the largest FTE increase over the next 10 years. However, some other specialties will see their current total FTE increase by more than 50%. Although their total FTE count may be smaller than those mentioned above, the following specialties will present great opportunities in the future.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Net New Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatry</td>
<td>+57%</td>
</tr>
<tr>
<td>536</td>
<td>839</td>
</tr>
<tr>
<td>Cancer</td>
<td>+58%</td>
</tr>
<tr>
<td>72</td>
<td>114</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>+62%</td>
</tr>
<tr>
<td>479</td>
<td>817</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>+75%</td>
</tr>
<tr>
<td>401</td>
<td>703</td>
</tr>
</tbody>
</table>

Notes

**Total Recruitment Need**

Medicine and all of its subspecialties, by far, will require the most total FTE increase over the next 10 years. However, Psychiatry, Cancer, and Pediatrics will see the largest increase (%) of their current workforce.

**New vs. Replacement**

Most specialties lean towards a majority of net new FTE.

However, Obstetrics & Gynecology projects a majority replacement FTE recruitment need, with 63 replacement FTE and only 44 net new FTE recruitment need over the next 10 years.
Specialists Forecasts.

10-year Zone Specialist Net New Forecasts (FTE)

North

Central

Edmonton

Calgary

South

Provincial Departments*

* Includes Lab & Pathology and Public Health

Anesthesiology  Cancer  Diagnostic Imaging  Emergency Medicine  Lab & Pathology  Medicine
Obstetrics & Gynecology  Pediatrics  Psychiatry  Public Health  Surgery  Pediatric Surgery
Specialists Forecasts.

10-year Provincial Specialist Net New Forecasts (FTE)

Total Net New FTE Increase (#) | 2,058
Annual Compound Net New FTE Increase (%) | 4.0%

Notes

Overall, the specialist workforce FTE in Alberta could be expected to grow from 4,131 to 6,231, a change of 2,100. However, 42 FTE added to the forecast within Edmonton Zone Emergency Medicine was to account for an existing group of physicians that was not captured in the current workforce FTE. The total net new increase is therefore 2,058.

However, it is important to remember that this increase is not a target. It is a projection. The workforce forecast is not a recruitment plan and it will not necessarily be AHS’s goal to reach the indicated specialist FTE by 2028/29.
Anesthesiology.

Numbers

10-year Net New Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE</th>
<th>Total Net New FTE Increase (#)</th>
<th>Overall Net New FTE Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>298</td>
<td>134</td>
<td>46%</td>
</tr>
<tr>
<td>7</td>
<td>372</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>432</td>
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<td></td>
</tr>
</tbody>
</table>

Net New FTE Growth

Over the next 10 years, the total needed FTE for Anesthesiology will rise from 298 to 432. A large increase from current FTE will come in year 3 (25%).

Replacement FTE

It is anticipated that 88 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 432 FTE, AHS would need to recruit 222 FTE - 134 net new and 88 replacement.

This would require an average recruitment need per year of about 22 FTE.

Zone Need

Edmonton is the Zone with the overall highest recruitment need at 102 net new and replacement FTE over 10 years.
Anesthesiology.

Analysis

**10-Year Forecast Outcome**

The forecast projects an overall increase to the current Anesthesiology workforce of roughly 46% after a decade (from 298 FTE to 435 FTE).

**3-Year Forecast Outcome**

Within the next 3 years, Anesthesiology shows a high recruitment need (both net new and replacement) for around 93 FTE. This will present short-term challenges.

**“The main drivers for Anesthesiology FTE increase are a growing and aging Alberta population. While there are significant challenges with rural recruitment of Anesthesiologists, the Zone with the highest risk for recruitment is Edmonton.”**

**Calgary**

Calgary Zone has based recruitment of staff on the availability of OR rooms, inpatient beds, and clinical space. As there is no anticipated changes to these resources expected in Calgary over the coming years, recruitment of net new physicians will be uncommon.

The need for anesthesiologists over the next 3 years is primarily based on replacement due to anticipated retirement and/or relocation out of Calgary Zone, and the FTE within Anesthesiology should remain static.

However, the growing and anticipated need for access to surgery amongst the Calgary Zone population does still predict new new increases over the long-term forecast.

**Edmonton**

This year, after an aggressive year of recruitment, the forecast shows an even greater need for the Department of Anesthesia. Edmonton has been operating with a shortage of anesthesiologists over the past several years.

In the spring of 2018, the Edmonton Zone Department of Anesthesia set a goal to recruit 25 new anesthetists over a 2 year period. The 2018 forecast showed a need of 30.5 FTE in year 1 of the 10 year forecast. That target was accomplished, with 15 anesthetists starting in the 2018/2019 fiscal year, and 13 set to start in the 2019/2020 fiscal year. With these successful recruitments over the past 12 months, existing physicians can begin to reduce their FTE to a more ideal/manageable level.

The 2019 forecast shows a need of approximately 44 FTE in year 1. Going forward, the goal will again be to recruit 25 anesthetists in a 2 year period (approximately 13 per year) until there is a well-staffed situation.

**North**

New facilities and upgrades to existing facilities will require an increase in anesthesiology FTE within the North Zone. Net new FTE increases will be required to match capacity of additional operating theatre developed at the QEII Regional Hospital in Grande Prairie. Additional net new FTE will also be required to increase surgical capacity, reduce patient waitlist times, and prepare for transition to new Grande Prairie Regional Hospital expected to open in 2020.
Cancer.

Numbers

10-year Net New FTE Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Current FTE</th>
<th>Year 3</th>
<th>Year 7</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72</td>
<td>95</td>
<td>106</td>
<td>114</td>
</tr>
</tbody>
</table>

- **Total Net New FTE Increase (#)**: 42
- **Overall Net New FTE Increase (%)**: 58%

**FTE Growth**

Over the next 10 years, the total needed FTE for Cancer will rise from 72 to 114.

**Replacement FTE**

In addition to 42 FTE net new growth, it is anticipated that 31 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

**Recruitment Need**

In order to meet the projected forecast of 114 FTE, AHS would need to recruit 73 FTE.

This would require an average recruitment per year of around 7 FTE.

**Zone Need**

Recruitment need within the two major urban centres will continue to be the highest.

**Notes**

- **New**
- **Replacement**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Recruitment Need by Year 3</th>
<th>Recruitment Need by Year 7</th>
<th>Recruitment Need by Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>0</td>
<td>35</td>
<td>3</td>
</tr>
<tr>
<td>Edmonton</td>
<td>35</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Central</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Calgary</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>South</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

*Includes both new and replacement FTE*
Cancer services within Alberta Health Services are generally organized within the Provincial Program of CancerControl Alberta. This Cancer forecast references current and projected FTE for the subspecialties of Medical Oncology and Radiation Oncology, only.

Projected FTE for the subspecialties of Pediatric Hematology/Oncology, Gynecologic Oncology, and General Surgical Oncology, are included in, respectively, the categories of Pediatrics, Obstetrics & Gynecology, and Surgery. Any contextual information about these specialties can be found in those relevant categories, but some reference to those figures will also be listed in this analysis.

### 10-Year Forecast Outcome

Cancer’s forecast projects a 58% increase in net new over of the current FTE complement due, in large part, to Alberta’s aging and growing population.

“The growing and aging Alberta population, the increase in complexity of cancer services, and challenges in rural recruitment underscore the high need for Cancer recruitment.”

CancerControl Alberta has continued to experience a 5 to 6% increase in patient visit volumes year over year due to an aging population and population growth in Alberta. Increased demand for cancer treatment and complexity of cancer cases have put a significant strain on capacity and resources to meet cancer patient needs. Specific priorities in cancer care have been identified based on the potential for life saving, impact on quality of life and to manage out-of-window services. Increased patient volumes, the complexity of cases, and out-of-window wait times for cancer patients at the Tom Baker Cancer Centre in Calgary and the Cross Cancer Institute in Edmonton have largely contributed to the anticipated forecast increases in net new FTE. Specifically, by 2028/29, Medical Oncology FTE is expected to increase from 39.93 to 63.42. Radiation Oncology is expected to increase from 31.88 to 50.43 FTE.

The current contingent of Medical and Radiation Oncologists in the North Zone is 0, and the forecast did not anticipate any increases over the next 10 years. However, the Grande Prairie facility expansion in 2020 will include new cancer care infrastructure and could require future net new FTE not anticipated by this forecast.

### Oncology Subspecialties

Additional Oncology subspecialties will also increase over the next 10 years. The following FTE figures are not reflected in the 119 FTE that is presented in this Cancer section. It is anticipated that the FTE of Gynecologic Oncologic services will increase from 8.45 to 15.62. Over that time, 3.33 FTE will also need to be replaced due to anticipated retirement. Pediatric Oncology is also expected to increase by 6.42 FTE with the majority of that increase coming in 2019/20 to account for immediate service need.
Diagnostic Imaging.

Numbers

10-year Net New Forecast

Net New FTE Growth

Over the next 10 years, the total needed FTE for Diagnostic Imaging will rise from 369 to 469.

Replacement FTE

It is anticipated that 114 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 469 FTE, AHS would need to recruit 214 FTE - 100 net new and 114 replacement.

This would require an average recruitment need per year of about 20 FTE.
Diagnostic Imaging.

Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Diagnostic Imaging workforce of roughly 33% after a decade (from 369 FTE to 489 FTE).

“Net new and replacement recruitment within Diagnostic Radiology, particularly in Calgary Zone and rural areas, will present the greatest challenges/opportunities over the next 3-5 years”

South

South Zone will see a slow but steady increase within Diagnostic Radiology FTE over the next 10 years, going from 15.5 FTE in 2018/19 to around 23 FTE in 2028/29. Of note, roughly 5.0 of that FTE increase will come in 2019/20 with the department recruiting for several new positions to accommodate growing need in Women’s Imaging, Pediatrics, and Musculoskeletal Imaging.

Edmonton

In 2018/19, the department identified five physicians to be moved to Neuroradiology. This section was not included in previous forecasts so they appear in this year’s DI forecast as new. The 2019 forecast for each section of Diagnostic Imaging is closely aligned with the previous year.

Radiology
• 11 Physicians were hired in 2018 which was consistent with the 2018/19 forecast
• 3 physicians are planned to be hired in 2019 which is consistent with the forecast.

Nuclear- Interventional – Neuro-Radiology
• To-date there are no planned hires for 2019 which is consistent with the forecast.

North

FTE recruitment in the North Zone will aim to continue building stability in Fort McMurray and reduce North Zone dependence on locum services. The North Zone will also need to build DI capacity to meet demands of new services planned for Grande Prairie and to reduce existing patient wait times. Over the next two fiscal years (2019/20 and 2020/21), in particular, 5.0 FTE will need to be recruited to the North Zone due to anticipated retirements, increased capacity in both Fort McMurray and Grande Prairie facilities, and transition to the new Grande Prairie Regional Hospital expected to open in 2020. This will result in availability of additional services such as Oncology radiation chambers, requiring DI support.

Calgary

Net new FTE increases within Radiology will include a mixture of sub specialists such as body imaging, chest/cardiac imaging, musculoskeletal imaging, and emergency radiology. In 2023, the new Calgary Cancer Centre is expected to open. The Department will need to add new positions to meet the increased demands associated with this facility. Burnout is also a growing problem in radiology and as part of an effort to address physician health and wellness, the Department expects to recruit 13.0 FTE in 2019/20 alone to address current resource deficits that exists in Diagnostic Imaging in the Calgary Zone.

Although the forecast seems reasonable, anticipated annual recruitment for Diagnostic Imaging could be between 5-6 FTE rather than the 2-3 FTE anticipated by the forecast.
Emergency Medicine.

Numbers

10-year Net New Forecast

* Edmonton Zone added 42 FTE in year 1 of the forecast to account for an existing contingent of family medicine physicians currently practicing within emergency rooms in the Zone. These physicians are neither net new nor replacement. The 42 FTE will be included in 3, 7, and 10 year total FTE projections, but will not be included in any net new or replacement calculations.

** Excludes 42 FTE added in Y1 of forecast to represent existing physicians

Net New FTE Growth

Over the next 10 years, the total FTE for Emergency Medicine will rise from 479 to 817. However, 42 of that FTE represents an existing group of Family Medicine physicians in Edmonton. This will be added to the base in further iterations of this forecast and the net new FTE has been adjusted downward from this forecast.

Replacement FTE

It is anticipated that 90 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 817 FTE, AHS would need to recruit 386 FTE - 296 net new and 90 replacement.

Zone Need

Edmonton is the Zone with the overall highest recruitment need at 160 net new and replacement FTE over 10 years.
Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Emergency Medicine workforce of roughly 62% after a decade (from 479 FTE to 817 FTE).

“Infrastructure changes in the Edmonton Zone highlight the greatest area of need within Emergency Medicine.”

South

Emergency Medicine in the South Zone is expected to undergo some changes over the next 10 years. Currently, the vast majority of Emergency Medicine services are provided by Family Medicine physicians with additional certification in Emergency Medicine. However, the Zone is forecasting an influx in Royal College Emergency Medicine specialists. Between 2018/19 and 2028/29, the South Zone anticipates increasing their Emergency Medicine specialist FTE from 1.00 to 6.24. The FTE of Family Medicine physicians with Emergency Medicine certification is also expected to increase from 33.5 to 48.5 FTE.

Calgary

Anticipated patient and population needs will have a big impact on the required Emergency Medicine FTE in Calgary Zone. Emergency Medicine and Pediatric Emergency Medicine each expect an increase of 30.05 net new FTE by 2028/29 for a total of 61.00 FTE. Family Medicine – EM FTE also projects a 28.68 net new FTE increase. In addition to this net new need, over 25.00 FTE may need to be replaced due to retirement and exit from Alberta practice.

Edmonton

The Emergency Medicine workforce in the Edmonton Zone is made up of both Royal College Emergency Medicine specialists as well as Family Medicine physicians with enhanced certification and/or skills, experience. In 2019, 42 FTE was added in Y1 of the forecast to represent an existing contingent of family medicine physician who could not be included within the starting base. While these 42 FTE may appear as net new, they are already practicing and do not represent a future recruitment need. An additional 74+ FTE were added to the forecast to represent a variety of opportunities. In Y2, 20 FTE were added to represent an influx of 2019/20 successful recruits. In Y7, 25 FTE were added in anticipation of a planned emergency room configuration at the Misericordia Hospital, that could lead to additional beds and additional staff. In Y10, the Department is anticipating possible staffing requirements at the proposed south Edmonton hospital development. In each of these cases, the increases are expected to include a combination of both Royal College specialists and family medicine physicians with ER certification and/or experience.

Central

The vast majority of Emergency Medicine FTE in Central Zone is currently filled by ER-certified Family Medicine physicians (17.6). The forecast predicts that this FTE is unlikely to change much over the next 10 years. However, the forecast is projecting a large jump in Royal College Emergency Medicine specialists. Only 0.9 FTE is currently provided by an EM specialist in Central Zone. The forecast anticipates that this FTE will increase by 12 FTE over the next 10 years. This is a system generated projection that does not reflect recruitment process in the Zone. Although the Central Zone may recruit Royal College Emergency Medicine physicians as part of their workforce, the reflected projection would not be in addition to the current 17.6 FTE.
Lab Medicine/Pathology.

**Numbers**

### 10-year Net New Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE</th>
<th>Total Net New FTE Increase (#)</th>
<th>Overall Net New FTE Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3</td>
<td>222</td>
<td>101</td>
<td>47%</td>
</tr>
<tr>
<td>Year 7</td>
<td>264</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 10</td>
<td>319</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Recruitment Need**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Recruitment Need by Year 3</th>
<th>Recruitment Need by Year 7</th>
<th>Recruitment Need by Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edmonton</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calgary</td>
<td>97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Zone 10-year Recruitment Need**

- Includes both new and replacement FTE

**Notes**

**Net New FTE Growth**

Over the next 10 years, the total needed FTE for Lab Medicine & Pathology will rise from 217 to 319. A large increase from current FTE will come in year 3 (22%).

**Replacement FTE**

It is anticipated that 95 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

**Recruitment Need**

In order to meet the projected forecast of 319 FTE, AHS would need to recruit 196 FTE - 101 net new and 95 replacement.

This would require an average recruitment need per year of about 19 FTE.

**Zone Need**

Calgary is the Zone with the overall highest recruitment need at 97 net new and replacement FTE over 10 years.
Lab Medicine/Pathology.

Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Lab Medicine & Pathology workforce of roughly 47% after a decade (from 217 FTE to 319 FTE). In addition, it is anticipated that 95 FTE will need to be replaced over that same time.

“On April 1, 2019, all Lab Medicine & Pathology medical practitioners were consolidated into the provincial clinical department of Alberta Public Laboratories. Starting in 2020, Lab Medicine & Pathology forecasts will be compiled provincially and not Zone by Zone, similarly to Cancer.”

South

Steady growth within Anatomical Pathology will unfold in the South Zone over the next 10 years with FTE increasing from 11.75 to 16.06. However, new services within Lab Medicine & Pathology are anticipated in the South Zone in the future. Both Medical Genetics and Medical Microbiology FTEs are expected to increase from 0 to 1.12 and 1.26, respectively by 2028/29. It is possible that these increase could be assigned to Calgary, where the bulk of these services exist. These FTE may require multiple physicians to fill.

Edmonton

The increase in required net new Lab & Pathology FTE is largely due to the changing needs of a growing and aging Alberta population. Over the next 10 years, the subspecialty of Biochemistry anticipates zero net new growth and the need for Microbiology shows a slight decline. These results could be due to:
  • Testing becoming automated with new advances in available technology.
  • Work being increasingly completed by Lab Doctoral Scientist (PHd scientists, who are not captured in this forecast) rather than Medical Doctors.

Calgary

Significant net new increases in Lab Medicine & Pathology subspecialties are expected in Calgary over the next 10 years. In particular, Anatomical Pathology FTE is anticipated to increase from 53.07 to 92.96 by 2028/29. Surgical specimen volumes are increasing by about 5-7% per year. Other areas, including molecular pathology are growing at a higher rate (12% per year). More complex grading and staging in addition to an increased demand for molecular and other advanced testing will also increase the need for pathologists. Over the last 3 years, 11.5 net new lab positions have been added in the Zone. However, additional pressures on lab include increased oversight for point of care testing, increased rates of drug resistant infections, and increasing demands for new laboratory tests. The new Calgary Cancer Centre is also expected to result in increased workload, particularly within surgical pathology and molecular testing.

North

The new Grande Prairie hospital (2020) should require at least 1 new Lab/Pathology FTE for increased OR capacity.

Central

The Central Zone will need 4 net new FTE over the next 10 years. There are increased pressure in hematopathology/general pathology due to new hematologic oncology hires.
**Medicine.**

**Numbers**

10-year Net New Forecast

![Graph showing the net new forecast for Medicine over the next 10 years.](image)

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**Total Recruitment Need**

<table>
<thead>
<tr>
<th>Zone</th>
<th>New</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment Need by Year 3</td>
<td>494</td>
<td>337</td>
</tr>
<tr>
<td>Recruitment Need by Year 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recruitment Need by Year 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Zone 10-year Recruitment Need**

- **North**: 23
- **Edmonton**: 320
- **Central**: 34
- **Calgary**: 411
- **South**: 43

*Includes both new and replacement FTE*

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**Notes**

**Net New FTE Growth**

Over the next 10 years, the total needed FTE for Medicine subspecialties will rise from 970 to 1,464.

**Replacement FTE**

It is anticipated that 337 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

**Recruitment Need**

In order to meet the projected forecast of 1,464 FTE, AHS would need to recruit 831 FTE - 494 net new and 337 replacement.

This would require an average recruitment need per year of about 83 FTE.

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The group of Medicine includes 18 different subspecialties, including critical care, nephrology, respirology, and neurology. AHS recognizes that this is a very diverse group and will make strides in future reports to provide greater detail on this section. In regard to this year’s forecast, please refer to Appendix C for more information on the subspecialties comprised within this group and their individual forecasts.
Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Medicine workforce of roughly 51% between 2018/19 and 2028/29 (from 970 FTE to 1,464 FTE).

This net new FTE need is based, largely, on increases in health claims last year specific to cerebrovascular diseases, diabetes, hypertension, progressive neurological diagnoses, pulmonary diseases, and various other chronic conditions. These FTE increases will impact the specialties of Cardiology, General Internal Medicine, Neurology, and Respirology.

Edmonton

The Edmonton Zone forecast for Medicine includes General Internal Medicine FTE as well as a variety of Medicine subspecialties and Critical Care. Edmonton Zone’s total Medicine FTE is expected to increase by 166.75 FTE between 2018/19 and 2028/29. General Internal Medicine and Critical Care Medicine, in particular, will account for 51.33 and 26.32 net new FTE, respectively. Medicine in Edmonton will also require a large volume of replacement recruitment during this same time with 153.57 FTE expected to become available due to retirement/physicians leaving practice. A large portion of this replacement recruitment need (30.00 FTE) will come from Cardiology.

Calgary

Internal Medicine comprises the largest group of physician FTE in the Calgary Zone. The total FTE of this group is expected to rise by 262.02 FTE over the next 10 years. The majority of this net new increase will come from General Internal Medicine (+60.04), Cardiology (+30.24), Gastroenterology (+26.15), Neurology (+21.92), and Respirology (+22.37) will also see large increases. Cardiology will also have a need to recruit up to 30.84 FTE due to physician retirement/leaving practice, bringing their total recruitment need to 61.08 between now and 2028/29.

Central

The vast majority of Medicine and its related subspecialist component need are found in the Regional Center in Red Deer, with some members in outlying communities. The Red Deer Regional Hospital (RDRH) has experienced capacity issues in the past so some specialties may be prevented from increasing their recruitment over the next 10 years due to these limitations. Any shortage of service will impact the larger urban centers referrals resulting in more capacity issues. Even with these limitations, the Central Zone does anticipate an overall net new increase in Medicine FTE of 19.31 between 2018/19 and 2028/29. Changes in referral processes and increased scope of practice will primarily drive the net new FTE need. Changes to models of care have driven significant recruitment in General Internal Medicine over the past few years and there will be additional recruitment needed.

South

Chinook Regional Hospital is transitioning to a closed ICU in 2019. In this new service model, patients can only be admitted to the ICU by Internal Medicine specialists and Intensivists. This has resulted in the recruitment of 2 Critical Care Specialists, a new specialty to the SZ. SZ is also expecting an increase of 4 FTE in Cardiology. SZ has historically been underserviced in regards to Cardiology, with existing services under strain and service providers carrying exceptionally high clinical loads. The increase in Cardiology FTE will allow SZ to sustainably provide care for a growing and aging population, and be in a state of readiness to expand much-needed Cardiology services in the future.
Obstetrics & Gynecology.

Numbers

10-year Net New Forecast

Net New FTE Growth

Over the next 10 years, the total needed FTE for Obstetrics & Gynecology will rise from 204 to 248.

Replacement FTE

It is anticipated that 63 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 248 FTE, AHS would need to recruit 107 FTE - 44 net new and 63 replacement.

This would require an average recruitment need per year of about 10 FTE.
Analysis

**10-Year Forecast Outcome**

The forecast projects an overall increase to the current OBGYN workforce of roughly 23% after a decade (from 204 FTE to 248 FTE).

*“OBGYN FTE is not expected to experience a large increase with replacement recruitment outweighing net new recruitment for the next decade. Urban recruitment and recruitment of OBGYN subspecialties show highest need.”*

**Calgary**

Obstetrics and Gynecology in Calgary does not anticipate large scale increases in net new FTE over the next 10 years with General Obstetrics and Gynecology increasing by 9.4 FTE, Reproductive Endocrinology & Infertility increasing by only 0.74 FTE, and Maternal Fetal Medicine increasing by 2.69. However, replacement recruitment for the department in total will account for more than 20 FTE by 2028/29.

**Edmonton**

In general, the Department of Women’s Health believes that the forecast may be further refined in future years. Service delivery models within obstetrics and gynecology continue to change with the next generation of specialists. Over the next 10 years, it is likely that it will take 2 or even 3 new specialists to replace one retiring after many years of service, as the new specialists practice in a different way.

**North**

Over the next 10 years, North Zone’s OBGYN FTE will nearly double from around 9 FTE to 16 FTE. This growth in FTE is expected due to growing patient needs and resources requirements for the new Grande Prairie hospital.

In addition to net new positions, it is anticipated that 2 replacement FTE will be required by 2020/21, alone.

**South**

The Program area of Women and Children’s Health is transitioning to place greater emphasis on GP physicians providing service delivery in low-risk obstetrics. This is expected to shift resource needs from OBGYN specialists to the less resource-intensive GPs.

The OBGYN workforce projection for this year requires analysis with the following consideration: Chinook Regional Hospital (CRG) and Medicine Hat Regional Hospital (MHRH) physician groups function independently, but share the same workforce projection. As with all SZ forecasts, due to two regional centres existing in the SZ, if one centre is over-serviced and the other is under-serviced, no increased need is identified. This scenario specifically occurred this year in Obstetrics. Additionally, MHRH Obstetricians participate in an Alternative Relationship Plan (ARP) compensation model in which, participating physicians are only required to shadow bill for one event per day to receive a full day’s compensation. This has subsequently decreased shadow-billing service volumes and affected the projections used by the sPWP software. Though the West OBGYN group is critically under-serviced, the software shows no need for recruitment.

The ARP compensation model is being reviewed to ensure it better reflects actual service volumes through shadow-billing. In addition, Medical Affairs will work to enhance our workforce planning tools to allow for separate analysis of the East and West sides of South Zone. These two change are anticipated to lead to a more accurate workforce projection in future years.
Pediatrics.

Numbers

10-year Net New Forecast

**Total Net New FTE Increase (#)** 301

**Total Net New FTE Increase (%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>+38%</td>
</tr>
<tr>
<td>7</td>
<td>+15%</td>
</tr>
<tr>
<td>10</td>
<td>+11%</td>
</tr>
</tbody>
</table>

**Overall Net New FTE Increase (%)** 75%

Total Recruitment Need

- **New**
- **Replacement**

**Zone 10-year Recruitment Need**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Recruitment Need by Year 3</th>
<th>Recruitment Need by Year 7</th>
<th>Recruitment Need by Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edmonton</td>
<td>172</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>37</td>
<td></td>
<td></td>
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<tr>
<td>Calgary</td>
<td>201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Includes both new and replacement FTE

Notes

**Net New FTE Growth**

Over the next 10 years, the total needed FTE for Pediatrics subspecialties will rise from 401 to 703.

**Replacement FTE**

It is anticipated that 145 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

**Recruitment Need**

In order to meet the projected forecast of 703 FTE, AHS would need to recruit 446 FTE - 302 net new and 145 replacement.

This would require an average recruitment need per year of about 45 FTE.

The group of Pediatrics includes 14 different subspecialties, including pediatric cardiology, neonatal medicine, and pediatric gastroenterology. AHS recognizes that this is a very diverse group and will make strides in future reports to provide greater detail on this section. In regard to this year’s forecast, please refer to Appendix C for more information on the subspecialties comprised within this group and their individual forecasts.
Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Pediatrics workforce of roughly 75% over the next 10 years (from 401 FTE to 703 FTE). This is the largest FTE percentage increase among all specialties in this report.

General Pediatrics, in particular, has seen the number of patient healthcare claims rise over the past year due to chronic neuromuscular/other neurological diseases, spina bifida, and other acute/chronic diagnoses. Neonatal and Pediatrics Intensive Care Units are also seeing increases in coverage requirements.

“Alberta’s increased need for General Pediatric services is the primary driving factor in net new recruitment. Expansion to Pediatric Critical Care and Neonatal care will also play a factor.”

Edmonton

General Pediatrics and all the related pediatric subspecialties are comprised within the Department of Child Health in the Edmonton Zone. The total FTE of all these specialty groups is expected to grow by 108.45 over the next 10 years. In addition to General Pediatrics, which includes a growth of 85.54 FTE, Neonatal Medicine and Pediatric Critical Care Medicine expect large increases in total FTE; 10.60 and 15.12, respectively. This growth is related to planned expansion of beds/services within the Sturgeon Community Hospital as well as the growth over the past 5 years of patient days at the Stollery Pediatric Intensive Care Unit (PICU), which have been roughly +10% annually. Increasing referral rates within Pediatric Gastroenterology and Pediatric Respirology will also account for net new FTE increases.

Central

General Pediatrics FTE is forecasting a large increase within the Central Zone over the next 10 years that is out of line with previous years’ forecasts. The current roster of Central Zone Pediatrics is 14.00. The forecast shows an increase to 44.64. This increase would include FTE of physicians working in the community as well as in AHS facilities. Further, some of the CRGs claims increases in 2019 (such as spina bifida, chronic skin conditions, and drug abuse) are driving this forecast. Since Family Medicine physicians may also treat childhood diseases, this could be one reason why there is such a large increase projected, and the 2019 forecast for general pediatrics is somewhat inflated as a result.

South

South Zone has experienced significant challenges recruiting Canadian trained Pediatricians qualified to provide services in a level 2 Neonatal Intensive Care Unit. SZ has subsequently relied on recruiting and sponsoring foreign trained medical graduates, with NICU experience. Many of the Pediatric physicians in SZ are transitioning to the end-stage of their careers, creating challenges in accommodating physicians decreased on-call availability and requiring succession planning for lowered FTEs per physician and upcoming retirements.
Psychiatry.

Numbers

10-year Net New Forecast

![Graph showing the increase in FTE over the next 10 years.]

- **Current FTE**: 536
- **3-year Increase**: +25%
- **7-year Increase**: +16%
- **10-year Increase**: +9%

**Total Net New FTE Increase (#)**: 303

**Overall Net New FTE Increase (%)**: 57%

Total Recruitment Need

- **New**: 514 FTE
- **Replacement**: 211 FTE

Zone 10-year Recruitment Need

- **North**: 30 FTE
- **Edmonton**: 255 FTE
- **Central**: 26 FTE
- **Calgary**: 177 FTE
- **South**: 26 FTE

*Includes both new and replacement FTE*

Notes

**Net New FTE Growth**

Over the next 10 years, the total needed FTE for Psychiatry will rise from 536 to 839. A large increase from current FTE will come in year 3 (25%).

**Replacement FTE**

It is anticipated that 211 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

**Recruitment Need**

In order to meet the projected forecast of 839 FTE, AHS would need to recruit 514 FTE - 303 net new and 211 replacement.

This would require an average recruitment need per year of about 51 FTE.

**Zone Need**

Edmonton is the Zone with the overall highest recruitment need at 255 net new and replacement FTE over 10 years.
Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Psychiatry workforce of roughly 57% after a decade (from 536 FTE to 839 FTE).

According to last year’s health claims data, Alberta is seeing an increase in diagnoses related to bi-polar disorder and depressive psychoses amongst both adults and adolescents. This, in addition to associated physical illnesses, are driving the net new need forecast for Psychiatry.

“Growth in Forensic and Child/Adolescent Psychiatry are primarily driving FTE increases. Edmonton Zone shows the highest need with 255 total FTE (replacement and net new) recruitment needed over next 10 years.”

South

Child Psychiatry is expected to grow from 3.00 to 9.46 FTE within 10 years. This increase is a result of a need to steadily accommodate growing services in addition to fill anticipated immediate vacancies.

Calgary

The Southern Alberta Forensic Psychiatry Centre is due for expansion from 33 beds to 72 beds for court ordered assessments and mandated treatment of individuals being held in custody. This will result in a net increase of 39 beds which will require additional FTE psychiatrists. This will bring Calgary closer to national benchmarks for forensic psychiatry beds per population. The Forensic Assessment Outpatient Service (FAOS) and Forensic Adolescent Program (FAP) are also facing increased demands for court ordered assessment and legally mandated treatment which will require additional FTE.

For Forensic Psychiatry, in particular, this would result in an anticipated total need of 20.08 FTE’s by 2028/29. Calgary services have a catchment which includes the entire southern half of the province including Red Deer.

Edmonton

The Department of Addiction & Mental Health in Edmonton is comprised of Psychiatry, Geriatric Psychiatry, Child & Adolescent Psychiatry, and Forensic Psychiatry Sections.

Psychiatry, in particular, will see a near +75 FTE increase over the next 10 years. The net new FTE is required to accommodate the growing needs of the Alberta population, as well as to support the current needs of the various mental health clinics at the University Hospital and the new (opened in 2018) Day Hospital at the Alberta Hospital.

Child & Adolescent Psychiatry will see a jump in net new FTE of 23 in fiscal year 1 (2019/20). This quick surge stems from a tremendous increase in the number of psychiatric-related Alberta Health Care Insurance Plan (AHCIP) claims last year. Net new FTE is also anticipated due to potential Academic Medicine Health Service Plan (AMHSP) positions as well as the new Child Adolescent Mental Health Centre, scheduled to be completed by 2024.

Forensic Psychiatry FTE is expected to grow by 5.5 FTE over the next 10 years due, in part, to increasing needs of court orders and demand from rural referrals coming from the North Zone.

North

By 2028/29, North Zone Psychiatry FTE is expected to increase from around 15 to 29. Net new positions will be required to support current unmet need in communities such as Barrhead, St. Paul, and Peace River, as well as to help reduce wait times within Child & Adolescent Psychiatry.
Public Health.

Numbers

10-year Net New FTE Forecast

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Year 7</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current FTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>Total Net New FTE Increase (#)</td>
<td>15</td>
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<tr>
<td>Overall Net New FTE Increase (%)</td>
<td>78%</td>
<td></td>
</tr>
</tbody>
</table>

Total FTE Recruitment Need

- New
- Replacement

Recruitment Need by Year 3
Recruitment Need by Year 7
Recruitment Need by Year 10

Zone 10-year Recruitment Need

- North: 2
- Edmonton: 6
- Central: 1
- Calgary: 9
- South: 2

Includes both new and replacement FTE

Notes

FTE Growth

Over the next 10 years, the total needed FTE for Public Health will rise from 18 to 32.

Replacement FTE

In addition to 15 FTE net new growth, it is anticipated that 5 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 32 FTE, AHS would need to recruit 20 FTE, 15 net new and 5 replacement.

This would require an average recruitment per year of around 2 FTE.

Zone Need

Recruitment need within the two major urban centres, Edmonton and Calgary, will continue to be the highest.
Public Health.

Analysis

10-Year Forecast Outcome

Total FTE for Public Health is expected to increase by 78% between 2018/19 and 2028/29, going from 18 to 32.

Incremental net new FTE increases are expected year over year due to population needs. However, Public Health has added an additional 11 FTE to their projection for year 2019/20. This is due to current under capacity related to the population of Alberta, existing current vacancies, and difficulties to recruit specialist physicians to fill those vacancies.

Further, as much as 5 FTE will need to be replaced over the next 10 years as Public Health physicians exit the workforce.
Surgery.

10-year Net New Forecast

Current FTE: 548

Year 3: 548

Year 7: +14% 623

Year 10: +9% 771

TOTAL NET NEW FTE INCREASE (#) 223

OVERALL NET NEW FTE INCREASE (%) 41%

Total Recruitment Need

Includes both new and replacement FTE

Zone 10-year Recruitment Need

North: 36
Edmonton: 140
Central: 35
Calgary: 183
South: 36

Recruitment Need by Year 10

429

Notes

Net New FTE Growth

Over the next 10 years, the total needed FTE for Surgery subspecialties will rise from 548 to 771.

Replacement FTE

It is anticipated that 205 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 771 FTE, AHS would need to recruit 429 FTE - 223 net new and 205 replacement.

This would require an average recruitment need per year of about 40 FTE.

Zone Need

Calgary is the Zone with the overall highest recruitment need at 183 net new and replacement FTE over 10 years.

The group of Surgery includes 18 different subspecialties, including general surgery, plastic surgery, and ophthalmology.. AHS recognizes that this is a very diverse group and will make strides in future reports to provide greater detail on this specialty grouping. In regard to this year's forecast, please refer to Appendix C for more information on the subspecialties comprised within this group and their individual forecasts.
Analysis

10-Year Forecast Outcome

The forecast projects an overall increase to the current Surgery workforce of roughly 41% after a decade (from 548FTE to 771FTE).

Data from clinical risk groups and various proxies suggest that medical claims related to Ophthalmology, Orthopedic Surgery, and General Surgery are on the rise. This includes claims for chronic eye diagnoses, macular degeneration, osteoarthritis, joint replacements, and diabetes-related diagnoses. These increases have a significant impact on the projected FTE need for the aforementioned surgery subspecialties.

South

Net new General Surgery FTE is expected to remain static in the South Zone, with only a 1.86 FTE increase by 2028/29. However, a variety of surgery subspecialties could experience a greater increase. Ophthalmology FTE in South Zone could increase by over 5.5 FTE over the next 10 years, while also needing to replace close to 5 FTE over that same timeline. Similarly, Orthopedic Surgery could increase by 4.00 in 10 years (from 10.50 to 16.62 FTE), with an additional 2.39 FTE required replacement recruitment due to retirement. Plastic Surgery and Urology will also see FTE increases greater than General Surgery with 2.33 and 1.88 net new FTE increases, respectively.

Edmonton

This forecast aligns with the Department of Surgery’s understanding of upcoming needs/plans, which are primarily replacement cases at this time. Net New FTE will coincide with the needs of an aging Edmonton population. Over the next year or two, the needs of surgery in Edmonton will require more scrutiny as more resources and plans for the new Edmonton south side hospital become known (development schedule: 2021-27).

Central

Total Surgery FTE in the Central Zone is expected to increase from 52.00 FTE to 74.09 FTE over the next 10 years. Additionally, the Central Zone will be required to replace up to 12.59 FTE due to retirement or physicians leaving practice. There is need for various Surgery subspecialty recruitment within the next few years, including Vascular Surgery, Otolaryngology, and Urology but this is largely dependent on hospital expansions and additional surgery support staff.

“Growth in Surgery subspecialties are primarily driving FTE increases, along with the growing needs of Alberta’s aging population. Replacement recruitment in Edmonton and Calgary will also be a priority.”
Pediactric Surgery.

Numbers

10-year Net New FTE Forecast

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Year 7</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current FTE: 19</td>
<td>+16%</td>
<td>+5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+4%</td>
</tr>
<tr>
<td>TOTAL NETTOTAL 10-YEAR</td>
<td>6</td>
<td>OVERALL NET NEW FTE INCREASE (%)</td>
</tr>
</tbody>
</table>

Total FTE Recruitment Need

- New
- Replacement

Zone 10-year Recruitment Need

<table>
<thead>
<tr>
<th>Zone</th>
<th>Recruitment Need by Year 3</th>
<th>Recruitment Need by Year 7</th>
<th>Recruitment Need by Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edmonton</td>
<td>11</td>
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<tr>
<td>Central</td>
<td>0</td>
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<tr>
<td>Calgary</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

Includes both new and replacement FTE

Notes

FTE Growth

Over the next 10 years, the total needed FTE for Pediatric Surgery subspecialties will rise from 19 to 24.

Replacement FTE

In addition to 6 FTE net new growth, it is anticipated that 12 FTE will also need to be replaced due to physicians leaving the workforce through retirement, movement away from Alberta, etc.

Recruitment Need

In order to meet the projected forecast of 24 FTE, AHS would need to recruit 18 FTE, 6 net new and 12 replacement.

This would require an average recruitment per year of around 2 FTE.
Analysis

10-Year Forecast Outcome

There is currently only 19 total FTE of Pediatric Surgery across the province. That number is only expected to increase to 24 by 2028/29.

“Pediatric Surgery FTE recruitment will only be required in Edmonton and Calgary.”

Edmonton

Replacement recruitment will be the higher priority for Pediatric Surgery in Edmonton over the next 10 years. While net new FTE in the Section will account for 4.63 FTE, replacement recruitment anticipates a need of 5.92.

Calgary

Similar to Edmonton Zone, Calgary Zone does not expect a large increase in total FTE for Pediatric Surgery. Only 1.12 net new FTE will be required, compared to 5.01 replacement required FTE.
Family Medicine Forecast.

The image below represents family medicine physicians in Alberta with an AHS Medical Staff Appointment. Unlike the specialist forecasts, which use FTE to project the physician workforce, the family medicine forecast uses headcounts.

Click on the buttons at right to see how it will change over the next three years.
Family Medicine.

Numbers

3-year Net New Headcount Forecast

Headcount

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.478</td>
<td>3.205</td>
</tr>
</tbody>
</table>

New New headcount Increase (#) 273

Net New headcount Increase (%) 17%

Replacement + Net New Recruitment Need

North: 96
Edmonton: 55
Central: 114
Calgary: 240
South: 49

Includes both new and replacement headcount.

Zone Recruitment Need

A reality check within our Family Medicine forecast methodology allows us to layer in recruitment targets for the next three years. These targets project how many of these vacancies are most likely to be filled. The total recruitment need may be set at 554, but the expected recruitment target from 2019/20 - 2022/23 is 390.

This would be a recruitment deficiency of 164.

See Appendix D for more detail.

Notes

Headcount Growth

Over the next 3 years, the total needed headcount for Family Medicine will rise from 3,205 to 3,478. This number includes both current vacancies and forecasted net new positions.

Replacement FTE

It is also anticipated that 281 family medicine physicians will leave the workforce due to retirement, relocation, termination, etc. over the next 3 years.

Zone Need

Calgary Zone has the highest identified requirement need for Family Medicine. Calgary Zone serves both the metropolitan Calgary-area, as well as numerous surrounding rural communities.

Central and North Zones also anticipate a high need for family medicine recruitment over the next 3 years.
3-Year Forecast Outcome

The Family Medicine headcount included in this forecast is comprised of only those physicians who hold an AHS Medical Staff Appointment. Family Medicine physicians working exclusively within community clinics are not currently represented in our forecast.

The headcount of family medicine physicians with an AHS Medical Staff Appointment is expected to increase from 3,205 to 3,478 over the next three years.

“Calgary, North, and Central Zones have the highest planned Family Medicine recruitment as a proportion of their current core workforce.”

Calgary’s large Department of Family Medicine and their Department of Rural Medicine (which serves the surrounding area around the city of Calgary) leads to high recruitment numbers, compared to the Edmonton Zone. Although, the majority of recruitment is expected within the metro area, 19 net new positions are expected within the next 3 years. Calgary Zone is also expecting a higher number of replacement recruitment due to retirement/attrition over the next three years, compared to Edmonton (89 exits vs. 30). This is a result of Calgary Zone having more Family Medicine physicians currently over 65.

The North Zone shows a high estimated exits and forecast need to create new positions, reflecting a greater need to expand their core physician workforce and service delivery.

North Zone Family Medicine (including enhanced skills) will see an increase of 15 net new positions primarily due to Hospitalist programs being established in GP and Bonnyville. This goes along with their 29 vacancies currently open.

In Central Zone, Family Medicine Workforce recruitment is expected to increase substantially, with total recruitment need rising to 114 over the next 3 years, compared to 72 in 2017/18. Red Deer primary care physicians have identified a significant deficit in recruitment needs identification resulting in immediate and ongoing recruitment of new physicians.

Edmonton Zone’s new positions in the next 3 years are related to changes in their service delivery model, including Fort Saskatchewan Community Hospital’s change to a Hospitalist Care Team Model. Programs expected to impact future recruitment plans include the Virtual Hospital Project and the Indigenous Wellness program.

Recruitment of family physicians in the South Zone seeks to balance primary care needs with niche family medicine specialty areas, such as Sexual Assault Response Team (SART) physicians, Wound Care, Addictions, Palliative Care, LTC coverage, and Chronic Pain.

South Zone also covers a large rural area, with 13 rural health centres. The zone continues to face challenges recruiting family physicians with Enhanced Surgical Skills to service these rural centres, and relies on recruiting and sponsoring foreign trained medical graduates, as well as travelling outreach specialists from the regional centres.

The South Zone has two major hospitals, and Hospitalist services are provided under two different models. In Medicine Hat, family physicians working dually in the community and at Medicine Hat Regional Hospital provide Hospitalist services for their patients by forming a call-group to cover unattached patients. When recruiting family physicians in the East, participation in this service model is a requirement. In the West, Chinook Regional Hospital has a dedicated Hospitalist service. This service is facing workforce shortages and a steadily increasing number of patients, with high acuity needs.
Physician workforce planning gives AHS the opportunity to reflect on organizational objectives and available healthcare data. Our specialist workforce planning application develops FTE forecasts based, largely, on needs and supply assessments. This includes an assessment of Alberta population and current physician workforce demographics; inter-provincial migration; gender shifts data; healthcare claims data; ambulatory care visits; hospital admission data; coverage requirements; and a number of other proxy data sources. However, the forecast can be further rounded out based on planning variables. The application allows Medical Leaders to manually adjust the forecast based on anticipated policy, services delivery, and/or medical practice (e.g. emerging technologies, treatments) changes. These types of changes can be more difficult to predict with certainty, but it is important to continue asking big questions about the future of medical practice.

Introducing: Future Focus. This new feature within the AHS Physician Workforce Forecast will provide select narratives and analysis on emerging changes that may have profound effects on the future physician workforce. AHS will consider at least three unique topics within our Future Focus section each year. In 2019, the topics are Virtual Health, Medical Leadership FTE, and the Evolution of the Multidisciplinary Healthcare Team.

However, these topics only scratch the surface. Other topics that we may explore in the future include:

- **Medical Genetics**: Is this the future of medicine? What plans do Zones have to grow their workforce in this area? How will physician’s incorporate knowledge of a patient’s genome into their practice, and what affect would this have on service delivery?
- **The Opioid Crisis**: What physician groups (or combination of groups) are responsible for addressing opioid abuse? How?
- **Artificial Intelligence in Medicine**: AI technology is already being tested within the realms of Diagnostic Imaging and Lab Medicine & Pathology. What impact could AI have on physician FTE within these specialties?
- **Indigenous Health Outcomes**: What physician workforce strategies must AHS explore to improve health outcomes for Indigenous people across Alberta?

This is not an all-inclusive list of topics, but each presents unique challenges and/or opportunities to our physician workforce.

The goal of Future Focus is to encourage readers to consider how these topics and questions could apply to specialist physicians going forward.
Future Focus.

Virtual Health Clinical Service Delivery

The delivery of virtual care has the potential to increase access to physicians and decrease wait times for timely care. Improved access needs to be met with adequate physician resources to meet the demands.

Wave 1 of Connect Care will launch at select Edmonton facilities in November 2019. This system will increase access to virtual care delivery via secure messaging, media uploads, and videoconferencing. As the innovation rolls out across the province (full implementation is expected by summer 2022) and access to internet improves for patients and families, the potential for using these modules will increase, placing demands on physician workforces to meet patient needs in a timely way. Workflows will need to be structured to enable real-time care delivery virtually, while continuing to enable face-to-face care for diagnostics and procedures.

Current and future generations of physicians will require education and practice standards to enable appropriate selection of patients, and delivery of high quality, best practice care using Virtual Health. This will also promote integration of virtual care into clinical service delivery models. Where appropriate, using Virtual Health has the potential to free up clinic space where clinic room availability is a constraint. Collaboration between physician generalists and specialists as they transition patients at different acuity levels between AHS sites will create better linkages, ensuring appropriate triage, transfer, and bed utilization along the continuum of care.

Barriers to physician delivered virtual care into patients’ homes exist. Advocacy at the federal and provincial government levels is occurring to improve patient access to adequate internet in rural and remote areas, and resources are being developed in Virtual Health to support patients who do not have technical or clinical support available when they are using non-AHS electronic devices for video visits or secure messaging. A key barrier is the Medical Governing Rules set out annually by Alberta Health. Although there are Telehealth Fee Modifier billing codes in the Alberta Health Care Insurance Plan (AHCIP) Schedule of Medical Benefits (SOMB) for Telehealth (Virtual Health) encounters, the Medical Governing Rules do not allow for physicians to bill equitably for similar encounters where they would connect into patients’ homes using Virtual Health technologies. There are emerging examples from elsewhere in Canada (e.g., British Columbia) where this barrier is being overcome.

Connect Care presents one of the biggest opportunities for expansion of virtual care. AHS is always exploring additional clinical Virtual Health service offerings and physician roles within the traditional videoconference room environment. These opportunities can be found across the entire continuum of care: Hospital-Based, Clinic-Based and Community-Based.

Current State – Acute (Hospital-Based Care)

Acute Care Consultations

Virtual encounters often take place between a consulting/specialist physician and rural/remote physicians when patients require emergency or urgent care. The consulting specialist is available on-demand and in real time to complete a visual assessment, review diagnostics and/or images, and provide advice on the care plan to a remote team led by a local physician. The consultation time can vary and requires the consultant to remain available until the local team is able to assume care of the patient.
Patient Care Planning – Case Conferences
In the acute care setting, physicians often lead clinical case conferences, which bring multidisciplinary teams together via videoconference to review patient cases and make care decisions. Liver, heart, lung transplant rounds and discharge planning are a few examples of approximately 100 types of case conferences that generated just over 4,000 events in 2018/2019. Prior to the release of the new Telehealth scheduling system in December 2017, the number of patient cases reviewed were measurable, albeit with a degree of subjectivity in clinical program reporting. In 2016/2017, 22,398 patient case reviews occurred.

Current Physician Workforce Implications
Specialists who provide on-demand consultative support to rural and regional centres are concurrently managing a caseload at the tertiary centre where they are located. Significant growth in the volume of consultations suggests that there will be greater demand for specialists to be available to provide real-time on-demand support to rural and regional centres. Workflows need to continually evolve to support specialist availability for virtual care. Collaboration and sharing of information and physician resources for clinical care across sites, zones, provincially, and in some cases with other provinces is a reality in AHS. Maintaining patients in the most appropriate setting, closest to home requires specialist physicians to give advice on care plans, have an understanding of services and limitations available in different centres, provide support, and build capacity across all sites.

Current State – Ambulatory (Clinic-Based Care)

Ambulatory Care – Patient Appointments
As of 2018, there were over 300 ambulatory Virtual Health service offerings by over 30 clinical specialty types, many of which are physician to patient videoconferences for assessment and follow-up. Mental Health practitioners are the most frequent users of Virtual Health with a diverse number of Mental Health service offerings. Just over 10% of the total number of virtual encounters are conducted by mental health specialists.

Current Physician Workforce Implications - Clinic
Virtual clinic utilization data across all specialties demonstrates an increase in physicians adopting this method of care delivery. When deemed clinically appropriate, virtual visits have the potential to improve access where physical clinic space constraints lead to decreased system efficiency (e.g. increased wait times).

Current State – Community-Based Care
Care in the Patient’s Home and Community Settings
A number of programs have trialed virtual care delivery into patients’ homes or into schools using virtual video visits. These programs require physicians to provide care and advice to patients directly, often with a member of the interdisciplinary team present at the patient’s location.

Current Physician Workforce Implications – Community
When the patient’s need to travel long distances and accommodate appointments is alleviated, the added convenience can result in timelier, frequent follow-ups when accompanied by physician availability. The most successful programs in the community have restructured physician workflows to enable providing virtual care as well as in-person care in a clinic setting. There is opportunity to standardize, scale, and spread Virtual Health clinical initiatives across zones, which would require additional physician resources to do so.

Summary
Current and future states consider the potential impact to physician resources once Connect Care begins to phase in provincially. This is anticipated to create an increased demand for equitable access to high quality care for patients at home and in community settings. More data is constantly being sourced to measure the impact of Virtual Health on patient care wait times and quality. What is less certain right now is how these initiatives will evolve the volume and location of physicians required across the province. That said, Virtual Health is one of many things on the horizon that could philosophically change patient care for many specialties. AHS, Medical Leaders, and physicians, all, will need to consider its impact on future workforce.
The AHS Physician Workforce Forecast has always focused on clinical FTE only. However, the purpose of the Forecast is to help AHS, Alberta Health, the Faculties of Medicine, other healthcare partners, and Albertans at large understand how our physician workforce will expand in order to maintain a high standard of care for Albertans. Clinical FTE, is just one very important piece of a dynamic and complex puzzle. If we want to see the whole picture of our future physician workforce, we need to add more pieces.

Direct patient care and clinical-focused work are not the sole components of physician practice. Many physicians in Alberta also have non-clinical responsibilities as part of their total FTE. A physician will treat patients part time in their hospital or clinic, while also doing academic research; teaching medical students or residents; and/or providing administrative leadership to AHS, one of the two faculties of medicine, or another organization. Just within AHS, more than 850 physicians are currently contracted to deliver some form of medical leadership. This includes Zone Clinical Department Heads – where physician leaders are responsible for administrative matters related to service delivery and performance management – as well as Connect Care User Trainers – who focus on training support and promoting awareness for the launch of Connect Care within specific disciplines and/or a particular facility.

Within AHS, a Medical Leader can be retained to spend anywhere from 0.05 - 1.0 FTE on administrative/leadership duties – usually as a contractor, but sometimes as an employee. This presumes that they would then only be able to spend the remaining FTE, or less, on clinical practice. AHS has taken measures over the last 2-3 years to help support new medical leaders ensure that they are not working more than 1.0 FTE, including the ongoing development of new leadership policies that highlight physician wellness, succession planning, and patient safety.

As of May 2019, the total Medical Leadership FTE within AHS was approximately 163 FTE. This number excludes many Academic Medicine Health Services Plan (AMHSP) leadership positions and most of the physician leadership positions from the newly formed Alberta Public Labs (APL). So, the true number is higher than 163 FTE.

Even still, this is a large group not currently being included in our forecast.

FTE recruitment is not a one-to-one. Recruiting one physician does not equate to 1.0 clinical FTE. To fill some clinical roles, a Zone may need to recruit 2 or even 3 physicians, each physician may be fulfilling 0.2 FTE of a full time roll, also recognizing that those physicians may have additional responsibilities beyond patient care. This is why expanding the AHS physician workforce forecast to include non-clinical FTE would help us develop a more comprehensive report.

Take Anesthesia as an example. The 2019 forecast projects an increased clinical FTE over the next 10 years of 134 FTE. But that will not be 134 individual physicians. If we could see that Anesthesia would also require, for example, +15 FTE for medical leadership work, we would begin to understand that the net new recruitment need is truly higher than the clinical FTE alone leads us to believe.

In 2020 and beyond, AHS will explore including non-clinical FTE in our forecasts. To start, this will focus only on AHS Medical Leadership FTE. Eventually, it could also include academic FTE – duties and responsibilities required of physicians through their partnership with the University of Alberta or the University of Calgary. Our goal is to develop a more comprehensive understanding of Alberta’s future physician workforce. We will continue taking proactive steps to build layers into our forecast for the good of workforce and service delivery planning.
Future Focus.

Evolution of the Multidisciplinary Healthcare Team

Physician workforce planning does not happen in a vacuum. AHS is actively developing additional clinical workforce strategies, which represented a multi-faceted approach to optimizing the workforce to achieve the AHS goals of access, quality and sustainability. These strategic plans include LPNs and RNs, as well nurse practitioners and midwives.

Nurse Practitioners, in particular present many opportunities to compliment physician FTE within acute care and community settings. According to the 2018 AHS Nurse Practitioner Workforce Plan, Alberta has grown our NP workforce by approximately 9% per year since 20121. However, this is still below average when compared to other Canadian provinces, suggesting that we might have the opportunity for even more growth in the future. The plan goes on to suggest that, “if we continue to grow, the forecasted headcount for AHS is approximately 429 NPs (or 341.5 FTE) by 2020. In other words, AHS can potentially add approximately 20 net new NPs annually. For Alberta, the forecasted headcount is 557 NPs by 2020, which is approximately 30 net new NPs in the province annually. To support this growth, Alberta graduates and registers approximately 40-45 NPs every year. In short term, it is not supply of NPs that will be the issue, but rather where they are deployed.”2

The majority of NPs currently work within acute inpatient care. However, there is growing demand for health care providers in community and outpatient sectors including continuing care, addiction & mental health, and primary care. Regarding continuing care, in 2017, there were 34 NPs (31 FTE) employed in AHS facilities; 10 in Long-term Care, 15 in Supportive Living, and 9 in Home Care. Compared to acute inpatient care where there were over 200 NPs, the continuing care sector represents a significant area of growth for the NP workforce in the next five years.3 NP rural workforce planning and recruitment will have a direct effect on physician workforce planning. Many smaller urban and rural communities are currently underserved (or may be in the future) regarding access to certain specialist services such as cardiology or neurology.

Midwifery services within AHS have also undergone a significant transformation in 2018/19. This past spring, AHS and the Alberta Association of Midwives developed a three-year agreement to expand access to midwifery services across the province. Although specific projections have not been released, as of the writing of this report, the plan aims to increase the number of midwives practising in the province, particularly in small urban and rural areas, as well as Indigenous communities. Midwife scope of practice also expanded this year to allow providers to, among other things, prescribe and administer drugs and use point-of-care ultrasounds to determine fetal positions.

The number of midwife deliveries in Alberta have been increasing steadily for several years. In 2016/17, 2,480 births were delivered by midwives (up from 2,149 in 2014/15).4 When considering physician low-risk obstetrics services in the future, and its associated physician FTE, we must also reflect on the evolution of midwifery access in Alberta.

As part of an organizational deliverable within AHS’s Our People Strategy, Medical Affairs has partnered with Health Professions Strategy & Practice (HPSP) and Human Resources to develop an integrated approach to workforce planning. This integrated approach will not result in uniformity regarding the various workforce plans developed by AHS. Each plan, after all is targeted to different audiences and may have some variability in the data used. The goal of this integration will be to ensure that each area can be more connected to other workforce planning strategies. From a physician workforce planning perspective, connecting medical leaders with information on multidisciplinary healthcare team strategies should support the development of more robust forecasts.

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1 AHS NP Workforce Plan, pg. 16
2 AHS NP Workforce Plan, pg. 16
3 AHS NP Workforce Plan, pg. 19
4 AHS Alberta Birth and Midwifery Services Data, pg. 1 (Alberta Perinatal Health Program Data)
Definitions / Acronyms.

**Active Medical Staff** A category of appointment to the AHS Medical Staff. As defined in the Medical Staff Bylaws: a physician who has satisfied the requirements of the probationary period and have received an appointment in the active staff category, or have been appointed directly to this category.

**AHS Recruitment Dashboard** Monthly reporting template collecting data about the vacancies and the recruitment activities regarding family medicine and specialist physicians with a primary AHS appointment in Alberta by zone.

**Clinical Risk Groups (CRG)** A clinical model in which each individual patient is placed into a health risk group based on their history of health services consumption. Their health service utilization is then used to develop a profile of an individual’s anticipated future health service consumption can be applied. For more information about CRGs, see Appendix G.

**Community Medical Staff** Physician who does not provide specified clinical services for patients in facilities, and who does not require access to AHS services and programs, may apply for a medical staff appointment in the community staff category in order to benefit from participating in the activities of AHS and membership in the relevant zone clinical department.

**Current or Base Year (Fo)** Is fiscal year 2018/2019

**Forecast Period** Is the ten year period - Forecast Year 1 (F1) to Forecast Year 10 (F10) - beginning 2017-18 and ending 2027-28.

**Locum Tenens** In this report: a physician temporarily placed into an existing practice and/or facility in order to facilitate the short term absence of another physician, or to address a temporary shortfall in physician workforce.

**Long-term Locum** Physician who is working in the same locum tenens position for 12 months or longer.

**Planning Variables** Planning Variables are used for making corrections in the Forecast Report to get a more realist forecast. Examples include correcting the workforce (clinical FTEs) for introducing a technology, service delivery model, or facility.

**Probationary Medical Staff** All initial medical staff appointments shall be to the probationary staff, other than those in the temporary and community staff category, or where, in the opinion of the CMO or designate, after consultation with the applicable Zone Clinical Department Head(s) and Zone Application Review Committee, a direct appointment to the active staff category is appropriate.

**Recruitment Plan** A recruitment plan looks at a shorter time horizon and known changes in physician workforce to understand risk and plan for needed recruiting activities. Recruitment planning focuses on meeting known need for physician resources to either replace or increase the complement of physicians in a particular community or department.

**Short-term Locum** Physician who is working in the same locum tenens position for less than 12 months.

**Workforce Planning and Forecasting** A forward-looking projection based on assumptions regarding key determinants of population health need, patient service models and workforce supply. It shapes a forecast of workforce needs according to organizational strategy (e.g. patient-centred, economically sustainable, quality, meets policy and objectives).

**Zone** A geographically defined organizational and operational sub-unit of AHS.
Definitions / Acronyms.

AH Alberta Health
AHS Alberta Health Services
AMA Alberta Medical Association
CCA Cancer Control Alberta
CIHI Canadian Institute of Health Information
CMO Chief Medical Officer
CPSA College of Physicians and Surgeons of Alberta
CRG Clinical Risk Group
EM Emergency Medicine
FTE Fulltime-Equivalent
IHDA Interactive Health Data Application
LOA Leave of Absence
MA Medical Affairs
NIPM Net Inter-Provincial Migration
PARA Professional Association of Resident Physicians of Alberta
PCN Primary Care Network
PPEC Provincial Practitioner Executive Committee
PPEC WFP Subcommittee Provincial Practitioner Executive Committee Workforce Planning Subcommittee
PRPAC Physician Resource Planning Advisory Committee
PWP Physician Workforce Plan(ning)
RCPSC Royal College of Physicians and Surgeons of Canada
RFA Return From Abroad
sPWP Specialist Physician Workforce Planning software application
U of A University of Alberta
U of C University of Calgary
ZMA Zone Medical Affairs
Acknowledgements.

The development of the AHS Physician Workforce Forecast requires an enormous coordinated effort between multiple stakeholders. Development of the forecast itself requires many discussions spanning several months. We would like to thank all the individuals who participated in the development of the 2019 Forecast. Without the hard work and support of the following people and committee, we would not have been able to produce this document.

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Lawrence So

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Specialist Physician Workforce Planning (sWFP) Software Application

The sWFP 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 sWFP 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 sWFP application does not include family medicine physicians, 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 sWFP forecast: a Needs Assessment, a Supply Assessment, and Reality Checks.

1. Needs Assessment

Four methodologies are used to forecast specialist need.

The software application provides a data driven 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 sWFP software application, each RCPSC specialty has one forecast method set as default.

**Method A** uses Clinical Risk Group 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 CRGs as these specialties cannot be linked to CRGs 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 CRGs 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.

2. Supply Assessment

The Supply 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.

3. Reality Checks

The sWFP software application can not 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 Supply Assessments, and may still choose to adjust the forecast further to account for some of the factors mentioned above.

**Family Medicine Data Collection Model**

The Family Medicine Data Collection Model is focused on capturing headcount data for family medicine. Due to the lack of a data-driven workforce forecasting and modelling application for this group, family medicine forecasts in this report are more like recruitment plans as they look three years in the future and are based on planned recruitment. Reality checks to adjust for changes in service delivery models, demographics, and anticipated retirements are done by the Zones based on their knowledge and experience of their workforce and their service delivery planning. Data is provided by the Zones and from the AHS Appointment and Privileging application.

The Family Medicine forecast in this report includes physicians who have an AHS Medical Staff Appointment (including long-term locums - physicians working in the same role/position for +12 months).

The Family Medicine forecast excludes short-term locums, physicians on a Leave of Absence, Family Medicine physicians who have a primary Appointment in Emergency Medicine (these physicians are included in the specialist forecast), and family physicians in the community who do not provide services in any AHS facility.

AHS is currently working with Alberta Health and other stakeholders to enhance the sWFP application to include family medicine and all of its associated subgroups. It is anticipated that by 2021, the family medicine forecast will follow the same methodology as our specialist forecast.
When developing our annual physician workforce forecast, the starting point for the projections is our current physician workforce. The below images highlights some of the key demographics of our current AHS physician workforce.

AHS Medical Staff Appointments by Zone

* Data current as of June 18, 2019

** Numbers exclude Inactive/LOA Appointments and non-physician Medical Staff Appointments

AHS Medical Appointments 2018 vs. 2019

AHS Locum Appointments by Zone
Alberta’s physician workforce is predominantly male (61%). This gender distribution is similar to data from 2017 and 2018.

Physicians over 65 is the least balanced gender group in Alberta. Only 18% of this group is female.

Physicians under 44 show a growing female workforce with a nearly even 50% ratio.

Calgary Zone already shows a higher than average, and growing, proportion of female physicians with a total ratio of 55% male, 45% female.

Further, the largest physician group in Calgary are female physicians under 44 (836 total physicians; comprising 24% of the total Calgary physician workforce).

This could suggest a greater balance of male and female physician workforce in the future.
## Appendix C – Full Specialist Physician Forecast Results

## Appendix C – Full Specialist Physician Forecast Results

### Calgary SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

Appendix C - Full Specialist Physician Forecast Results

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SPECIALTY_NAME (RCPSC)</th>
<th>ROSTER SUITS - NET</th>
<th>GENDER SHIFT</th>
<th>NIPM / RFA</th>
<th>LEAVING WORKFORCE</th>
<th>SUBTOTAL</th>
<th>Planning</th>
<th>REPLACEMENT NEED</th>
<th>10-YEAR RECRUITMENT</th>
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**Appendix C - Full Specialist Physician Forecast Results**
# Appendix C – Full Specialist Physician Forecast Results

## NORTH ZONE SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

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Appendix C – Full Specialist Physician Forecast Results
**Appendix D – Family Medicine Physician Forecast Results**

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