

Appendix A

Data Collection Methodologies

Three data collection methodologies were used in preparing this report:

- The specialist Physician Workforce Planning (sPWP) software application
- The Family Medicine Data Collection Model
- AHS Recruitment Dashboard

Specialist Physician Workforce Planning Application

The specialist Physician Workforce Planning (sPWP) software application is focused on gathering and reporting on data related to specialist physicians – in **clinical FTE**. This software application produces standardized forecasts and is meant to facilitate a conversation at both the zone and provincial levels about physician workforce planning and forecasting to support AHS in the creation of an annual PWP and Forecast that is reflective of population health needs, service delivery requirements and planning and resource allocation and business plans at the zone and provincial levels.

The sPWP application scope includes:

- All specialist physicians licensed for independent practice by the CPSA, including:
 - Community-based physicians
 - Physicians working in AHS facilities
- Canadian College of Family Physicians (Emergency Medicine) Certificants:
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.

Outside the application scope:

- Family Medicine - excluding Family Medicine (EM)
The sPWP application does not include family physicians at this time. AHS is working with Alberta Health to determine what data-driven approach can be used in the future to better forecast family medicine workforce needs. See the Family Medicine Data Collection Model section for more information about the family medicine data collection and reporting.
- Short-term locums (physicians who are working in the same role/position less than 12 months):
When specialist physicians are replaced by short-term locums, the proportion of FTEs for the short-term locums will be captured under the names of the specialist physicians they replace.
- Physicians with limited practice licenses (e.g., limited to clinical assisting or surgical assisting).
- Forensic Pathology:
- The solicitor general is responsible for forensic pathology. This is not part of the AHS workforce.
- Dentists, Oral & Maxillofacial Surgeons and Podiatrists.

Provincial Forecasts:

- Public Health and Oncology specialty forecasts are developed provincially by the Provincial Department of Health and Cancer Care Alberta respectively.
- For these groups, the application separates the figures by zone, however, the provincial forecast should be the focus of review.
- Cancer Control Alberta develops forecasts for the following Royal College of Physicians and Surgeons of Canada specialties:
 - Radiation Oncology
 - Medical Oncology
 - Pediatric Hematology/Oncology
 - Gynecologic Oncology
 - General Surgical Oncology

These specialties are, therefore, not included in zone projections as that would have created double counting and inaccurate forecasting.

- For the Provincial Department of Public Health, consultation of the Senior Medical Officer of Health has resulted in an agreed FTE-based provincial forecast based on population health requirements for the coming 10 years.

Application parameters:

The sPWP application takes the following guiding principles into consideration:

- Population health need
- Affordable now and sustainable in the future
- Consider geographic access (Note: This element requires further work and has not been included in developing this forecast)
- Preserve and enhance quality of care
- Supports appropriate access to needed services
- Active, robust practitioner engagement
- Aligned with appropriate inter-professional and intra-professional service delivery models
- Government and stakeholder health system strategic priorities and plans
- Appropriate to academic clinical mandate (education, service, research, leadership/ administrative services)
- Inclusive of relevant determinants of current and future physician supply (for example: age, gender, national and provincial Undergraduate Medical Education/ Post-Graduate Medical Education (UGME/PGME), International Medical Graduates (IMGs), practice profile, and other relevant determinants)

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. It offers standardized forecast reports per RCPSC specialty, by zone and at a provincial level, over a period of 10 years. The data from the sPWP application is therefore **specialty based and not AHS department/sections based**.

Forecast Reports

The Forecast is a standardized report produced by the sPWP application and presents a 10 year forecast of (clinical) FTE totals by zone and RCPSC specialty, based on a need assessment, a supply assessment and reality checks (e.g., using forecast adjustments to correct for the introduction of a new service delivery model). For more information on using and interpreting the output, see appendices G and H.

Forecast Report Drivers

The forecast reports are driven by a need assessment, a supply assessment, and a reality check.

A. Need assessment, based on:

- Demographics – Alberta population (age, sex, distribution within the province) changes (e.g. age distribution). This data is updated annually by the application vendor based on Government of Alberta population projections.
- Predetermined forecast methods for future need.

See figure 1 for more information about the decision process to determine which specific forecast method is used for individual Royal College of Physicians and Surgeons of Canada (RCPSC) specialty. Appendix G provides more information about what Clinical Risk Groups (CRGs) are and why they are used.

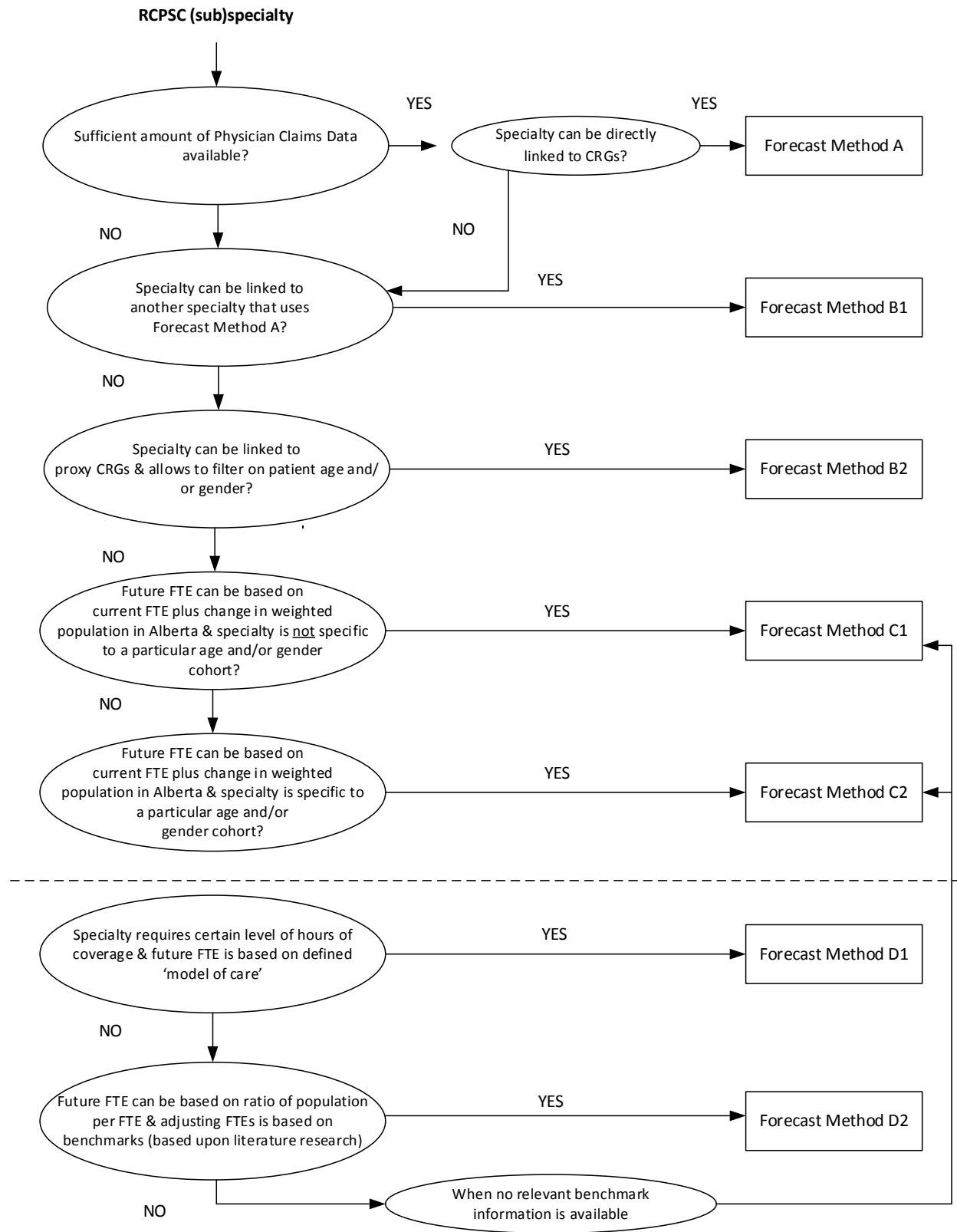
Four methodologies are being used to forecast need.

In the sPWP software application, each RCPSC specialty has one forecast method set as default. The preferred methodology is Method A, followed by B and then C.

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.

Figure 1 Decision Tree



B. Supply assessment, based on:

• **Current Physician Workforce – The Roster:**

- The Roster shows a list of all specialist physicians – working in the community and AHS facilities/departments – and their proportionate FTE (the current workforce) within the specified region and specialty, for at least their clinical FTE and may include proportionate FTE commitment to: Clinical Administration, Academic Administration, Research and Education for their primary practice specialty.
- The Roster is updated on a regular basis using information from the AHS Appointment and Privileging application and detailed information provided by the College of Physicians & Surgeons of Alberta (CPSA) to ensure specialist physicians working outside the AHS facilities – but still providing care to Albertans – are included. This information is reviewed and confirmed by Zone administrators and Department Heads/Section Chiefs at regular intervals and at least at the time the annual forecast is being developed.

• **New Canadian graduates:**

This data is updated annually by the application vendor based on CAPERs¹ data. This data gives an overview of the short-, mid- to long term expected graduates for a specialty in upcoming years (F1 through F10) split in Male versus Female based on medical school and residency program enrollment.

• **Sustainability (change in hours/week):**

Predictive, based upon CMA² and CPSA annual physician surveys including questions on work life balance and future plans. The software application uses this information in combination with anticipated attrition and new graduate numbers to estimate additional need due to decreased hours worked by new graduates.

• **Gender shift (ratio Male to Female):**

Adjusts for relative workload productivity over the course of their career between male and female physicians by ages 25 to 80. Source: AH claims file. Data will be updated annually by the application vendor. This calculation attempts to account for the shift to a greater number of female physicians in the workforce and the decrease in hours worked in certain life stages.

• **Rate Net Inter-Provincial Migration (NIPM)/Return From Abroad (RFA):**

Source: CIHI³. Data will be updated annually by the application vendor.

• **Separations (retirement and departure):**

Based on an estimated age for retirement of 65 years, the software application estimates retirement age and decrease in hours worked as individuals move toward retirement. Source: AHS Claims file. Note: Actual data related to separations can be manually edited by adjusting the Rosters.

¹ CAPER: Canadian Post-MD Education Registry

² CMA: Canadian Medical Association

³ CIHI: Canadian Institute for Health Information

C. Reality checks – Forecast Adjustments, based on planning variables:

Allow users to make adjustments for policy, service delivery changes, changes in medical practice (e.g. new technology, treatments), facility infrastructure restrictions, and to correct for under resources in the current workforce.

Provincial and Zone Consolidated Summary Reports

In this report the result from the consolidated summary provincial report is presented in table 1 of the report and the results from the consolidated summary reports for the five zones are presented in Appendix E.

Consolidated summary reports are driven by the Final Forecast Reports per RCPSC specialty at either the zone or provincial level. The reports show the current workforce – in clinical FTEs – and forecast changes and forecast recruitment need over 10 years with no annual assembly of the data per RCPSC specialty (see Appendix F).

Family Medicine Data Collection Model

The Family Medicine Data Collection Model is focused on capturing data for family medicine – **in headcount**. 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 are based on planned recruitment. Reality checks to adjust for changes in for example 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 database.

The following family physician groups are included in the document:

- Physicians who have their AHS medical staff primary appointment in the specified zone.
- Long-term locums – physicians who are working in the same role/position for 12 months or longer.

Excluded from the data collection by the zones are:

- Short-term locums – physicians who are working in the same role/position less than 12 months - as they should be included in the commitment of the physician(s) for whom they are covering.
- Physicians who are on a long-term Leave of Absence (LOA), as their work commitment will be fulfilled by other members of the department or by long-term locums.
- Family medicine physicians who have a primary appointment in Emergency Medicine and. These physicians are included in the specialist Physician Workforce Planning (sPWP) data collection.
- At this time, community family physicians who do not provide services in AHS facilities are not included in the workforce plan and forecast, as it is not possible to estimate their work commitment in providing care to Albertans.

Notes:

- Data collected from the AHS Appointment & Privileging database is presented including and excluding locums. Locums include locum tenens and probationary locums.

- Data including locums:
 - No distinction can be made between short- and long-term locums in this database. Therefore short-term locums are included in the data.
 - The zones provided the numbers of short- and long-term locums.
- Data excluding locums:
 - Despite the fact that every zone deals differently with their locums (see for more information about locums at Appendix C), presenting data excluding their locums, gives the zone an insight into their core workforce.

For more information about family medicine data, see Appendix C.

Recruitment Dashboard

The recruitment dashboard is a 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.

Note: The collected data is **in headcount** and not in FTE.

Appendix B

Alberta Population Projections by Zone

2017 and 2027

	Z1 South Zone	Z2 Calgary Zone	Z3 Central Zone	Z4 Edmonton Zone	Z5 North Zone	Alberta
2017	305,343	1,634,393	484,308	1,366,966	492,962	4,283,972
2027	339,417	1,953,463	545,219	1,590,549	557,941	4,986,589
% of change	11%	20%	13%	16%	13%	16%

Source: Interactive Health Data Application (IHDA)-Government of Alberta. Data extracted on February 26, 2018¹

Aging population: Albertans over age 65, by zone, 2017 and 2027

	Z1 South Zone	Z2 Calgary Zone	Z3 Central Zone	Z4 Edmonton Zone	Z5 North Zone	Alberta
2017	46,697	189,607	70,943	170,948	48,749	526,944
2027	64,944	312,141	101,160	259,361	78,584	816,190
% of change	39%	65%	43%	52%	61%	55%

Source: Interactive Health Data Application (IHDA)-Government of Alberta. Data extracted on February 26, 2018

Female population: 15-49 years, by zone, 2017 and 2027

	Z1 South Zone	Z2 Calgary Zone	Z3 Central Zone	Z4 Edmonton Zone	Z5 North Zone	Alberta
2017	69,040	410,517	109,436	335,973	119,334	1,044,300
2027	77,386	475,834	123,632	380,842	132,936	1,190,630
% of change	12%	16%	13%	13%	11%	14%

Source: Interactive Health Data Application (IHDA)-Government of Alberta. Data extracted on February 26, 2018

¹ Government of Alberta (2018). *Interactive Health Data Application*. Available at: http://www.ahw.gov.ab.ca/IHDA_Retrieval [Accessed February 26, 2018]

Appendix C

AHS Physician Workforce

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AHS Specialist Physicians Workforce

Data includes:

- Specialist physicians who have an AHS primary appointment in the specified zone.
- Five medical staff categories: Active, Locum Tenens, Probationary Locum, Probationary Active And Community

Data excludes:

- Public health physicians.

- Data is presented including and excluding locums. Locums include those in the Locum Tenens and Probationary (locum stream) medical staff categories.
- Presenting data that excludes Physicians in the Locum group gives the zone an insight into their core workforce.

Zone comparison: CPSA licensed versus AHS appointed specialist physicians

CPSA licensed versus AHS appointed specialist physicians, by zone, 2018

Zone	CPSA Licensed specialist physicians	AHS appointed specialist physicians			Difference CPSA licensed less AHS appointed	
		core workforce	Locums only	Total appointed	core workforce	Total appointed
Z1 South	228	257	46	303	(29)	(75)
Z2 Calgary	2,349	2,036	114	2,150	313	199
Z3 Central	222	220	64	284	2	(62)
Z4 Edmonton	2,199	2,121	158	2,279	78	(80)
Z5 North	136	151	51	202	(15)	(66)
Unknown	217	-	-	-	217	217
Total	5,351	4,785	433	5,218	566	133

Sources: a) CPSA Listings (file date March 28, 2018)
b) AHS Appointment & Privileging database (Data extracted on March 31, 2018)

Notes:

- 1 The total CPSA licensed specialist physician count includes those who reside outside Alberta; these appear in the Unknown count.
- 2 The CPSA count of licensed specialist physicians by zone is based on the address they have on file for the individual physician. AHS Appointed location is the zone where the specialist physician has their primary appointment.
- 3 AHS Appointees counts those from Active, Locum Tenens, Probationary (both Active and Locum), and Community medical staff categories; for administrative purposes, the medical staff category 'Probationary' is separated in Probationary Active and Probationary Locum.
- 4 AHS appointed physicians:
 - a. Core workforce: consists of all the AHS appointed specialist physicians, excluding locums (Locum Tenens and Probationary Locums)
 - b. Locums only: the number specialist physicians holding a Locum Tenens medical staff appointment or who are recorded as being in the Probationary category in the locum tenens stream
 - c. Total appointed: total AHS appointed physicians, including locums (Locum Tenens and Probationary Locums)
- 5 Total AHS appointed specialist physicians reflects:
 - a. CPSA licensed specialist physicians whose CPSA address is outside Alberta, and
 - b. CPSA licensed specialist physicians whose CPSA address is in one of the five zones, but this zone it is not in the zone where they hold their AHS appointment.
- 6 Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included in this table. On March 31 2018, there were 20 AHS appointed Public Health physicians. AHS medical staff counts by zone exclude these physicians as they are part of the provincial department. For more detailed information see paragraph 2.1.1.

Distribution of specialist physicians across medical staff categories (MSCs)

Total count and percentage of specialist physicians by zone, by MSC, 2018

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Total Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Active	213	70%	1,852	86%	180	63%	1,784	78%	90	45%	4,119	79%
Locums	46	15%	114	5%	64	23%	158	7%	51	25%	433	8%
Probationary	33	11%	159	7%	35	12%	319	14%	61	30%	607	12%
Community	11	4%	25	1%	2	1%	18	1%	0	0%	56	1%
Total	303	100%	2,150	100%	284	99%	2,279	100%	202	100%	5,218	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all the specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, family practice, family health, rural medicine, public health. Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included. On March 31 2018, there were 20 AHS appointed Public Health physicians. Their proportion al FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
- 3 AHS Medical Staff Appointments are one of the following categories: Active, Locum Tenens, Probationary, and Community. For administrative purposes, the Medical Staff Category 'Probationary' is separated in Probationary Active and Probationary Locum.
- 4 Locums: in this report, when referring to Locums, this includes the Medical Staff Categories: Locum Tenens and Probationary Locums
- 5 Probationary: in this table, when referring to Probationary, this only includes Probationary Active.
- 6 Central Zone: The total count of specialist physicians includes three specialist physicians in the category Lloydminster. After September 2018, Central Zone will have assigned these specialist physicians to one of the four Medical Staff Categories.

Gender distribution of specialist physicians

Specialist Physician Gender Distribution, by Zone, 2018 (including locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	22.1%	37.6%	23.9%	34.3%	20.8%	33.8%
Male	77.9%	62.4%	75.4%	65.7%	79.2%	66.1%
Unknown	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%

Source AHS Appointment and Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in family medicine, rural medicine, and public health.
- 3 Data includes five medical staff categories: Active, Locum Tenens, Probationary Locums, Probationary Active and Community.

Specialist Physician Gender Distribution, by Zone, 2018 (excluding locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	21.8%	36.5%	21.8%	33.3%	20.5%	33.1%
Male	78.2%	63.5%	78.2%	66.7%	79.5%	66.9%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, rural medicine, and public health.
- 3 Data includes three medical staff categories: Active, Probationary (Active stream) and Community.
- 4 Data excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Proportion of specialist physicians in selected gender/age groups

Count and percentage of specialist physicians by gender/age group, by zone, 2018 (including locums)

		Over 65		Younger than 45		45-54		55-64		Age Unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	2	3%	38	57%	14	21%	13	19%	0	0%	67
	Male	33	14%	75	32%	73	31%	55	23%	0	0%	236
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	35	12%	113	37%	87	29%	68	22%	0	0%	303
Z2 Calgary	Female	31	4%	444	55%	207	26%	126	16%	0	0%	808
	Male	184	14%	469	35%	368	27%	321	24%	0	0%	1342
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	215	10%	913	42%	575	27%	447	21%	0	0%	2,150
Z3 Central	Female	4	6%	33	49%	20	29%	11	16%	0	0%	68
	Male	30	14%	80	37%	50	23%	52	24%	2	1%	214
	Gender Unknown	0	0%	1	50%	0	0%	1	50%	0	0%	2
	Total	34	12%	114	40%	70	25%	64	23%	2	1%	284
Z4 Edmonton	Female	32	4%	435	56%	212	27%	102	13%	0	0%	781
	Male	163	11%	528	35%	461	31%	346	23%	0	0%	1498
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	195	9%	963	42%	673	30%	448	20%	0	0%	2,279
Z5 North	Female	2	5%	19	45%	13	31%	7	17%	1	2%	42
	Male	13	8%	56	35%	56	35%	34	21%	1	1%	160
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	15	7%	75	37%	69	34%	41	20%	2	1%	202
Alberta	Female	71	4%	969	55%	466	26%	259	15%	1	0%	1,766
	Male	423	12%	1,208	35%	1,008	29%	808	23%	3	0%	3,450
	Gender Unknown	0	0%	1	50%	0	0%	1	50%	0	0%	2
	Total	494	9%	2,178	42%	1,474	28%	1,068	20%	4	0%	5,218

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, rural medicine, and public health.
- 3 Includes five medical staff categories: Active, Locum Tenens, Probationary (Locum stream), Probationary (Active stream), and Community.

Count and percentage of specialist physicians by gender/age group, by zone, 2018 (excluding locums)

		Over 65		Younger than 45		45-54		55-64		Age Unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	2	4%	29	52%	13	23%	12	21%	0	0%	56
	Male	29	14%	56	28%	62	31%	54	27%	0	0%	201
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	31	12%	85	33%	75	29%	66	26%	0	0%	257
Z2 Calgary	Female	30	4%	386	52%	204	27%	124	17%	0	0%	744
	Male	183	14%	430	33%	361	28%	318	25%	0	0%	1292
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	213	10%	816	40%	565	28%	442	22%	0	0%	2,036
Z3 Central	Female	4	8%	17	35%	17	35%	10	21%	0	0%	48
	Male	27	16%	52	30%	43	25%	48	28%	2	1%	172
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	31	14%	69	31%	60	27%	58	26%	2	1%	220
Z4 Edmonton	Female	32	5%	374	53%	203	29%	97	14%	0	0%	706
	Male	159	11%	464	33%	451	32%	341	24%	0	0%	1415
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	191	9%	838	40%	654	31%	438	21%	0	0%	2,121
Z5 North	Female	2	6%	14	45%	10	32%	4	13%	1	3%	31
	Male	9	8%	38	32%	44	37%	29	24%	0	0%	120
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	11	7%	52	34%	54	36%	33	22%	1	1%	151
Alberta	Female	70	4%	820	52%	447	28%	247	16%	1	0%	1,585
	Male	407	13%	1,040	33%	961	30%	790	25%	2	0%	3,200
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	477	10%	1,860	39%	1,408	29%	1,037	22%	3	0%	4,785

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, rural medicine, and public health.
- 3 Includes three medical staff categories: Active, Probationary (Active stream) and Community.
- 4 Excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Location of Post Graduate Training

Specialist Physician Location of Post Graduate Training, by Zone (including locums)

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	198	65%	1,714	80%	196	69%	1,723	76%	106	52%	3,937	75%
International	90	30%	419	19%	73	26%	518	23%	89	44%	1,189	23%
Unknown	15	5%	17	1%	15	5%	38	2%	7	3%	92	2%
Total	303	100%	2,150	100%	284	100%	2,279	100%	202	100%	5,218	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, rural medicine, and public health.
- 3 Includes five medical staff categories: Active, Locum Tenens, Probationary (Locum stream), Probationary (Active stream), and Community.

Specialist Physician Location of Post Graduate Training, by Zone (excluding locums)

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	170	66%	1,614	79%	153	70%	1,594	75%	70	46%	3,601	75%
International	81	32%	407	20%	64	29%	503	24%	76	50%	1,131	24%
Unknown	6	2%	15	1%	3	1%	24	1%	5	3%	53	1%
Total	257	100%	2,036	100%	220	100%	2,121	100%	151	100%	4,785	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Excludes physicians who have an appointment in: family medicine, rural medicine, and public health.
- 3 Includes three medical staff categories: Active, Probationary (Active stream) and Community.
- 4 Excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

AHS Family Medicine Workforce

Data includes:

- Family medicine physicians who have an AHS primary appointment in the specified zone
- Physicians who have an AHS appointment in: family medicine, family practice, family health, and rural medicine
- Five medical staff categories: active, locum tenens, probationary locums, probationary active and community

- Data is presented including and excluding locums. Locums include those in the Locum Tenens and Probationary (locum stream) medical staff categories.
- Presenting data that excludes Physicians in the Locum group gives the zone an insight into their core workforce.

Zone Comparison: CPSA Licensed Versus AHS Appointed Family Physicians

CPSA Licensed Versus AHS Appointed Family Physicians by Zone, 2018

Zone	CPSA Licensed Family Medicine	AHS appointed family medicine physicians			Difference CPSA licensed less AHS appointed	
		core workforce	Locums only	Total appointed	core workforce	Total appointed
Z1 South	346	280	30	310	66	36
Z2 Calgary	2,241	1,297	50	1,347	944	894
Z3 Central	474	389	76	465	85	9
Z4 Edmonton	1,731	604	36	640	1,127	1,091
Z5 North	393	332	90	422	61	(29)
Zone unknown	204	-	-	-	204	204
Total	5,389	2,902	282	3,184	2,487	2,205

Sources: a) CPSA Listings (file date March 28, 2018)
b) AHS Appointment & Privileging database (Data extracted on March 31, 2018)

Notes:

- 1 The total CPSA licensed family medicine physician count includes family medicine physicians who reside outside Alberta; these appear in the Unknown count.
- 2 The CPSA count of licensed family medicine physicians by zone is based on the address they have on file for the individual physician. AHS Appointed location is based on AHS records of the zone where the family medicine physician has their primary appointment.
- 3 AHS Appointees counts those from Active, Locum Tenens, Probationary (both Active and Locum), and Community medical staff categories; for administrative purposes, the medical staff category 'Probationary' is separated in Probationary Active and Probationary Locum.
- 4 AHS appointed family medicine physicians:
 - a. Core workforce: consists of all the AHS appointed family medicine physicians, excluding locums (Locum Tenens and Probationary Locums)
 - b. Locums only: the number family medicine physicians holding a Locum Tenens medical staff appointment or who are recorded as being in the Probationary category in the locum tenens stream
 - c. Total appointed: total AHS appointed family medicine physicians, including locums (Locum Tenens and Probationary Locums)
- 5 Total AHS appointed family physicians reflects:
 - a. CPSA licensed family physicians whose CPSA address is outside Alberta, and
 - b. CPSA licensed family physicians whose CPSA address is in one of the five zones, but this zone it is not in the zone where they hold their AHS appointment.
- 6 Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included in this table. On March 31 2018, there were 20 AHS appointed Public Health physicians. AHS medical staff counts by zone exclude these physicians as they are part of the provincial department. For more detailed information see paragraph 2.1.1.

Family Medicine Physician Distribution Over Medical Staff Categories (MSCs)

Total count and percentage of family physicians by zone, by MSC, 2018

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Total Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Active	220	71%	901	67%	299	64%	503	79%	211	50%	2,134	67%
Locums	30	10%	50	4%	76	16%	36	6%	90	21%	282	9%
Probationary	46	15%	119	9%	82	18%	86	13%	119	28%	452	14%
Community	14	5%	277	21%	8	2%	15	2%	2	0%	316	10%
Total	310	100%	1,347	100%	465	100%	640	100%	422	100%	3,184	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all family medicine physicians who have a primary AHS appointment in the specified zone.
- 2 Includes physicians who have an appointment in: family medicine, family practice, family health, rural medicine.
- 3 AHS Medical Staff Appointments are one of the following categories: Active, Locum Tenens, Probationary, and Community. For administrative purposes, the Medical Staff Category 'Probationary' is separated in Probationary Active and Probationary Locum.
- 4 Locums: in this report, when referring to Locums, this includes the Medical Staff Categories: Locum Tenens and Probationary Locums.
- 5 Probationary: in this table, when referring to Probationary, this only includes Probationary Active.
- 6 The AHS Appointment & Privileging database cannot separate long-term (working in the same role longer than 12 months) and short-term (working in the same role shorter than 12 months) locums in the Medical Staff Categories Locum Tenens and Probationary Locums, therefore the zones provided these numbers:

South Zone: Locum Tenens: 14 (long-term 1; short-term 13)
Probationary Locums: 16 (long-term 4; short-term 12)

Calgary Zone: Locum Tenens: 50 (long-term 3: Urban 3/Rural 0; short-term: 47: Urban 17/ Rural: 30)
Probationary Locums: 0

Central Zone: Locum Tenens: 30 (long-term 10; short-term 20)
Probationary Locums: 46 (long-term 6; short-term 40)

Edmonton Zone: Locum Tenens: 8 (long-term 0; short-term 8)
Probationary Locums: 28 (long-term 0; short-term 28)

North Zone: Locum Tenens: 21 (long-term 8; short-term 13)
Probationary Locums: 69 (long-term 1; short-term 68)

Gender Distribution of Family Physicians

Gender Distribution of Family Physicians, by Zone, 2018 (including locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	34.2%	53.7%	31.0%	43.6%	32.0%	43.6%
Male	65.8%	46.3%	69.0%	56.3%	68.0%	56.4%
Unknown	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes five medical staff categories: Active, Locum Tenens, Probationary (Locum Stream), Probationary (Active Stream), and Community.

Gender Distribution of Family Physicians, by Zone, 2018 (excluding locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	33.9%	53.4%	31.1%	43.4%	32.5%	44.1%
Male	66.1%	46.6%	68.9%	56.3%	67.5%	55.9%
Unknown	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes three medical staff categories: Active, Probationary (Active stream), and Community.
4. Data excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Proportion of family physicians in selected gender/age groups

Count and percentage of family physicians by gender/age group, by Zone, 2018 (including locums)

		Over 65		Younger than 45		45-54		55-64		Age Unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	1	1%	68	64%	21	20%	16	15%	0	0%	106
	Male	24	12%	88	43%	47	23%	45	22%	0	0%	204
	Gender Unknown	0	0%	-	0%	0	0%	0	0%	0	0%	-
	Total	25	8%	156	50%	68	22%	61	20%	0	0%	310
Z2 Calgary	Female	40	6%	349	48%	208	29%	127	18%	0	0%	724
	Male	88	14%	218	35%	159	26%	158	25%	0	0%	623
	Gender Unknown	0	0%	-	0%	0	0%	0	0%	0	0%	-
	Total	128	10%	567	42%	367	27%	285	21%	0	0%	1,347
Z3 Central	Female	5	3%	84	58%	35	24%	20	14%	0	0%	144
	Male	43	13%	120	37%	80	25%	78	24%	0	0%	321
	Gender Unknown	0	0%	-	0%	0	0%	0	0%	0	0%	-
	Total	48	10%	204	44%	115	25%	98	21%	0	0%	465
Z4 Edmonton	Female	12	4%	124	44%	85	30%	58	21%	0	0%	279
	Male	69	19%	114	32%	80	22%	96	27%	1	0%	360
	Gender Unknown	0	0%	1	0%	0	0%	0	0%	0	0%	1
	Total	81	13%	239	37%	165	26%	154	24%	1	0%	640
Z5 North	Female	3	2%	96	71%	25	19%	11	8%	0	0%	135
	Male	28	10%	118	41%	81	28%	59	21%	1	0%	287
	Gender Unknown	0	0%	-	0%	0	0%	0	0%	0	0%	-
	Total	31	7%	214	51%	106	25%	70	17%	1	0%	422
Alberta	Female	61	4%	721	52%	374	27%	232	17%	0	0%	1,388
	Male	252	14%	658	37%	447	25%	436	24%	2	0%	1,795
	Gender Unknown	0	0%	1	100%	0	0%	0	0%	0	0%	1
	Total	313	10%	1,380	43%	821	26%	668	21%	2	0%	3,184

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes five medical staff categories: Active, Locum Tenens, Probationary (Locum Stream), Probationary (Active Stream), and Community.

Count and percentage of family medicine physicians by gender/age group, by Zone, Alberta, 2018 (excluding locums)

		Over 65		Younger than 45		45-54		55-64		Age unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	1	1%	57	60%	21	22%	16	17%	0	0%	95
	Male	24	13%	76	41%	42	23%	43	23%	0	0%	185
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	25	9%	133	48%	63	23%	59	21%	0	0%	280
Z2 Calgary	Female	40	6%	321	46%	207	30%	125	18%	0	0%	693
	Male	87	14%	206	34%	155	26%	156	26%	0	0%	604
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	127	10%	527	41%	362	28%	281	22%	0	0%	1,297
Z3 Central	Female	5	4%	70	58%	30	25%	16	13%	0	0%	121
	Male	41	15%	94	35%	67	25%	66	25%	0	0%	268
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	46	12%	164	42%	97	25%	82	21%	0	0%	389
Z4 Edmonton	Female	11	4%	109	42%	84	32%	58	22%	0	0%	262
	Male	69	20%	99	29%	78	23%	94	28%	0	0%	340
	Gender Unknown	0	0%	1	0%	0	0%	0	0%	1	0%	2
	Total	80	13%	209	35%	162	27%	152	25%	1	0%	604
Z5 North	Female	1	1%	75	69%	22	20%	10	9%	0	0%	108
	Male	22	10%	83	37%	72	32%	46	21%	1	0%	224
	Gender Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0
	Total	23	7%	158	48%	94	28%	56	17%	1	0%	332
Alberta	Female	58	5%	632	49%	364	28%	225	18%	0	0%	1,279
	Male	243	15%	558	34%	414	26%	405	25%	1	0%	1,621
	Gender Unknown	0	0%	1	50%	0	0%	0	0%	1	50%	2
	Total	301	10%	1,191	41%	778	27%	630	22%	2	0%	2,902

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes three medical staff categories: Active, Probationary (Active stream), and Community.
4. Data excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Location of Post Graduate Training – Family Physicians

Location of Post Graduate Training, by Zone (including locums)

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	181	58%	1,070	79%	190	41%	522	82%	152	36%	2,115	66%
International	125	40%	265	20%	259	56%	99	15%	257	61%	1,005	32%
Unknown	4	1%	12	1%	16	3%	19	3%	13	3%	64	2%
Total	310	100%	1,347	100%	465	100%	640	100%	422	100%	3,184	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes five medical staff categories: Active, Locum Tenens, Probationary (Locum Stream), Probationary (Active Stream), and Community.

Location of Post Graduate Training, by Zone (excluding locums)

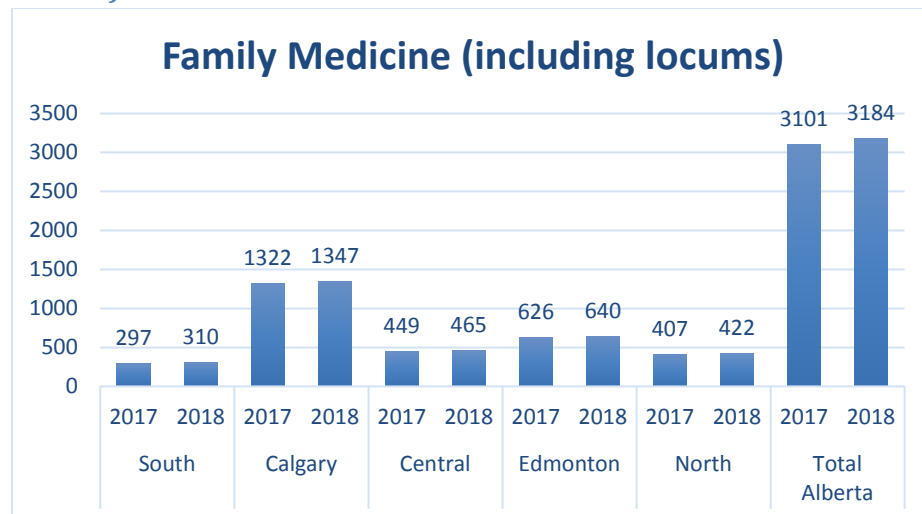
	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	158	56%	1,030	79%	144	37%	491	81%	98	30%	1,921	66%
International	118	42%	258	20%	233	60%	96	16%	227	68%	932	32%
Unknown	4	1%	9	1%	12	3%	17	3%	7	2%	49	2%
Total	280	100%	1,297	100%	389	100%	604	100%	332	100%	2,902	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Includes:

1. Family medicine physicians who have a primary AHS appointment in the specified zone.
2. Physicians who have an AHS appointment in: family medicine and rural medicine.
3. Data includes three medical staff categories: Active, Probationary (Active stream), and Community.
4. Data excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Total AHS Appointed Family Medicine Physicians (headcount) 2017, 2018 – (including locums)



Source AHS Appointment and Privileging Database (at March 31, each year)

Family Medicine: Current Workforce and Recruitment Plan 2017-2020

Urban versus rural

	Z1-South Zone		Z2-Calgary Zone		Z3-Central Zone		Z4-Edmonton Zone		Z5-North Zone	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Total number of recruits commenced in fiscal year 2017/18	10	4	26	16	3	22	11		6	18
Current vacancies (a)	1	7	14	15	6	22	6		2	32
Estimated exits (attrition) in next 3 years (b)	7	12	87	27	7	21	30		7	19
Forecasted new positions created (net new) in 3 yrs (c)	16	0	105	25	7	9	0		0	11
Total recruitment needed (a + b + c)	24	19	206	67	20	52	36	0	9	62
Reality check:										
Recruitment target in year 1 (2018-2019)	18	9	47	25	7	25	7		46	21
Recruitment target in year 2 (2019-2020)	1	1	22	15	0	5	0		0	20
Recruitment target in year 3 (2020-2021)	4	10	36	12	0	7	0		1	8
Total recruited in 3 yrs (2018-2021)	23	20	105	52	7	37	7	0	47	49
Recruitment deficiency	1	-1	101	15	13	15	29	0	-38	13

Source: Data collected by the zones as on March 31, 2018

Notes:

- 1 Edmonton Zone: does not have a rural area
- 2 Current vacancies: Family medicine positions vacant (unfilled) as at March 31, 2018.
- 3 Total number of exits in fiscal year 2016-2017: All exits of family medicine physicians due to retirement, relocation, termination, etc.
- 4 Total number of recruits commenced in fiscal year 2017-2018: Total number of recruits who have received their CPSA independent practice permit and commenced.
- 5 Estimated exits (attrition) in next 3 years: Expected exits of family medicine physicians due to retirement, relocation, termination, etc. for the fiscal years t1, t2, t3.
- 6 Forecasted most likely new positions created (net new) in next 3 years: Total of any position that is not a replacement due to retirement, relocation, termination, etc. for the fiscal years t1, t2, t3.
- 7 Recruitment target in year t1, t2, t3: How many (headcount) of the total recruitment needed does the zone plan to recruit in year t1, t2, t3.

AHS Physician Workforce

In this section, data is shown for AHS appointed physicians (family medicine and specialist physicians) – including the physicians who hold a locum position - by zone¹ and province, as on March 31 2018.

In the AHS Physician Workforce Plan and Forecast Report for 2018, the focus is on the core workforce. This means that the data presented in the report regarding physician workforce excludes locum tenens physicians.

The aim of distinguishing the core workforce from the total AHS primary appointed physicians is to get information about the zone's core workforce and to give the zones insight into the possible effects of their locums on their core workforce.

According to the AHS Medical Staff Bylaws², physicians can be appointed to the following AHS medical staff categories: Active, Locum Tenens, Probationary, and Community. For administrative purposes, the Probationary Medical Staff Category is separated into Active and Locum streams. In this report, when referring to Locums, this includes the Medical Staff Categories: Locum Tenens and Probationary (Locum stream).

Locum tenens physicians fill a crucial role in maintaining services in a variety of situations:

- (Short-term) locums covering for long-term vacancies.
- Covering unexpected short-term gaps where the regular workforce is not large enough to cover on their own.
- Short-term locums covering for holidays, leaves, sabbaticals, sickness etc.
- Covering for temporarily increased workloads in case of an emergency (e.g. epidemic).

¹ Physicians are recorded in the zone where they most typically work (their primary appointment zone).

² Alberta Health Services (2011). *The Alberta Health Services Medical Staff Bylaws*.

Physicians by Medical Staff Category

The following tables relate to AHS Medical Staff as a whole (i.e., family and specialist physicians together).

Total Count and Proportion of AHS Appointed Physicians by Zone, by MSC, 2018

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Total Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Active	433	71%	2,753	79%	479	64%	2,287	78%	301	48%	6,253	74%
Locums	76	12%	164	5%	140	19%	194	7%	141	23%	715	9%
Probationary	79	13%	278	8%	117	16%	405	14%	180	29%	1,059	13%
Community	25	4%	302	9%	10	1%	33	1%	2	0%	372	4%
Total	613	100%	3,497	100%	749	100%	2,919	100%	624	100%	8,402	100%

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes all the physicians who have a primary AHS appointment in the specified zone.
- 2 Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included. On March 31 2017, there were 20 AHS appointed Public Health physicians. Their proportional FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
- 3 AHS Medical Staff Appointments are one of the following categories: Active, Locum Tenens, Probationary and Community. For administrative purposes, the Medical Staff Category 'Probationary' is separated in Probationary Active and Probationary Locum.
- 4 Locums: in this report, when referring to Locums, this includes the Medical Staff Categories: Locum Tenens and Probationary Locums
- 5 Probationary: in this table, when referring to Probationary, this only includes Probationary Active.
- 6 Central Zone: The total count of specialist physicians includes three specialist physicians in the category Lloydminster. After September 2018, Central Zone will have assigned these specialist physicians to one of the four Medical Staff Categories.

Gender distribution of physicians

Physician Gender distribution, by Zone, 2018 (including locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	28.2%	43.8%	28.3%	36.3%	28.4%	37.5%
Male	71.8%	56.2%	71.4%	63.7%	71.6%	62.4%
Unknown	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%

Source AHS Appointment and Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes family medicine and specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included. On March 31 2017, there were 20 AHS appointed Public Health physicians. For more detailed information see paragraph 2.1.1.
- 3 Data includes the following medical staff categories: active, locum tenens, probationary locums, probationary active and community.

Physician Gender distribution, by Zone, 2018 (excluding locums)

	Z1 South	Z2 Calgary	Z3 Central	Z4 Edmonton	Z5 North	Total Alberta
Female	28.1%	43.1%	27.8%	35.5%	28.8%	37.3%
Male	71.9%	56.9%	72.2%	64.4%	71.2%	62.7%
Unknown	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%

Source AHS Appointment and Privileging Database (as on March 31, 2018)

Notes:

- 1 Includes family medicine and specialist physicians who have a primary AHS appointment in the specified zone.
- 2 Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included. On March 31 2018, there were 20 AHS appointed Public Health physicians. For more detailed information see paragraph 2.1.1.
- 3 Data includes three medical staff categories: Active, Probationary (Active stream) and Community.
- 4 Data excludes two medical staff categories: Locum Tenens, Probationary (Locum stream).

Proportion of physicians in selected gender/age groups

Count and percentage of physicians by gender/age group, by Zone, 2018 (including locums)

		Over 65		Younger than 45		45-54		55-64		Age Unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	3	2%	106	61%	35	20%	29	17%	0	0%	173
	Male	57	13%	163	37%	120	27%	100	23%	0	0%	440
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	60	10%	269	44%	155	25%	129	21%	0	0%	613
Z2 Calgary	Female	71	5%	793	52%	415	27%	253	17%	0	0%	1,532
	Male	272	14%	687	35%	527	27%	479	24%	0	0%	1,965
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	343	10%	1,480	42%	942	27%	732	21%	0	0%	3,497
Z3 Central	Female	9	4%	117	55%	55	26%	31	15%	0	0%	212
	Male	73	14%	200	37%	130	24%	130	24%	2	0%	535
	Gender Unknown	0	0%	1	50%	-	0%	1	50%	0	0%	2
	Total	82	11%	318	42%	185	25%	162	22%	2	0%	749
Z4 Edmonton	Female	44	4%	559	53%	297	28%	160	15%	0	0%	1,060
	Male	232	12%	642	35%	541	29%	442	24%	1	0%	1,858
	Gender Unknown	0	0%	1	0%	-	0%	-	0%	0	0%	1
	Total	276	9%	1,202	41%	838	29%	602	21%	1	0%	2,919
Z5 North	Female	5	3%	115	65%	38	21%	18	10%	1	1%	177
	Male	41	9%	174	39%	137	31%	93	21%	2	0%	447
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	46	7%	289	46%	175	28%	111	18%	3	0%	624
Alberta	Female	132	4%	1,690	54%	840	27%	491	16%	1	0%	3,154
	Male	675	13%	1,866	36%	1,455	28%	1,244	24%	5	0%	5,245
	Gender Unknown	0	0%	2	67%	-	0%	1	33%	0	0%	3
	Total	807	10%	3,558	42%	2,295	27%	1,736	21%	6	0%	8,402

Source AHS Appointment & Privileging Database (as on March 31, 2018)

Notes:

1. Includes family medicine and specialist physicians who have a primary AHS appointment in the specified zone.
2. The 20 physicians with a primary appointment in the Provincial Department of Public Health on March 31, 2018, are not included in this analysis as they cannot be assigned to one zone. Their proportional FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
3. Includes the following medical staff categories: Active, Locum Tenens, Probationary (Locums stream), Probationary (Active stream), and Community.
4. Age Unknown is included in the calculation, but not shown in the table.

Count and percentage of physicians, by gender/age group, by Zone, 2018 (excluding locums)

		Over 65		Younger than 45		45-54		55-64		Age Unknown		Total
		Count	%	Count	%	Count	%	Count	%	Count	%	Count
Z1 South	Female	3	2%	86	57%	34	23%	28	19%	0	0%	151
	Male	53	14%	132	34%	104	27%	97	25%	0	0%	386
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	56	10%	218	41%	138	26%	125	23%	0	0%	537
Z2 Calgary	Female	70	5%	707	49%	411	29%	249	17%	0	0%	1,437
	Male	270	14%	636	34%	516	27%	474	25%	0	0%	1,896
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	340	10%	1,343	40%	927	28%	723	22%	0	0%	3,333
Z3 Central	Female	9	5%	87	51%	47	28%	26	15%	0	0%	169
	Male	68	15%	146	33%	110	25%	114	26%	2	0%	440
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	77	13%	233	38%	157	26%	140	23%	2	0%	609
Z4 Edmonton	Female	43	4%	483	50%	287	30%	155	16%	0	0%	968
	Male	228	13%	563	32%	529	30%	435	25%	0	0%	1,755
	Gender Unknown	0	0%	1	0%	-	0%	-	0%	1	0%	2
	Total	271	10%	1,047	38%	816	30%	590	22%	1	0%	2,725
Z5 North	Female	3	2%	89	64%	32	23%	14	10%	1	1%	139
	Male	31	9%	121	35%	116	34%	75	22%	1	0%	344
	Gender Unknown	0	0%	-	0%	-	0%	-	0%	0	0%	-
	Total	34	7%	210	43%	148	31%	89	18%	2	0%	483
Alberta	Female	128	4%	1,452	51%	811	28%	472	16%	1	0%	2,864
	Male	650	13%	1,598	33%	1,375	29%	1,195	25%	3	0%	4,821
	Gender Unknown	0	0%	1	50%	-	0%	-	0%	1	50%	2
	Total	778	10%	3,051	40%	2,186	28%	1,667	22%	5	0%	7,687
	Total incl locums	807	10%	3,558	42%	2,295	27%	1,736	21%	6	0%	8,402

Source: Appointment & Privileging Database, data extracted on March 31 2018

Notes:

1. Includes family medicine and specialist physicians who have a primary AHS appointment in the specified zone.
2. The 20 physicians with a primary appointment in the Provincial Department of Public Health on March 31, 2018, are not included in this analysis as they cannot be assigned to one zone. Their proportional FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
3. Includes the following medical staff categories: Active, Locum Tenens, Probationary (Active stream), and Community.
4. Excludes medical staff categories: Locum Tenens, Probationary (Locum Stream).
5. Age Unknown is included in the calculation, but not shown in the table.

Location of Post Graduate Training

Location of Post Graduate Training (including locums)

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	379	62%	2,784	80%	386	52%	2,245	77%	258	41%	6,052	72%
International	215	35%	684	20%	332	44%	617	21%	346	55%	2,194	26%
Unknown	19	3%	29	1%	31	4%	57	2%	20	3%	156	2%
Total	613	100%	3,497	100%	749	100%	2,919	100%	624	100%	8,402	100%

Source AHS Appointment and Privileging Database (as on March 31, 2018)

Notes:

1. Includes Family medicine and specialist physicians who have a primary appointment in the specified zone.
2. Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included in the zone analysis. On March 31, 2018, there were 20 AHS appointed Public Health physicians. Their proportional FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
3. Includes the following medical staff categories: Active, Locum Tenens, Probationary (Locums stream), Probationary (Active stream), and Community.

Location of Post Graduate Training (excluding locums)

	Z1 South		Z2 Calgary		Z3 Central		Z4 Edmonton		Z5 North		Alberta	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Canada (incl Alberta)	328	61%	2,644	79%	297	49%	2,085	77%	168	35%	5,522	72%
International	199	37%	665	20%	297	49%	599	22%	303	63%	2,063	27%
Unknown	10	2%	24	1%	15	2%	41	2%	12	2%	102	1%
Total	537	100%	3,333	100%	609	100%	2725	100%	483	100%	7,687	100%

Source: Appointment and Privileging Database, data extracted on March 31 2018

Notes:

1. Includes family medicine and specialist physicians who have a primary AHS appointment in the specified zone.
2. Public Health physicians in AHS are appointed to the Provincial Department of Public Health, and are therefore not included in the zone analysis. On March 31, 2017, there were 20 AHS appointed Public Health physicians. Their proportional FTE is included in the specialist physician workforce plan and forecast. For more detailed information see paragraph 2.1.1.
3. Includes the following medical staff categories: Active, Locum Tenens, Probationary (Active stream), and Community.
4. Excludes medical staff categories: Locum Tenens, Probationary (Locum Stream).

Appendix D

Physician Migration

Specialist Physician Migration

Specialist physicians migrating between Alberta and other Canadian jurisdictions who were in Canada on both December 31, 2015, and December 31, 2016

Total residing in Alberta 2015		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	B.C.	Y.T.	N.W.T.	Nun.	Total	Total residing in Alberta 2016	Net Change
	Left from Alberta 2015	1	2	4	1	9	29	2	8	41	0	1	0	98		
4,695															4,694	-1
	Came to Alberta 2015	1	1	6	1	6	44	5	14	18	1	0	0	97		

Source: Scott's Medical Database, 2016, Canadian Institute for Health Information (CIHI 2016) – table 10.0. Data extracted on February, 2018¹

Notes:

- 1 Interjurisdictional migration is determined by comparing the jurisdiction of residence of physicians in the previous year with the jurisdiction of residence of physicians in the given year.
- 2 Only physicians practicing as specialists in both 2015 and 2016 are included in the table.
- 3 Includes active physicians in clinical and non-clinical practice (e.g., research and academia) who have an MD degree and a valid mailing address.
- 4 Excludes residents, physicians in the military, as well as semi-retired and retired physicians.
- 5 Excludes non-registered physicians who requested that their information not be published as of December 31 of the reference year 2016.
- 6 Specialist physicians include certificants of the Royal College and/or the CMQ. All other physicians are counted under family medicine, including certificants of the CFPC, unless noted otherwise.
- 7 Specialists in Saskatchewan and Newfoundland and Labrador (starting in 2004); in Nova Scotia, New Brunswick and Yukon (starting in 2007); in Quebec and Prince Edward Island (starting in 2009); and in Alberta (starting in 2010) also include non-certified specialist physicians who are not certified by the Royal College or the CMQ.

Data as of December 31 of the reference year 2016.

¹ Canadian Institute for Health Information (2016). *Supply, Distribution and Migration of Physicians in Canada: Data Tables*. Available at: <http://www.cihi.ca/hr>.

Family Medicine Physician Migration

Family medicine physicians migrating between Alberta and other Canadian jurisdictions who were in Canada on both December 31, 2015, and December 31, 2016

Total residing in Alberta 2015		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	B.C.	Y.T.	N.W.T.	Nun.	Total	Total residing in Alberta 2016	Net Change
	Left from Alberta 2015	1	0	2	0	1	22	0	3	46	2	0	0	77		
4,927															4,914	-13
	Came to Alberta 2015	3	0	2	2	3	15	13	15	10	0	1	0	64		

Source: Scott's Medical Database, 2016, Canadian Institute for Health Information (CIHI 2016) – table 9.0. Data extracted on February 26, 2018

Notes:

- 1 Interjurisdictional migration is determined by comparing the jurisdiction of residence of physicians in the previous year with the jurisdiction of residence of physicians in the given year.
- 2 Only physicians practicing family medicine in both 2015 and 2016 are included in the table.
- 3 Includes active physicians in clinical and non-clinical practice (e.g., research and academia) who have an MD degree and a valid mailing address.
- 4 Excludes residents, physicians in the military, as well as semi-retired and retired physicians.
- 5 Excludes non-registered physicians who requested that their information not be published as of December 31 of the reference year 2015.
- 6 Specialist physicians include certificants of the Royal College and/or the CMQ. All other physicians are counted under family medicine, including certificants of the CFPC, unless noted otherwise.
- 7 Specialists in Saskatchewan and Newfoundland and Labrador (starting in 2004); in Nova Scotia, New Brunswick and Yukon (starting in 2007); in Quebec and Prince Edward Island (starting in 2009); and in Alberta (starting in 2010) also include non-certified specialist physicians who are not certified by the Royal College or the CMQ.

Data as of December 31 of the reference year 2016.

Appendix E

Specialist Physician Forecast Results - sPWP software application

- The data represent the **clinical FTEs** within a Royal College of Physicians and Surgeons of Canada (RCPSC) specialty. Research, academic administration, and clinical teaching (other than at the bedside) are not included. Reporting does not strictly reflect AHS Departments and Sections.
- The **categories** are grouped based on Royal College of Physicians and Surgeons of Canada (**RCPSC specialties**). For example, medicine includes subspecialties such as cardiology, nephrology, and pain medicine. For more information about which RCPSC specialties are included in the various categories, see appendix F.
- **Forecast Adjustments:** in this report, planning variables are used to adjust the application-calculated forecasts to represent the current and future state more appropriately, for example, to account for the introduction of a new service delivery model or to correct for facility capacity.

Reading guide

How to interpret the forecast need and supply assessment

Note: The 3 and 7 year forecasts are only presented at the provincial level.

These tables show, by category, the:

- A. Current workforce – total clinical FTEs** on the date the data was extracted from the sPWP application.
- B. Unadjusted Forecast** – Net change in clinical FTE required to meet changes in population health need after 3, 7, and 10 years.
- C. Forecast Adjustments** – reality check: Adjustments users made to anticipate on policy, service delivery changes, changes in medical practice (e.g. new technology, treatments), facility infrastructure restrictions, and to correct for under resources in the current workforce.
- D. Replacement – Physicians leaving the Workforce**– after 3, 7 and 10 years
The projected change in the specialist physician workforce (in clinical FTEs) based on: estimated impact of changing gender balance in medicine (male/female), Net Inter-Provincial Migration & Return From Abroad (NIPM & RFA), separations (retirement, reducing FTE with age), and the current enrollment in the Canadian medical schools (new Canadian graduates).
- E. Net New Need – excluding Replacements (column B + column C)** – Net change in clinical FTE required after 3, 7 and 10 years to meet changes in population health need (column B Unadjusted Forecast) and adjusted by reality checks (column C Forecast Adjustments).
- F. Forecast Total FTE recruitment (column D + column E)** – after 3, 7 and 10 years
The change in clinical FTE needed after 3, 7 and 10 years based on replacement requirements (column D) and changes in population health need, adjusted for reality checks (column E Net New Need-excluding Replacements).
- G. Forecast Total Workforce at the end of 10 years (column A + column E)** – after 3, 7 and 10 years
Forecast total workforce in clinical FTE at the end of 10 years; based on current workforce (column A) plus the Net New Need-excluding replacements (column E).

Please note: This column does not include the estimated recruitment requirement to replace physicians leaving the workforce (column D), as the forecast total workforce at the end of 10 years focuses on net new need compared with current workforce.

H. Average Recruitment Need (column H)

Depending on the years the Forecast Total FTE Recruitment (column F) is referring to, column H shows the annual average recruitment need over 3, 7 or 10 years.

For more specific information about the specialist workforce forecasting software application, factors impacting forecasting calculations, the drivers and guiding principles see appendix A.

Provincial 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Alberta	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	307.07	97.38	(0.55)	102.93	96.83	199.77	403.90	19.98
Cancer	70.01	30.02	19.80	32.57	49.82	82.39	119.83	8.24
Diagnostic Imaging	363.80	63.93	21.71	122.11	85.64	207.75	449.44	20.78
Emergency Medicine	418.01	217.06	35.00	94.02	252.06	346.08	670.07	34.61
Lab Medicine & Pathology	215.85	68.14	6.85	98.97	74.99	173.96	290.84	17.40
Medicine	941.75	325.84	57.01	375.08	382.85	757.93	1,324.60	75.79
Pediatrics	449.53	154.32	3.52	170.43	157.84	328.27	607.37	32.83
Obstetrics & Gynecology	187.98	18.44	17.65	64.77	36.09	100.86	224.07	10.09
Psychiatry	513.37	165.70	26.10	214.81	191.80	406.61	705.17	40.66
Public Health	19.61	4.08	9.70	6.51	13.78	20.29	33.39	2.03
Surgery	541.45	190.54	(14.07)	227.30	176.47	403.77	717.92	40.38
Pediatric Surgery	21.59	9.82	1.10	13.80	10.92	24.72	32.51	2.47
All categories	4,050.02	1,345.27	183.82	1,523.31	1,529.09	3,052.40	5,579.11	305.24

Source sPWP software application (April 30, 2018)

Notes:

1. Cancer Control Alberta (CCA) does the provincial forecasts for the RCPS specialties of radiation oncology, medical oncology (both are part of the category Cancer), gynecologic oncology (part of the category Obstetrics & Gynecology), pediatric hematology/oncology (Pediatrics), and general surgical oncology (Surgery).
2. Data collection for Public Health is done provincially by Provincial Medical Affairs.

3, 7, and 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Alberta	A	B			C			D			E			F			G			H
Category	Current Workforce	adjusted Forecast			Forecast Adjustments			Replacement - Physicians leaving the Workforce			Net New Need - excluding Replacements (B + C)			Forecast Total FTE Recruitment (D+E)			Forecast Total Workforce (A+E)			Average Recruitment Need per year (F/10)
		After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	
Anesthesiology	307.07	61.31	81.91	97.38	9.95	3.95	(0.55)	20.59	64.24	102.93	71.26	85.86	96.83	91.85	150.10	199.77	378.33	392.93	403.90	19.98
Cancer	70.01	7.96	20.56	30.02	19.80	19.80	19.80	9.44	21.19	32.57	27.76	40.36	49.82	37.20	61.55	82.39	97.77	110.37	119.83	8.24
Diagnostic Imaging	363.80	18.22	43.64	63.93	16.58	21.71	21.71	34.87	83.15	122.11	34.80	65.35	85.64	69.67	148.50	207.75	398.60	429.15	449.44	20.78
Emergency Medicine	418.01	71.62	154.28	217.06	35.00	35.00	35.00	12.42	54.20	94.02	106.62	189.28	252.06	119.04	243.48	346.08	524.63	607.29	670.07	34.61
Lab Medicine & Pathology	215.85	20.71	47.79	68.14	6.85	6.85	6.85	29.29	69.20	98.97	27.56	54.64	74.99	56.85	123.84	173.96	243.41	270.49	290.84	17.40
Medicine	941.75	111.60	233.15	325.84	57.01	57.01	57.01	105.10	256.20	375.08	168.61	290.16	382.85	273.71	546.36	757.93	1,110.36	1,231.91	1,324.60	75.79
Pediatrics	449.53	48.26	108.75	154.32	3.52	3.52	3.52	55.31	118.48	170.43	51.78	112.27	157.84	107.09	230.75	328.27	501.31	561.80	607.37	32.83
Obstetrics & Gynecology	187.98	5.23	12.26	18.44	17.65	17.65	17.65	20.36	45.06	64.77	22.88	29.91	36.09	43.24	74.97	100.86	210.86	217.89	224.07	10.09
Psychiatry	513.37	66.96	123.40	165.70	22.10	26.10	26.10	71.19	158.10	214.81	89.06	149.50	191.80	160.25	307.60	406.61	602.43	662.87	705.17	40.66
Public Health	19.61	1.20	2.83	4.08	9.70	9.70	9.70	2.03	4.04	6.51	10.90	12.53	13.78	12.93	16.57	20.29	30.51	32.14	33.39	2.03
Surgery	541.45	81.11	143.62	190.54	(7.57)	(15.57)	(14.07)	63.03	148.39	227.30	73.54	128.05	176.47	136.57	276.44	403.77	614.99	669.50	717.92	40.38
Pediatric Surgery	21.59	5.39	7.93	9.82	0.32	1.10	1.10	4.84	9.75	13.80	5.71	9.03	10.92	10.55	18.78	24.72	27.30	30.62	32.51	2.47
All categories	4,050.02	499.57	980.12	1,345.27	190.91	186.82	183.82	428.47	1,032.00	1,523.31	690.48	1,166.94	1,529.09	1,118.95	2,198.94	3,052.40	4,740.50	5,216.96	5,579.11	305.24

Source: sPWP software application (as on April 30, 2018)

Notes:

1. After 10 years: the sum of current fiscal year 2017/18 to the fiscal year 2027/28
2. After 3 years: the sum of current fiscal year 2017/18 to the fiscal year 2020/21
3. After 7 years: the sum of current fiscal year 2017/18 to the fiscal year 2024/25

3, 7, and 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Alberta	A	B			C			D			E			F			G		
Category	Current Workforce	Unadjusted Forecast			Forecast Adjustments			Replacement - Physicians leaving the Workforce			Net New Need - excluding Replacements (B + C)			Forecast Total FTE Recruitment (D+E)			Forecast Total Workforce (A+E)		
		After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs	After 3 yrs	After 7 yrs	After 10 yrs
		% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change	% Change
Anesthesiology	307.07	20%	27%	32%	3%	1%	0%	7%	21%	34%	23%	28%	32%	30%	49%	65%	23%	28%	32%
Cancer	70.01	11%	29%	43%	28%	28%	28%	13%	30%	47%	40%	58%	71%	53%	88%	118%	40%	58%	71%
Diagnostic Imaging	363.80	5%	12%	18%	5%	6%	6%	10%	23%	34%	10%	18%	24%	19%	41%	57%	10%	18%	24%
Emergency Medicine	418.01	17%	37%	52%	8%	8%	8%	3%	13%	22%	26%	45%	60%	28%	58%	83%	26%	45%	60%
Lab Medicine & Pathology	215.85	10%	22%	32%	3%	3%	3%	14%	32%	46%	13%	25%	35%	26%	57%	81%	13%	25%	35%
Medicine	941.75	12%	25%	35%	6%	6%	6%	11%	27%	40%	18%	31%	41%	29%	58%	80%	18%	31%	41%
Pediatrics	449.53	11%	24%	34%	1%	1%	1%	12%	26%	38%	12%	25%	35%	24%	51%	73%	12%	25%	35%
Obstetrics & Gynecology	187.98	3%	7%	10%	9%	9%	9%	11%	24%	34%	12%	16%	19%	23%	40%	54%	12%	16%	19%
Psychiatry	513.37	13%	24%	32%	4%	5%	5%	14%	31%	42%	17%	29%	37%	31%	60%	79%	17%	29%	37%
Public Health	19.61	6%	14%	21%	49%	49%	49%	10%	21%	33%	56%	64%	70%	66%	84%	103%	56%	64%	70%
Surgery	541.45	15%	27%	35%	-1%	-3%	-3%	12%	27%	42%	14%	24%	33%	25%	51%	75%	14%	24%	33%
Pediatric Surgery	21.59	25%	37%	45%	1%	5%	5%	22%	45%	64%	26%	42%	51%	49%	87%	115%	26%	42%	51%
All categories	4,050.02	12%	24%	33%	5%	5%	5%	11%	25%	38%	17%	29%	38%	28%	54%	75%	17%	29%	38%

Source: sPWP software application (as on April 30, 2018)

Notes:

After 10 years: the sum of current fiscal year 2017/18 to the fiscal year 2027/28

1. After 3 years: the sum of current fiscal year 2017/18 to the fiscal year 2020/21
2. After 7 years: the sum of current fiscal year 2017/18 to the fiscal year 2024/25.
3. Forecast Total FTE Recruitment: Presents the proportional Recruitment Need - based on fulfilling vacancies due to attritions and population health need - compared with the current workforce, after 3, 7 and 10 years.
4. Forecast Total Workforce: Presents the proportional increase/decrease of the Forecast Total Workforce compared with the current workforce, after 3, 7 and years.

South Zone 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Z1 South	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	21.00	(7.17)	3.00	8.64	(4.17)	4.47	16.83	0.45
Cancer	3.75	1.10	1.06	2.09	2.15	4.25	5.90	0.42
Diagnostic Imaging	15.00	2.76	8.50	6.33	11.26	17.59	26.26	1.76
Emergency Medicine	31.50	8.05	2.00	11.94	10.05	21.99	41.55	2.20
Lab Medicine & Pathology	12.75	6.93	-	8.84	6.93	15.77	19.68	1.58
Medicine	35.60	16.41	16.00	15.16	32.41	47.57	68.01	4.76
Pediatrics	15.00	3.99	1.00	7.69	4.99	12.68	19.99	1.27
Obstetrics & Gynecology	11.70	0.98	0.50	4.13	1.48	5.61	13.18	0.56
Psychiatry	21.65	9.65	5.50	13.53	15.15	28.68	36.80	2.87
Public Health	1.50	0.18	0.74	(0.01)	0.93	0.92	2.43	0.09
Surgery	46.90	9.46	3.00	17.47	12.46	29.93	59.36	2.99
Pediatric Surgery	-	-	-	-	-	-	-	-
All categories	216.35	52.34	41.30	95.81	93.64	189.45	309.99	18.95

Source: sPWP software application (April 30, 2018)

South Zone adjusted their forecasted workforce need after 10 years due to under-capacity in their current physician workforce in particular. These corrections were especially needed for Child & Adolescent Psychiatry, Emergency Medicine (e.g. Family Medicine –EM), Diagnostic Imaging, Geriatrics, and Pediatrics. Other sub-specialties within Medicine they are under-resourced for are: Cardiology, General Internal Medicine, Infectious Disease, Hematology, Nephrology, Neurology, and Rheumatology.

A challenge South Zone is facing is the fact that the South Zone has two major sites across the zone (CRH in Lethbridge and MHRH in Medicine Hat). Both sites have fairly similar basic service profiles, although Lethbridge typically receives more inter-zonal transfers from Medicine Hat for specialty services while Medicine Hat services a large population of out of province patients. When forecasting physician resources, service provision may require different FTEs than the forecast shows in order to maintain services, for example appropriate call schedules. Therefore current forecasts may not be a true reflection of the need. Prior to the next report, South Zone will discuss how to address zonal forecasting issues.

South Zone continues to face challenges in recruiting general practitioners with enhanced skills in surgery/obstetrics and anesthesia to its five rural health centers which maintain operating rooms, as long standing physicians with this enhanced certification are coming to retirement age. To counter this, travelling surgeons and anesthesiologists from CRH and MHRH have established consistent OR days at the majority of the sites. A few sites have sporadic outreach support from the larger health centers and South Zone continues to address this through service planning discussions and recruitment efforts.

The following specialties have planned new service delivery models: Geriatric Medicine and Infectious Diseases. Critical Care Medicine will introduce a new service delivery model which will change their level of care from basic to tertiary. This care requires coverage by specialist physicians who are CPSA licensed for Critical Care Medicine and cannot be covered anymore by more generalist specialists. This change is not yet included. Future workforce planning will include the effect of the new service delivery model for Critical Care Medicine as soon as a closed ICU unit is complete and South Zone will start to recruit FRCPC Critical Care Medicine Physicians early 2020/21. Currently, the work commitments related to Critical Care Medicine are resourced through Internal Medicine.

Calgary Zone 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Z2 Calgary	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	142.27	22.74	(15.00)	50.72	7.74	58.46	150.01	5.85
Cancer	28.15	13.67	8.04	12.67	21.71	34.38	49.86	3.44
Diagnostic Imaging	171.20	29.89	11.71	44.30	41.60	85.89	212.80	8.59
Emergency Medicine	156.46	109.42	11.50	33.91	120.92	154.83	277.38	15.48
Lab Medicine & Pathology	79.16	26.20	1.98	42.78	28.18	70.96	107.34	7.10
Medicine	461.32	144.00	28.66	170.11	172.66	342.77	633.98	34.28
Pediatrics	208.14	86.80	3.53	77.64	90.33	167.97	298.47	16.80
Obstetrics & Gynecology	68.30	10.96	4.62	25.25	15.58	40.83	83.88	4.08
Psychiatry	198.92	62.39	12.60	83.78	74.99	158.77	273.91	15.88
Public Health	6.01	3.16	2.97	3.12	6.13	9.25	12.14	0.92
Surgery	261.25	94.72	(29.59)	106.27	65.13	171.39	326.38	17.14
Pediatric Surgery	8.90	3.27	1.10	5.71	4.37	10.08	13.27	1.01
All categories	1,790.08	607.22	42.11	656.25	649.34	1,305.59	2,439.42	130.56

Source: sPWP software application (April 30, 2018)

Critical Care Medicine

Planning variables were used to account for a few members of this Department who work > 1.0 FTE in total.

Diagnostic Imaging

The sPWP projections have been increased using Planning Variables, to recognize the impact of the new Cancer Centre set to open in 2022. Planning variables have been used in years F1 to F7 to match the Department's own workforce projections.

Emergency Medicine

Forecast adjustments have been used to reflect addition of staff at four adult sites, and correct for a staffing shortfall due to reduced work commitments.

Medicine

Forecast adjustments in *Dermatology* correct the forecast for planned services for transplant patients, pediatric dermatology, increased Moh's screening, teledermatology, and rural outreach clinics.

Pediatrics

Further work is needed in the Department of Pediatrics and other departments to reach agreement on definitions of FTE. This will build consistency across departments in understanding work commitments and improve confidence in the projections.

Psychiatry

Forensic Psychiatry -- Forecast adjustments correct the forecast for increasing demand for court assessments from the Solicitor General and new inpatient forensic beds projected for 2020/21.

Surgery and Anesthesiology

As there is no planned increase in OR capacity in AHS facilities the forecast workforce needs in Anesthesiology and some Surgery specialties (General Surgery, Ophthalmology, Thoracic Surgery) have been adjusted due to account for the restricted facility capacity, and align with the Department's workforce plan.

Vascular Surgery -- Forecast adjustments were used to account for physicians who work > 1 FTE.

Central Zone 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Z3 Central	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	14.20	0.98	-	5.07	0.98	6.05	15.18	0.60
Cancer	2.35	2.59	0.66	1.32	3.25	4.57	5.60	0.46
Diagnostic Imaging	29.70	5.96	-	6.43	5.96	12.40	35.66	1.24
Emergency Medicine	17.74	20.45	-	8.10	20.45	28.55	38.19	2.85
Lab Medicine & Pathology	9.65	2.47	0.25	4.64	2.72	7.37	12.37	0.74
Medicine	42.45	10.74	1.10	14.77	11.84	26.61	54.29	2.66
Pediatrics	12.25	6.09	-	4.12	6.09	10.21	18.34	1.02
Obstetrics & Gynecology	13.00	0.81	-	5.36	0.81	6.16	13.81	0.62
Psychiatry	19.75	7.22	-	17.29	7.22	24.51	26.97	2.45
Public Health	2.60	0.05	1.29	0.41	1.34	1.75	3.94	0.18
Surgery	48.60	6.58	-	14.30	6.58	20.89	55.18	2.09
Pediatric Surgery	-	-	-	-	-	-	-	-
All categories	212.29	63.95	3.30	81.83	67.25	149.07	279.54	14.91

Source: sPWP software application (April 30, 2018)

Psychiatry

Central Zone continues to have a deficit in Psychiatry caused by:

- Current maldistribution, Central Zone's psychiatrist to population ratio is about 1:22,500; Edmonton and Calgary have about 1 psychiatrist : 7,000 population. An addition of 10 to 20 FTE would bring their ratio to roughly 1 psychiatrist per 10,000 population.
- New programs, although external to AHS, have an impact on workforce needs: gender clinic; new opiate treatment program.
- About 20-30% of referrals to the Centennial Centre mental health care facility are from outside of Central Zone.

Pediatrics

The Pediatric Program in Red Deer remains a high priority for recruitment and program development. Ascertaining the model of service that will be sustainable for the future remains a significant focus. The program has a significant reliance on locums, particularly in the area of NICU. The model of practice has been one in which the physician practice was a combined Pediatric/NICU specialty and there is a recognition that recruiting this type of multi- skilled pediatric specialist is very difficult as few recruits undertake the multi- skilled training model. This will result in recruitment that is either pediatric or NICU resulting in greater recruitment needs.

Anesthesia

The forecast indicates 7-8 retirements in the next five years; combined with the shortage of anesthetists in Edmonton, there is cause for concern. Current recruitment is slated to have one new anesthetist arriving in the next year.

Internal Medicine

Ongoing conversations related to a Cardiac Catheterization Lab would mean 4-5 net new cardiologists. Geriatrics remains significantly understaffed in the Central Zone with one new recruit and a growing population need. A projection of an additional 3 net new positions. This would be enhanced by a positive result in a successful ARP to support Elder care, diagnosis, and treatment. Internal Medicine is another area indicating 6 positions, 3 of which are required in the next year. Pulmonology, Nephrology and GIM all require an additional 1 FTE each.

Edmonton Zone10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Z4 Edmonton	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	122.30	75.82	2.70	35.17	78.52	113.69	200.82	11.37
Cancer	35.76	12.66	10.04	16.29	22.71	39.00	58.47	3.90
Diagnostic Imaging	131.80	21.78	-	55.05	21.78	76.83	153.58	7.68
Emergency Medicine	199.81	64.88	20.00	31.47	84.88	116.35	284.69	11.63
Lab Medicine & Pathology	109.29	29.23	4.62	41.20	33.85	75.05	143.14	7.50
Medicine	389.63	149.15	6.00	168.88	155.15	324.03	544.78	32.40
Pediatrics	205.14	57.43	(6.01)	76.13	51.43	127.56	256.57	12.76
Obstetrics & Gynecology	83.98	4.35	6.13	27.83	10.48	38.31	94.46	3.83
Psychiatry	255.60	75.43	0.00	91.41	75.43	166.85	331.03	16.68
Public Health	8.70	(1.14)	4.30	2.70	3.17	5.87	11.87	0.59
Surgery	152.56	58.90	5.42	82.21	64.32	146.53	216.88	14.65
Pediatric Surgery	12.69	6.55	-	8.09	6.55	14.64	19.24	1.46
All categories	1,707.26	555.05	53.21	636.45	608.26	1,244.71	2,315.52	124.47

Source: sPWP software application (April 30, 2018)

The Edmonton Zone recognizes that the Specialist Physician Workforce Planning Tool synthesizes a need based forecast.

Through the use of planning variables, Edmonton Zone Medical Affairs works with its medical leaders to ensure that anticipated changes are accounted for in this report. These changes could be created or influenced by business models, service delivery models and infrastructure capacity planning.

Planning is underway for the new South Edmonton Hospital. The 10 year projections included in this report do not factor in this new facility. Future workforce planning will include the new facility as the planning progresses.

This year construction of a new Lab Services facility, that will serve Northern Alberta, commenced. This facility will consolidate 8 smaller facilities within Edmonton. Furthermore it was announced that a new subsidiary of AHS will manage Lab Services in Alberta. By 2022 this subsidiary will include DynaLife operations.

Department of Anesthesiology

- Anesthesiology is an acknowledged area of high recruitment need in the Edmonton Zone. The Department of Anesthesia has been understaffed in the Edmonton Zone for several years, utilizing locums and foreign-trained Anesthesiologists where possible to help fill the gaps in service, as well as extending the hours of current staff. The Edmonton Zone is currently implementing an updated recruitment strategy to address the urgent need.
- No adjustments were made with regards to service delivery models, etc. due largely to the fact that the Department of Surgery did not make any adjustments.

Pediatrics: Department of Child Health

During the 2017/2018 fiscal year Edmonton Zone Medical Affairs and Cancer Control Alberta collaborated on workforce planning. This created a broader understanding of service delivery for Pediatric Hematology/Oncology.

The Section of Medical Genetics has been prioritized as a high recruitment need in the Edmonton Zone.

Department of Women's Health

Recently Reproductive Endocrinology & Infertility service moved to a private facility. The physician group involved maintain privileges with AHS for unique cases.

Department of Surgery

The ability to recruit within the Department of Surgery is dependent on the availability of resources. Resource allocation may represent a barrier to filling the forecasted need in this report.

The Section of Neurosurgery is acknowledged as a high recruitment need in the Edmonton Zone.

North Zone 10 Year Forecast Results, by Category, 2017/18-2027/28 (Clinical FTE)

Z5 North	A	B	C	D	E	F	G	H
Category	Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements (B + C)	Forecast Total FTE Recruitment (D+E)	Forecast Total Workforce at the end of 10 yrs (A+E)	Average Recruitment Need per year (F/10)
Anesthesiology	7.30	5.02	8.75	3.33	13.77	17.10	21.07	1.71
Cancer	-	-	-	0.19	-	0.19	-	0.02
Diagnostic Imaging	16.10	3.54	1.50	10.00	5.04	15.04	21.14	1.50
Emergency Medicine	12.50	14.26	1.50	8.60	15.76	24.36	28.26	2.44
Lab Medicine & Pathology	5.00	3.30	-	1.52	3.30	4.82	8.30	0.48
Medicine	12.75	5.55	5.25	6.15	10.80	16.94	23.55	1.69
Pediatrics	9.00	-	5.00	4.84	5.00	9.84	14.00	0.98
Obstetrics& Gynecology	11.00	1.35	6.40	2.20	7.75	9.95	18.75	1.00
Psychiatry	17.45	11.01	8.00	8.80	19.01	27.81	36.46	2.78
Public Health	0.80	1.82	0.40	0.29	2.22	2.50	3.02	0.25
Surgery	32.14	20.88	7.10	7.05	27.98	35.02	60.12	3.50
Pediatric Surgery	-	-	-	-	-	-	-	-
All categories	124.04	66.72	43.90	52.97	110.61	163.58	234.65	16.36

Source: sPWP software application (April 30, 2018)

In preparation for the new hospital opening in Grande Prairie in 2019, the following groups will see an increase in their workforce:

- **Anesthesiology**
An additional operating room results in a need for one Anesthetist for Obstetrics Operating Room
- **Internal Medicine**
2 additional internal medicine FTEs to account for expanded capacity in the new Grande Prairie hospital and one as a replacement for current IM who will retire
- **Pediatrics**
An increase of 2 physicians
- **Surgery**
An increase of 7 (3 General Surgeons, 1 Orthopedic Surgeon, 1urologist, 2 surgical assistants)

Appendix F

Provincial Zone Consolidated Summary Reports: Specialist Physicians

- The data represent the **clinical FTEs** within a Royal College of Physicians and Surgeons of Canada (RCPSC) specialty; research, academic administration and clinical teaching (other than at the bedside) are not included. Reporting does not strictly reflect AHS Departments and Sections.
- The **categories** are grouped based on Royal College of Physicians and Surgeons of Canada (RCPSC) specialties. For example, medicine includes subspecialties such as cardiology, nephrology, and pain medicine.
- **Planning - Forecast Adjustments:** in this report, planning variables are used to adjust the application-calculated forecasts to represent the current and future state more appropriately, for example, to account for the introduction of a new service delivery model or to correct for facility capacity.

Provincial and Zone consolidated summary reports as extracted from the specialist Physician Workforce Planning software application. These reports are driven by the Final Forecast BASE Reports per RCPSC specialty (based on a need-, a supply assessment, and a reality check-Forecast Adjustments).

Reading guide

How to interpret the results need and supply assessment after 10 years

These reports show per category and per RCPSC specialty, the:

- A. **Current workforce – total clinical FTEs** on the date the data was extracted from the sPWP application.
- B. **Unadjusted Forecast** – Net change in clinical FTE required to meet changes in population health need after 10 years.
- C. **Forecast Adjustments** – reality check: Adjustments zones made to anticipate on policy, service delivery changes, changes in medical practice (e.g. new technology, treatments), facility infrastructure restrictions, and to correct for under resources in the current workforce.
- D. **Replacement – Physicians leaving the Workforce**– after 10 years
The projected change in the specialist physician workforce (in clinical FTEs) based on: estimated impact of changing gender balance in medicine (male/female), Net Inter-Migration & Return From Abroad (NIPM & RFA), separations (retirement, reducing FTE with age), and the current enrollment in the Canadian medical schools (new Canadian graduates). Provincial
- E. **Net New Need – excluding Replacements (column B + column C)** – Net change in clinical FTE required after 10 years to meet changes in population health need (column B Forecast) and adjusted by reality checks (column C Forecast Adjustments). Unadjusted
- F. **Forecast Total FTE recruitment (column D + column E)** – after 10 years
The change in clinical FTE needed after 10 years based on replacement requirements (column D) and changes in population health need, adjusted for reality checks (column E Net New Need-excluding Replacements).
- G. **Forecast Total Workforce at the end of 10 years (column A + column E)**
Forecast total workforce in clinical FTE at the end of 10 years; based on current workforce (column A) plus the Net New Need-excluding replacements (column E).

Please note: This column is not including the estimated clinical FTEs of the physicians leaving the workforce (column D), as the forecast total workforce at the end of 10 years, focuses on net new need compared with current workforce.
- H. **Average Recruitment Need**
Column H shows the annual average recruitment need over 10 years.

For more specific information about the specialist workforce forecasting software application, factors impacting forecasting calculations, the drivers and guiding principles see Appendix A.

PROVINCE-WIDE SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	307.07	97.38	-0.55	102.93	96.83	199.77	403.90	19.98
SUBTOTAL	Anesthesiology	307.07	97.38	-0.55	102.93	96.83	199.77	403.90	19.98
Cancer	Medical Oncology	38.53	16.43	11.20	14.97	27.63	42.60	66.16	4.26
Cancer	Radiation Oncology	31.48	13.59	8.60	17.60	22.19	39.79	53.67	3.98
SUBTOTAL	Cancer	70.01	30.02	19.80	32.57	49.82	82.39	119.83	8.24
Diagnostic Imaging	Diagnostic Radiology	280.10	47.75	18.34	96.85	66.09	162.94	346.19	16.29
Diagnostic Imaging	Interventional Radiology	27.25	4.27	1.13	8.06	5.40	13.46	32.65	1.35
Diagnostic Imaging	Neuroradiology	17.60	2.88	1.40	4.08	4.28	8.36	21.88	0.84
Diagnostic Imaging	Nuclear Medicine	26.85	6.73	0.50	8.34	7.23	15.57	34.08	1.56
Diagnostic Imaging	Pediatric Radiology	12.00	2.31	0.34	4.78	2.65	7.43	14.65	0.74
SUBTOTAL	Diagnostic Imaging	363.80	63.93	21.71	122.11	85.64	207.75	449.44	20.78
Emergency Medicine	Emergency Medicine	149.15	135.80	5.50	28.18	141.30	169.47	290.45	16.95
Emergency Medicine	Family Medicine (EM)	224.64	31.41	29.50	56.67	60.91	117.58	285.55	11.76
Emergency Medicine	Pediatric Emergency Medicine	44.22	49.86	0.00	9.17	49.86	59.03	94.08	5.90
SUBTOTAL	Emergency Medicine	418.01	217.06	35.00	94.02	252.06	346.08	670.07	34.61
Lab Medicine & Pathology	Anatomical Pathology	127.85	39.19	1.08	64.21	40.27	104.48	168.12	10.45
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.09	0.00	0.00	0.09	0.09	0.09	0.01
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	34.55	15.05	1.00	15.72	16.05	31.78	50.60	3.18
Lab Medicine & Pathology	Hematological Pathology	16.05	7.13	0.90	4.39	8.03	12.41	24.08	1.24
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.05	0.00	0.00	0.05	0.05	0.05	0.01
Lab Medicine & Pathology	Medical Genetics	14.66	-0.21	0.00	3.89	-0.21	3.68	14.45	0.37
Lab Medicine & Pathology	Medical Microbiology	14.54	2.06	3.62	6.45	5.68	12.14	20.22	1.21
Lab Medicine & Pathology	Neuropathology	6.95	4.27	0.00	3.72	4.27	7.98	11.22	0.80
Lab Medicine & Pathology	Transfusion Medicine	1.25	0.50	0.25	0.60	0.75	1.35	2.00	0.14
SUBTOTAL	Lab Medicine & Pathology	215.85	68.14	6.85	98.97	74.99	173.96	290.84	17.40
Medicine	Cardiology	128.48	32.94	2.00	62.67	34.94	97.61	163.42	9.76
Medicine	Clinical Immunology and Allergy	9.80	6.84	1.00	4.05	7.84	11.89	17.64	1.19
Medicine	Critical Care Medicine	62.23	26.66	7.98	24.44	34.64	59.08	96.87	5.91
Medicine	Dermatology	40.20	17.18	5.50	23.34	22.68	46.03	62.88	4.60
Medicine	Endocrinology and Metabolism	36.61	6.80	0.50	19.90	7.30	27.19	43.91	2.72

PROVINCE-WIDE SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	78.33	27.10	3.90	31.18	31.00	62.18	109.33	6.22
Medicine	General Internal Medicine (GIM)	0.00	2.09	0.00	0.00	2.09	2.09	2.09	0.21
Medicine	Geriatric Medicine	16.58	5.83	3.00	7.51	8.83	16.35	25.41	1.63
Medicine	Hematology	27.86	8.55	4.10	7.90	12.65	20.55	40.51	2.05
Medicine	Infectious Diseases	33.52	8.07	1.18	16.68	9.25	25.93	42.77	2.59
Medicine	Internal Medicine	219.46	87.25	12.25	63.29	99.50	162.78	318.96	16.28
Medicine	Nephrology	37.82	12.41	1.50	16.54	13.91	30.45	51.73	3.05
Medicine	Neurology	101.59	29.60	1.00	42.15	30.60	72.75	132.19	7.28
Medicine	Occupational Medicine	4.98	8.63	0.00	3.00	8.63	11.63	13.61	1.16
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	47.11	14.95	2.00	10.61	16.95	27.56	64.06	2.76
Medicine	Respirology	65.91	25.49	4.10	23.58	29.59	53.16	95.50	5.32
Medicine	Rheumatology	31.27	5.47	7.00	18.22	12.47	30.69	43.74	3.07
SUBTOTAL	Medicine	941.75	325.84	57.01	375.08	382.85	757.93	1324.60	75.79
Medicine - Pediatric	Adolescent Medicine	2.10	0.75	0.00	0.72	0.75	1.47	2.85	0.15
Medicine - Pediatric	Developmental Pediatrics	7.52	-0.30	3.80	5.45	3.50	8.94	11.02	0.89
Medicine - Pediatric	Neonatal-Perinatal Medicine	48.47	1.49	7.00	26.21	8.49	34.70	56.96	3.47
Medicine - Pediatric	Pediatric Cardiology	22.46	-6.35	0.00	10.29	-6.35	3.94	16.11	0.39
Medicine - Pediatric	Pediatric Critical Care Medicine	23.15	27.16	2.00	5.54	29.16	34.70	52.31	3.47
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	10.36	2.21	1.00	3.92	3.21	7.13	13.57	0.71
Medicine - Pediatric	Pediatric Gastroenterology	13.56	6.18	0.00	6.97	6.18	13.15	19.74	1.31
Medicine - Pediatric	Pediatric Hematology/Oncology	6.17	1.90	4.52	3.10	6.42	9.52	12.59	0.95
Medicine - Pediatric	Pediatric Infectious Diseases	8.54	1.91	0.80	6.40	2.71	9.12	11.25	0.91
Medicine - Pediatric	Pediatric Nephrology	5.38	6.18	0.00	3.58	6.18	9.76	11.56	0.98
Medicine - Pediatric	Pediatric Neurology	17.04	1.45	0.40	10.94	1.85	12.79	18.89	1.28
Medicine - Pediatric	Pediatric Respirology	16.69	-1.57	0.00	6.39	-1.57	4.82	15.12	0.48
Medicine - Pediatric	Pediatric Rheumatology	5.81	1.49	1.00	1.19	2.49	3.68	8.30	0.37
Medicine - Pediatric	Pediatrics	262.28	111.82	-17.00	79.72	94.82	174.54	357.10	17.45

PROVINCE-WIDE SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
SUBTOTAL	Medicine - Pediatric	449.53	154.32	3.52	170.43	157.84	328.27	607.37	32.83
Obstetrics & Gynecology	Gynecologic Oncology	8.45	3.07	3.75	3.33	6.82	10.16	15.27	1.02
Obstetrics & Gynecology	Gynecologic Reproductive Endocrinology & Infertility	11.90	1.28	0.00	3.91	1.28	5.19	13.18	0.52
Obstetrics & Gynecology	Maternal-Fetal Medicine	13.73	2.05	3.00	6.23	5.05	11.28	18.78	1.13
Obstetrics & Gynecology	Obstetrics and Gynecology	153.90	12.04	10.90	51.30	22.94	74.24	176.84	7.42
SUBTOTAL	Obstetrics & Gynecology	187.98	18.44	17.65	64.77	36.09	100.86	224.07	10.09
Psychiatry	Child and Adolescent Psychiatry	61.24	38.01	8.00	21.60	46.01	67.61	107.25	6.76
Psychiatry	Forensic Psychiatry	19.12	4.00	17.00	10.40	21.00	31.39	40.12	3.14
Psychiatry	Geriatric Psychiatry	24.69	18.11	4.00	11.04	22.11	33.15	46.80	3.32
Psychiatry	Psychiatry	408.32	105.59	-2.90	171.77	102.69	274.46	511.01	27.45
SUBTOTAL	Psychiatry	513.37	165.70	26.10	214.81	191.80	406.61	705.17	40.66
Public Health	Public Health & Preventative Medicine	19.61	4.08	9.70	6.51	13.78	20.29	33.39	2.03
SUBTOTAL	Public Health	19.61	4.08	9.70	6.51	13.78	20.29	33.39	2.03
Surgery	Cardiac Surgery	14.20	2.51	0.50	7.96	3.01	10.97	17.21	1.10
Surgery	Colorectal Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	General Surgery	110.48	16.31	2.67	50.43	18.98	69.41	129.46	6.94
Surgery	General Surgical Oncology	0.50	0.20	2.00	0.14	2.20	2.34	2.70	0.23
Surgery	Neurosurgery	22.45	5.96	0.00	10.54	5.96	16.50	28.41	1.65
Surgery	Ophthalmology	116.20	74.59	-12.62	47.70	61.97	109.67	178.17	10.97
Surgery	Orthopedic Surgery	128.07	44.02	-7.78	51.77	36.24	88.02	164.31	8.80
Surgery	Otolaryngology - Head and Neck Surgery	46.10	14.70	1.57	17.40	16.27	33.67	62.37	3.37
Surgery	Plastic Surgery	44.99	10.11	-1.14	21.10	8.97	30.08	53.96	3.01
Surgery	Thoracic Surgery	9.45	6.02	-0.14	2.51	5.88	8.39	15.33	0.84
Surgery	Urology	37.17	12.18	1.00	13.90	13.18	27.08	50.35	2.71
Surgery	Vascular Surgery	11.84	3.93	-0.13	3.84	3.80	7.64	15.64	0.76
SUBTOTAL	Surgery	541.45	190.54	-14.07	227.30	176.47	403.77	717.92	40.38
Surgery - Pediatric	Pediatric Cardiac Surgery	2.60	0.96	0.00	1.15	0.96	2.11	3.56	0.21
Surgery - Pediatric	Pediatric Orthopedic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PROVINCE-WIDE SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	18.99	8.86	1.10	12.65	9.96	22.61	28.95	2.26
SUBTOTAL	Surgery - Pediatric	21.59	9.82	1.10	13.80	10.92	24.72	32.51	2.47
TOTAL	ALL SPECIALTIES	4050.02	1345.27	183.82	1523.31	1529.09	3052.40	5579.11	305.24

Z1 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	21.00	-7.17	3.00	8.64	-4.17	4.47	16.83	0.45
SUBTOTAL	Anesthesiology	21.00	-7.17	3.00	8.64	-4.17	4.47	16.83	0.45
Cancer	Medical Oncology	2.25	0.71	0.65	1.30	1.37	2.67	3.62	0.27
Cancer	Radiation Oncology	1.50	0.38	0.40	0.79	0.79	1.58	2.29	0.16
SUBTOTAL	Cancer	3.75	1.10	1.06	2.09	2.15	4.25	5.90	0.42
Diagnostic Imaging	Diagnostic Radiology	13.50	2.27	8.00	5.43	10.27	15.70	23.77	1.57
Diagnostic Imaging	Interventional Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Neuroradiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Nuclear Medicine	1.50	0.49	0.50	0.90	0.99	1.89	2.49	0.19
Diagnostic Imaging	Pediatric Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Diagnostic Imaging	15.00	2.76	8.50	6.33	11.26	17.59	26.26	1.76
Emergency Medicine	Emergency Medicine	1.00	6.79	0.00	0.37	6.79	7.16	7.79	0.72
Emergency Medicine	Family Medicine (EM)	30.50	-4.72	2.00	11.57	-2.72	8.85	27.78	0.88
Emergency Medicine	Pediatric Emergency Medicine	0.00	5.98	0.00	0.00	5.98	5.98	5.98	0.60
SUBTOTAL	Emergency Medicine	31.50	8.05	2.00	11.94	10.05	21.99	41.55	2.20
Lab Medicine & Pathology	Anatomical Pathology	12.75	3.80	0.00	8.84	3.80	12.64	16.55	1.26
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.09	0.00	0.00	0.09	0.09	0.09	0.01
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Hematological Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.05	0.00	0.00	0.05	0.05	0.05	0.01
Lab Medicine & Pathology	Medical Genetics	0.00	1.44	0.00	0.00	1.44	1.44	1.44	0.14
Lab Medicine & Pathology	Medical Microbiology	0.00	1.55	0.00	0.00	1.55	1.55	1.55	0.15
Lab Medicine & Pathology	Neuropathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Transfusion Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Lab Medicine & Pathology	12.75	6.93	0.00	8.84	6.93	15.77	19.68	1.58
Medicine	Cardiology	2.00	0.53	2.00	1.09	2.53	3.62	4.53	0.36
Medicine	Clinical Immunology and Allergy	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.10
Medicine	Critical Care Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Dermatology	1.50	1.00	0.00	1.40	1.00	2.40	2.50	0.24
Medicine	Endocrinology and Metabolism	1.00	0.19	0.00	0.02	0.19	0.21	1.19	0.02

Z1 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	2.00	1.13	1.00	0.85	2.13	2.98	4.13	0.30
Medicine	General Internal Medicine (GIM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Geriatric Medicine	2.00	0.93	2.00	0.65	2.93	3.58	4.93	0.36
Medicine	Hematology	1.00	0.79	1.00	0.38	1.79	2.17	2.79	0.22
Medicine	Infectious Diseases	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.10
Medicine	Internal Medicine	12.00	3.78	1.00	6.73	4.78	11.50	16.78	1.15
Medicine	Nephrology	3.00	1.53	1.00	1.32	2.53	3.85	5.53	0.39
Medicine	Neurology	6.00	2.87	1.00	1.65	3.87	5.52	9.87	0.55
Medicine	Occupational Medicine	0.00	1.43	0.00	0.00	1.43	1.43	1.43	0.14
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	2.00	0.97	2.00	-0.04	2.97	2.94	4.97	0.29
Medicine	Respirology	3.00	1.24	2.00	0.88	3.24	4.12	6.24	0.41
Medicine	Rheumatology	0.10	0.02	1.00	0.24	1.02	1.26	1.12	0.13
SUBTOTAL	Medicine	35.60	16.41	16.00	15.16	32.41	47.57	68.01	4.76
Medicine - Pediatric	Adolescent Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Developmental Pediatrics	0.00	0.79	0.00	0.00	0.79	0.79	0.79	0.08
Medicine - Pediatric	Neonatal-Perinatal Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Cardiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Critical Care Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Gastroenterology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Hematology/Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Infectious Diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Nephrology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Neurology	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.10
Medicine - Pediatric	Pediatric Respirology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Rheumatology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatrics	15.00	3.21	0.00	7.69	3.21	10.89	18.21	1.09

Z1 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E (B+C)	F (D+E)	G (A+E)	H (F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Surgery - Pediatric	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	ALL SPECIALTIES	216.35	52.34	41.30	95.81	93.64	189.45	309.99	18.95

Z2 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	142.27	22.74	-15.00	50.72	7.74	58.46	150.01	5.85
SUBTOTAL	Anesthesiology	142.27	22.74	-15.00	50.72	7.74	58.46	150.01	5.85
Cancer	Medical Oncology	14.85	7.05	4.32	4.71	11.37	16.07	26.22	1.61
Cancer	Radiation Oncology	13.30	6.62	3.72	7.96	10.34	18.31	23.64	1.83
SUBTOTAL	Cancer	28.15	13.67	8.04	12.67	21.71	34.38	49.86	3.44
Diagnostic Imaging	Diagnostic Radiology	113.30	18.48	8.84	27.05	27.32	54.38	140.62	5.44
Diagnostic Imaging	Interventional Radiology	14.00	2.27	1.13	5.00	3.40	8.40	17.40	0.84
Diagnostic Imaging	Neuroradiology	17.60	2.88	1.40	4.08	4.28	8.36	21.88	0.84
Diagnostic Imaging	Nuclear Medicine	14.30	3.95	0.00	3.38	3.95	7.33	18.25	0.73
Diagnostic Imaging	Pediatric Radiology	12.00	2.31	0.34	4.78	2.65	7.43	14.65	0.74
SUBTOTAL	Diagnostic Imaging	171.20	29.89	11.71	44.30	41.60	85.89	212.80	8.59
Emergency Medicine	Emergency Medicine	83.25	43.87	5.50	18.40	49.37	67.77	132.62	6.78
Emergency Medicine	Family Medicine (EM)	48.80	21.67	6.00	6.78	27.67	34.45	76.47	3.45
Emergency Medicine	Pediatric Emergency Medicine	24.41	43.87	0.00	8.74	43.87	52.61	68.28	5.26
SUBTOTAL	Emergency Medicine	156.46	109.42	11.50	33.91	120.92	154.83	277.38	15.48
Lab Medicine & Pathology	Anatomical Pathology	48.55	16.43	0.83	29.31	17.26	46.58	65.81	4.66
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	4.20	2.82	0.00	3.83	2.82	6.65	7.02	0.66
Lab Medicine & Pathology	Hematological Pathology	5.75	2.73	0.90	1.79	3.63	5.42	9.38	0.54
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Genetics	9.46	-1.52	0.00	2.06	-1.52	0.54	7.94	0.05
Lab Medicine & Pathology	Medical Microbiology	6.50	2.95	0.00	3.30	2.95	6.25	9.45	0.63
Lab Medicine & Pathology	Neuropathology	3.45	2.29	0.00	1.88	2.29	4.16	5.74	0.42
Lab Medicine & Pathology	Transfusion Medicine	1.25	0.50	0.25	0.60	0.75	1.35	2.00	0.14
SUBTOTAL	Lab Medicine & Pathology	79.16	26.20	1.98	42.78	28.18	70.96	107.34	7.10
Medicine	Cardiology	68.43	19.24	0.00	30.53	19.24	49.77	87.67	4.98
Medicine	Clinical Immunology and Allergy	5.20	5.72	0.00	3.47	5.72	9.18	10.92	0.92
Medicine	Critical Care Medicine	24.33	14.09	1.98	10.12	16.07	26.19	40.40	2.62
Medicine	Dermatology	22.10	11.72	4.50	14.66	16.22	30.88	38.32	3.09
Medicine	Endocrinology and Metabolism	22.73	4.54	0.50	8.74	5.04	13.78	27.77	1.38

Z2 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	37.88	16.65	1.90	14.84	18.55	33.39	56.43	3.34
Medicine	General Internal Medicine (GIM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Geriatric Medicine	8.98	3.51	0.00	4.41	3.51	7.92	12.49	0.79
Medicine	Hematology	17.45	4.09	3.10	6.56	7.19	13.75	24.64	1.37
Medicine	Infectious Diseases	14.98	3.59	0.18	8.07	3.77	11.85	18.75	1.18
Medicine	Internal Medicine	95.02	21.70	8.00	22.90	29.70	52.60	124.72	5.26
Medicine	Nephrology	15.88	5.24	0.50	7.53	5.74	13.27	21.62	1.33
Medicine	Neurology	49.30	13.63	0.00	15.44	13.63	29.08	62.93	2.91
Medicine	Occupational Medicine	3.95	4.01	0.00	0.45	4.01	4.46	7.96	0.45
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	29.51	5.71	0.00	1.93	5.71	7.64	35.22	0.76
Medicine	Respirology	29.18	7.39	2.00	11.02	9.39	20.41	38.57	2.04
Medicine	Rheumatology	16.40	3.15	6.00	9.46	9.15	18.61	25.55	1.86
SUBTOTAL	Medicine	461.32	144.00	28.66	170.11	172.66	342.77	633.98	34.28
Medicine - Pediatric	Adolescent Medicine	2.10	0.75	0.00	0.72	0.75	1.47	2.85	0.15
Medicine - Pediatric	Developmental Pediatrics	2.21	1.32	0.00	2.13	1.32	3.45	3.53	0.35
Medicine - Pediatric	Neonatal-Perinatal Medicine	17.29	-0.70	0.00	13.93	-0.70	13.23	16.59	1.32
Medicine - Pediatric	Pediatric Cardiology	9.81	3.91	0.00	2.96	3.91	6.87	13.72	0.69
Medicine - Pediatric	Pediatric Critical Care Medicine	9.00	14.60	0.00	2.00	14.60	16.60	23.60	1.66
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	3.96	1.05	0.00	1.91	1.05	2.96	5.01	0.30
Medicine - Pediatric	Pediatric Gastroenterology	7.66	3.84	0.00	4.35	3.84	8.19	11.50	0.82
Medicine - Pediatric	Pediatric Hematology/Oncology	4.02	1.51	3.53	2.87	5.04	7.91	9.06	0.79
Medicine - Pediatric	Pediatric Infectious Diseases	4.09	1.21	0.00	4.40	1.21	5.61	5.30	0.56
Medicine - Pediatric	Pediatric Nephrology	2.80	1.21	0.00	1.98	1.21	3.19	4.01	0.32
Medicine - Pediatric	Pediatric Neurology	8.60	0.03	0.00	6.96	0.03	6.99	8.63	0.70
Medicine - Pediatric	Pediatric Respirology	7.35	2.57	0.00	3.04	2.57	5.62	9.92	0.56
Medicine - Pediatric	Pediatric Rheumatology	3.55	1.08	0.00	1.20	1.08	2.28	4.63	0.23
Medicine - Pediatric	Pediatrics	125.70	54.43	0.00	29.17	54.43	83.61	180.13	8.36

Z2 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
SUBTOTAL	Medicine - Pediatric	208.14	86.80	3.53	77.64	90.33	167.97	298.47	16.80
Obstetrics & Gynecology	Gynecologic Oncology	3.65	4.16	1.62	1.87	5.78	7.65	9.43	0.77
Obstetrics & Gynecology	Gynecologic Reproductive Endocrinology & Infertility	5.80	0.65	0.00	2.19	0.65	2.85	6.45	0.28
Obstetrics & Gynecology	Maternal-Fetal Medicine	9.75	1.68	0.00	4.30	1.68	5.97	11.43	0.60
Obstetrics & Gynecology	Obstetrics and Gynecology	49.10	4.47	3.00	16.88	7.47	24.36	56.57	2.44
SUBTOTAL	Obstetrics & Gynecology	68.30	10.96	4.62	25.25	15.58	40.83	83.88	4.08
Psychiatry	Child and Adolescent Psychiatry	31.24	19.68	0.00	10.68	19.68	30.36	50.92	3.04
Psychiatry	Forensic Psychiatry	12.42	2.88	9.00	9.25	11.88	21.14	24.30	2.11
Psychiatry	Geriatric Psychiatry	8.89	5.96	2.00	5.12	7.96	13.07	16.85	1.31
Psychiatry	Psychiatry	146.37	33.87	1.60	58.73	35.47	94.20	181.84	9.42
SUBTOTAL	Psychiatry	198.92	62.39	12.60	83.78	74.99	158.77	273.91	15.88
Public Health	Public Health & Preventative Medicine	6.01	3.16	2.97	3.12	6.13	9.25	12.14	0.92
SUBTOTAL	Public Health	6.01	3.16	2.97	3.12	6.13	9.25	12.14	0.92
Surgery	Cardiac Surgery	9.45	2.23	0.50	4.80	2.73	7.53	12.18	0.75
Surgery	Colorectal Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	General Surgery	44.50	1.25	-1.33	19.36	-0.08	19.28	44.42	1.93
Surgery	General Surgical Oncology	0.50	0.20	2.00	0.14	2.20	2.34	2.70	0.23
Surgery	Neurosurgery	10.70	2.70	0.00	5.76	2.70	8.45	13.40	0.85
Surgery	Ophthalmology	57.10	34.38	-13.77	21.94	20.61	42.55	77.71	4.26
Surgery	Orthopedic Surgery	65.25	30.70	-9.78	25.81	20.92	46.73	86.17	4.67
Surgery	Otolaryngology - Head and Neck Surgery	21.05	1.97	0.47	8.23	2.44	10.67	23.49	1.07
Surgery	Plastic Surgery	24.40	6.19	-2.91	12.20	3.28	15.48	27.68	1.55
Surgery	Thoracic Surgery	6.00	3.04	-0.14	1.98	2.90	4.88	8.90	0.49
Surgery	Urology	15.30	3.88	0.00	3.99	3.88	7.87	19.18	0.79
Surgery	Vascular Surgery	7.00	8.18	-4.63	2.06	3.55	5.61	10.55	0.56
SUBTOTAL	Surgery	261.25	94.72	-29.59	106.27	65.13	171.39	326.38	17.14
Surgery - Pediatric	Pediatric Cardiac Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery - Pediatric	Pediatric Orthopedic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z2 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	8.90	3.27	1.10	5.71	4.37	10.08	13.27	1.01
SUBTOTAL	Surgery - Pediatric	8.90	3.27	1.10	5.71	4.37	10.08	13.27	1.01
TOTAL	ALL SPECIALTIES	1790.08	607.22	42.11	656.25	649.34	1305.59	2439.42	130.56

Z3 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	14.20	0.98	0.00	5.07	0.98	6.05	15.18	0.60
SUBTOTAL	Anesthesiology	14.20	0.98	0.00	5.07	0.98	6.05	15.18	0.60
Cancer	Medical Oncology	1.50	1.57	0.44	0.24	2.00	2.24	3.50	0.22
Cancer	Radiation Oncology	0.85	1.02	0.23	1.08	1.25	2.33	2.10	0.23
SUBTOTAL	Cancer	2.35	2.59	0.66	1.32	3.25	4.57	5.60	0.46
Diagnostic Imaging	Diagnostic Radiology	29.70	5.96	0.00	6.43	5.96	12.40	35.66	1.24
Diagnostic Imaging	Interventional Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Neuroradiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Nuclear Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Pediatric Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Diagnostic Imaging	29.70	5.96	0.00	6.43	5.96	12.40	35.66	1.24
Emergency Medicine	Emergency Medicine	0.90	14.28	0.00	1.38	14.28	15.66	15.18	1.57
Emergency Medicine	Family Medicine (EM)	16.84	6.17	0.00	6.72	6.17	12.89	23.01	1.29
Emergency Medicine	Pediatric Emergency Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Emergency Medicine	17.74	20.45	0.00	8.10	20.45	28.55	38.19	2.85
Lab Medicine & Pathology	Anatomical Pathology	6.15	0.98	0.25	3.70	1.23	4.93	7.38	0.49
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	3.50	1.49	0.00	0.95	1.49	2.44	4.99	0.24
Lab Medicine & Pathology	Hematological Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Genetics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Microbiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Neuropathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Transfusion Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Lab Medicine & Pathology	9.65	2.47	0.25	4.64	2.72	7.37	12.37	0.74
Medicine	Cardiology	5.00	0.84	0.00	0.76	0.84	1.60	5.84	0.16
Medicine	Clinical Immunology and Allergy	1.00	0.00	0.00	-0.21	0.00	-0.21	1.00	-0.02
Medicine	Critical Care Medicine	5.00	0.00	0.00	1.34	0.00	1.34	5.00	0.13
Medicine	Dermatology	1.00	-0.36	0.00	-0.17	-0.36	-0.53	0.64	-0.05
Medicine	Endocrinology and Metabolism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z3 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	4.00	-0.03	1.00	1.15	0.97	2.12	4.97	0.21
Medicine	General Internal Medicine (GIM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Geriatric Medicine	1.00	0.00	0.00	0.46	0.00	0.46	1.00	0.05
Medicine	Hematology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Infectious Diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Internal Medicine	11.00	6.23	0.00	5.20	6.23	11.43	17.23	1.14
Medicine	Nephrology	2.00	0.72	0.00	0.21	0.72	0.93	2.72	0.09
Medicine	Neurology	4.55	1.00	0.00	1.89	1.00	2.90	5.55	0.29
Medicine	Occupational Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	2.00	0.77	0.00	1.70	0.77	2.48	2.77	0.25
Medicine	Respirology	5.90	1.56	0.10	2.44	1.66	4.10	7.56	0.41
Medicine	Rheumatology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Medicine	42.45	10.74	1.10	14.77	11.84	26.61	54.29	2.66
Medicine - Pediatric	Adolescent Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Developmental Pediatrics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Neonatal-Perinatal Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Cardiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Critical Care Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Gastroenterology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Hematology/Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Infectious Diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Nephrology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Neurology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Respirology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Rheumatology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatrics	12.25	6.09	0.00	4.12	6.09	10.21	18.34	1.02

Z3 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
SUBTOTAL	Medicine - Pediatric	12.25	6.09	0.00	4.12	6.09	10.21	18.34	1.02
Obstetrics & Gynecology	Gynecologic Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obstetrics & Gynecology	Gynecologic Reproductive Endocrinology & Infertility	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obstetrics & Gynecology	Maternal-Fetal Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obstetrics & Gynecology	Obstetrics and Gynecology	13.00	0.81	0.00	5.36	0.81	6.16	13.81	0.62
SUBTOTAL	Obstetrics & Gynecology	13.00	0.81	0.00	5.36	0.81	6.16	13.81	0.62
Psychiatry	Child and Adolescent Psychiatry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	Forensic Psychiatry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	Geriatric Psychiatry	1.00	2.42	0.00	-0.02	2.42	2.40	3.42	0.24
Psychiatry	Psychiatry	18.75	4.80	0.00	17.31	4.80	22.11	23.55	2.21
SUBTOTAL	Psychiatry	19.75	7.22	0.00	17.29	7.22	24.51	26.97	2.45
Public Health	Public Health & Preventative Medicine	2.60	0.05	1.29	0.41	1.34	1.75	3.94	0.18
SUBTOTAL	Public Health	2.60	0.05	1.29	0.41	1.34	1.75	3.94	0.18
Surgery	Cardiac Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Colorectal Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	General Surgery	16.60	-0.74	0.00	5.66	-0.74	4.93	15.86	0.49
Surgery	General Surgical Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Neurosurgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Ophthalmology	5.00	2.74	0.00	3.23	2.74	5.96	7.74	0.60
Surgery	Orthopedic Surgery	14.50	1.88	0.00	0.54	1.88	2.42	16.38	0.24
Surgery	Otolaryngology - Head and Neck Surgery	3.00	0.74	0.00	-0.03	0.74	0.71	3.74	0.07
Surgery	Plastic Surgery	5.00	0.97	0.00	2.67	0.97	3.64	5.97	0.36
Surgery	Thoracic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Urology	4.50	0.99	0.00	2.23	0.99	3.22	5.49	0.32
Surgery	Vascular Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Surgery	48.60	6.58	0.00	14.30	6.58	20.89	55.18	2.09
Surgery - Pediatric	Pediatric Cardiac Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery - Pediatric	Pediatric Orthopedic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z3 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Surgery - Pediatric	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	ALL SPECIALTIES	212.29	63.95	3.30	81.83	67.25	149.07	279.54	14.91

Z4 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	122.30	75.82	2.70	35.17	78.52	113.69	200.82	11.37
SUBTOTAL	Anesthesiology	122.30	75.82	2.70	35.17	78.52	113.69	200.82	11.37
Cancer	Medical Oncology	19.93	7.10	5.79	8.53	12.90	21.43	32.83	2.14
Cancer	Radiation Oncology	15.83	5.56	4.25	7.76	9.81	17.57	25.64	1.76
SUBTOTAL	Cancer	35.76	12.66	10.04	16.29	22.71	39.00	58.47	3.90
Diagnostic Imaging	Diagnostic Radiology	107.50	17.49	0.00	47.93	17.49	65.42	124.99	6.54
Diagnostic Imaging	Interventional Radiology	13.25	2.00	0.00	3.06	2.00	5.06	15.25	0.51
Diagnostic Imaging	Neuroradiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Nuclear Medicine	11.05	2.28	0.00	4.06	2.28	6.34	13.33	0.63
Diagnostic Imaging	Pediatric Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Diagnostic Imaging	131.80	21.78	0.00	55.05	21.78	76.83	153.58	7.68
Emergency Medicine	Emergency Medicine	64.00	45.60	0.00	7.40	45.60	52.99	109.60	5.30
Emergency Medicine	Family Medicine (EM)	116.00	19.28	20.00	23.64	39.28	62.92	155.28	6.29
Emergency Medicine	Pediatric Emergency Medicine	19.81	0.00	0.00	0.44	0.00	0.44	19.81	0.04
SUBTOTAL	Emergency Medicine	199.81	64.88	20.00	31.47	84.88	116.35	284.69	11.63
Lab Medicine & Pathology	Anatomical Pathology	57.40	15.93	0.00	21.58	15.93	37.51	73.33	3.75
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	25.85	10.09	1.00	10.32	11.09	21.41	36.94	2.14
Lab Medicine & Pathology	Hematological Pathology	9.30	3.79	0.00	2.49	3.79	6.28	13.09	0.63
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Genetics	5.20	-0.13	0.00	1.82	-0.13	1.69	5.07	0.17
Lab Medicine & Pathology	Medical Microbiology	8.04	-2.43	3.62	3.15	1.19	4.34	9.23	0.43
Lab Medicine & Pathology	Neuropathology	3.50	1.98	0.00	1.84	1.98	3.82	5.48	0.38
Lab Medicine & Pathology	Transfusion Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Lab Medicine & Pathology	109.29	29.23	4.62	41.20	33.85	75.05	143.14	7.50
Medicine	Cardiology	53.05	12.33	0.00	30.29	12.33	42.62	65.38	4.26
Medicine	Clinical Immunology and Allergy	3.60	1.12	0.00	0.80	1.12	1.92	4.72	0.19
Medicine	Critical Care Medicine	32.65	12.57	6.00	12.61	18.57	31.18	51.22	3.12
Medicine	Dermatology	15.60	4.82	0.00	7.41	4.82	12.23	20.42	1.22
Medicine	Endocrinology and Metabolism	12.88	2.06	0.00	11.14	2.06	13.20	14.94	1.32

Z4 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	34.45	9.35	0.00	14.34	9.35	23.69	43.80	2.37
Medicine	General Internal Medicine (GIM)	0.00	2.09	0.00	0.00	2.09	2.09	2.09	0.21
Medicine	Geriatric Medicine	4.60	1.39	0.00	2.00	1.39	3.39	5.99	0.34
Medicine	Hematology	9.41	3.67	0.00	0.97	3.67	4.64	13.08	0.46
Medicine	Infectious Diseases	18.54	4.47	0.00	8.61	4.47	13.08	23.01	1.31
Medicine	Internal Medicine	89.94	51.33	0.00	23.57	51.33	74.90	141.27	7.49
Medicine	Nephrology	16.94	4.92	0.00	7.48	4.92	12.40	21.86	1.24
Medicine	Neurology	41.74	12.09	0.00	23.17	12.09	35.26	53.83	3.53
Medicine	Occupational Medicine	0.03	1.85	0.00	2.37	1.85	4.22	1.88	0.42
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	13.60	7.50	0.00	7.01	7.50	14.51	21.10	1.45
Medicine	Respirology	27.83	15.29	0.00	9.25	15.29	24.54	43.12	2.45
Medicine	Rheumatology	14.77	2.30	0.00	7.87	2.30	10.16	17.07	1.02
SUBTOTAL	Medicine	389.63	149.15	6.00	168.88	155.15	324.03	544.78	32.40
Medicine - Pediatric	Adolescent Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Developmental Pediatrics	5.31	-2.41	3.80	3.31	1.39	4.70	6.70	0.47
Medicine - Pediatric	Neonatal-Perinatal Medicine	23.18	2.19	2.00	7.56	4.19	11.76	27.37	1.18
Medicine - Pediatric	Pediatric Cardiology	12.65	-10.26	0.00	7.33	-10.26	-2.93	2.39	-0.29
Medicine - Pediatric	Pediatric Critical Care Medicine	14.15	12.57	2.00	3.53	14.57	18.10	28.72	1.81
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	6.40	1.15	1.00	2.01	2.15	4.17	8.55	0.42
Medicine - Pediatric	Pediatric Gastroenterology	5.90	2.34	0.00	2.62	2.34	4.96	8.24	0.50
Medicine - Pediatric	Pediatric Hematology/Oncology	2.15	0.39	0.99	0.23	1.38	1.62	3.53	0.16
Medicine - Pediatric	Pediatric Infectious Diseases	4.45	0.71	0.80	2.00	1.51	3.51	5.96	0.35
Medicine - Pediatric	Pediatric Nephrology	2.58	4.97	0.00	1.60	4.97	6.58	7.55	0.66
Medicine - Pediatric	Pediatric Neurology	8.44	1.42	-0.60	3.98	0.82	4.81	9.26	0.48
Medicine - Pediatric	Pediatric Respirology	9.34	-4.14	0.00	3.34	-4.14	-0.80	5.20	-0.08
Medicine - Pediatric	Pediatric Rheumatology	2.26	0.41	1.00	-0.01	1.41	1.40	3.67	0.14
Medicine - Pediatric	Pediatrics	108.33	48.09	-17.00	38.62	31.09	69.70	139.42	6.97

Z4 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
SUBTOTAL	Medicine - Pediatric	205.14	57.43	-6.01	76.13	51.43	127.56	256.57	12.76
Obstetrics & Gynecology	Gynecologic Oncology	4.80	-1.09	2.13	1.46	1.04	2.50	5.84	0.25
Obstetrics & Gynecology	Gynecologic Reproductive Endocrinology & Infertility	6.10	0.63	0.00	1.72	0.63	2.34	6.73	0.23
Obstetrics & Gynecology	Maternal-Fetal Medicine	3.98	0.37	0.00	1.94	0.37	2.31	4.35	0.23
Obstetrics & Gynecology	Obstetrics and Gynecology	69.10	4.44	4.00	22.72	8.44	31.16	77.54	3.12
SUBTOTAL	Obstetrics & Gynecology	83.98	4.35	6.13	27.83	10.48	38.31	94.46	3.83
Psychiatry	Child and Adolescent Psychiatry	25.00	11.72	0.00	8.63	11.72	20.35	36.72	2.03
Psychiatry	Forensic Psychiatry	6.70	1.11	8.00	1.14	9.11	10.26	15.81	1.03
Psychiatry	Geriatric Psychiatry	13.80	9.42	0.00	5.53	9.42	14.95	23.22	1.50
Psychiatry	Psychiatry	210.10	53.18	-8.00	76.11	45.18	121.29	255.28	12.13
SUBTOTAL	Psychiatry	255.60	75.43	0.00	91.41	75.43	166.85	331.03	16.68
Public Health	Public Health & Preventative Medicine	8.70	-1.14	4.30	2.70	3.17	5.87	11.87	0.59
SUBTOTAL	Public Health	8.70	-1.14	4.30	2.70	3.17	5.87	11.87	0.59
Surgery	Cardiac Surgery	4.75	0.29	0.00	3.16	0.29	3.45	5.04	0.34
Surgery	Colorectal Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	General Surgery	24.49	13.67	0.00	16.50	13.67	30.17	38.16	3.02
Surgery	General Surgical Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Neurosurgery	11.75	3.27	0.00	4.78	3.27	8.05	15.02	0.80
Surgery	Ophthalmology	40.10	26.40	0.15	16.68	26.55	43.23	66.65	4.32
Surgery	Orthopedic Surgery	27.12	2.85	0.00	20.48	2.85	23.32	29.97	2.33
Surgery	Otolaryngology - Head and Neck Surgery	15.35	9.57	0.00	7.40	9.57	16.96	24.92	1.70
Surgery	Plastic Surgery	10.09	-0.71	0.77	5.33	0.06	5.39	10.15	0.54
Surgery	Thoracic Surgery	3.45	2.98	0.00	0.53	2.98	3.51	6.43	0.35
Surgery	Urology	10.62	4.84	0.00	5.57	4.84	10.42	15.46	1.04
Surgery	Vascular Surgery	4.84	-4.25	4.50	1.79	0.25	2.03	5.09	0.20
SUBTOTAL	Surgery	152.56	58.90	5.42	82.21	64.32	146.53	216.88	14.65
Surgery - Pediatric	Pediatric Cardiac Surgery	2.60	0.96	0.00	1.15	0.96	2.11	3.56	0.21
Surgery - Pediatric	Pediatric Orthopedic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z4 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	10.09	5.59	0.00	6.94	5.59	12.53	15.68	1.25
SUBTOTAL	Surgery - Pediatric	12.69	6.55	0.00	8.09	6.55	14.64	19.24	1.46
TOTAL	ALL SPECIALTIES	1707.26	555.05	53.21	636.45	608.26	1244.71	2315.52	124.47

Z5 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Anesthesiology	Anesthesiology	7.30	5.02	8.75	3.33	13.77	17.10	21.07	1.71
SUBTOTAL	Anesthesiology	7.30	5.02	8.75	3.33	13.77	17.10	21.07	1.71
Cancer	Medical Oncology	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.02
Cancer	Radiation Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Cancer	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.02
Diagnostic Imaging	Diagnostic Radiology	16.10	3.54	1.50	10.00	5.04	15.04	21.14	1.50
Diagnostic Imaging	Interventional Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Neuroradiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Nuclear Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diagnostic Imaging	Pediatric Radiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Diagnostic Imaging	16.10	3.54	1.50	10.00	5.04	15.04	21.14	1.50
Emergency Medicine	Emergency Medicine	0.00	25.26	0.00	0.63	25.26	25.89	25.26	2.59
Emergency Medicine	Family Medicine (EM)	12.50	-11.00	1.50	7.97	-9.50	-1.53	3.00	-0.15
Emergency Medicine	Pediatric Emergency Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Emergency Medicine	12.50	14.26	1.50	8.60	15.76	24.36	28.26	2.44
Lab Medicine & Pathology	Anatomical Pathology	3.00	2.04	0.00	0.79	2.04	2.83	5.04	0.28
Lab Medicine & Pathology	Clinical Pharmacology and Toxicology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Forensic Pathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	General Pathology	1.00	0.65	0.00	0.63	0.65	1.28	1.65	0.13
Lab Medicine & Pathology	Hematological Pathology	1.00	0.61	0.00	0.10	0.61	0.71	1.61	0.07
Lab Medicine & Pathology	Medical Biochemistry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Genetics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Medical Microbiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Neuropathology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lab Medicine & Pathology	Transfusion Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Lab Medicine & Pathology	5.00	3.30	0.00	1.52	3.30	4.82	8.30	0.48
Medicine	Cardiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Clinical Immunology and Allergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Critical Care Medicine	0.25	0.00	0.00	0.38	0.00	0.38	0.25	0.04
Medicine	Dermatology	0.00	0.00	1.00	0.04	1.00	1.04	1.00	0.10
Medicine	Endocrinology and Metabolism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z5 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals

CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Medicine	Gastroenterology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	General Internal Medicine (GIM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Geriatric Medicine	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.10
Medicine	Hematology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Infectious Diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Internal Medicine	11.50	4.21	3.25	4.89	7.46	12.35	18.96	1.24
Medicine	Nephrology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Neurology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Occupational Medicine	1.00	1.34	0.00	0.18	1.34	1.51	2.34	0.15
Medicine	Pain Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Physical Medicine and Rehabilitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Respirology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine	Rheumatology	0.00	0.00	0.00	0.66	0.00	0.66	0.00	0.07
SUBTOTAL	Medicine	12.75	5.55	5.25	6.15	10.80	16.94	23.55	1.69
Medicine - Pediatric	Adolescent Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Developmental Pediatrics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Neonatal-Perinatal Medicine	8.00	0.00	5.00	4.72	5.00	9.72	13.00	0.97
Medicine - Pediatric	Pediatric Cardiology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Critical Care Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Endocrinology and Metabolism	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Gastroenterology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Hematology/Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Infectious Diseases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Nephrology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Neurology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Respirology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatric Rheumatology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicine - Pediatric	Pediatrics	1.00	0.00	0.00	0.12	0.00	0.12	1.00	0.01

Z5 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
SUBTOTAL	Medicine - Pediatric	9.00	0.00	5.00	4.84	5.00	9.84	14.00	0.98
Obstetrics & Gynecology	Gynecologic Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obstetrics & Gynecology	Gynecologic Reproductive Endocrinology & Infertility	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obstetrics & Gynecology	Maternal-Fetal Medicine	0.00	0.00	3.00	0.00	3.00	3.00	3.00	0.30
Obstetrics & Gynecology	Obstetrics and Gynecology	11.00	1.35	3.40	2.20	4.75	6.95	15.75	0.70
SUBTOTAL	Obstetrics & Gynecology	11.00	1.35	6.40	2.20	7.75	9.95	18.75	1.00
Psychiatry	Child and Adolescent Psychiatry	2.00	1.95	5.00	0.71	6.95	7.66	8.95	0.77
Psychiatry	Forensic Psychiatry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	Geriatric Psychiatry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	Psychiatry	15.45	9.06	3.00	8.09	12.06	20.15	27.51	2.02
SUBTOTAL	Psychiatry	17.45	11.01	8.00	8.80	19.01	27.81	36.46	2.78
Public Health	Public Health & Preventative Medicine	0.80	1.82	0.40	0.29	2.22	2.50	3.02	0.25
SUBTOTAL	Public Health	0.80	1.82	0.40	0.29	2.22	2.50	3.02	0.25
Surgery	Cardiac Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Colorectal Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	General Surgery	10.99	8.41	4.00	3.42	12.41	15.82	23.40	1.58
Surgery	General Surgical Oncology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Neurosurgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Ophthalmology	4.00	3.76	0.00	0.69	3.76	4.45	7.76	0.44
Surgery	Orthopedic Surgery	11.70	5.28	1.00	2.30	6.28	8.57	17.98	0.86
Surgery	Otolaryngology - Head and Neck Surgery	2.70	1.85	0.10	0.24	1.95	2.19	4.65	0.22
Surgery	Plastic Surgery	0.50	0.26	1.00	-0.05	1.26	1.21	1.76	0.12
Surgery	Thoracic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery	Urology	2.25	1.33	1.00	0.46	2.33	2.79	4.58	0.28
Surgery	Vascular Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Surgery	32.14	20.88	7.10	7.05	27.98	35.02	60.12	3.50
Surgery - Pediatric	Pediatric Cardiac Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surgery - Pediatric	Pediatric Orthopedic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Z5 SUMMARY REPORT: By Specialty By Variable, Ten-Year Totals									
CATEGORY	SPECIALTY NAME (RCPC)	A	B	C	D	E	F	G	H
						(B+C)	(D+E)	(A+E)	(F/10)
		Current Workforce	Unadjusted Forecast	Forecast Adjustments	Replacement - Physicians leaving the Workforce	Net New Need - excluding Replacements	Forecast Total FTE Recruitment	Forecast Total Workforce at the end of 10 yrs	Average Recruitment Need per Year
Surgery - Pediatric	Pediatric Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	Surgery - Pediatric	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	ALL SPECIALTIES	124.04	66.72	43.90	52.97	110.61	163.58	234.65	16.36

Appendix G

Clinical Risk Groups (CRGs)

What are CRGs?

- CRGs are a population classification system that uses diagnosis and procedure information throughout all encounters over one year. The sources used for getting diagnosis and procedure data are:
 - Physician Fee For Service (FFS) claims data, each record contains information such as:
 - ICD9 Diagnostic coding
 - The Health service provided
 - Inpatient admission data, each record contains information such as:
 - Demography (Birth, Death, In-Migration, Out-Migration, and Local)
 - Primary diagnosis
 - Procedures performed during stay
 - Resource utilization measures (e.g. length of hospital stay)
 - Ambulatory data - ER visits, each record contains similar information to the inpatient data.

Based on a combination of information from each of these sources – presenting all health consumption from last year for an individual – each Albertan is assigned to one CRG.

- A CRG is 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 profile of an individual's anticipated future health service consumption can be applied.
- CRGs describe the health status (e.g. Healthy, Significant Acute Conditions, Minor Chronic Conditions, Chronic Pairs and Triplets, Metastatic Malignancies) and burden of illness of individuals in a population. They are Patient-centric and do not focus on specific diseases or services; rather, they account for co-morbidities and measure the health status of an individual over time.
- Each CRG represents a clinically meaningful group of individuals who require similar amounts and types of resources.

Who developed CRGs?

The CRGs, used in AHS for health system planning and for Physician Workforce Planning, are developed by the Clinical and Economic Research Group at 3M Health Information Systems (HIS).

The first formal release of the 3M CRGs methodology occurred in October 2000, followed by multiple updates over the years; another major update Version 2.0, was released in April 2016.

The 3M CRGs have been extensively validated with US national data. In the vast majority of cases, the clinical judgment – by an expert panel of clinicians from various specialties – and the data results were in agreement. If a discrepancy between the data and clinical judgment remained, the clinical judgment was always used.

The 3M CRGs are updated annually to incorporate all ICD-9-CM¹ code modifications.

Why are CRGs used?

CRGs are:

- Used to analyze the health profile of a population beyond that of age, gender, socio-economic status and ethnicity.
- A way to assemble, group, and sort patient information to see what is needed in the future.

Forecasting health services utilization is important to:

- Adequately plan for appropriate levels of services in the future.
- Estimate physician workforce need.

How are CRGs used in AHS Physician Workforce Planning?

In the AHS Physician Workforce Planning – i.e. in the sPWP software application – four different forecast methodologies are used to calculate future FTE need per specialty in Alberta: forecast method A, B, C and D. Method A and B are only using CRGs to calculate forecasted need. See Appendix A for more information about these four forecast methodologies.

Specialties with forecast method A or B:

Future FTE need is calculated by looking at the:

- Last 10 years of CRG data attributable to the specialty in question.

Source: CRG Data – AHS data Integration and Management Reporting (DIMR).
AHS' DIMR generates the CRG assignments for each Albertan.

¹ ICD-9-CM: International Classification of Diseases Version 9 Clinical Modification

- Total health consumption (e.g. FFS claims data, inpatient data, ER visits) from the past 10 years regarding their patient population.

The CRG data in the sPWP software application is updated annually.

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