PHYSICIAN COMPENSATION STRATEGY

Alberta Medical Association Overhead Study

Final Report

January 29, 2021

Contents

Appendices

1. Message from the Chair

Dear Colleagues,

In June 2019, the AMA Board tasked the Overhead Working Group to develop a revised physician overhead model. The seven-physician group worked closely with the AMA Compensation Committee and a panel of physicians from all economic sections to develop additional overhead policy, define model components, and identify model costs.

I am immensely proud of the dedication and engagement that physicians have demonstrated in the development of this model. I believe our approach involved the most physician input of any overhead model previously developed in the province.

The model we have developed is based on decades of previous overhead work in Alberta with the most notable being the 2010 Physician Business Cost Model (PBCM). I believe the major improvement our model makes over PBCM is the grouping of costs that are common to all physicians and grouping of costs common to the basic physician office. The benefits of this approach include:

- Focusing on the commonalities between physicians rather than pitting sections against each other over relatively small cost differences,
- Allowing for identification of costs beyond those of the basic office,
- Providing the data to support a policy debate about what should or should not be included in a model physician practice,
- Greatly simplifying future updates of the model.

There is no "magic black box" in this model; all components are transparent, and we have documented the policy assumptions, analytical approach, and considerations behind our recommendations.

No overhead model is ever truly complete. This work is an ongoing iterative process of continuous enhancement, and we have presented suggestions for consideration in the future.

I extend my deepest gratitude and thanks to everyone who contributed to this work. Your time and valuable insights are responsible for the success of the project.

Dr. Rick Johnston
Chair,
AMA Overhead Working Group

2. Background

PBCM introduced the concept of the "model practice" which is defined as:

> **A modern, reasonably efficient electronic medical practice that reflects the typical space, personnel, equipment, and supplies a physician would require to deliver publicly insured medical care.**

The model practice approach is a bottom-up methodology for estimating physician practice costs that identifies specific characteristics of different types of medical practices including space, staffing, equipment, and operating requirements. The approach allows for policy-level discussions as to what should be included in a "reasonably efficient" practice.

By explicitly defining practice characteristics, the associated costs can be adjusted over time in response to changing economic circumstances or in response to changing practice structures or styles. The approach recognizes that model costs will not necessarily reflect those of an individual practitioner and significant cost variation could occur within sections.

The foundation of the new overhead model is the grouping of common practice costs into three layers:

- **Layer 1**: professional costs that are common to all physicians such as Canadian Medical Protective Association (CMPA) insurance, licensing, registration, membership, professional development, and professional services.
- **Layer 2**: cost that are common to a basic physician office. Three basic office configurations are included in the model: a hospital-based office, a community office, and a community office that offers equipment reprocessing.
- **Layer 3**: additional costs that are unique to a section or subgroup of a section above those included in the basic office.

The model uses the concept of the section allocation equivalent (SAE) which broadly represents a "full-time equivalent physician" and is based on work from the Canadian Institute for Health Economics (CIHI). Further information on the AMA's implementation of the SAE can be found in the Overhead Measurement Policy (page 22).

3. Key Messages

This model builds upon decades of well-established physician overhead work in Alberta.

Model overhead costs are grouped into three layers: professional overhead common to all physicians (Layer 1), basic office overhead (Layer 2), and unique overhead above the basic office (Layer 3).

Professional overhead (Layer 1) applies to every physician based on headcount whereas basic office overhead (Layer 2) and unique office overhead (Layer 3) are prorated based on an SAE methodology (AMA's full-time equivalent measure).

The model overhead for 21 economic sections is derived from identical Layer 1 or Layer 2 data; only the section's head count and SAE affect the total overhead for these sections. This approach highlights similarities amongst sections rather than focusing on small differences.

Eight sections identified having overhead above the basic office and this unique overhead is capture in Layer 3. As overhead costs increase, so did the scrutiny and due diligence required for data to be included in the model.

A physician panel with representation from the economic sections and four representatives from family medicine reviewed overhead policy and section data submissions. Dr. Rick Johnston (Chair, Overhead Working Group) and AMA staff followed up with sections to address questions raised by the panel.

Panel members spoke highly about the collegiality and transparency of the panel approach.

Overhead represents a major component of physician compensation and the AMA will use the results of this study to inform work in several areas including advocacy (e.g., Fee-for-Service (FFS), Alternate Relationship Plan (ARP), and Alberta Health Services(AHS) compensation negotiations; context around the public disclosure of physician payments information) and Schedule of Medical Benefits (SOMB) management activities such as allocation, income equity and fee relativity.

Alberta Health reserved the right to use results from the 2017-19 overhead study if a suitable replacement study cannot be developed.

No overhead model is ever truly complete. This work is an ongoing iterative process of continuous enhancement.

4. Summary of Results

Physician Professional Overhead (Layer 1) Overview

Layer 1 costs represent the fixed overhead that all physicians must pay, irrespective of annual number of days worked, specialty, practice arrangement, payment method, or service volume.

The estimated Layer 1 professional overhead for April 1, 2019 to March 31, 2020 is $31,725 per physician and this cost is split into the following categories:

Cost Category	Annual Cost
CMPA Insurance *	$1,000
Memberships/Dues	$7,834
Professional Development/CME	$5,134
Travel	$4,172
Professional Services	$6,797
Home Office Cost	$4,547
CRA Allowed Vehicle Cost	$1,391
Physician Parking	$851
Total Costs	**$31,725**

A detailed breakdown of each cost category is provided in the Layer 1 Overhead Details appendix (page 52).

Layer 1 overhead is assigned to each economic section based on the number of physicians in that section. This count is determined using the Alberta Health billing data and a physician is assigned to the economic section where he or she has the highest annual billings. This billing data includes physicians that bill fee-for-service as well as those who shadow bill.

* The CMPA amount included in the model will need to be updated if the Alberta Health contribution to CMPA dues changes. The model may need to be revised to accommodate CMPA by section or subsection.

Basic Physician Office (Layer 2) Overview

Three basic model office configurations are considered at Layer 2:

- Hospital or institutional clinical office.
- Community office that does not perform equipment reprocessing.
- Community office that performs equipment reprocessing.

Many physicians with hospital- or institutional-based offices reported being provided an insufficient number of support staff. As a result, the physician must cover the costs for 0.5 FTE of administrative support and this cost has been reflected in the model.

For the basic community office, equipment reprocessing was identified as a major cost driver in the model. The estimated Layer 2 basic model offices costs for April 1, 2019 to March 31, 2020 are as follows:

Cost Category	Office in Hospital or Institution	Community Office without Reprocessing	Community Office with Reprocessing
Layer 1 Costs	$31,725	$31,725	$31,725
Staff	$27,748	$94,079	$105,178
Office Space	-	$46,298	$51,326
Administration	-	$34,652	$36,151
Capital	-	$7,452	$8,640
Total per full time model office Physician	**$59,474**	**$214,206**	**$233,022**

A detailed explanation of how these costs were derived is included in the Layer 2 Appendix (page 60). As of January 2021, AHS is re-evaluating the overhead charges for physicians who use institutional facilities. Revisions to the model may be required to accommodate any changes in AHS chargebacks.

Billing data were used to determine if the physician in the community office required reprocessing equipment. The Overhead Working Group (OWG) recognizes that many factors influence a physician's choice to reprocess equipment or to use disposable equipment. The cost variance between use of disposables and reprocessing equipment is assumed to be minimal. For the purposes of the model, it is assumed that a physician would need to perform at least 150 procedures per year that require equipment reprocessing in order to justify investing in reprocessing equipment. Further explanation of this approach is provided in the methodology appendix (page 26).

An individual physician is assigned to a Layer 2 office based on an SAE methodology which is described in the approach appendix (page 31). For example, if a physician with an AHS office worked half time (0.5 SAE) then his/her section would be allocated the following in the model: Layer 1 costs of $31,725 (applied per physician) and Layer 2 costs of 0.5 x $27,748 for a total overhead contribution of $45,599.

Unique Office Overhead (Layer 3) Overview

Layer 3 submissions were received from, and developed for, the following model practices:

- **Cardiology:**
  - EKG/Holter/Stress Testing
  - Cardiac Nuclear Medicine
  - Cardiac Ultrasound
- **Dermatology:**
  - Dermatological Medical
  - Dermatological Surgery
  - Mohs Surgery
  - Phototherapy
- **Diagnostic Imaging**
- **Family Medicine:**
  - Patient's Medical Home (future state; 0 weight in the model currently)
- **Gastroenterology:**
  - Fibroscan
- **Ophthalmology:**
  - Cornea
  - General Ophthalmology
  - Retinal Surgery
- **Otolaryngology:**
  - Endoscopy only
  - Endoscopy and Audiology
- **Physical Medicine and Rehabilitation:**
  - Interventional Pain Management
- **Respiratory Medicine:**
  - Pulmonary Function Testing

Full details for each model practice can be found in the Layer 3 Appendix (page 109).

The overhead for each Layer 3 model practice is prorated based on an SAE methodology which is described in the approach appendix (page 31).

The total costs for Layer 3 model practices inclusive of Layer 1 and Layer 2 calculated for April 1, 2019 to March 31, 2020 are as follows:

	Cardiology	Derm	Diagnostic Imaging*	FP Medical Home**	Gastro: Fibroscan
Layer 1 Costs	$31,725	$31,725	$31,725	$31,725	$31,725
Staff hr/wk	40	40	40	40	40
Staff FTEs	3.73	8.13	6.13	5.30	1.75
Staff Costs	$258,247	$592,348	$484,043	$395,670	$107,953
Office ft²	1,450	1,745	1,954	1,400	1,128
Space Costs	$83,234	$92,508	$121,187	$72,828	$58,653
Medical Supplies	$40,227	$37,713	$45,151	$5,175	$5,175
Other Admin	$83,871	$93,580	$158,026	$49,234	$32,807
Equipment	$42,813	$16,822	$55,856	$11,954	$13,436
Total per physician	$540,118	$864,697	$895,988	$566,586	$249,749

* Diagnostic Imaging data are based upon the submissions from nine radiology groups representing 336 radiologists. A methodology is described in the Diagnostic Imaging Layer 3 Appendix (page 132) explaining how this amount is prorated to include the remaining community physicians in the section.

** Future state model practice with zero weighting currently in the model.

	Ophthal	Otolaryn	Physical Medicine: Pain	Respiratory Medicine: PFT
Layer 1 Costs	$31,725	$31,725	$31,725	$31,725
SAE	94	49	19	37
Staff hr/wk	40	40	40	40
Staff FTEs	8.86	4.09	2.44	5.75
Staff Costs	$626,846	$264,881	$188,641	$450,439
Office ft²	2,900	2,353	2,400	1,990
Space Cost	$150,844	$131,824	$141,648	$103,520
Medical Supplies	$63,429	$60,000	$128,270	$45,950
Other Admin	$145,169	$98,618	$97,666	$93,300
Equipment	$156,156	$34,571	$20,153	$13,714
Total per physician	$1,174,171	$621,620	$608,103	$738,647

Summary of Model Results

Aggregating Model Practice Results

Further analysis is needed to refine the aggregation approach as identified in the Future Work section (page 16) including assigning physicians to the AHS office. The aggregation approach may need to be tailored to meet specific business needs. In the interim, any physician who may have been assigned to the AHS

office is included in the basic Layer 2 community office. The current model likely overestimates the number of physicians who are assigned to the basic community office.

Physicians paid through AHS contracts are not explicitly identified; however, Layer 1 overhead applies to this group.

Headcounts for April 1, 2019 to March 31, 2020:

	Headcounts					
Economic Section	**Layer 1 Only**	**Layer 2 AHS**	**Layer 2 Basic**	**Layer 2 Rep***	**Layer 3**	**Total**
Anesthesiology	449	TBD	19	9	0	477
Cardio & Thoracic Surgery	0	TBD	24	0	0	24
Cardiology	0	TBD	105	0	82	187
Critical Care Medicine	61	TBD	2	0	0	63
Dermatology	0	TBD	13	2	52	67
Diagnostic Imaging	19	TBD	0	0	422	441
Emergency Medicine	449	TBD	5	0	0	454
Endocrinology/Metabolism	0	TBD	26	0	0	26
Family Medicine	931	TBD	3,052	1,327	0	5,310
Gastroenterology	0	TBD	83	0	24	107
General Surgery	0	TBD	196	15	0	211
Infectious Diseases	0	TBD	49	0	0	49
Internal Medicine	0	TBD	617	9	0	626
Nephrology	0	TBD	73	0	0	73
Neurology	0	TBD	161	20	0	181
Neurosurgery	0	TBD	36	1	0	37
Obstetrics & Gynecology	0	TBD	146	131	0	277
Ophthalmology	0	TBD	23	1	116	140
Orthopedic Surgery	0	TBD	188	1	0	189
Otolaryngology	0	TBD	14	3	59	76
Pediatrics	0	TBD	602	1	0	603
Physical Medicine and Rehab	0	TBD	59	13	19	91
Plastic Surgery	0	TBD	69	2	0	71
Psychiatry	0	TBD	608	0	0	608
Respiratory Medicine	0	TBD	59	0	40	99
Rheumatology	0	TBD	20	1	0	21
Thoracic Surgery	0	TBD	13	0	0	13
Urology	0	TBD	62	1	0	63
Vascular Surgery	0	TBD	16	0	0	16
Total	**1,909**	**TBD**	**6,340**	**1,537**	**814**	**10,600**

*Layer 2 Rep: Layer 2 office that offers equipment reprocessing/sterilization.

SAEs for April 1, 2019 to March 31, 2020:

Economic Section	Weighting SAEs					Full SAE
	Layer 2 AHS	Layer 2 Basic	Layer 2 Rep*	Layer 3	Total	
Anesthesiology	TBD	13	9	0	362	382
Cardio & Thoracic Surgery	TBD	21	0	0	21	22
Cardiology	TBD	77	0	73	151	172
Critical Care Medicine	TBD	2	0	0	53	57
Dermatology	TBD	7	0	44	51	61
Diagnostic Imaging	TBD	0	0	275	277	301
Emergency Medicine	TBD	5	0	0	357	377
Endocrinology/Metabolism	TBD	20	0	0	20	21
Family Medicine	TBD	2,160	1,228	0	3,889	4,432
Gastroenterology	TBD	72	0	22	94	97
General Surgery	TBD	144	14	0	158	172
Infectious Diseases	TBD	40	0	0	40	41
Internal Medicine	TBD	466	9	0	475	513
Nephrology	TBD	68	0	0	68	75
Neurology	TBD	126	18	0	145	151
Neurosurgery	TBD	33	1	0	34	34
Obstetrics & Gynecology	TBD	89	120	0	209	234
Ophthalmology	TBD	4	0	94	99	117
Orthopedic Surgery	TBD	149	1	0	150	164
Otolaryngology	TBD	8	1	49	58	66
Pediatrics	TBD	375	1	0	376	397
Physical Medicine and Rehab	TBD	38	11	19	68	72
Plastic Surgery	TBD	56	2	0	58	65
Psychiatry	TBD	456	0	0	456	514
Respiratory Medicine	TBD	44	0	37	80	91
Rheumatology	TBD	16	1	0	17	17
Thoracic Surgery	TBD	11	0	0	11	13
Urology	TBD	50	1	0	51	58
Vascular Surgery	TBD	15	0	0	15	15
Total	**TBD**	**4,565**	**1,419**	**613**	**7,844**	**8,735**

Weighting SAE is used to weight the model practices (layers) in the model and the SAE is capped at 1 for each physician. The SAE methodology is described in the Approach Appendix (page 31).

Full SAE is not capped at 1 for each physician and is used to calculate average overhead per SAE in the summary table (page 13).

Model Practice Overheads for April 1, 2019 to March 31, 2020:

	Overhead $				
Economic Section	**Layer 1 Only**	**Total Layer 2 AHS**	**Total Layer 2 Basic**	**Total Layer 2 Rep**	**Total Layer 3**
Anesthesiology	$31,725	$59,474	$214,206	$233,022	$0
Cardio & Thoracic Surgery	$31,725	$59,474	$214,206	$233,022	$0
Cardiology	$31,725	$59,474	$214,206	$233,022	$540,118
Critical Care Medicine	$31,725	$59,474	$214,206	$233,022	$0
Dermatology	$31,725	$59,474	$214,206	$233,022	$864,697
Diagnostic Imaging	$31,725	$59,474	$214,206	$233,022	$837,049
Emergency Medicine	$31,725	$59,474	$214,206	$233,022	$0
Endocrinology/Metabolism	$31,725	$59,474	$214,206	$233,022	$0
Family Medicine	$31,725	$59,474	$214,206	$233,022	$566,586
Gastroenterology	$31,725	$59,474	$214,206	$233,022	$249,749
General Surgery	$31,725	$59,474	$214,206	$233,022	$0
Infectious Diseases	$31,725	$59,474	$214,206	$233,022	$0
Internal Medicine	$31,725	$59,474	$214,206	$233,022	$0
Nephrology	$31,725	$59,474	$214,206	$233,022	$0
Neurology	$31,725	$59,474	$214,206	$233,022	$0
Neurosurgery	$31,725	$59,474	$214,206	$233,022	$0
Obstetrics & Gynecology	$31,725	$59,474	$214,206	$233,022	$0
Ophthalmology	$31,725	$59,474	$214,206	$233,022	$1,174,171
Orthopedic Surgery	$31,725	$59,474	$214,206	$233,022	$0
Otolaryngology	$31,725	$59,474	$214,206	$233,022	$621,620
Pediatrics	$31,725	$59,474	$214,206	$233,022	$0
Physical Medicine and Rehab	$31,725	$59,474	$214,206	$233,022	$608,103
Plastic Surgery	$31,725	$59,474	$214,206	$233,022	$0
Psychiatry	$31,725	$59,474	$214,206	$233,022	$0
Respiratory Medicine	$31,725	$59,474	$214,206	$233,022	$738,647
Rheumatology	$31,725	$59,474	$214,206	$233,022	$0
Thoracic Surgery	$31,725	$59,474	$214,206	$233,022	$0
Urology	$31,725	$59,474	$214,206	$233,022	$0
Vascular Surgery	$31,725	$59,474	$214,206	$233,022	$0

Layer 1 Only is applied on headcount basis. For data presentation purposes, Total Layer 2 is presented for 1 physician SAE and is inclusive of Layer 1 costs. Total Layer 3 is presented for 1 physician SAE and is inclusive of Layer 1 and Layer 2 costs.

Summary Measures for April 1, 2019 to March 31, 2020:

	Summary Measures		
Economic Section	**Total Section Overhead**	**Avg Overhead per Headcount**	**Avg Overhead per SAE**
Anesthesiology	$19,230,115	$40,315	$50,315
Cardio & Thoracic Surgery	$4,616,542	$192,356	$209,353
Cardiology	$57,286,165	$306,343	$332,397
Critical Care Medicine	$2,290,811	$36,362	$40,122
Dermatology	$40,375,293	$602,616	$663,607
Diagnostic Imaging	$353,837,428	$802,352	$1,175,417
Emergency Medicine	$15,232,012	$33,551	$40,380
Endocrinology/Metabolism	$4,476,985	$172,192	$209,636
Family Medicine	$809,988,400	$152,540	$182,757
Gastroenterology	$21,253,797	$198,634	$220,208
General Surgery	$35,795,633	$169,648	$207,915
Infectious Diseases	$8,889,933	$181,427	$214,279
Internal Medicine	$106,715,768	$170,472	$207,834
Nephrology	$14,701,890	$201,396	$196,897
Neurology	$32,464,812	$179,364	$215,360
Neurosurgery	$7,410,692	$200,289	$214,917
Obstetrics & Gynecology	$49,204,242	$177,633	$209,852
Ophthalmology	$112,916,970	$806,550	$961,377
Orthopedic Surgery	$33,331,175	$176,355	$202,880
Otolaryngology	$33,020,358	$434,478	$498,846
Pediatrics	$87,796,470	$145,599	$221,051
Physical Medicine and Rehab	$22,852,392	$251,125	$316,237
Plastic Surgery	$12,941,561	$182,276	$200,202
Psychiatry	$102,554,771	$168,676	$199,431
Respiratory Medicine	$36,974,454	$373,479	$407,057
Rheumatology	$3,761,340	$179,111	$218,614
Thoracic Surgery	$2,441,878	$187,837	$189,297
Urology	$11,372,160	$180,510	$194,879
Vascular Surgery	$3,187,331	$199,208	$208,145
Total	**$2,046,921,378**	**$193,106**	**$234,335**

Comparison of the Basic Model Office to PBCM

Several policy changes have been made to improve upon PBCM:

- **Model Practice Size:**
  - **New model:** a small group practice of two to four full-time equivalent physicians is decided as a matter of policy to be an efficient practice size for the basic community office. The solo practitioner model office has been removed.
  - **PBCM:** included solo practitioner office as well as large group practices.
- **Geographic adjustments**:
  - **New model**: no indexing by geographic area as the PBCM methodology was deemed to produce unreliable data.
  - **PBCM**: many regions were defined in an attempt to index wages and lease rates.
- **Number of clinic staff (Layer 2):**
  - **New model**: 1.5 FTE of staff in Layer 2 community office including the addition of a 0.2 FTE clinic manager, per physician.
  - **PBCM**: 1.2 FTE of staff in the clinic.
- **Staff working days:**
  - **New model**: Layer 2 community office staff work 40 hours per week for 209 days per year plus 27 days for paid vacation and statutory holidays for a total of 236 working days per year.
  - **PBCM**: clinic staff work 35 hours per week for 260.7 days per year (365 x 5 / 7).
- **Staff compensation:**
  - **New model**: mid-range of published wages for AHS, government of Alberta, or other sources. Physician offices compete with AHS for staff.
  - **PBCM**: Statistics Canada average provincial wages.
- **Staff training:**
  - **New model**: staff training expenses have been added.
- **Staff parking**:
  - **New model**: staff parking has been added.
- **Office space requirements:**
  - **New model**: basic community office size reduced by 353 ft^2 per model office physician from 1,243 ft^2 per physician in the PBCM model (4,972 ft^2 for a four-physician office) to 890 ft^2 per physician in the new model (3,560 ft^2 for a four-physician office).

- **Office space costs:**
    - **New model**: leasehold improvement costs included to set up and refresh office space. Included janitorial costs explicitly in the model. New model uses a single provincial lease rate.
- **Administrative costs:**
    - **New model**: replaced "interest and bank changes" with a more robust measure of financing costs which explicitly models financing of equipment and leasehold improvement using an interest rate. Staff training and staff parking included in the model. Licensing costs modelled based on office requirements (e.g., software licenses based on the number of computers in model office).
    - **PBCM:** included an "interest and bank changes" which was only an average of survey data and poorly explained.
- **Equipment costs:**
    - **New model**: New equipment service life methodology identifies equipment categories and expected useful life (used in depreciation calculations). Developed new equipment lists for each room in the Layer 2 model practice.

5. Recommendations for Continued Enhancement

Develop a Methodology for Assigning Physicians to the Layer 2 AHS/Institutional Office

Further work will be required to refine how physicians with hospital/institutional-based offices are identified and weighted in the model. As of January 2021, AHS is in the process of reviewing institutional-based overhead as part of the z-code implementation and the AHS findings may help inform the model weightings. The Layer 2 hospital/institutional model office weighting issue is complex for two main reasons:

- A wide range of physician overhead agreements exist with AHS ranging from not paying overhead to paying a sizeable percentage of billings.
- Some hospital/institutional-based physicians also maintain a community clinic. Physician activity in the clinic may only generate a small amount of billing; however, the clinic and administrative support are required to facilitate hospital/institutional based activity.

The current model likely overestimates the number of physicians who are assigned to the basic community office. The model assigns all potential hospital/institutional-based physicians to the Layer 2 basic community office. This over-assignment generates additional overhead credit for several sections. It is easy to update the weighting of various model practices as additional information becomes available.

Consider Additional Layer 3 Model Practices

For this iteration of the model, a unique Layer 3 practice was included if (a) the practice represented approximately 15% of the section's physicians, and (b) the group's overhead costs were 15% above those defined in the basic Layer 2 office. This guidance was used to help ensure the first build of the model would capture the major practice differences but not get overwhelmed with details. In the future, this threshold could be re-examined.

In addition, now that Layer 2 model offices have been well defined, a section may identify having additional overhead costs that would qualify as Layer 3. Further policy should be developed to guide the inclusion of additional Layer 3 model practices while ensuring the model remains relatively easy to understand and update.

Develop a Model Review Process

It is recommended that a process be developed to review a portion of the model each year. The approach would include working with one or two Layer 3 sections every year to refine the model including reviewing any health service codes that were used to define a model practice. This approach would also involve defining a frequency to review the Layer 1 and Layer 2 characteristics and costs.

A defined review process would help split the work of keeping the model current into more manageable pieces for both physicians as well as AMA staff. The process should be much simpler and faster in the future as significant new policy has been developed and the cost characteristics of each layer are now well defined.

Analyze Impacts of COVID-19

The model was developed based on the practice patterns from before the COVID-19 pandemic occurred. The pandemic has impacted practice requirements such as personal protective equipment, sanitation, and physical distancing within the office. The degree to which these changes are permanent is yet to be seen.

Analyze Impacts of Government Billing Changes

Government billing changes also are impacting physician practice including the amount paid for virtual visits, new alternate relationship arrangements, and capping the daily number of procedures. The impact these factors have on physician overhead should be examined in future iterations of the model. For example, physicians may require additional equipment to deliver virtual visits as visit security requirements are mandated by the College of Physicians & Surgeons of Alberta (CPSA), Alberta Health, or through legislation.

Analyze Offset Funding

Model findings do not represent offset funding from sources such as primary care networks, alternative relationship plans, academic medicine and health services programs, or contracts with AHS to provide services out of hospital (e.g., non-hospital surgical facility fees). Further analysis may be required.

6. Overhead Measurement Policy

Background

The Alberta Medical Association and the Alberta Government have a long history of working collaboratively to measure the overhead associated with physicians delivering medical care. The following policy builds on several reports that have been produced over the years to guide the measurement of overhead in Alberta:

- ***Relative Value Guide Commission of Alberta Final Report 2001*** **("RVG Report")**
    - Commissioned by the AMA and Alberta Health and Wellness.
    - Conducted by a group of independent consultants with a supporting study of physician practice expenses conducted by Arthur Andersen Consulting.

- ***Physician Business Costs Study 2010*** **("PBCS Report")**
    - Commissioned by the AMA, Alberta Health and Wellness, and Alberta Health Services.
    - Conducted by PricewaterhouseCoopers Consulting.

- ***Physician Business Costs Model: Specification of Model Results for Allocation 2011*** **("PBCM Specification")**
    - Summary of the Physician Business Costs Model (PBCM) implementation developed by the AMA which was approved by the joint AMA, Alberta Health, and Alberta Health Services Physician Compensation Committee (PCC) as well as the AMA Board.

- ***Review and Evaluation of the Physician Business Costs Model 2015*** **("MNP Report")**
    - Commissioned by PCC.
    - Conducted by MNP Consulting.

- ***Overhead Review Study 2019*** **("Deloitte Report")**
    - Commissioned by PCC.
    - Conducted by Deloitte Consulting.

Principles of Practice Expense Recovery[1]

Five principles guide the methodology for establishing practice expense recovery fees:

- The framework for the recovery of overhead should not create economic incentives or disincentives around medical decision-making.
- The costs of providing a service will be separately determined from the professional component of the service.
- Overhead cost recovery will be based on the concept of the "reasonably efficient practice" – on an efficient service volume and the efficient use of inputs, including both capital and labor.
- Direct costing will be required where the costs are not homogenous over a set volume of services and where they are not included within the costs assigned to the reasonably efficient practice.
- Where the typical physician supports the cost of an office, many costs continue whether the physician is continuously on site or not and should be recoverable.

Model Practice Definition[2]

The model practice is defined as:

> **A modern, reasonably efficient electronic medical practice that reflects the typical space, personnel, equipment, and supplies a physician would require to deliver publicly insured medical care.**

The model practice approach is a bottom-up methodology for estimating physician practice costs which looks at the specific characteristics of different types of medical practices including space, staffing, equipment, and operating requirements. The model practice approach allows costs to be adjusted over time in response to changing economic circumstances or in response to changing practice structures or styles. The approach recognizes that cost results will not necessarily reflect the costs of any individual practitioner and significant cost variation could occur within sections. The approach also allows for policy-level discussions as to what should be included in a "reasonably efficient" practice.

[1] Based on discussion from the RVG Report, page 25-26.
[2] Based on discussion from the PBCS Report, page 4.

Principles of the Model Practice Approach[3]

Five principles guide the model practice approach:

- **Sources of practice expenses can be isolated and quantified**.
  Key cost drivers, such as specific equipment or staffing requirements, can be identified.
- **Changes in practice structures and styles can easily be identified.**
  The model can be updated to account for changing characteristics of office settings. For example, a move toward more advanced technology could be incorporated by updating the equipment characteristics and costs of the model.
- **Practice expenses can be updated on a regular basis.**
  Cost indices can be applied to the baseline characteristics of the model to update costs on an annual basis.
- **Section-specific characteristics can be appropriately reflected.**
  A series of section "modifiers" can be used to account for the unique characteristics of sections.
- **Geographic differences in practice expenses can be incorporated.**
  The model can account for differences in location sensitive costs, such as lease rates and wages, and these costs can be updated over time.

Model Practice Types[4]

A policy decision regarding efficient office size is required for the purposes of creating the model practice.

A small group practice of two to four full-time equivalent physicians is decided as a matter of policy to be an efficient practice size for community offices for all sections in all areas across the province. This reflects the most common office configuration in the province.

[3] Based on discussion from the PBCS Report, page 4.
[4] Based on discussion from the PBCM Specification, page 2.

Capturing Costs Related to Privately Paid Care

Only resources used for publicly insured services should be included in the overhead model. Section involvement is required to aid in validating this information.

Capturing Fixed versus Variable Costs

To the extent possible, the overhead model should consider separating costs into fixed or variable.

The PBCM did not explicitly separate costs into fixed or variable. The 2019 Deloitte Study attempted to model fixed and variable costs as this was seen as a desirable enhancement of the model.

Definition of Full-Time Equivalent

The AMA Section Allocation Equivalent (SAE) methodology will be used to define full-time equivalent (FTE) physicians in the overhead model. The SAE uses payments as a proxy for activity for each economic section.

The SAE measure was developed by the AMA in 2011 to provide a better measure of full-time equivalent physicians than is currently in use by the Canadian Institute for Health Information (CIHI). The AMA's measure utilizes a richer data source (annual claims file individual records) to account for claims billed per day as well as days worked per year. The measure better accounts for part-time workers in a section, as well as section members who work more than 209 days per year.

The PBCM Report measured costs per full-time equivalent (FTE) physician; however, the MNP Report[5] noted the PBCM does not explicitly define what constitutes an FTE physician. The income earned by physicians based on providing a certain level of patient services and the overhead costs incurred by physicians to provide that level of patient services should align.

[5] MNP Report, page 10.

Grouping Common Costs Across Model Practices

Methodologies for grouping costs across model practices should be considered.

Grouping overhead expenses reduces the model complexity, helps identify common expenses across sections, and helps to identify unique expenses.

Application of PBCM for Allocation[6]

The PCC specified that overhead estimates from the PBCM can be used for the allocation process. The PCC, or similar body, likely will need to review how the revised overhead model is applied for allocation.

Aggregating Model Results for Allocation[7]

Weights will be used for each model practice to aggregate overhead costs provincially for each section.

Approach to Updating Model Practice Costs[8]

Published cost indices will be used to adjust the baseline model practice cost over time. Indices should be used to update costs related to staffing, space, equipment, and operations. Cost indices can be updated on an annual basis.

Frequency of Updating Model Practice Characteristics[9]

Office characteristics associated with particular sections or model practices should be updated as required in response to significant shifts in practice styles, structures, and technology. A continuous process improvement approach should be used to track and prioritize areas of the model to focus development efforts. Sections could request an overhead review to AMACC as they note changes in resource needs. The AMACC would evaluate the merit of refreshing the model to incorporate changes. At minimum, model practice characteristics should be reviewed every five years.

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[6] Based on discussion from the PBCM Report, page 6.
[7] Based on discussion from the PBCM Report, page 3.
[8] Based on discussion from the PBCS Report, page 19.
[9] Based on discussion from the PBCS Report, page 19.

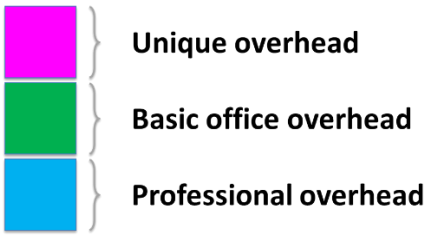
7. Overhead Measurement Approach

Overview

The approach section discusses the technical details and decisions made to implement the overhead measurement policies at a given point in time. The approach may change as factors which influence overhead change.

Grouping of Common Costs Across Model Practices (Layer Approach)

Three overhead layers have been identified to assist grouping common costs across model practices in the overhead model:



Layer 1: Professional overhead: costs that every physician must pay, irrespective of annual number of days worked, specialty, practice arrangement, payment method, or service volumes. These costs include licenses, membership dues, accounting and legal fees, billing costs, CME, CMPA costs, and home computer systems.

Layer 2: Basic office overhead: these are costs associated with operating a basic office such as reception, examination rooms, doctor's office, medical office assistants, storage, telephone system, and office computer systems.

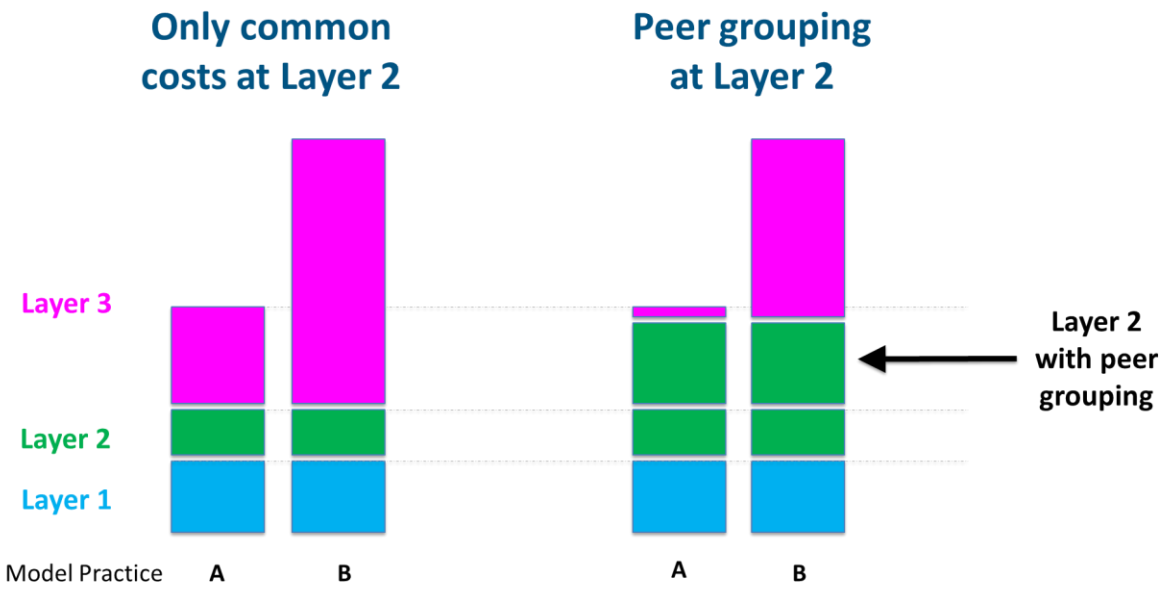
Layer 3: Costs specific to different service delivery: some requiring specialized technician staff, equipment, supplies, and/or space to provide insured medical services. These costs must be determined in some specific way that cannot be generalized across the profession. Some validation may be necessary to ensure that this type of micro fee-based costing yields reasonable macro-overhead estimates.

Personal or Professional Overhead (Layer 1)

Personal or professional overhead will apply to every physician based on headcount. These are true fixed costs and all physicians are paying these fees regardless of how much they work.

Peer Grouping Within Basic Office Layer (Layer 2)

Having a single layer which represents basic office overhead may at first appear to simplify the model; however, multiple basic office overhead layers may ultimately reduce the complexity of identifying unique overhead (Layer 3).



Number of Basic Offices in the Model (Layer 2)

Three basic office configurations are being considered at Layer 2:

- Community office that does not require equipment reprocessing.
- Community office that requires equipment reprocessing.
- Hospital or institutional clinical office.

The major tray modifier is not paid for all services that require reprocessing or sterilization. As a result, a preliminary list was developed that identifies procedures with explicit major tray fees as well as procedures with sterilized equipment but no paid tray modifiers.

In the model practice for a community office, it is assumed that below a certain threshold it is more economical to use disposable single-use equipment whereas above a certain threshold it would be justifiable to invest in reprocessing or sterilization equipment.

Procedures That Are Performed in a Community Clinic that Require Reprocessing or Sterilization Equipment

The following list of fee codes identifies procedures that require reprocessing or equipment sterilization equipment in a community clinic but do not pay major tray fees:

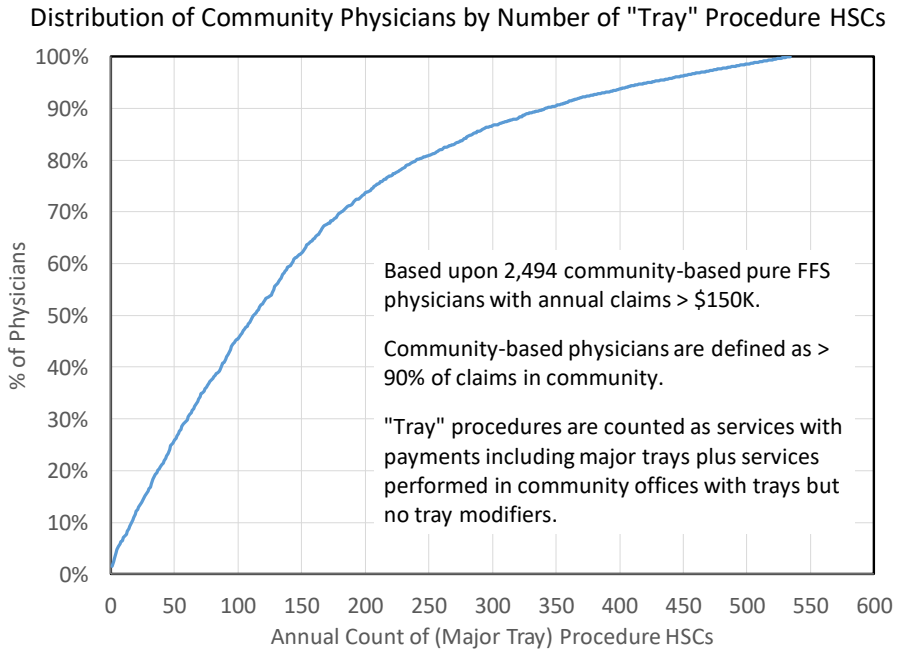
Fee code	Description
01.01B	Sinus endoscopy, technical
01.09	Other nonoperative bronchoscopy
01.12A	Functional endoscopic esophageal study
01.12B	Other nonoperative esophagoscopy, rigid
01.14	Other nonoperative gastroscopy Esophagogastroscopy
01.16B	Balloon (single or double) enteroscopy, rectal route
01.16C	Balloon (single or double) enteroscopy, oral route
01.22	Other nonoperative colonoscopy
01.22A	Other nonoperative colonoscopy for screening of high risk patients
01.22B	Other nonoperative colonoscopy for screening of moderate risk patients
01.22C	Other nonoperative colonoscopy for screening of average risk patients
01.34	Cystoscopy
12.12A	Removal of intraluminal foreign body from esophagus without incision via
12.12B	Removal of intraluminal foreign body from esophagus without incision via flexible esophagogastroscopy
12.23	Removal of intraluminal foreign body from vagina without incision
12.24	Removal of intraluminal foreign body from urethra without incision
13.59M	Injection of therapeutic substance for lower urinary tract dysfunction
13.59O	Injections of Botulinum A Toxin for the prophylaxis of chronic migraine headaches for eligible patients 18-65 years of age
13.99BA	Periodic Papanicolaou Smear for patients between the ages of 21 and 69

Fee code	Description
13.99BE	Pelvic examination using a speculum requiring swab(s) and/or sample(s)
13.99BD	Anal Papanicolaou Smear
16.99A	Epidural injection of steroids
18.29D	Sphenopalatine ganglion block
21.31B	Probing and irrigation of nasolacrimal duct for patients 18 years of age and under
21.69B	Lacerated canaliculi repair
30.81A	Biopsy of external ear, bunch biopsy
33.21B	Excision or destruction of lesion of nose, Dermoid cyst
76.0	Circumcision
92.70	Contrast arthrogram, shoulder
92.71	Contrast arthrogram, elbow
92.72	Contrast arthrogram, wrist
92.74	Contrast arthrogram, hip
92.75	Contrast arthrogram, knee
92.76	Contrast arthrogram, ankle
92.78A	Contrast arthrogram, temporomandibular joint
92.78B	Contrast arthrogram, Facet joint in spine
92.79C	Contrast arthrogram, unspecified site
97.82A	Percutaneous stereotactic core breast biopsy
98.81B	Biopsy of skin and subcutaneous tissue, punch biopsy

Defining When a Physician is Identified as Practicing in a Community Clinic and Providing Service that Requires Reprocessing or Sterilization Equipment

Using the above list of procedures and services that pay a major tray modifier, the cumulative distribution of community-based physicians performing tray procedures in community offices was created.

Based on the change in the slope of the distribution, a cut-point of 150 procedures per physician is used to define whether a community-based physician is practicing in a community office that requires reprocessing or equipment sterilization.



Office Requirements for the Hospital/Institutional Clinical Office

The basic clinical office within a hospital or institutional setting presents a unique case within the overhead model. Alberta Health has a variety of mechanisms for charging a physician overhead within a hospital or institutional setting.

Physicians that provide services to patients in a clinical office within a hospital, university, or AHS facility often face an overhead recovery rate or need to pay additional expenses for resources such as a receptionist.

In order to standardize the model practice, we are ignoring the overhead recovery rate and instead are including the cost of a single receptionist. Further validation of the basic hospital or institutional clinical office is required in consultation with a physician panel and AMACC. Sections paying higher costs can submit data for validation to AMACC for consideration.

Number of Unique Model Practices (Layer 3)

Once the model requirements are defined for a community office and hospital-based clinical office (Layer 2), sections will have the opportunity to identify any additional unique overhead costs (Layer 3) which they incur above those costs in Layer 2. Many sections will have no unique costs above those included in Layer 2.

A number of factors will be considered in determining if additional costs warrant creating a separate model practice. These factors may include the number of physicians who incur these unique costs and the magnitude of the unique costs. It is possible for a section to have multiple unique Layer 3 model practices.

For this iteration of the model, a unique model practice was included in the model if the Layer 3 practice represented approximately 15% of the section's physicians and the practice expenses were at least 15% above those defined in the Layer 2 basic office.

Section Overhead

Assignment to a Single Section

Physicians are assigned to an economic section based on the section skill code identified on their claims. Some physicians claim services from two or more sections in a year. All claims for these physicians are assigned to a single section based on the section with the physician's highest summed annual claims amount from fee-for-service claims plus the assessed value of shadow claims.

Mapping from Skill Code to Economic Section

Economic Section	Skill Code	Specialty
Anesthesiology	ANES	Anesthetist
Cardiovascular and Thoracic Surgery	CTSG	Cardiovascular and Thoracic
	CRSG	Cardiac Surgeon
Cardiology	CARD	Cardiology
	PEDC	Pediatric Cardiology
Critical Care Medicine	CRCM	Critical Care Medicine
Dermatology	DERM	Dermatology
Diagnostic Imaging	DIRD	Diagnostic Radiology
	NCMD	Nuclear Medicine
Emergency Medicine	EMSP	Emergency Medicine
	FTER	Full-Time Emergency Room
Endocrinology/Metabolism	E/M	Endocrinology/Metabolism

Economic Section	Skill Code	Specialty
Family Medicine	GP	General Practice
	GNMH	Generalists Rates for Mental Health Physicians
Gastroenterology	GAST	Gastroenterology
	PDGE	Pediatric Gastroenterology
Internal Medicine	INMD	Internal Medicine
	CLIM	Clinical Immunology and Allergy
	CMSP	Community Medicine Specialist
	HEM	Hematology
	MDON	Medical Oncology
	OCMD	Occupational Medicine Specialty
General Surgery	GNSG	General Surgery
	PDSG	Pediatric General Surgery
Infectious Diseases	IDIS	Infectious Diseases
Laboratory Medicine	PATH	General Pathology
	ANPA	Anatomical Pathology
	HEPA	Hematological Pathology
	MDBI	Medical Biochemistry
	MDMI	Medical Microbiology
	NUPA	Neuropathology
Nephrology	NEPH	Nephrology
	PEDN	Pediatric Nephrology
Neurology	NEUR	Neurology
	PDNR	Pediatric Neurology
Neurosurgery	NUSG	Neurosurgery
Obstetrics and Gynecology	OBGY	Obstetrics and Gynecology
Ophthalmology	OPHT	Ophthalmology
	OVAC	Oculo-Visual Assessment Certification
Orthopedic Surgery	ORTH	Orthopedic
Otolaryngology	OTOL	Otolaryngology
Pediatrics	PED	Pediatrics
	MDGN	Medical Genetics
	NPM	Neonatal Perinatal Medicine
Physical Medicine and Rehabilitation	PHMD	Physical Medicine and Rehabilitation
Plastic Surgery	PLAS	Plastic Surgery
Psychiatry	PSYC	Psychiatry
	SPMH	Specialist Rates for Mental Health Physicians
Respiratory Medicine	RSMD	Respiratory Medicine
Rheumatology	RHEU	Rheumatology
Thoracic Surgery	THOR	Thoracic Surgery

Economic Section	Skill Code	Specialty
Urology	UROL	Urology
Vascular Surgery	VSSG	Vascular Surgery

Assigning Overhead for Part-time and More Than Full-time Physicians

The model requires an annualized section-level estimate of practice overhead. This essentially is a sum of overhead estimates attributed to each physician. Issues arise when assigning overhead to part-time and more than full-time physicians. Variable costs account for a large proportion of overhead and, as such, annual physician workload is related to overhead. PCC's approved methodology for past allocations prorated annual overhead estimates for each physician by their SAE contribution. The SAE accounts for variable costs for part-time and more than full-time physicians.

Aggregation Methodology

Two measures are used in transforming estimated costs by layer in section overhead estimates: headcounts and SAEs.

- Layer 1 overhead is credited by the headcount. These costs are fixed and incur to a physician regardless of the amount of work performed in a year.
- Layers 2 and 3 overheads are credited by the SAE. Many of the costs in these layers are scalable by how much a physician works. Pure technical fees and off-hours premiums are removed from billings in quantifying SAE for overhead.

The source of the headcount and SAE information is the latest Alberta Health claims file. All physicians that submit claims and/or shadow bill claims are included in the headcounts.

In an ideal world, every health service code would have separate technical and professional fees and the entire model would be built using only the professional fees. An individual physician's measured SAE is influenced by the amount of overhead included in their annual billings. For this reason, for the purposes of weighting all Layer 2 and 3 model offices, the SAE is capped at one for each physician.

Data may lag for SAE contributions of ARP physicians as these data are only provided to the AMA for allocation. Each ARP physician is assigned to most recently available per physician ARP SAE contribution measure for their section.

For physicians with blended ARP and FFS billing, the SAE contribution is capped at one unless either the physician's FFS SAE or the average SAE contribution exceeds one, in which case regular SA formulae are applied.

Assignment to a Model Practice

Each physician is assigned to a single model practice based on additional analysis of claims file data. The following decision workflow is applied:

- A physician is assigned to a **Layer 3 model practice** if the physician provides at least 200 patient-days of section-specific Layer 3 services per year in the community (as defined by a list of health service codes). If the physician does not meet this condition, then advance to the next condition below.

- A physician is included in a **Layer 2 community office** if the physician bills at least 20% of the value of their claims or $100,000 in community facilities (excluding after-hour premiums). Further explanation is provided below under Defining a Community Facility on page 33.
    - A physician is assigned to a **Layer 2 community office with reprocessing** if the physician performs at least 150 procedures per year that require reprocessing equipment. This cut-point is explained above on page 28.
    - If the physician does not meet either of these conditions, then advance to the next condition below.

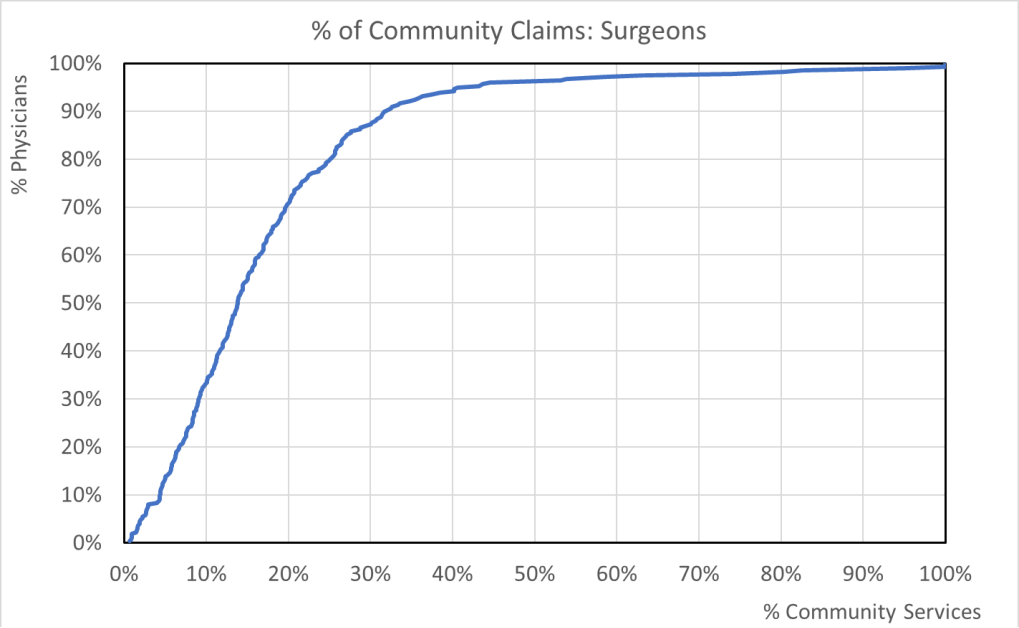
- By this point it is assumed only physicians with non-community offices remain. It is assumed that if a physician is in the economic section of Family Medicine, Anesthesiology, Diagnostic Imaging, Emergency Medicine, or Critical Care Medicine, then the physician is assigned only to Layer 1. If the physician does not meet this condition, then advance to the next condition below.

- At this point in the workflow, all remaining physicians would be assigned to the **Layer 2 AHS office**; however, this methodology is under review and in the interim all remaining physicians are assigned to the **Layer 2 basic community office**. It is unclear which AHS physicians are currently paying overhead and further analysis is required as explained in the Recommendations for Continued Enhancement section (page 16).

Defining a Community Facility

Community facilities are identified from the claims file based on the functional centre type field being either a physician office or a diagnostic and therapeutic centre and the institution number (with physician offices in AHS facilities removed). The cut-off of 20% is chosen to ensure that surgeons, delivering expensive surgeries in hospital while maintaining a community office, are recognized as community physicians.

Determining cut-off for inclusion in community office:



Includes 275 physicians in cardiovascular and thoracic surgery, general surgery, orthopedic surgery, plastic surgery, thoracic surgery, and vascular surgery with > $200K in annual claims, no shadow-billing, and >$5K in community procedure claims.

Financing Costs

PBCM included an administrative cost category for interest and bad debt; however, this cost was not explicitly linked to model characteristics.

Financing costs are explicitly modelled by assuming medical office equipment and interior office renovation or construction (i.e., leasehold improvements) are financed. This financing is modelled by amortizing purchase costs over the expected asset lifespans using an interest rate that adequately reflects the risk of undertaking these investments.

The interest rate for financing is based on chartered bank prime lending rate plus a 2% premium. This solution was chosen due to its simplicity to measure and update over time as well as being in line with rates offered through the Business

Development Bank of Canada. Further discussion can be found in the Layer 2 Appendix (page 76).

Equipment New Service Life

Many factors influence the service life of a particular piece of equipment, so no single "right" answer exists. Service life may vary because of intensity of use, patient safety considerations, risk of downtime, or emergence of new technology, to name a few considerations.

PBCM used a five-year (or on rare exceptions, shorter) service life for all equipment purchases. The revised model groups equipment into categories based on similar service life, refining the service life durations, and standardizing service life across sections where applicable. The complete service life table can be found in the Layer 2 Appendix (page 79).

Lease and Maintenance Rates

PBCM included a complex indexing of lease rates across the province in an attempt to capture regional variance. The OWG had concerns about the validity of this approach given how volatile lease rates have been depending on the economic circumstances when a lease was signed.

The revised model uses a single provincial lease rate which is inclusive of utility costs and janitorial costs. Annual maintenance costs are also accounted for as a separate accounting category.

Leasehold Improvement

Leasehold improvement refers to the cost of constructing or renovating the interior of an office. This may include making a space compliant with regulations from the CPSA (or potentially other regulatory bodies) at a new office space, as required as regulations change, or at some set refresh interval.

PBCM did not include any leasehold improvement costs. Three data sources were used to develop a model leasehold improvement rate:

- Data collected from physicians.
- Industry benchmark data.
- Data from an architectural firm which specializes in physician office construction and renovation.

Frequency of office refresh likely depends on patient volume, age of building, build quality, etc. as the Canada Revenue Agency has no restrictions on frequency. Leasehold incentives should also be taken into consideration. It is common to consider a leasehold incentive to be the same value as a leasehold

improvement. E.g., building management will make improvements for free to incent a lease contract or could offer rent reduction in exchange for the tenant to make leasehold improvements.

Offices	Gross Construction Costs $/ft²	Leasehold Incentive $/ft²	Net Construction Costs $/ft²
Basic office • Layer 2 community offices • Layer 3 Cardiology ECG/Holter/Stress • Layer 3: Dermatology: Dermatological Medical; Phototherapy • Layer 3: Family Medicine Patient Medical Home • Layer 3: Gastroenterology Fibroscan • Layer 3: Ophthalmology Retinal Surgery • Respiratory Medicine Pulmonary Function Testing	$130	$20	$110
HVAC upgrades for surgical procedures • Layer 3: Dermatology: Dermatological Surgery; Mohs • Layer 3: Otolaryngology: Endoscopy only; Endoscopy + Audiology	$170	$20	$150
Electrical upgrades/back up power • Layer 3: Cardiology ultrasound • Layer 3: Physical Medicine and Rehab: Interventional Physiatry	$200	$20	$180
Lead-lined walls and electrical upgrades • Layer 3: Cardiology: Nuclear • Layer 3: Diagnostic Imaging	$230	$20	$210

A detailed description of the leasehold improvement considerations can be found in the Layer 2 Appendix (page 67).

Staff Wages and Benefits

PBCM used Statistics Canada data on average provincial salaries by occupational category to estimate staff wages; however, physicians compete for staff with Alberta Health Services (AHS) and there are significant costs related to staff turnover if competitive wages and benefits are not offered.

The wage rates used in the model are based on those paid by AHS, if available. If AHS rates are not available, then Government of Alberta rates or other published rates would be used. Sections submitted the main two to four duties for staff and these duties are used to confirm the comparability of the positions in the model.

For staff benefits, PBCM used a general employee benefits rate of 10% of the wage bill based on typical payments by private industry in the province. The employee benefits rate does not include vacation or statutory holiday pay.

PBCM also calculated a supplemental amount for EI and CPP payments based on the wage bill and the annual maximum insurable benefits for each year. This model continues to use the PBCM approach.

Wage rates can be updated in the model on an annual basis. Further details on how wages and benefits were derived can be found in the Layer 2 Appendix (page 63).

Annualizing Staff Wages

PBCM calculated compensation for office staff using hourly wage rates. These are annualized using a formula that considers all weekdays in a year:

$X/hour * 7 hours / day * 5 days per week * 52 weeks / year

Paid vacation time and statutory holidays are required for permanent employees. These are not included in the model's benefits and instead, wages for these non-workdays are included in the annual count of paid days.

Staff may be required to be in the office when the physician is not present. This could apply to both days when the physician is working in hospitals or long-term care facilities and days when the physician is not working. A receptionist may be required to book and confirm appointments on all business days. Likewise, a nurse or clinical staff member may be required for timely responses to patient concerns. Some technical staff can provide testing to patients when the physician is out-of-office. Billing clerk services are required if the physician is working in the hospital. The need for technical staff, who require physician oversight to perform services is less clear.

The number of staff workdays may differ by office size. Larger groups have more flexibility in allocating staff time. In larger offices, staff can concentrate their

tasks toward in-office physicians on any given day and still be available to address patient needs of out-of-office physicians.

OWG recommends using the SAE approach to annualize staff wags. The SAE caps the physician's annual workload at 209 days. Staff workings days then would include: the SAE workday count of 209 days + 27 days for paid vacation and statutory holiday days for a total of 236 paid days per year. It is important to remember the model benefits rate does not include any vacation statutory holiday pay.

Staff Training

PBCM did not include an allowance for staff training costs. Investing in continuing education for staff is required in a modern medical office.

The model includes the following staff training expenses:

Staff Type	Training Expense
General staff	$300 per year (one local or online course)
Technologists	$4000 every three years = $1,333 per year (one national or international course every three years)
Managers	$1,500 (one executive course every year)

Geographic Considerations

Regional data will not be used in the general model due to the difficulties in obtaining some data and concerns about accuracy.

The model will be designed to allow loading of regional data so regional scenario analysis can be performed if needed.

Updating Model Practice Costs

The model practice approach allows for cost indices to be used to adjust the baseline model practice cost over time. Further work is required to identify applicable indices to update costs related to staffing, space, equipment, and operations.

Fixed and Variable Costs

Most overhead models including PBCM do not separate fixed and variable costs; however, utilization growth in certain sections led to PBCM derived overhead ratios falling substantially since model was built.

Extrapolation of variable overhead based on utilization grown appears to be a sound methodology for projecting costs beyond base year based on preliminary

analysis. Analysis was conducted to test adjusting by the number of claims, the number of calls, and the number of patients. OWG recommended the extrapolation use the number of patients.

The layer approach enables variable cost adjustment:

- Layer 1 costs are entirely fixed.
- Layer 2 costs encompass both fixed and variable cost components.
- Layer 3 costs are mostly variable.

Fixed costs represent expenditures incurred if a physician provides no services. These include medical insurance for all and rent for community-based physicians. Variable costs represent expenditures that increase as more services are performed. This includes staffing for community-based physicians. The level of services change annually so required overhead also fluctuates.

Equipment is more difficult: essentially a fixed cost over a given range of services but eventually two machines are required making it a variable cost.

Major Cost Categories and Costing Methodology

Four major cost categories will be used in the model calculations:

- Salaries and benefits expenses
- Office space expenses
- Administrative and operating expenses
- Capital annual amortization

The costing methodology depends on the cost category:

- Salaries and benefits expenses are calculated using the number of FTEs and rates per FTE.
- Office space expenses are calculated based on floor size and costs per square foot.
- Administrative and operating expenses are calculated using average expenditure data.
- Capital amortization is calculated using the number of pieces of equipment, replacement price, and service life.

Characteristics: Salaries and Benefits

Salaries and Benefits	Measure	Layer 1 Personal and Professional OH	Layer 2 Basic Office OH	Layer 3 Unique OH
Receptionist, Booking	FTEs	X	FTE Count 1	X
	Rate/FTE	X	AHS Wage Rate 1	X
Medical Assistants	FTEs	X	FTE Count 2	Additional FTEs 2
	Rate/FTE	X	AHS Wage Rate 2	AHS Wage Rate 2
Medical Office Assistants, Transcription	FTEs	X	FTE Count 3	Additional FTEs 3
	Rate/FTE	X	AHS Wage Rate 3	AHS Wage Rate 3
Office Manager	FTEs	X	FTE Count 4	Additional FTEs 4
	Rate/FTE	X	AHS Wage Rate 4	AHS Wage Rate 4
Nurses	FTEs	X	X	Additional FTEs 5
	Rate/FTE	X	X	AHS Wage Rate 5
IT Staff	FTEs	X	X	Additional FTEs 6
	Rate/FTE	X	X	AHS Wage Rate 6
Panel Management	FTEs	X	X	Additional FTEs 7
	Rate/FTE	X	X	AHS Wage Rate 7
Technicians 1	FTEs	X	X	Additional FTEs 8
	Rate/FTE	X	X	AHS Wage Rate 8
Technicians 2	FTEs	X	X	Additional FTEs 9
	Rate/FTE	X	X	AHS Wage Rate 9
Benefits	Rate/FTE	X	Benefit Rate	Benefit Rate
Salaries and Benefits Total	**$**	**$0**	**OH Salaries 1 $**	**OH Salaries 2 $**

Characteristics: Office Space

Office Space		Layer 1 Personal and Professional OH	Layer 2 Basic Office OH	Layer 3 Specialized Office OH
Office Size	Sq Feet	X	Sq Feet 1	Sq Feet 2
Lease Costs	Rate/Foot	X	Space Rate 1	Space Rate 1
Utility Costs	Rate/Foot	X	Space Rate 2A	Space Rate 2B
Janitorial Costs	Rate/Foot	X	Space Rate 3	Space Rate 3
Parking	TBD			
Leasehold Improvements	Rate/Foot	X	Space Rate 4A	Space Rate 4B
Office Space Total		**$0**	**OH Space Costs 1 $**	**OH Space Costs 2 $**

Lease Costs	
Layer 1	• None required.
Layer 2 **Layer 3**	• Office space size is collected and a provincial lease rate is applied. • There are many types of leases: some include staff and/or patient parking, some include property tax, some include janitorial, and some include some leasehold improvements.

Utility Costs	
Layer 1	• None required.
Layer 2 **Layer 3**	• Includes: heat, power, water. • Excludes: Internet, telephone, television (counted under Administrative and Operating Expenses).

Janitorial Costs	
Layer 1	• None required.
Layer 2 **Layer 3**	• Janitorial costs related to common areas of a shared building • Janitorial costs within an office. • Floor mat rental services. • Excludes: medical waste disposal as well as laundry which have separate categories under Administrative and Operating Expenses.

Parking	
Layer 1	• One physician stall based on the average cost of a reserved park-and-ride in Edmonton and Calgary.
Layer 2 **Layer 3**	• Include staff parking. • Exclude patient parking.

Leasehold Improvements and Building Maintenance	
Layer 1	• None required.
Layer 2 **Layer 3**	• Scale and scope determine whether an expense is classified as a leasehold improvement or maintenance. • A leasehold improvement is a capital expenditure which increases the value of an asset. • Maintenance is the routine upkeep required to maintain the asset in its original condition.

Leasehold Improvement	**Maintenance**
Paint whole office.	Painting one wall.
Replace all doors.	Replace one door.
Replace carpet in entire office.	Replacing a small piece of carpet.
For tax purposes, cannot be claimed in a single year; generally amortized over a period of time (generally the period of the lease, but can choose amortization schedule).	For tax purposes, generally can be claimed in a single year.

Characteristics: Administrative and Operating Expenses

Administrative/Operating Expenses		Layer 1 Personal and Professional OH	Layer 2 Basic Office OH	Layer 3 Specialized Office OH
CMPA Insurance	$	Cost 1	X	X
Membership/Dues	$	Cost 2	Cost 8	X
Professional Development/CME	$	Cost 3	Cost 9	X
Travel	$	Cost 4	X	X
Professional Services	$	Cost 5	Cost 10	X
CRA Allowed Home Office Cost	$	Cost 6	X	X
CRA Allowed Vehicle Cost	$	Cost 7	X	X
Telephone	$	x	Cost 11	X
Licensing	$	X	Cost 12	Cost 25
Office Supplies	$	X	Cost 13	X
Practitioner and Patient Relations	$	X	Cost 14	Cost 26
Staff Room	$	X	Cost 15	X
Medical Waste Disposal	$	X	Cost 16	Cost 27
Insurance	$	X	Cost 17	Cost 28
EMR	$	X	Cost 18	Cost 29
Interest, Bad Debts, Bank Charges	$	X	Cost 19	Cost 30
Laundry	$	X	Cost 20	Cost 31
Medical Supplies	$	X	Cost 21	Cost 32
Equipment Maintenance	$	X	Cost 22	Cost 33
Computer Maintenance	$	X	Cost 23	Cost 34
Other	$	X	Cost 24	Cost 35
Admin Expense Total	**$**	**OH Admin Costs 1 $**	**OH Admin Costs 2 $**	**OH Admin Costs 3 $**

Canadian Medical Protective Association (CMPA) Insurance	
Layer 1	• Currently evaluating the impact of changes made through the Physician Funding Framework.

Membership and Dues	
Layer 1	• For model practice discussion: OWG is developing.
Layer 2 **Layer 3**	• Does not include professional association dues for staff members, excluding casual staff.

Professional Development	
Layer 1	• Physician professional development and continuing medical education (CME). • **For model practice discussion**: OWG and a physician panel to develop guidance.
Layer 2 **Layer 3**	• Staff professional development and ongoing competency training.

Travel	
Layer 1	• All non-vehicle related travel costs such as hotels, bus, flights, etc., related to work or CME. • Vehicle related travel costs are captured in the CRA allowed vehicle cost category.

Professional Services	
Layer 1	• Professional services for an individual physician, including: accountant, bookkeeper, billing service, and lawyer.
Layer 2	• Document destruction service (shredding). • Document storage (note: may not be off-site; may be included as part of lease if stored on-site). • Professional services for the clinic, including: accountant, bookkeeper, and lawyer.

CRA Allowed Home Office Cost	
Layer 1	• Easily justifiable expenses: desk, computer, filing cabinet, monitor, printer, cell phone, land line, fax machine, Internet service. • OWG recommends excluding any proportion of physician space and associated costs as these are more difficult to justify.

CRA Allowed Vehicle Cost	
Layer 1	• Based on the number of km driven for work; can then apply the CRA mileage rate which in 2020 is $0.59/km for under 5000 km. This rate includes vehicle depreciation and fuel costs. • For CRA purposes, must keep a travel log to claim any vehicle cost allowance. • First trip of the day and last trip of the day do not count; driving to work and driving home is not deductible. Trips in between are deductible. Mainly considered for those with mixed practices that may have to travel between office and hospital several times per day.

Telephone and Internet	
Layer 1	• None → physician's personal cell phone is included in the CRA allowed home office category.
Layer 2	• Office telephone system: phones, VOIP infrastructure. • Excludes staff cell phones. • Includes office physical security monitoring services.
Layer 3	• Staff cell phones if require access after-hours (office manager role).

Licensing	
Layer 1	• None
Layer 2	• Business license • Office equipment licensing: license or rental agreement for copier, printer, etc.; often a base fee and per page fee. • Software licensing fees (excluding EMR related licensing). • Basic automated patient SMS reminder system. • College certification for medical equipment (can be per piece of equipment or per clinic depending on the certification, e.g., reprocessing).
Layer 3	• CPSA certification for medical equipment (can be per piece of equipment or per clinic depending on the certification, e.g., reprocessing). • Specialty licensing requirements such as radio isotope licensing fees.

Office Supplies	
Layer 1	• None
Layer 2	• Mailing: postage, courier • Printing: business cards, script pads, letterhead • Consumables: paper, copier ink

Practitioner and Patient Relations	
Layer 1	• None
Layer 2 **Layer 3**	• Represents "advertising and promotion" category. • Building signage. • Printing of patient education material, referral forms.

Staff Room	
Layer 1	• None
Layer 2	• Represents "meals and entertainment expense" category. • Staff room and physician lounge. • Appliances including fridge, microwave and coffee machine • Coffee, snacks, meals; including special events. • Patient waiting room coffee.

Medical Waste Disposal	
Layer 1	• None
Layer 2	• May be a big difference between the layer 2 office that performs procedures vs. layer 2 office that does not. • Sharps disposal. • Pharmaceutical disposal.
Layer 3	• Specialty collection and disposal such as radio dye.

Insurance	
Layer 1	• None → CMPA insurance has a separate category.
Layer 2 **Layer 3**	• Practice related insurance, including general liability for the group, cyber insurance, business interruption insurance, privacy/injury insurance. • Further data collection is required to inform category definition. • Excludes life insurance or staff insurance that is a staff benefit.

EMR	
Layer 1	• None
Layer 2	• EMR software licensing fees. • Hardware required for the EMR, servers on site. • Customization of EMR forms. • May be different modules (and added costs) required based on services provided.
Layer 3	• May be different modules (and added costs) required based on services provided.

Financing Costs and Bank Charges	
Layer 1	• None
Layer 2 **Layer 3**	• Financing costs are explicitly modelled by assuming medical office equipment and interior office renovation or construction (i.e., leasehold improvements) are financed. This financing is modelled by amortizing purchase costs over the expected asset lifespans using an interest rate that adequately reflects the risk of undertaking these investments.

Laundry	
Layer 1	• None
Layer 2 **Layer 3**	• Laundry service. • Staff uniforms required to perform job. • Robes for patients.

Medical Supplies	
Layer 1	• None
Layer 2	• Quality control / quality assurance on equipment. • **For model practice discussion:** develop an approximate annual cost which includes broad categories such as needles, gloves, etc.
Layer 3	• Specialized supplies such as radio isotopes. • Further data collection is required to inform category definition.

Equipment Maintenance	
Layer 1	• None
Layer 2 **Layer 3**	• Maintenance of equipment that is defined in the "Characteristics: Capital Annual Amortization" equipment lists.

Computer maintenance	
Layer 1	• None
Layer 2 **Layer 3**	• Maintenance of computers that are defined in the "Characteristics: Capital Annual Amortization" equipment lists.

Other	
Layer 1	• None
Layer 2 **Layer 3**	• Other administrative or operating expenses; no employee salary expenses; section to provide itemized list.

Characteristics: Capital Annual Amortization

Capital Annual Amortization	Equipment Type	Replacement Price	Service Life	Layer 1 Personal and Professional OH	Layer 2 Basic Office OH	Layer 3 Unique OH
Reception	List	List	List	X	Cost 1	X
Business Office	List	List	List	X	Cost 2	X
Nursing Area	List	List	List	X	Cost 3	X
Physician's Office	List	List	List	X	Cost 4	X
Conference Room / Staff Lounge	List	List	List	X	Cost 5	X
Examination Room	List	List	List	X	Cost 6	Cost 8
Infection Prevention and Control	List	List	List	X	Cost 7	Cost 9
Specialized Treatment Equipment	List	List	List	X	X	Cost 10
Capital Amortization Total				**$0**	**OH Equip Costs 1 $**	**OH EquipCosts 2 $**

Equipment Lists and Depreciation

Detailed equipment lists for the Layer 2 offices are included in the Layer 2 Appendix (page 106) as well as for each Layer 3 office (page 109).

Study Development Process

In 2019, the AMA Board tasked the Overhead Working Group (OWG) to assess and review the preliminary model office results developed by Deloitte, to gather information from Deloitte and from Sections, and to assess the usability of the Deloitte study. OWG members included:

OWG Members
Chair: Dr. Rick Johnston
Dr. Kathryn Andrusky (prior to January 2020)
Dr. Allan Bailey (January 2020 onward)
Dr. Rob Davies
Dr. Craig Hodgson
Dr. Jacqueline McCubbin
Dr. Gordon Searles
Dr. Brian Wirzba

After a careful review of the Deloitte study and an evaluation of possible alternative approaches, the OWG recommended the AMA proceed by updating and enhancing the 2010 Physician Business Costs Model (PBCM). OWG reviewed existing AMA overhead policy and developed new policy where gaps were identified.

OWG met a total of 10 times:

OWG Meeting Dates
April 24, 2019
May 8, 2019
September 3, 2019
October 1, 2019
October 29, 2019
December 10, 2019
January 15, 2020
September 1, 2020
November 18, 2020
January 5, 2021

A Physician Overhead Panel was formed with one representative from each economic section and four representatives from the section of family medicine. The Panel completed the following:

- Reviewed policy recommendations from OWG.
- Panel members collected characteristics and costs for Layers 1 and 2.
- Panel reviewed Layer 1 and 2 data which lead to creation of additional policy.
- Sections with Layer 3 collected data from their section with support from an external consultant.
- Layer 3 sections presented their office characteristics and costs to the panel for discussion.
- The Panel chair, external consultant, and AMA staff followed-up with questions raised by the panel to further refine section submissions.

Overhead Panel Membership included:

Economic Section	Representative
Anesthesiology	Dr. Scott Paterson
Cardiology	Dr. Stephen Tilley
Cardio & Thoracic Surgery	Dr. John Mullen
Critical Care Medicine	Dr. Clint Torok-Both
Dermatology	Dr. Gordon Searles
Diagnostic Imaging	Dr. Rob Davies
Emergency Medicine	Dr. Ryan Oland
Endocrinology/Metabolism	Dr. Doreen Rabi
Family Medicine: Urban Community	Dr. Allan Bailey
Family Medicine: Urban Hospitalist	Dr. Scott Beach
Family Medicine: Rural	Dr. Ed Aasman

Economic Section	Representative
Family Medicine: Additional	Dr. Craig Hodgson
General Surgery	Dr. Noah Switzer
Gastroenterology	Dr. Bertus Eksteen
Internal Medicine	Dr. Greg Hrynchyshyn
Infectious Diseases	Dr. Oscar Larios
Laboratory Medicine	Dr. Brinda Balachandra
Nephrology	Dr. John Bradley
Neurology	Dr. Scott Wilson
Neurosurgery	Dr. Andrew Nataraj
Obstetrics & Gynecology	Dr. Jacqueline McCubbin
Ophthalmology	Dr. Patrick Mitchell
Orthopedic Surgery	Dr. Andrei-Razvan Manolescu
Otolaryngology	Dr. Richard Liu
Pediatrics	Dr. Sidd Thakore
Physical Medicine & Rehabilitation	Dr. Raj Thiara
Plastic Surgery	Dr. James Wolfli
Psychiatry	Dr. Roger Rampling
Respiratory Medicine	Dr. Michael Roman
Rheumatology	Dr. Jason Soo
Thoracic Surgery	Dr. Azim Valji
Urology	Dr. Peter Metcalfe
Vascular Surgery	Dr. Robert Turnbull

Panel members were split into two groups to foster in-depth discussion in online meetings. Several rounds of panel meetings were held:

Rounds of Panel Meeting Dates
February 11 and 12, 2020
May 11 and 12, 2020
September 8 and 10, 2020
October 6 and 7, 2020
October 13 and 15, 2020
January 13 and 14, 2021

8. Layer 1 Overhead Details

Background

Layer 1 represents costs that all physicians have regardless of whether they practice in a hospital or community office, or whether they are paid by fee-for-service or an alternate payment system. In essence, these are the fixed costs of clinical practice – unaffected by service volumes or years of practice. Since these are fixed costs, these costs are considered for all physicians regardless of the amount they bill annually.

The list of Layer 1 items was generated by the OWG and reviewed by the Overhead Panel. Cost estimates and costing methodology were reviewed by OWG and the Overhead Panel before approval. Estimated overhead for 2019-20 is $31,725 per physician.

Layer 1: Estimated 2019-20 Overhead per Physician

Item	Annual Cost
CMPA Insurance	$1,000
Memberships/Dues	$7,834
Professional Development/CME	$5,134
Travel	$4,172
Professional Services	$6,797
Home Office Cost	$4,547
CRA Allowed Vehicle Cost	$1,391
Physician Parking	$851
Total Costs	**$31,725**

CMPA Insurance

Canadian Medical Protective Association Insurance overhead includes only the portion of CMPA Insurance attributable to physician out-of-pocket expenses.

For several years, each physician paid $1,000 in net fees. On February 20, 2020, Alberta Health announced:

> *Effective March 31, 2020, funding for this program will be reduced. This program is administered by the Alberta Medical Association and reimburses eligible physicians for costs incurred for medical liability insurance premiums set by the Canadian Medical Protection Association. Alberta is moving to a model with a fixed funding amount, which will move Alberta's medical liability payment in the direction of peer comparators.*

At this point, the go-forward amount of CMPA that will be carried by physicians remains unknown. The current Layer 1 overhead estimate remains at $1,000 annually. Revisions will be required if the government carries through on its announcement to reduce its portion of CMPA funding.

CMPA insurance is the only portion of Layer 1 overhead that has the potential to vary by section.

Professional Development/CME

The Professional Development/CME overhead category reflects the costs of physician professional development and continuing medical education (CME), except for travel costs related to ongoing education. On February 20, 2020, Alberta Health announced changes to the Continuing Medical Education Program. This program was intended to help physicians offset a portion of these costs.

> *Effective March 31, 2020, this program will be eliminated. This program currently reimburses eligible physicians for costs incurred for the maintenance and enhancement of knowledge, skills, and competency. This will bring Alberta in line with Ontario.*

PBCM data indexed to 2019 show CME expenses of $5,134 annually. OWG and Panel members reviewed the data and found the PBCM estimate to be acceptable.

Travel

The Travel overhead category reflects all non-vehicle related travel costs such as hotels, flights, etc., related to work or CME. It does not include vehicle related local travel costs which are captured in the CRA allowed vehicle cost category.

PBCM data indexed to 2019 show net expenses of $4,172 annually for travel. OWG and Panel members reviewed the data and found the PBCM estimate to be acceptable.

Memberships/Dues

The Membership/Dues overhead category includes enrolment costs for professional associations. The Overhead Panel agreed to use typical costs for professional association memberships including:

- AMA
- Zone Medical Staff Associations
- CMA
- CPSA
- Royal College / CFPC
- One provincial section membership
- Four other memberships (e.g., national specialty, sub-section, American, international)

Memberships vary in price depending on what is included and where the membership is. As shown in the table below, current cost data were collected for a variety of memberships. For the other membership category, fees were collected for approximately 40 Canadian and 40 international associations. The 70th percentile in terms of price among these collected memberships is used as a representative estimate of typical costs for the other membership categories as the objective is to include a reasonably expected cost for each type of membership. In many instances, the estimated fee is only slightly above the median cost. In some instances, the estimated fee is below the average cost as some memberships are priced significantly higher than others.

Before the 2020-21 fiscal year, a portion of CME benefits could be used toward Royal College or CFPC dues. This benefit program expired on March 31, 2020. The value of this potential reduction is set to $0.

Typical Costs for Professional Association Memberships per Physician

Membership Category	2019-20 Cost	Notes
AMA + CMA	$2,237.40	Does not include Section fees
Zone Medical Staff Associations	$150.00	
CPSA	$2,150.00	
Royal College / CFPC	$1,036.50	Average of CFPC $1,113.00, RCPSC $960.00
Provincial Section	$250.00	Cost of several sections including emergency, general psychiatry, general surgery
National Specialty	$501.00	70th percentile of fees, price between Canadian Neurosurgical Society=$480 and Canadian Association of Emergency Physicians=$515
Sub-section	$472.50	70th percentile of fees, price between Canadian Association of General Surgeons=$450 and Canadian Association for Interventional Radiology=$495
American	$808.40	70th percentile of fees, price between American Association of Neurological Surgeons=$766 and American College of Emergency Physicians=$819
International	$228.00	70th percentile of fees, price between International Association for Hospice and Palliative Care=$220 and International Society of Surgery=$240
Gross Total Costs	**$7,833.80**	
CME Benefits	$0.00	CME benefits used to reimburse some physicians for CFPC and RCPSC membership dues specific to fees charged for physicians to maintain their CME credits. This program was discontinued on March 31, 2020.
Net Total Costs	**$7,833.80**	

Professional Services

The Professional Services overhead category reflects costs for professional services including accountants, bookkeepers, lawyers, and billing services, related to the physician and their practice.

PBCM data indexed to 2019 show net expenses of $6,797 annually for professional services. The Overhead Panel did not debate this number, but suggested annual professional services costs were in the neighborhood of $7,000.

Home Office Cost

The Home Office Cost overhead category reflects easily justifiable expenses such as computer/monitor, desk, cell phone, filing cabinet, printer, land line, fax machine, and Internet service. OWG recommends excluding any proportion of physician space and associated costs as these are more difficult to justify.

The Overhead Panel recommended that the list of home office expenses include a pager service and subscriptions to Office 365 and Adobe Acrobat. A pager service is considered essential as most hospital physicians carry pagers as cell phone coverage can be spotty in large concrete buildings. Additionally, most community physicians have after-hours call answering services. The table below shows the derivation of annual estimated costs of $4,547 annually based on the notion of a reasonable efficient office.

Assumed Costs for Physician's Home Office

Cost Items	2019-20 Cost	Notes
Desk/chair	$60.00	Estimated purchase price $600 depreciated over ten years
Filing cabinet / bookcase / lighting	$60.00	Estimated purchase price $600 depreciated over ten years
Computer / monitor	$320.00	Estimated purchase price $1,600 depreciated over five years
Office 365 subscription	$114.45	Microsoft web site price for home office
Adobe Acrobat Subscription	$245.54	Suggested by panel: $14.99 US per month ($1.30 exchange rate)
McAfee Subscription	$36.74	McAfee web site price for individual device + GST
Printer / scanner	$50.00	Estimated purchase price $250 depreciated over five years
Fax machine	$40.00	Estimated purchase price $200 depreciated over five years
Cell phone	$1,500.00	Estimate $125/month
Land line	$600.00	Estimate $50/month
Call answering service / pager	$480.00	Estimate $40/month
Internet service	$840.00	Estimate $70/month
Supplies (e.g., paper, toner, mailing)	$200.00	Estimate
Net Total Costs	**$4,546.73**	

CRA Allowed Vehicle Cost

Physicians generally require personal vehicles for business uses such as daily travel between the hospital and office, provision of on-call services, and performing tasks associated with practice management. The CRA allows $0.59/km in 2020 for the first 5,000 km driven and $0.53/km for all additional distances. These allowances cover the cost of vehicle depreciation and fuel. Distances travelled driving to and home from work are not eligible for the allowances unless the physician is performing a call-back service. Other practice related trips are eligible. Some physicians with mixed practices may have to travel between office and hospital several times per day. A travel log is required to claim any vehicle cost allowance.

PBCM data indexed to 2019 show an annual cost of $1,581. This equates to 2,680 km/year per physician or approximately 12.8 km per day assuming 209 days worked per year.

The Overhead Panel suggested investigating quantifying annual distance traveled using claims data. Results prepared by AMA staff are presented below. The analysis is based on whether multiple sites appear in each physician's daily billings and whether call-backs or home visits are billed. Several assumptions and disclaimers accompany this analysis:

- The analysis is based on each physician's billing data for health service codes, facility numbers, functional centre types, and fee code modifiers.
- Travel is assumed to be required on each service date that has services performed in two separate facilities or a community and a hospital functional centre.
- The AMA only has facility numbers for institutional facilities. It has no means to identify days where services are performed in two community offices.
- The AMA can identify days in which services are performed in both an office and a hospital, but it does not have the means to identify days in which the physician makes several trips between the office and the hospital.
- The AMA cannot identify the distance between the office and the hospital. Some community offices in rural areas are located adjacent to the hospital.
- Health service codes were used to identify the number of call-backs and home visits.
- Fee code modifiers were used to identify telehealth services. These services frequently record the facility as the patient (and not the physician) location. As such, all telehealth services are removed.

Two types of days are identified: days with services at two or more sites and the physician billed no call-backs; and days with services at two or more sites and the physician billed call-backs. In addition, two types of services that require travel are identified; the number of call-backs; and the number of home visits. Counts of each of these day and service types are shown in the table below. Each of these counts needs to be scaled by an estimate of km/day or km/service. Initial assumptions for these scalars are also included in the table.

A monthly credit is also given for physicians to travel for practice management related activities such as visits to their accountants, lawyers, financial institutions, and suppliers. This requires estimates of the number of applicable physicians and the applicable number of kms per month. There are several sources of physician counts. None is fully appropriate:

- The AMA currently has approximately 14,000 members. Many of these physicians do not perform clinical services (e.g., they are retired). As such, this count overestimates the number for which Physician Services Budget (PSB) payments cover overhead.
- According to CIHI's National Physician Database, there were 9,628 physicians that performed clinical services in Alberta in 2017-18. Physicians reflected in this count perform PSB services, but the data are dated.
- According to CIHI's Scott's Medical Database, there were 10,806 physicians in Alberta in 2017-18. Some of these physicians do not perform clinical services.
- According to the College of Physicians and Surgeons of Alberta, there were 10,155 fully registered physicians on the general registrar in Alberta in Q4 2019. Some of these physicians may be retired.

Derivation of Estimated CRA Allowed Vehicle Costs per Physician

Measure		Scaling		Annual Total kms	CRA $
Number of physicians days with services at two or more sites (no call-backs):	408,282	Assumed km / day:	30	12,248,460	$7,226,591
Number of physicians days with services at two or more sites (call-backs):	58,191	Assumed km / day:	40	2,327,640	$1,373,308
Number of billed call-backs:	237,896	Assumed km / callback:	20	4,757,920	$2,807,173
Number of billed home visits:	32,341	Assumed km / home visit:	20	646,820	$381,624
Number of physicians:	10,000	Assumed monthly allotment of km:	30	3,600,000	$2,124,000
Total				23,580,840	$13,912,696
				Estimated CRA Allowed Vehicle Expenses Per Physician:	**$1,391.27**
				Estimated km Per Physician:	**2,358.1**

Staff developed assumptions for the number of kms and the number of physicians. These assumptions appear with yellow shading in the above table. An initial estimate of 10,000 physicians was chosen for the table reflecting that physician supply has increased since 2017-18. The resulting assumptions show an annual per physician CRA Allowed Vehicle Cost overhead of $1,391, slightly lower than the indexed PBCM estimates. This estimate translates into 2,358 annual kms or 11.3 km/day per physician based on a 209-day work year. OWG and Panel members reviewed the data and found the derived annual costs of $1,391 to be acceptable.

Physician Parking

Parking costs are valid Layer 1 expenses. Parking costs vary significantly across the province. Monthly costs are high in downtown Edmonton and Calgary but can be negligible in rural areas or at non-tertiary hospitals. Furthermore, there are a wide range of payment arrangements in between.

As a readily observable and mid-priced option, OWG and the Panel considered the average cost for a reserved Park and Ride stall in Edmonton and Calgary. In Edmonton, the cost for a reserved Park & Ride stall is $50 per month (plus GST). Reserved parking spots in Park and Ride lots cost $85 per month plus GST in Calgary. The annualized average cost of these two options is $850.50. OWG and Panel members reviewed the data and found the average Park and Ride estimate to be acceptable.

9. Layer 2 Overhead Details

Background

Layer 2 represents physician costs associated with providing clinical services in a basic office. There are five general categories of costs incurred by physicians in Layer 2: general professional expenses that are associated with being a physician, i.e., Layer 1 expenses; staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Three types of offices are considered relevant for Layer 2: AHS office and community offices with and without equipment sterilization. The amount of cost incurred by a physician is related to their activity level. As such, Layer 2 costs need to be scaled by the physician activity level of FTE contribution.

The costs incurred in each office type are based largely on the overhead policy assumptions. All assumptions and results were reviewed by the OWG and the Overhead Panel. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

The estimated Layer 2 basic model offices costs for April 1, 2019 to March 31, 2020 are as follows:

Cost Category	Office in Hospital or Institution	Community Office without Reprocessing	Community Office with Reprocessing
Layer 1 Costs	$31,725	$31,725	$31,725
Staff	$27,748	$94,079	$105,178
Office Space	-	$46,298	$51,326
Administration	-	$34,652	$36,151
Capital	-	$7,452	$8,640
Total per full-time model office Physician	**$59,474**	**$214,206**	**$233,022**

Layer 2 Data Sources

Layer 2 data come from a variety of data sources. The main source is a small survey developed by the OWG and validated by the Panel. The Layer 2 survey is shown in Addendum 1 (page 89). Panel members were asked to identify small-sized clinics within their sections with basic offices that had agreed to respond to the survey. Approximately 35 clinics were provided as a source for the survey. Some clinics regrettably withdrew from the survey due to unanticipated challenges with provincial government payment reforms and the COVID-19 pandemic.

The Layer 2 data collection template was distributed to the identified clinics on March 5, 2020. In total, 18 clinics responded. Some responding clinics are larger

than the target of a small-sized office and some provide unique services that are outside the scope of a basic office.

Efforts were concentrated on describing the resources required for a small-sized office. Several statistical techniques were required to infer estimates of typical resource requirements for a model office. The data analysis process and derivation of results are provided in detail in Addendum 2 (page 92).

These survey data were combined with expert opinion, results from previous Alberta overhead studies, and published information in deriving the results.

Layer 1 Costs

All physicians have Layer 1 costs as identified in the Layer 1 Appendix (page 52). The Layer 1 estimate of $31,725 per physician needs to be added to the office specific costs in Layer 2 to derive Layer 2 physician overheads.

Staffing Costs

Staffing costs are calculated based on the number of employees and the costs per employee of wages and benefits. The number of employees was established based on detailed analysis and stakeholder engagement. Policy was developed to standardize wages and benefits across model practices such that costs are reflective of the Alberta labor marker and are consistent and comparable across sections and model Layers.

Employee Counts: AHS Office

The basic clinical office within a hospital or institutional setting presents a unique case within the overhead model. Alberta Health Services has a variety of mechanisms to charge a physician overhead within a hospital or institutional setting. Physicians that provide services to patients in a clinical office within a hospital, university, or AHS facility, often face an overhead recovery rate or need to pay additional expenses for resources such as a receptionist.

The AHS model practice is standardized by ignoring the overhead recovery rate and instead including the cost of a single receptionist. Many AHS physicians told the Overhead Chair that AHS does not tend to pay for sufficient staffing and they supplement their staffing by covering the cost for a part-time receptionist.

Employee Counts: Community Offices

Employee counts for the basic community office were derived from the Layer 2 survey analysis. Details of the analysis are laid out in Addendum 2 of this Appendix (page 92). In summary, staffing requirements in each clinic were standardized to a 40-hour work week. The data were then analyzed to estimate the number of FTEs required (for each staff type) in a four-physician office. Staff requirements per physician were then assumed to be 25% of the total office requirements. In total, it was found that each physician FTE requires 1.5 staff FTEs. Addendum 2 shows that this is a close representation of the raw survey data.

Although the survey analysis is based on a 40-hour work week, there is flexibility in the overhead model to set the weekly number of hours per FTE. The base model estimate of 1.5 staff per FTE does not change if model users set a different hours assumption.

Incremental physician counts associated with reprocessing of medical equipment were obtained by consulting with physician stakeholders and tours of reprocessing facilities. The small community office with sterilization has an addition 0.2 medical office assistant FTEs who are dedicated to the reprocessing room.

Layer 2: Estimated Staff FTEs by Office and Staff Type

Staff Types	AHS Office: FTEs	Community Office without Reprocessing	Community Office with Reprocessing
Reception/booking	0.5	0.4	0.4
Admin/transcriptions	0.0	0.1	0.1
MOA	0.0	0.6	0.8
RN + LPN	0.0	0.2	0.2
Clinic Manager	0.0	0.2	0.2
Total Staffing Costs	**0.5**	**1.5**	**1.7**

Wages

Layer 2 and 3 templates asked clinics and Sections to identify the quantity of each type of staff, but not the wage rates for those staff. The omission of wage questions was deliberate; clinics tend to compensate their staff at different rates. Overhead policy says that wage rates used in the model practice will be based on those paid by AHS, if available. This approach ensures that payments for each type of staff across Sections and between Layers are consistent. For certain staffing types, AHS wages are not generally available; Government of Alberta or other published pay schedules were employed in these instances.

Wage rates/salary scales from AHS collective agreements are the primary source of salary information. Management are not covered by collective agreements and Government of Alberta pay bands were referenced.

Major Sources for Salary Information by Type of Staff

Type of Staff	Collective Agreement or Other Source
Clinic Support Staff (including medical office assistants, receptionists, transcriptionists, etc.)	AHS – Alberta Union of Provincial Employees (General Support Services)
Administrative Staff	AHS – Alberta Union of Provincial Employees (General Support Services)
Licensed Practical Nurses	AHS – Alberta Union of Provincial Employees (Auxiliary Nursing)
Registered Nurses	AHS – United Nurses of Alberta
Technical Staff (including medical radiation technologists, sonographers, etc.)	AHS – Health Sciences Association of Alberta
Managers	Government of Alberta – Management pay bands (non-unionized)

The main two to four duties reported in template information are used to confirm the comparability of the positions. Wage information from the Government of Alberta is used for staff that do not have a published, comparable AHS wage scale. Where information is not available from either AHS or the Government of Alberta, industry standards are identified. Management pay scales are collected from the Government of Alberta Management Official Pay Plans. Band 1 – Manager information is used for Managers/Assistant Managers. Sections such as radiology have several management layers. Band 2 – Senior Manager information is used for Directors, and Band 3 – Executive Manager I information is used for the Senior Executive Team.

For Administration categories that combine multiple positions, information from Alberta ALIS is used to determine a rate for the whole category.

Each collective agreement wage scale has a range associated with it. To establish the wage, the mid-point of the scale is selected. For scales that have an even number of wage steps, the higher of the two middle steps is selected. Only data for the minimum and maximum amounts are available for GOA Management Pay Plans so the average of the two is used.

Some positions have multiple position levels of associated wage scales (for example, Sonographer I, Sonographer II, Sonographer III). In these cases, the mid-point of the middle level is used. For positions with an even number of levels, the lower of the middle two levels is used. Some Sections specified one or two levels associated with a position. In these cases, only the submitted levels are considered. Addendum 3 (page 103) contains 2019-20 minimum and midrange pay rates for each staffing position identified in Layers 2 and 3.

Staff Types	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception / booking	$22.56 /hour	$25.34 /hour
Admin / transcription	$27.28 /hour	$30.67 /hour
MOA	$22.56 /hour	$25.34 /hour
RN + LPN	$31.66 /hour	$36.74 /hour
Clinic Manager	$2568 / bi-weekly	$3345 / bi-weekly

Using the model 40-hour work week and the methodology for annualizing days worked (page 36), the annual staff expenses are as follows:

Staff Types	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception / booking	$42,593	$47,842
Admin / transcription	$51,505	$57,905
MOA	$42,593	$47,842
RN + LPN	$59,765	$69,365
Clinic Manager	$60,612	$78,937

Benefits

Benefits encompass employer-paid programs such as health and disability insurance, retirement savings, Canada Pension Plan, and Employment Insurance. These payments also need to be included in overhead.

Several sources of information were explored in setting the benefit rate. Many union plans offer company pension plans that are not applicable to small physician offices. These benefit rates are not considered relevant.

The Physician Business Costs Model incorporates a two-pronged approach. First, general employee benefits are set at 10% of the wage bill based on typical payments by private industry in the province. Second, a supplemental amount is calculated for EI and CPP payments based on the wage bill and the annual maximum insurable benefits for each year. In 2009, this supplemental amount was 6.5%. MNP revisited this approach as it generated the radiology, ophthalmology, and retina models in 2005. The general benefits rate remained at 10% but the supplemental EI and CPP amounts fell slightly to 6%.

It is recommended that the PBCM and updated MNP approach continue to be used for the physician overhead model. Initially the benefit rate will be set at 16% but once all wages are approved, the supplemental CPP and EI amount should be recalculated and any adjustments should be incorporated into the model.

Cost Types	Office in Hospital or Institution	Community Office without Reprocessing	Community Office with Reprocessing
Reception /booking	$27,748	$22,199	$22,199
Admin/transcription	$0	$6,717	$6,717
MOA	$0	$33,298	$44,397
RN + LPN	$0	$13,552	$13,552
Clinic Manager	$0	$18,313	$18,313
Total Costs	**$27,748**	**$94,079**	**$105,178**

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 2 survey results were used to estimate the size of a Layer 2 office. Layer 3 template information provides the office footprint for sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space. This paper explores background information and proposes rates for leasehold improvement costs, lease rates (inclusive of utilities and janitorial expenses), and maintenance costs.

Office Footprint

Office space requirements are also based on a four-FTE physician office. The model office requirement for Layer 2 is estimated to be 890 square feet per FTE physician.

The survey asked about janitorial expenses for shared spaces and private areas. Eight of the 18 clinics have janitorial costs covered in their leases. The remaining clinics reported annual combined janitorial expenditures of between $1.50 and $10.30 per square foot. Six of the clinic's annual janitorial expenditures are between $4.28 and $5.67 per square foot. It is recommended that janitorial expenses be included in the lease rates.

Information on building maintenance and leasehold improvements was collected in the survey. Four clinics reported building maintenance expenses totaling $46K and three clinics reported leasehold improvements totaling $658K. Several clinics revealed that these types of expenditures are included in the lease. These types of expenses are typically episodic. Therefore, it is recommended that the reported expenditures be divided by the total amount of FTE physicians in the survey (that did not report expenditures were included in the lease) in deriving model

office costs. This results in a model office outlay of $460 per FTE physician for building maintenance and $6,400 per FTE physician for leasehold improvements.

The survey also asked about staff and patient parking spots paid for by the clinic. Ten of the 18 clinics reported that they paid for their staff parking. Most of these reported staff parking spot counts that match (or nearly match) the number of staff FTEs. Four of the clinics reported that they pay for patient parking. Information is not available on whether these parking spots are included in the leasing arrangement or if the clinics are in rural areas. The Panel recommended including staff parking in the model but not patient parking.

Leasehold Improvement

Leasehold improvement costs are the building-specific costs encountered in setting up an office and refreshing an office. It is important to remember that leasehold improvements apply only to the interior of the office space (e.g., leasehold improvement does not apply to the construction of exterior walls/roof etc., of an office building. The construction of the building itself is captured in the lease rate).

Leasehold Improvement: Industry Benchmark Data

A 2018 study by Chicago-based Jones Lang LaSalle LLP, a commercial property services company, looked at building conversion rates for several North American markets, including Calgary. The study found that Calgary is in the upper end of North American cities in terms of conversion costs, perhaps due to labor scarcity at the time. The study also noted that the selection of materials and craftsmanship typically impact the overall price more than adding interior walls.

JLL claimed that the cost of converting a pre-built strip mall or office building location (in Toronto, Calgary, and Vancouver) into a general office ranged from $133 to $157 per square foot (this included basic cubicle tables) based on 2017 data. It is implied that costs would be slightly lower elsewhere in Canada/Alberta. The article also discussed tenant improvements allowances (TIAs) — "the portion of the upgrades landlords are willing to commit to provide to entice tenants to sign a lease". In Calgary, JLL reported these to be about $32 per square foot, perhaps reflective of the increasing glut of commercial space at the time. This adjustment would make the net cost in Calgary between $101 and $125 per square foot.

Leasehold Improvement: Physician Survey Data

The Layer 2 survey collected a limited amount of information on leasehold improvements. Three clinics reported improvements totaling $658K, about $6,400 per FTE physician annually. The reported cost of converting space (mostly in Edmonton) is about $105 per square foot. This measure is likely to undercount actual expenditures as some physicians do not amortize their leasehold spending.

Several sections have unique features that would increase leasehold improvement costs, adding to the overall price per square foot. Some examples include:

- Premium ventilation systems are required for certain equipment re-processing.
- Precision air conditioning systems are required for certain diagnostic tests.
- Electrical upgrades and back-up generators are required for certain in-office surgeries.
- Lead-lined walls are required for rooms with high radiation.

Leasehold Improvement: Information from Architectural Firm

Based on direction from OWG, staff met with an architectural firm which specializes in physician office construction and renovation. The following represents a summary of the information provided by the architect.

Construction costs do not vary significantly between high and low periods of economic activity. It takes approximately 18 months for a project from design, to permits, to construction. Material costs do not vary in most downturns and most labor is fixed cost (a limited amount of labor costs are responsive to market). There is better access to reputable builders in downturns, so projects can be built quicker (but seldom significantly cheaper).

New tenant interior construction typically cost less than renovations. In a renovation, the need to maintain patient access is paramount. This leads to off-hours construction (premium charged) and work being done as a series of mini projects. Timelines tends to be extended so costs rise. Building codes frequently have changed at the time of the renovation (e.g., door sizes, electrical, lead-lining in walls). There is always a question of what can be salvaged and reused and what needs to be demolished. Flooring, painting, minor cosmetics tend to cost $40-$50 per square foot in a renovation (with no changes to lighting or cabling).

Costs in Edmonton are 8% to 10% below Calgary. Availability of workers and demand for construction are drivers. Edmonton may be close to provincial average.

Construction costs do vary based on the size of the office; however, every project has fixed costs. Large projects have economies of scale as these fixed costs can be spread over larger areas. A space needs to be 25,000 to 50,000 square feet before the cost savings become significant. Data collected from physicians were from a mix of large and small offices. As it is averages, published estimates may underpredict small office costs.

A range of per square foot construction costs exists between basic offices and highly specialized offices. The number of modalities and the trickiness of the build add to cost. For example, cardiology often requires lead-lined walls in waiting areas. An air filtration system on the third floor of a five-storey building could be very challenging and expensive. Some basic estimates:

- $110 to $150 per square foot for a standard build (construction, no extras)
- $165 to $250 per square foot for specialized offices
- $165 to $175 per square foot for offices with ventilation for reprocessing
- $200 per square foot for ultrasound offices
- $250+ per square foot for offices with nuclear medicine

There are many soft costs included in the fees, e.g., building permits and redevelopment fees. These can run as high as $23K for some clinics. The survey data collected from physicians supports these variations and the model will include a tiered leasehold improvement amount.

Leasehold improvement estimates generally include anything that is "bolted down" in the office. If it is not bolted down, it is outside of the cost. Sinks are included. The main reception desk and data cabling are typically included. Most contracts are a mix; things that cannot be bought off the shelf are included (e.g., some storage cabinets). Office furnishing is typically a different contract.

Tennant improvement allowances (TIA; also called leasehold incentives) vary widely by the health of the local economy. In 2020, $40 per square foot is a reasonable allowance. Some are going even further with the commercial real estate glut in Calgary. A few years ago, TIAs were not available in Calgary. Contracts are longer term in nature, so not everyone can take advantage of the opportune time in the business cycle. At the same time, an average of $0 is not realistic.

A proper tendering process can have a significant effect on the price (10% - 25% off the bottom line). Typically, three to five vendors should be approached. A registered architect understands and monitors the costs. Architect fees are typically 12-14% of construction costs. Architects also prevent headaches like signing a lease in a non-medical zone (a year to get a site rezoned is typical).

Higher-quality finishes (in terms of durability and environmental sustainability) are important, especially on paths of travel. These finishes typically do increase costs substantially, but they extend the life of the building (e.g., metal instead of wood door frames).

Edmonton requires all medical facilities to comply with CSA requirement Z317.2 (Special requirements for heating, ventilation, and air-conditioning (HVAC) systems in health care facilities). This is required even on renovation projects. This standard could add $100K to the cost of an upgrade. Calgary does not require this at non-overnight facilities. The requirement is in relation to CPSA rules for Non-Hospital Surgical Facility General Standards. Z317.2 governs the minimum number of air exchanges per hour in operating rooms (20) and emergency and other treatment areas (12).

Leasehold Improvement: Recommendation

The following recommendations are made for inclusion of leasehold improvement costs in the model:

- Ignore the business cycle for construction costs.
- No cost differences between an initial build and renewal at the 10-year horizon.
- Treat Edmonton as representative of the provincial average cost. Note: this was common practice with PBCM usage (Edmonton suburban was assumed to be at the provincial average).
- No allowance needed for economics of scale. The model is designed around a two-four physician office and economies of scale are only realized at larger office sizes.
- Include an average tenant improvement allowance of $20 per square foot as representative of a longer-term average.
- Use a 10-year time horizon to depreciate leasehold improvement expenses.

Based on recommendations from OWG and the Panel, the follow rates will be applied:

Offices	Gross Construction Costs $/ft²	Leasehold Incentive $/ft²	Net Construction Costs $/ft²
Basic office • Layer 2 community offices • Layer 3 Cardiology ECG/Holter/Stress • Layer 3: Dermatology: Dermatological Medical; Phototherapy • Layer 3: Family Medicine Patient Medical Home • Layer 3: Gastroenterology Fibroscan • Layer 3: Ophthalmology Retinal Surgery • Respiratory Medicine Pulmonary Function Testing	$130	$20	$110
HVAC upgrades for surgical procedures • Layer 3: Dermatology: Dermatological Surgery; Mohs • Layer 3: Otolaryngology: Endoscopy only; Endoscopy + Audiology	$170	$20	$150
Electrical upgrades/back up power • Layer 3: Cardiology ultrasound • Layer 3: Physical Medicine and Rehab: Interventional Physiatry	$200	$20	$180
Lead-lined walls and electrical upgrades • Layer 3: Cardiology: Nuclear • Layer 3: Diagnostic Imaging	$230	$20	$210

Most costs reflect the midpoint suggested by the architectural firm except:

- PMR pain: these offices require single upgrades for fluoroscopy. Costs are assumed to be similar to ultrasound.
- DIRD and CARD nuclear both have nuclear medicine. It is suggested that this brings the costs to $250 per square foot. However, several DIRD facilities do not offer nuclear medicine. As such, an average of $250 per square foot would be high. CARD nuclear offices provide several non-nuclear services so substantial portions of the office are non-nuclear. Costs are aligned to the assumed DIRD costs.

Lease Rates

PBCM lease rate and utility rate data collected in 2009 were extrapolated to the latest year using inflation indices. The extrapolation method is considered adequate for utility rates but lacking for lease rates. The PBCM model uses the consumer price indices for owner-occupied housing and utilities to extrapolate 2009 costs. There is a substantial difference in the market factors for commercial lease space and the costs of home ownership. It is worth noting that inflation indices for lease rates are not generally available in Canada. Businesses and consumers also face different inflationary pressures for utilities as their purchase mix differs. Again, an inflation index for business utility costs is not available in Canada. The latest PBCM data show 2017 lease rates of $20.89 per square foot and utility rates of $13.23 per square foot ($34.12 combined).

Deloitte collected new lease and utility data in their survey. There is a large variation in these costs within community office types (clusters) and among sections. Lease rates range between approximately $30 and $34 per square foot and utility rates range between $2 and $7 per square foot (with the majority around $6 per square foot).

The Layer 2 survey asked about janitorial expenses for shared spaces and private areas. Eight of the 18 responding clinics have janitorial costs covered in their leases. The remaining clinics reported annual combined janitorial expenditures of between $1.50 and $10.30 per square foot. Six of the clinic's annual janitorial expenditures are between $4.28 and $5.67 per square foot.

OWG and the Overhead Panel recommended that a single lease rate be developed that is inclusive of utility and janitorial expenses. The Deloitte data are more recent than the PBCM data. They suggest costs of $32 per square foot for leasing and $6 per square foot for utilities. The janitorial expenses are approximately $5 per square foot, however, only half of the responding offices had expenses. The recommended per square foot inclusive lease rates is $32 (for leasing) + $6 (for utilities) + $2.50 (for janitorial) = $40.50.

Maintenance Rates

Information on building maintenance improvements was collected in the Layer 2 survey. Four clinics reported building maintenance expenses totaling $46K. Several clinics revealed that maintenance expenditures were included in their lease costs.

Maintenance expenses are typically episodic, so survey results depended on where clinics were at in their maintenance cycles. To even out this variation, discussion occurred on deriving costs using the reported expenditures divided by the total amount of FTE physicians in the survey (excluding those that reported maintenance expenditures were included in the lease). This results in a model office outlay of $460 per FTE physician for building maintenance, which is equivalent to an expenditure of $0.52 per square foot.

Administrative Costs

Background

Administrative and operational cost requirements per physician FTE are derived from the estimated costs of a four-FTE physician office.

Item	Cost
Telephone/Internet services	$2,000
Licensing	$2,154
Clinical insurance	$1,200
Practitioner and patient relations	$200
Storage of old charts	$0
Document destruction	$100
Office supplies	$2,600
Other supplies	$1,100
Medical supplies	$4,300
Medical waste disposal	$200
EMR and medically necessary software	$7,000
Equipment maintenance	$1,600
Office professional services	$1,304
Computer maintenance	$3,900
Laundry services	$300
Staff training costs	$900
Staff parking	$1,701
Financing costs	$4,094

This total does not include costs for staff training and financing which use general rules to estimate costs. Staff training costs are estimated based on training allowances per class of employees (management, technicians, and

others). Financing costs are determined based upon the expected purchase price and service live of the office's equipment and leasehold improvements.

The survey asked about staff cell phones paid for by the clinic. Three clinics reported paying for one employee cell phone. One clinic reported paying for employee cell phones. No other clinic reported that the clinic pays for staff cell phones.

Licensing

The model office approach was applied to estimate licensing costs. Licenses were included for basic office services such as a business license, college licensing, photocopier, office software, and basic patient reminder system.

A basic automated text message patient reminder service has been included in the model. The model office definition is for a modern, electronic, and reasonably efficient office. Automated reminders are modern, electronic, and reasonably efficient. Several types of patient reminder systems exist:

- Basic one-way text or phone notification where a message is sent to a patient. A survey of the major EMR vendors indicated a cost of $0.07 per message.
- Interactive systems where the patient can respond to the text message or phone message to indicate he/she is able to attend the appointment. One family medicine clinic in the survey indicated that they pay for a reminder system that costs $0.35 per reminder (included in Patient Medical Home template).

Whether an office invests in an automated reminder system might depend on the size of the office. For a four-person office with two receptionists and about 160 reminder calls/day, it might not make sense to invest in the software. There may be dedicated time for receptionists and/or MOAs to make these calls. For a 10-physician office with team/allied appointments, automated systems may be necessary.

Information was collected on whether EMRs include automated patient reminder systems. Healthquest EMR offers the service for $0.07 per message with a call, text or email (patient's choice). All of TELUS' EMRs (Med Access, Wolf, PS Suite) offer automated reminders at various service levels and prices. QHR offers two services, one where patients are prompted to respond and one where only a courtesy reminder is sent (no patient feedback).

The basic patient reminder system was priced into the model at $0.07 per message for a per physician cost of $585.20 (or $2,153.70 for the entire Layer 2 office's licensing costs).

Licensing cost characteristics are as follows:

Item	Cost	Basic Layer 2 Assumptions	Annual Cost per Clinic	Annual Cost Physician
Business License	$0		$0.00	$0.00
Photocopier	$277.50/month	One per clinic	$3,330.00	$832.50
Antivirus	$32/computer/year	20 computers per office	$640.00	$160.00
Microsoft Office Business Standard	$16/user/month	Eight staff and four physicians	$2,304.00	$576.00
College Licensing	$0		$0.00	$0.00
			Sub Total	**$1,568.50**
Automated reminder calls	$0.35 / reminder	40 patients per physician per day over 209 days		$2,926.00
			Total	**$4,494.50**

Staff Parking

Parking costs are valid Layer 1 expenses. Parking costs vary significantly across the province. Monthly costs are high in downtown Edmonton and Calgary but can be negligible in rural areas or at non-tertiary hospitals. Furthermore, there are a wide range of payment arrangements in between.

As a readily observable and mid-priced option, OWG and the Panel considered the average cost for a reserved Park and Ride stall in Edmonton and Calgary. In Edmonton, the cost for a reserved Park & Ride stall is $50 per month (plus GST). Reserved parking spots in Park and Ride lots cost $85 per month plus GST in Calgary. The annualized average cost of these two options is $850.50. OWG and Panel members reviewed the data and found the average Park and Ride estimate to be acceptable.

Staff Training

PBCM did not include an allowance for staff training costs. Investing in continuing education for staff is required in a modern medical office.

The model including the following staff training expenses in the model:

Staff Type	Annual Training Expense
General staff	$300 per year (one local or online course)
Technologists	$4,000 every three years = $1333 per year (one national or international course every 3 years)
Managers	$1,500 (one executive course every year)

Financing Costs

Financing costs of medical office equipment and office construction (leasehold improvements) will be modelled by "amortizing" purchase costs over expected lifespans using a discount rate that adequately reflects the risk of undertaking these investments. The following lays out some potential considerations when selecting such interest rates:

- Some physicians have suggested that an overhead model (and perhaps the Income Equity Initiative itself) should include a "return on capital" component to recognize the substantial investments that some physicians must make in order to practice in their specialty area. Perhaps a better way to recognize this is to identify an interest rate for capital purchases that fully captures the risk associated with these investments.
- One potential way to recognize such risk is by looking at leasing rates. The AMA follows this approach with office space, as it is simpler to measure lease rates than to look at building purchases, depreciation, appreciation, mortgage rates, etc.
- It is not always possible or practical to gather lease rates for various pieces of medical equipment, so financing costs will be calculated as capital costs amortized over their expected lifespan using a typical formula for payment of a loan, where:

$$A = P\frac{r(1+r)^n}{(1+r)^n - 1}$$

Where A=Annual payment on the loan

P=the initial loan principal (upfront cost of the equipment purchased)

r=annual interest rate paid on the loan

n=period of the load based its expected life

The AMA has identified three interest rate options for amortizing overhead costs:

Option 1 – Set interest rate based on increases in the TSX total returns index

The AMA's Training and Career Length study established an interest rate for investments in medical education (+ foregone earnings) that pay back over the course of a physician's career. The benchmark chosen for this study was the long term returns in the TSX Total Returns index, which accounts for increase in stock prices plus the value of dividends payments of companies in the Toronto Stock Exchange (TSX) index. It is possible to use the same rate for the overhead study.

Advantages

- Consistency – roughly follows the same approach used by the Training and Career Length Study (opportunity cost of capital), though nominal interest rates should be used for overhead capital costs (the Training and Career Length study used inflation-adjusted rates to recognize that physicians' earnings will increase with inflation over the 25+ year course of their career).

Disadvantages

- Does not necessarily match the depreciation/usable life of the equipment or office space.
- The risk of defaulting on a capital purchase may be very different from the risks associated with investment in medical training. If for some reason, a physician is unable to practice medicine (e.g., due to death, disability, etc.) they lose the returns from their training investment, potentially losing income that would have been earned all the way up to retirement age. In comparison, defaulting on a collateralized loan pays the bank at least some portion of the collateral (e.g., equipment is seized and potentially resold).

Option 2–Set interest rate based on typical interest rates for medical equipment leases to physicians with high-quality credit scores, using only the equipment purchased as collateral on the loan.

This is analogous to a car lease, whereby the car is used as collateral and few other assets are typically pledged as security (perhaps a relatively small deposit,

first lease payment, etc.). The leasing company owns the car and, if a person defaults on payments, the company will typically repossess the car and sell it or re-lease it to recoup some, or all, of its losses.

In discussion with *Minerva Leasing* - a medical equipment financing company headquartered in Edmonton and active in Western Canada, over the past 40 years - interest rates behind their lease arrangements are approximately 8.5% per year. These are predicated on the physician having a good credit history. No personal guarantees are necessary, and no deposits/prepayments are required. The equipment is purchased by *Minerva* at rates negotiated between the physician and the equipment vendor (*Minerva* takes no markup). As with other business leases, there are certain tax advantages that can make this option attractive to physicians.

This option should be considered an upper bound, as it represents a relatively small lender who provides customized leases for physicians/clinics.

Advantages

- Captures all risk of capital equipment purchases (except perhaps the risk of a poor credit rating in the event of default).

Disadvantage

- More difficult to gather, may require a periodic survey of lenders to refresh rates.
- Would cover only medical equipment costs/risks and not construction costs.
- Also captures overhead costs of leasing company who puts together these customized payment arrangements.

Option 3 (Recommended) - Set interest rate based on Chartered bank prime lending rate plus premium (e.g., "prime rate plus 2%")

Major banks in Canada typically each set a prime lending rate, which represents a benchmark for setting their other interest rates (e.g., rates on consumer loans, mortgages, etc.). Their prime rate often represents the rate they will charge their most creditworthy large corporate customers.

The Bank of Canada reports daily on the average prime rate of the six Canadian chartered banks (National Bank, BMO, Scotiabank, TD, Royal Bank and CIBC). The average prime rate currently sits at 2.45% (November 13, 2020).

A simple rule could be used to tie medical equipment financing interest rates to the prime rate (e.g., "Chartered bank prime rate plus 2%").

Advantages

- Simple to measure and update over time with changes in prime rates.

Disadvantages

- Prime rates may vary significantly over time and might not reflect interest rates physicians are paying on existing loans for capital purchases. If this option is chosen, the AMACC may want to average interest rates over a set period of time (e.g. past year) and/or set a regular cycle for future updates.
- The premium amount over prime (e.g., +2%) may be controversial.
- If set too low, premium amount over the prime rate may not fully capture the risk associated with the investment. To obtain a rate closer to prime, a physician may have to put up additional collateral (beyond the equipment itself) in the form of other business or personal assets, thereby taking on some of the risk themselves.

Equipment Costs

Introduction

There are two drivers for annual capital depreciation outlays: capital resource prices and the period (number of years) the expenditures are depreciated over.

For Layers 1 and 2, prices of commonly used equipment and furniture were collected from national on-line suppliers (Staples, Best Buy, Surgo Surgical Supply). For Layer 3, sections were asked to input their purchase prices for each piece of required equipment. The average submitted price will be applied for Layer 3 equipment that is used in multiple sections. Average per square foot construction costs were also derived for basic offices and offices with enhanced electrical, HVAC and lead-lined walls.

This paper focusses on considerations for developing policy decisions related to new service life thresholds for furniture and equipment and other capital outlays (e.g., office construction). Several options are evaluated, and a detailed proposal is developed based on the recommended option.

New Service Life

The question of when to replace a personal vehicle is one that most people can relate to. Several factors play into this decision, including:

- How many hours per day do I spend in the car and on how many days per week?
- What is the price (or lease rate) of a replacement vehicle and what is my old car worth?
- What new features are available and how will they affect the quality and safety of my drive?
- Is my current vehicle breaking down and generating costly repairs?
- Are there times when my vehicle is in the shop and unavailable?
- Is my income potentially impacted if my car is not available immediately?
- Is a new car a reasonable purchase given my financial position and budget?
- Have my friends and associates replaced their vehicles and stated positive impacts?

Every person approaches these questions with a different set of circumstances and their individual preferences. To some, newer optional features are important; others focus only on standard builds. Some do not mind a high proportion of their monthly budget spent on automobiles; others prefer to keep driving an older, fully paid car. Personal variation in these decisions means that there is no simple response to the question of what a car's new service life is (which can be stated in more common language as how long does a new car last?). Some trade in their vehicles annually but others drive their cars for a decade or more.

The car replacement analogy discussed above parallels physician considerations when deciding about replacing a piece of medical or office equipment.

- Is the equipment used intensively or seldomly?
- Is it a big contributor to revenue?
- Is patient or staff safety improved with newer models?
- Does replacement equipment generate improved output (e.g., higher-quality images to improve diagnoses)?
- Does staff productivity improve?
- Can the physician afford it?
- Have section colleagues told the physician about improved outcomes?

Like car buyers, all physicians approach these questions with different levels of importance. Some physicians may replace equipment relatively quickly compared to their peers (especially if that equipment is used intensively). Other physicians will have equipment that is several years older than their colleagues. As such, "new service life" is not precisely measurable. By its nature, it needs to be a policy decision based on sound assumptions.

In the Layer 3 templates, the AMA collected section data including new service life estimates for equipment required to provide unique services. Two sections, Diagnostic Radiology and Respiratory Medicine, had multiple submitters. Their templates reveal that there is significant variance in the number of years equipment is used.

- Nine groups submitted templates from radiology. There was a range in stated expected service life for most equipment including ranges of five to ten years for lead aprons and ten to 15 years for nuclear imaging cameras.
- Six physicians submitted templates from respiratory medicine. The reported expected new service life for pulmonary function testing body boxes ranged from five to 15 years.

New Service Life: Model Office Approach

A backbone of the overhead study is the concept of a model office which is defined as a modern, reasonably efficient electronic medical practice that reflects the typical space, personnel, equipment, and supplies a physician would require to deliver publicly insured medical care. The approach recognizes that cost results will not necessarily reflect the costs of any individual practitioner and significant cost variation could occur within sections. The approach also allows for policy-level discussions as to what should be included in a "reasonably efficient" practice. The definition's emphasis on typical equipment is relevant for developing a new service life policy.

The resultant estimate should not be an incredibly short service life in which rapid equipment turnover push annual depreciation costs higher than most physicians pay. At the other extreme, equipment should be replaced before intensive use may lead to high repair costs and frequent outages. Equipment salvage values are not included in the model. Salvage values could be significant for late model equipment but become minimal after extended periods. These factors must be considered in evaluating new service life options.

New Service Life: Options

Three options are considered: using section submitted estimates for new service life; pooling capital outlays and developing a new service life for each pool; and having a single new service life applicable to all capital spending. These options are assessed below:

Option	Strengths	Limitations	Comments
1. Section submitted new service life	• Uses readily available data	• Not aligned with model office concept • High and low outliers are not removed	
2. New service life for each type of capital outlay	• Aligns most closely to model office concept • Relatively simple • Removes outliers from section submissions • Can set new service life sufficiently long such that equipment is replaced prior to it generating costly repairs and after salvage values are expected to become insignificant	• Assumption based • Potential loss of accuracy but this can be minimized by grouping capital outlays by expected service life	• A range of options is available, for example, medical equipment could be grouped by use, service life expectation, or into a single class

Option	Strengths	Limitations	Comments
3. Single new service life assumed for all capital outlays	• Simplest approach	• Not accurate – lead walls that would be expected to last 15+ years would be depreciated over same horizon as medical scopes which may not last three years • The simplification would lead to inequity. Sections with relatively longer-life infrastructure would be relatively overcompensated	

OWG recommended the following:

- Develop new service life options that depend on the type of equipment.
- Standardize new service life for equipment that is used by several sections.
- Medical equipment should not be depreciated for any longer than 10 years as annual repairs could become costly at this point and lack of available parts may cause lengthy outages.
- The new service life for computers should be set at three years as equipment replacement is usually required at this time.
- The new service life for leasehold improvements should be set at 10 years. This is the same assumption that the Physician Compensation Committee adopted for the Individual Fee Review.

Option 2 in which a new service type is applied to a pool of capital outlays aligns most closely to the model office concept. In addition, this is likely an accurate method if expected service life is used as a tool to assign capital expenditures into pools. Most importantly, option 2 aligns to OWG's direction.

New Service Life: Recommended Option

Two factors, the type of capital outlay and the expected service life of the capital outlay, need to be incorporated for the new service life to align fully with OWG recommendations.

After reviewing the equipment data in the submitted templates, staff recommend that the new service life policy include five types of capital outlays: medical equipment; IT equipment, general office equipment; furniture; and office construction.

Three categories of medical equipment are recommended based on the expected new service life: limited (two years); medium (five years); and extended (10 years). Two categories of IT equipment are also recommended: computers (three years) and other IT investments, for examples servers and high-resolution monitors (six years). The types of capital outlays do not require subcategories based on new service life.

It is recommended that new service life be set at five years for general office equipment and 10 years for furniture and construction expenses such as the office build and leasehold improvements. It is important to note that the actual service life of specific items within a capital outlay type are not always homogeneous. The furniture category contains items such as patient chairs that have a shorter expected service life than staff desks. These items can be grouped together because the expenditure totals are relatively minor compared to other cost items and the service life of the category represents an average: patient chairs would typically not last 10 years but staff desks would typically last for more than 10 years.

The new service life categorization is as follows:

Type of Capital Outlay	Expected New Service Life (years)	Examples of Capital Outlays
Medical equipment – limited life	Two	• Endoscopes • Electric cautery • Fetal doptone
Medical equipment – medium life	Five	• Exam chairs, procedure tables, exam lights • Audio testing equipment, tympanometers • Blood pressure equipment • ECG and Holter equipment • Fibroscan • General examination equipment – otoscopes/ ophthalmoscopes, stethoscopes, scales, sphygmomanometers, speculums • Oxygen/nitrogen equipment • Spirometry equipment • Surgical equipment • Ultrasound equipment • Visual equipment – most testing equipment, YAG lasers
Medical equipment – extended life	10	• Stretchers, wheelchairs • BMD equipment • ECG equipment and treadmills • EMG equipment • Fluoroscopy equipment • Mammography equipment • Microscopes • Nuclear medicine equipment/cameras • PFT body boxes • Phototherapy equipment • Sterilization equipment/autoclaves • Visual equipment – lenses, slip lamps, tonometers • X-ray equipment • Radiation monitoring and protective equipment

Type of Capital Outlay	Expected New Service Life (years)	Examples of Capital Outlays
IT equipment – computers	Three	• Computer equipment
IT equipment – other	Five	• Server, router, backup equipment • High-resolution monitors
General office equipment	Five	• Printers, copiers, fax machines • Shredders • Dictation equipment • Fridge, microwave • Sanitization dispenser
Office furniture	10	• Chairs • Desks • Cabinets
Office construction	10	• Office build, sinks • Leasehold improvements, lead-lined walls, electrical upgrades, HVAC equipment

Equipment Recommendations

Equipment is necessary to operating a medical practice. Medical offices cannot function without staff workstations and computers as well as specialized medical equipment for diagnostics and procedures. This paper looks at developing equipment requirements and pricing based on model office assumptions. Annual estimates for capital depreciation are included in Appendix 106.

Several steps (shown below) were required to develop equipment lists and cost estimates. Results are available in Addendum 4 (page 106).

1. Layer 2 assumptions for the number of staff and patient examination rooms were retrieved. These assumptions underlie office requirements for the number of staff chairs, workstations, computers, patient examination tables, and basic medical equipment (sharps containers, thermometers, otoscopes/ophthalmoscopes, sphygmomanometers). The four-physician office is assumed to have eight staff members who provide six FTEs of service and eight patient examination room). An additional staff member is required if the office reprocesses medical equipment.
2. Equipment requirements are considered by room. Six room types are included for the basic Layer 2 office: reception area, business office, nursing area, patient examination room, physician's office, and conference room/staff lounge area. Although some minor medical equipment is included in the patient examination room, additional medical equipment is required for a model office. As such, an additional equipment type is added for medical equipment. Finally, the reprocessing suite also contains equipment requirements for equipment sterilization and support staff.
3. Equipment requirements from the Physician Business Costs Model (2009) were mapped to each equipment category. These requirements were modified based on information presented at the Overhead Working Group and Overhead Panel meetings.
4. The generated equipment lists were reviewed by the Section President, Family Medicine (Dr. Craig Hodgson) and the AMACC Co-Chair from Family Medicine (Dr. Steve Chambers). Lists were revised if medical equipment was no longer typical for family practice offices or had emerged over the past decade as a standard of care (e.g., portable ultrasound). After this review, the "assumed number of equipment units for a four-physician office" were (draft) finalized.
5. Current pricing for the equipment list was obtained using internet price searches. The default pricing sources are Staples for office equipment

and Surgo for medical equipment. Some items are not available from the default providers and specialized searches were conducted. AMA Information Services provided additional information to cost an office network including on-site storage and security. All prices are inclusive of tax and were rounded to nearest $10.

6. New service life for each item was retrieved using the new service life policy.
7. The number of equipment units, price, and new service life were reviewed by OWG. Suggested changes were incorporated into the lists.

Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life).

Addendum 1: Layer 2 Survey

Alberta Medical Association Overhead Study
Basic Office Overhead Survey

Thank you for completing this Basic Office Overhead Survey. This survey seeks to gather information on your overhead costs surrounding staffing, office space costs, administration costs, and equipment. Data on physician's personal and professional overhead, and specialized overhead will be captured in a different part of the model.

Please enter your answers into the ***blue*** *cells. You can skip any question where the information is not readily available. Please contact Jennifer at jennifer@kwanconsulting.ca or 780-278-5926 if you have questions about any part of this survey.*

Please return this survey to jennifer@kwanconsulting.ca by ***Friday, March 18****.*

Section 1: Office Size

1. How many physicians work in this office?

Number of physicians?	
Total FTEs?	

2. How many physicians work in this office at one time?

Typically?	
Maximum?	

Section 2: Staffing

3. How many regular business hours (hours for patient visits) is the office typically open per week?

Number of hours per week?	

4. How many hours per week is a staff FTE in your clinic?

Number of hours per week?	

5. How many FTEs of each position do you have in the office (funded by the office)? What are their main duties?

Position	2-4 Main Duties	FTEs
Receptionist/Booking		
Medical Office Assistant (clinical)		
Administrative Assistant/Transcription		
Clinic Manager		
Licensed Practical Nurse		
Registered Nurse		
Other *(please describe)* :		

Section 3: Office Space Costs

6. How many square feet is your office?

Total square feet?	

7. How many patient examination rooms are in the office?

Total number of exam rooms?	

Based on your financial statements (preferably audited from your last full fiscal year):

8. If <u>not</u> included in your lease, what is the <u>annual</u> cost of:

Janitorial Services for common areas if you share a building?	
Janitorial Services for private office areas (excluding laundry and medical waste disposal)?	
Building Maintenance?	
Leasehold Improvements, as reported to the Canada Revenue Agency	
What does this include?	
If it is $0 this year, was it $0 last year?	

9. How many parking spots does the office cover for staff (included in the lease or paid for, not paid in any part by staff)?

Number of staff parking spots?	

10. How many free parking spots for patients does the office have included in the lease or paid for

Number of patient parking spots?

Section 4: Administrative and Operating Costs

Based on your financial statements (preferably audited from your last full fiscal year):

11. What is the annual cost of:

Telephone/internet services (excluding physician cell phones and call answering services)?	
How many staff (non-physician) cell phones are paid for by the	
Licensing (business licence, office equipment rental (copiers, printers), software (excluding EMR), College certification for	
Practitioner and patient relations (building signage, patient education materials, referral forms)?	
Storage of old charts?	
Document destruction?	
Office supplies (including postage, courier fees)?	
Other supplies (including staffroom, etc.)?	
Medical waste disposal (including sharps and pharmaceuticals)?	
Clinic insurance (practice related insurance: general liability, property, cyber, business interruption, privacy/injury, etc.)? *Please do not include physicians' or other practitioners' practice insurance.*	
EMR and other medically necessary software (including customization of forms)?	
Interest, bad debts, bank charges?	
Laundry services?	
Medical supplies?	
Equipment maintenance?	
Computer maintenance?	
Other significant (>$1000) budget lines (not including equipment, computers, staffing, lease, or utility costs)?	
Budget line	
Budget line	
Budget line	

Section 5: Infection Prevention and Control Costs

If your office does not do reprocessing, please skip the next two questions.

12. What is the approximate number of sterilized packages produced each day?

Sterilized packages per day?	

13. How many staff hours are dedicated to reprocessing each week?

Staff hours per week?	

Addendum 2: Layer 2 Survey Results

Summary of Respondents

The 18 respondents represent eight sections (see Table 1) and 106.75 physician FTEs. Survey respondents were anonymized prior to AMA staff receiving the data. As such, it is not clear how many physician FTEs are included in each section.

Survey Respondents

Section	Respondents
Family Medicine	3
Nephrology	1
Orthopaedic Surgery	4
Otolaryngology - Head and Neck Surgery	4
Paediatrics	1
Physical Medicine and Rehabilitation	2
Rheumatology	1
Urology	1
Vascular Surgery	1
Total	18

The clinics range from small (two FTE physicians) to large group practices (18 FTE physicians). The clinics are open between 34 and 45 hours per week but 40 hours per week is the most common. Five of the clinics perform equipment reprocessing (sterilization).

Five clinics reported that they perform reprocessing. The number of sterilized packages produced each day ranges from six to 60. The number of staff hours per week dedicated to reprocessing ranges from five to 40. AMA used these data in developing model office cost estimates for reprocessing.

Survey Results: Analysis Methodology

Significant variation was observed in the survey data. This is not surprising as the data represent clinics that vary in size, scope of practice, and hours of operation. The task became to portray the data in a consistent manner and then make inferences about model office resource requirements.

A six-step process was used to clean the data and derive model office estimates.

1. Data standardization (staffing requirements only)
2. Data categorization and exclusions
3. Identification of staffing categories (staffing requirements only)
4. Outlier trimming
5. Trend analysis
6. Identifying model office requirements.

Data standardization: The survey respondents reported different definitions for full-time equivalent staff ranging from 31 to 48 hours per. It was decided that a 40-hour work week would be the basis of the staff FTE measure for analyzing survey results. The assumption of the 40-hour FTE work week is derived from the survey data. Eight of the survey respondents reported that their clinic's FTE definition is 40 hours per week. This is also the median value of the survey responses. FTE counts for each staff category in every clinic were prorated to the 40-hour work week.

Data categorization and exclusions: Four different types of expenses were entered in other significant expenses (survey, question 11) that need consideration in the Layer 2 model office. These are expenses for data processing and transcription, contracted IT services and computer support, security expenses, and meals and entertainment outlays.

Four clinics indicated a total of $78K in data processing and transcription services contracts. It was decided to add these expenditures into the administration and transcription staffing requirements. The expenditures were converted to FTE levels based on assumptions of average annual wage payments and a 15% benefit rate. The 2019 average wage rate in Alberta for "assisting occupations in support of health services" is $21.03 per hour[10]. Table A2.1 shows how this wage was used to convert the contract expenditures into 1.55 additional staff FTEs.

Conversion of Data Processing/Transcription Contract Expenses to FTEs

Survey: Data processing / trascription expenditures in Q11	$78,416.75
Hourly wage: Assisting occupations in support of health services	$21.03
Annualize hourly wage to FTE requirement (8 hours/day * 365*5/7 days)	$43,862.57
Benefits: assume 15%	15%
Annual payments (wages + benefits) per 1 FTE	$50,441.96
FTEs equivalent to Q 11 expenditures	1.55

Two clinics entered $92K of expenses for contracted out IT and computer support services. These expenditures were added to the annual administration expenses for computer maintenance.

One clinic recorded $7K in security expenses. The survey administrator reached out to this clinic and the expenses represent the installation of an office security system (added to leasehold improvements costs) and monthly alarm monitoring charges. As the survey does not include questions specific to alarm monitoring, this clinic's annual per physician expense ($130) was included as a supplemental amount to the estimated costs for telephone and Internet services in the basic office.

[10] Source: Statistics Canada. Table 14-10-0340-01 Employee wages by occupation, annual

Finally, one clinic recorded meals and entertainment expenses of $14K. Previous OWG discussion stated that these types of expenditures would not be part of the model office. As such, they were excluded.

Some minor edits were also required to the survey data. One clinic reported ranges for some staff categories. In these categories, the mid-point of the reported range was considered typical staffing.

Staffing categories: The survey requested staffing levels in nine distinct categories (reception/booking; medical office assistants; admin/transcription; clinic manager; LPN; RN; and three other categories to be identified by the clinic). Survey information on RN and LPN requirements were combined due to low counts and the other staffing category was omitted from the model office. Only eight clinics employed LPNs and five employed RNs. There were four (larger) clinics who employed both, meaning that there was eight clinics who employed neither. Only two clinics identified staff in other categories. After reviewing survey responses for other staff duties, it was decided that these staff were more appropriate for Layer 3 and they were excluded.

Outlier trimming: Outlier trimming was performed on the resources per FTE physician (e.g., staff per FTE physician (by staff category), space per FTE physician, administration expenditures per FTE physician (by expense category)). The most common outlier identification technique, interquartile range, was used to identify outliers in resource requirements.[11] All outliers[12] were trimmed to the outlier threshold[13] instead of deleting the data, due to the low number of survey responses considered.

Some offices are not considered typical of a basic physician office for at least some aspects of their service delivery. Four sites with either < one staff FTE per FTE physician or < one examination room per FTE physician were excluded from the staffing analysis. Five clinics were removed from the analysis for computing average space requirements per FTE as they were not considered typical of medium-sized community clinics. The observations that resulted in clinics being excluded from the required space per physician FTE analysis are:

- Less than one examination room per physician.
- Less than 80% of the physician FTEs could work in the office at once.
- The total office size was less than 1,000 square feet.
- The total office size was greater than 20,000 square feet.

[11] The interquartile range (IQR) outlier methodology identifies outliers as values beyond the first and third quartile (25th and 75th percentiles) plus or minus 1.5*IQR, where IQR is the difference between the third and first quartiles.
[12] Only high-side outliers were identified.
[13] Third quartile + 1.5*IQR.

Additional trimming was applied to the administrative costs. Expenditure total for certain cost categories, for example telephone expenses, are not considered realistic of a typical community office. For this reason, exclusions occurred in each cost category data set for $0 responses and positive costs that were less than 50% of the second lowest expenditure amount. This additional trimming was applied to the following administrative cost categories:

- Telephone/Internet services
- Licensing
- Office supplies
- Other supplies
- Clinical insurance
- EMR and medically necessary software
- Medical supplies
- Equipment maintenance
- Computer maintenance

The overall impact of this additional trimming increased the average office administration costs by approximately 10%. Administrative costs for interest, bad debts, and bank charges were dropped from the analysis after an estimation method was proposed to estimate financing costs.

Smaller (two physician FTE) clinics tended to have more staff per physician. Also, some clinics offer more than basic services which implies higher staffing levels. Outlier trimming was used to ensure that these clinics did not adversely impact results. High staffing outliers were detected in four out of the 65 survey responses (13 clinics, * five staffing categories). The survey responses exceeded the outlier threshold by only marginal amounts. In total, outlier trimming removed 2.3 total FTEs from the 144 identified FTEs[14] in the 13 clinics (1.6% of total staffing). Although trimming appears minor, it serves as an important step in ensuring the trend analysis, conducted in the next step, is sound.

Some clinics in the survey provide more than the most basic services. Additional space is required to offer these services. Some physicians also operate in offices with larger than required footprints (either by choice or due to available space when choosing an office location). The square feet per FTE physician was trimmed for one clinic (that used roughly double the space of other survey respondents per physician FTE). This trimming removed 3.5% of total space.

The provision of non-basic services and differences in accounting practices by offices led to significant outlier trimming of the administration expenditure data. In total, 16 of the 252 survey responses (14 administrative cost categories, * 18 clinics) were trimmed by the high-outlier detection method and 40 of the 252

[14] Includes 1.55 admin FTEs based on contracted out services.

survey responses were excluded based on a $0 or atypical response. Thus, trimming excluded 22.2% of all responses. Three clinics had no data trimmed. One clinic was trimmed in seven of the 14 cost categories. This office provides unique services[15] whose higher costs will be reflected in Layer 3 and it did not report data in all cost categories. High outlier trimming removed 14.7% of reported expenditures with roughly half of this amount occurring in licensing costs. For licensing, all clinics were under $11,000 in annual expenditures except two which had combined expenses of $277 K. These high-cost clinics are large clinics, but their costs were not in line with other large clinics and therefore it is assumed that other costs were rolled into this category.

Trend analysis: In this step, the trimmed (clinic-level) data[16] were plotted against the number of physician FTEs for each clinic. Linear regression lines were calculated for each resource category using Excel's "Trendline" and "Linest" functionality. The results, including the fitted regression lines, are shown in Charts 1 through 8. The fitted regression lines are used in the final analysis step, "identifying model office requirements."

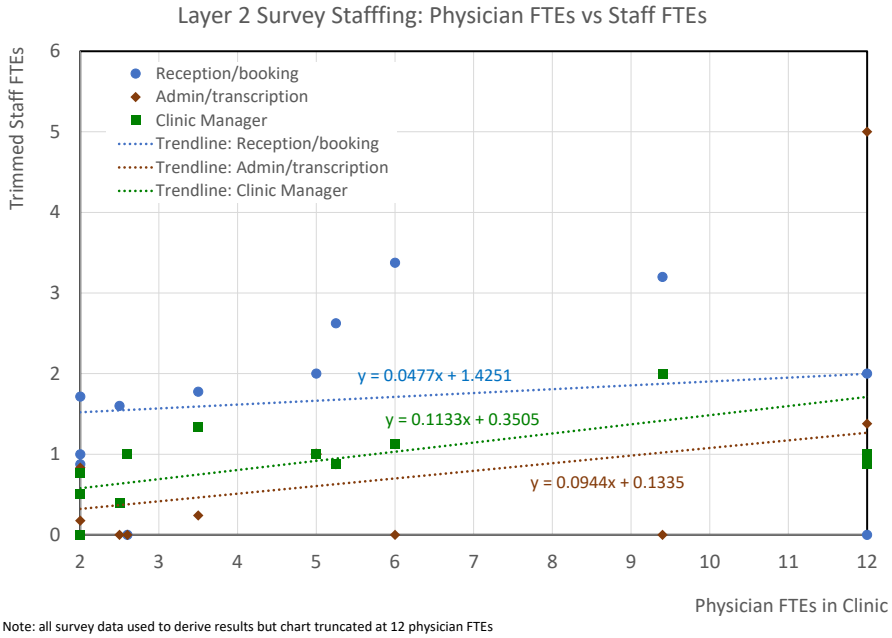
The fitted regression lines show the observed statistical relationship between the number of physician FTEs in a clinic and the resource requirement. For example, the fitted equation for clinic managers is shown as y=0.1133x +0.3505. In this equation, y is the number of clinic manager FTEs and x are the number of physician FTEs in the clinic. The number of clinic manager FTEs is thus dependent upon the number of physician FTEs in the clinic. A basic clinic with four physician FTEs is estimated to require 0.8 clinic manager FTEs, whereas a clinic with eight physician FTEs requires 1.6 clinic manager FTEs.

All but one of the regression lines show that resource requirements increase as the number of physicians in a clinic increase. This is to be expected as more physicians generally mean more staff, larger offices, and higher expenses for supplies. The single exception is for equipment maintenance expenses. A four-physician clinic is estimated to require $6,347 annually in equipment maintenance but this falls to $4,875 for a 10-person clinic. This result may be explained by equipment being more likely to replaced/newer in the larger office. It also may be the result of a small sample of heterogeneous cost data.

[15] Noted in responses to staff duties.

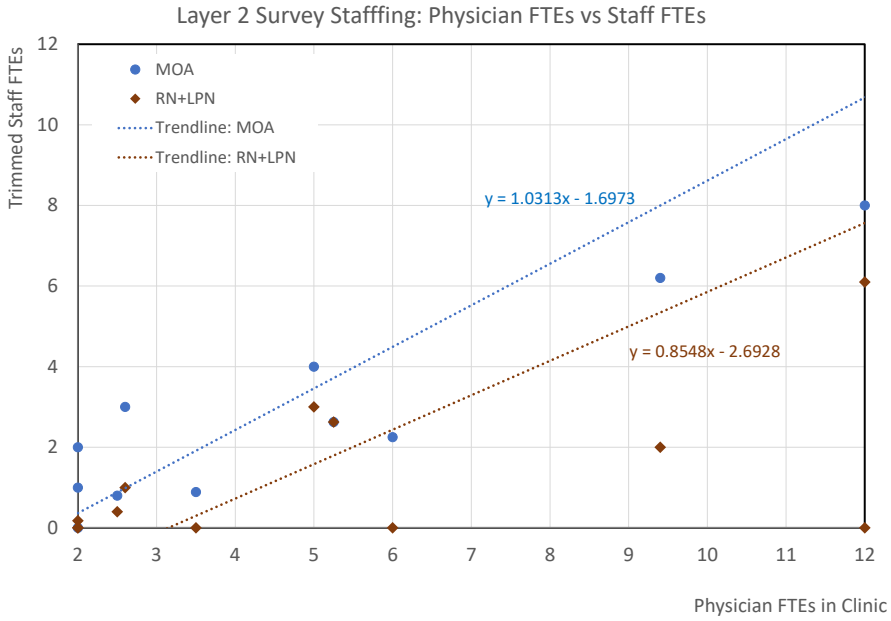
[16] Trimmed data for average resource by FTE physician at each clinic multiplied by the number of FTE physicians in each clinic.

Trend Analysis: Reception and Admin Staff and Clinic Managers



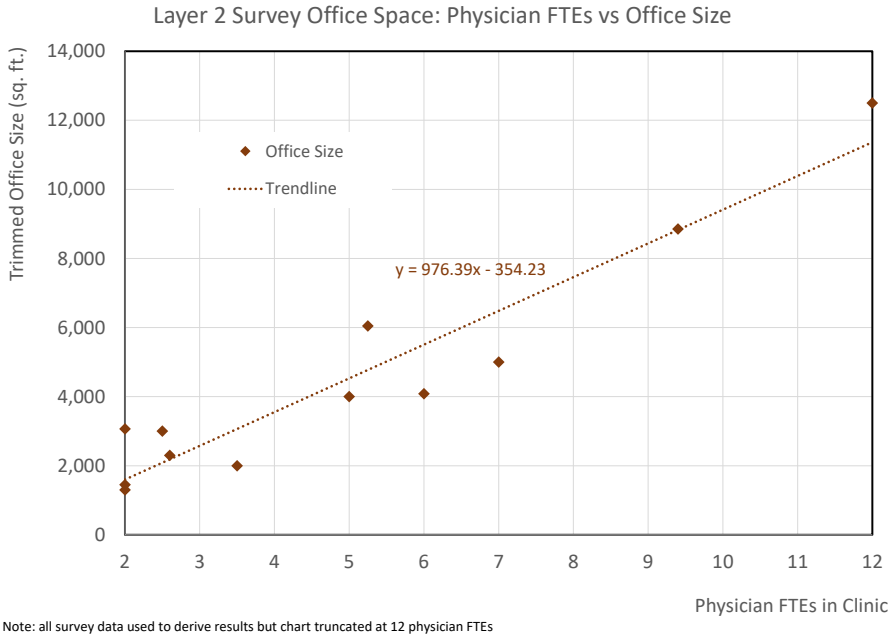
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Medical Office Assistants and Nursing Staff



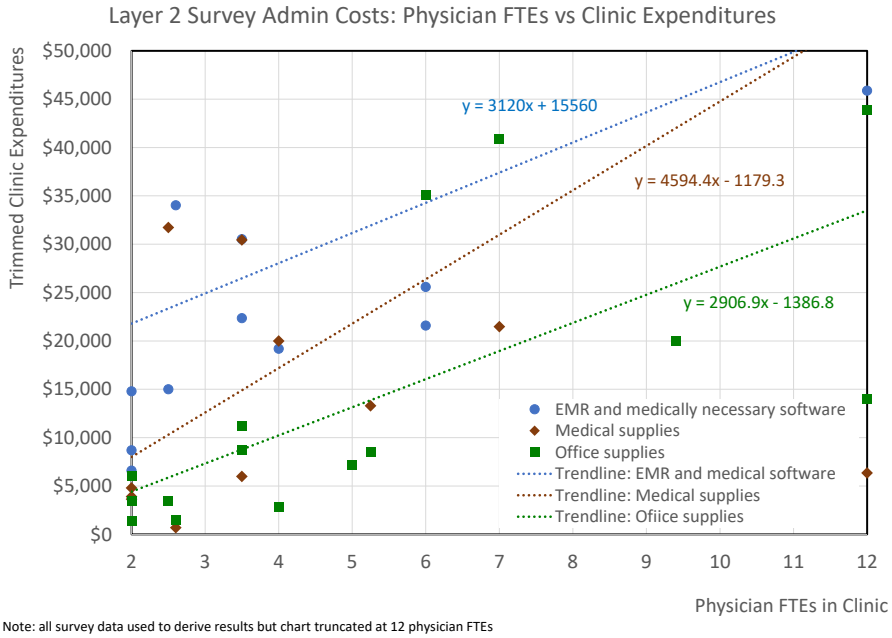
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Office Size (Square Feet)



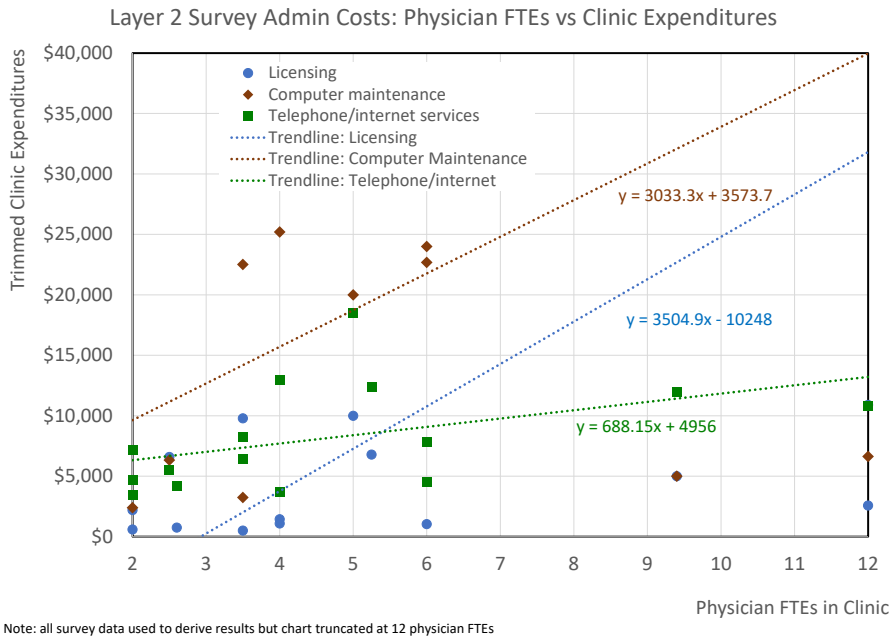
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: EMR/Software, Medical and Office Supplies Expenditures



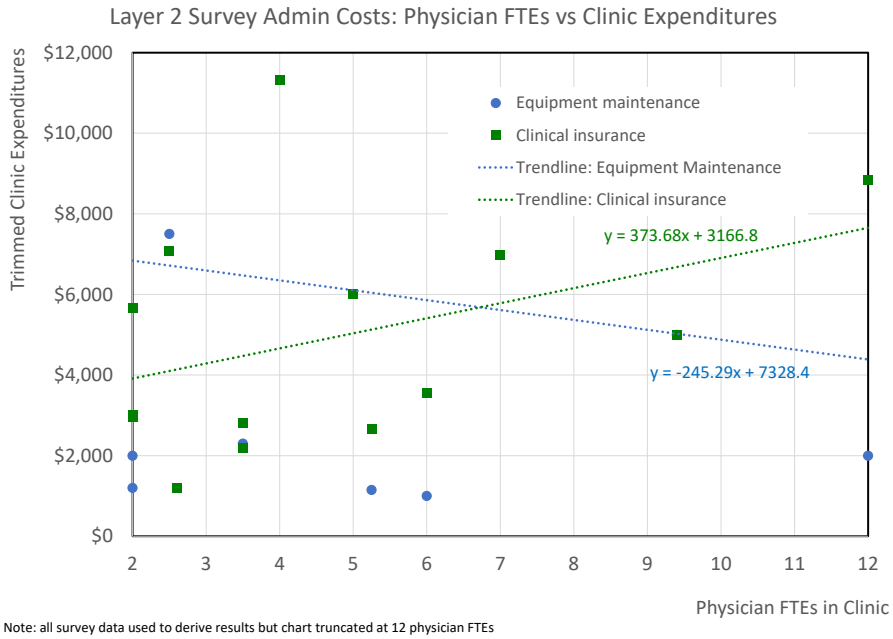
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Telephone/Internet, Licensing, and Computer Maintenance Expenditures



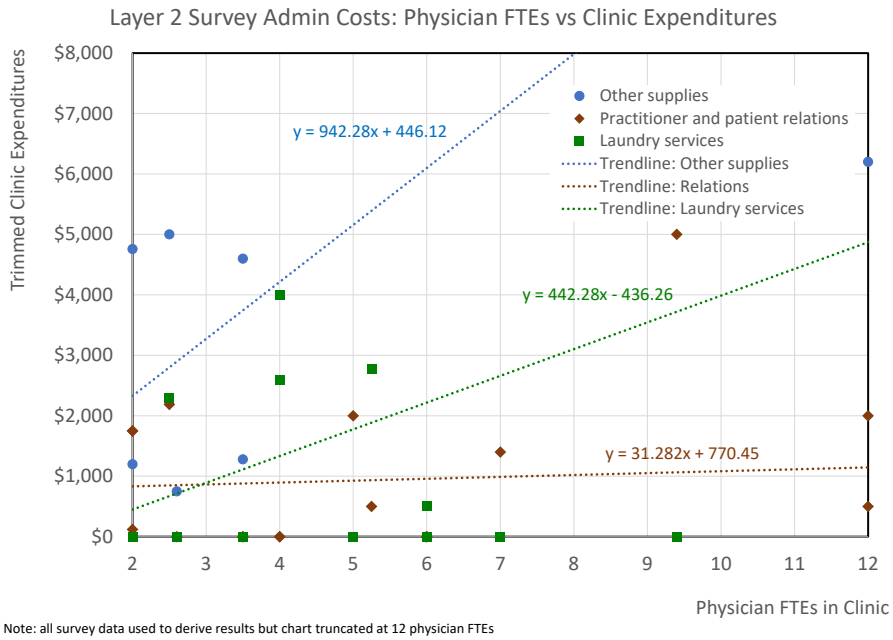
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Clinical Insurance, and Equipment Maintenance Expenditures



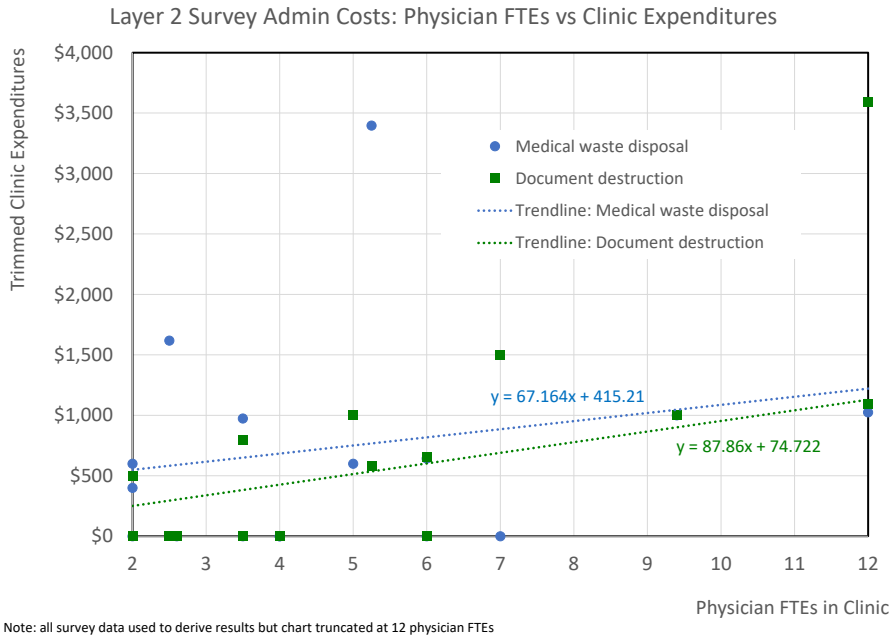
Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Laundry, Patient Relations, and Other Supply Expenditures



Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Trend Analysis: Medical Waste Disposal and Document Destruction Expenditures



Note: all survey data used to derive results but chart truncated at 12 physician FTEs

Identifying model office requirements: The model office requirements were estimated by fitting the trend analysis regression equations at clinics with four physician FTEs and then deriving the per physician FTE requirements (by dividing by 4) and then rounding. Staff FTEs (by staffing category) per physician FTE are rounded to the nearest 0.1. Office space per physician FTE is rounded to

the nearest 10 square feet. Annual administration costs (by expense category) per physician FTE are rounded to the nearest $100. The four-FTE physician clinic was chosen as it is representative of a reasonably efficient small office (fixed costs are shared four ways). The results are shown in Tables A2.2, A2.3 and A2.4.

In total, each FTE physician in a model office is estimated to require 1.5 staff FTEs. This means that the 106.75 FTE physicians represented by the survey would be credited with 160.1 staff FTEs. This is nearly identical to the raw data count of 167.7 staff FTEs[17] when standardized on 40-hour work weeks.

Basic Community Office Staffing Requirements

	Regression Analysis Results		Model Office FTE Requirements	
	Intercept	Slope	4 Physician Clinic	Per FTE Physician (rounded)
Reception/booking	1.425	0.048	1.616	0.4
Admin/transcription	0.133	0.094	0.511	0.1
MOA	-1.697	1.031	2.428	0.6
RN+LPN	-2.693	0.855	0.726	0.2
Clinic Manager	0.351	0.113	0.804	0.2
Total			6.085	1.5

Each FTE physician is expected to require 890 square feet of clinical space in Layer 2. This is less than the average requirement from the raw survey data (1,107 square feet per FTE physician). However, the average space requirements per FTE physician was reported to be < 890 square feet in 12 of the 18 clinics responding to the survey. Furthermore, much of the additional square footage would be captured in the Layer 3 requirements.

Basic Office Space Requirements

	Trend Analysis Results		Model Office FTE Requirements	
	Intercept	Slope	4 Physician Clinic	Per FTE Physician (rounded)
Office Size	-354.2	976.4	3,551	890

Finally, each FTE physician is estimated to require $25,300 in administrative expenditures (excluding supplemental security monitoring costs) annually for their model office. Thirteen of the clinics reported average administration costs per FTE physician < $25,300 however, data for many of these clinics was not provided for all cost categories.

The choice of model size is a contributor to the low variance between the model office estimate and the raw data. Smaller clinics tend to be less efficient than larger clinics. Specifying the model office as three-FTE physician clinics would result in a higher cost than the survey average whereas estimated expenditures

[17] Total excludes staff identified in other staff categories in the survey.

fall significantly below the survey average at five-FTE physician offices. Nine of the survey respondents had more than four physicians in the office.

Basic Office Administrative Expense Requirements

	Trend Analysis Results		Model Office Admin/Operating Requirements ($)	
	Intercept	Slope	4 Physician Clinic	Per FTE Physician (rounded)
Telephone/internet services	4,956.0	688.1	$7,709	$1,900
Licensing	-10,247.6	3,504.9	$3,772	$900
Practitioner and patient relations	770.5	31.3	$896	$200
Storage of old charts	No Reported Costs		$0	$0
Document destruction	74.7	87.9	$426	$100
Office supplies	-1,386.8	2,906.9	$10,241	$2,600
Other supplies	446.1	942.3	$4,215	$1,100
Medical waste disposal	415.2	67.2	$684	$200
Clinical insurance	3,166.8	373.7	$4,662	$1,200
EMR and medically necessary software	15,559.5	3,120.0	$28,039	$7,000
Laundry services	-436.3	442.3	$1,333	$300
Medical supplies	-1,179.3	4,594.4	$17,198	$4,300
Equipment maintenance	7,328.4	-245.3	$6,347	$1,600
Computer maintenance	3,573.7	3,033.3	$15,707	$3,900
Total			$101,228	$25,300

Note: $130 is added to telephone/Internet services and the total cost after the regression analysis to reflect the annual monitoring cost per physician of a security system.

Addendum 3: Pay Rates by Position Type

Position	Source	Min	Mid
Reception/Billing/ Booking/Transcription			
Booking	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Reception	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Transcription	AHS/AUPE Administrative Support V – Medical Transcriptionist (April 1, 2018)	$27.28/hour	$30.67/hour
Billing	AHS/AUPE Data Coordinator (April 1, 2018)	$22.43/hour	$25.52/hour
Managers/Assistant Managers	Government of Alberta, Band 1 Manager (effective April 1, 2015)	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Administration			
Information Technology	AHS/AUPE IT Analyst I (April 1, 2018)	$29.92/hour	$34.89/hour
Administrative/ Clerical	AHS/AUPE Administrative Support II (April 1, 2018)	$20.42/hour	$22.96/hour
Finance and Accounting	AHS/AUPE Financial Analyst (April 1, 2018)	$33.60/hour	$37.13/hour
Managers/Assistant Managers	Government of Alberta, Band 1 Manager (effective April 1, 2015)	$2,568.30 bi-weekly	$3,344.78bi-weekly
Coordinators	AHS/AUPE Administrative Support IV - Unit Clerk (April 1, 2018)	$24.99/hour	$28.10/hour
Business Development	Alberta ALIS, Professional occupations in advertising, marketing and public relations	$28.73/hour	$36.24/hour
Human Resources	Alberta ALIS, Human Resources Professional	$32.84/hour	$39.69/hour
Infrastructure/ Operations	AHS/AUPE Maintenance Worker III (April 1, 2018)	$29.93/hour	$32.61/hour
Other	Alberta ALIS, Records Management Technician	$25.90/hour	$31.90/hour
Other Clinical			
Medical Office Assistant/Aides	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Coordinators/ Liaisons/ Specialists	AHS/AUPE Administrative Support IV - Unit Clerk (April 1, 2018)	$24.99/hour	$28.10/hour

Position	Source	Min	Mid
Clinic Managers/ Assistant Clinic Managers	Government of Alberta, Band 1 Manager (effective April 1, 2015)	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Registered Nurse	AHS/UNA Registered Nurse (April 1, 2018)	$36.86/hour	$42.54/hour
Clinic Directors	Government of Alberta, Band 2 Manager (effective April 1, 2015)	$3,352.75 bi-weekly	$4,240.18 bi-weekly
Licensed Practical Nurse	AHS/AUPE Licensed Practical Nurse (April 1, 2018)	$26.45/hour	$30.94/hour
Behaviour Health Consultant	AHS/HSAA Social Worker II (April 1, 2018)	$36.96/hour	$42.65/hour
Dietician	AHS/HSAA Dietician I (April 1, 2018)	$37.85/hour	$43.72/hour
Pharmacist	AHS/HSAA Pharmacist I (April 1, 2018)	$52.44/hour	$56.31/hour
POET	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Technologists			
Sonographer	AHS/HSAA Diagnostic Sonographer I (April 1, 2018)	$39.27/hour	$44.53/hour
Xray (MRT)	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Mammography (MRT)	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Fluoroscopy (MRT)	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Nuclear Medicine Technologist	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Medical Radiation Technologist	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Team Leads/ Leaders	AHS/HSAA Medical Radiation Technologist II (April 1, 2018)	$36.81/hour	$41.61/hour
Enhanced Practice	AHS/HSAA Medical Radiation Technologist II (April 1, 2018)	$36.81/hour	$41.61/hour
Other Specialized Technologist	AHS/HSAA Combined Laboratory and X-Ray Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour

Position	Source	Min	Mid
Modality Coordinators	AHS/HSAA Medical Radiation Technologist II (April 1, 2018)	$36.81/hour	$41.61/hour
Bone Mineral Density (MRT)	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Technologist Floats	AHS/HSAA Medical Radiation Technologist I (April 1, 2018)	$33.98/hour	$39.08/hour
Cardiology Technologist	AHS/HSAA Cardiology Technologist I (April 1, 2018)	$29.84/hour	$33.98/hour
Laboratory Technologist	AHS/HSAA Laboratory Technologist II (April 1, 2018)	$36.81/hour	$41.61/hour
Phototherapy Technician (Dermatology)	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Medical Tech	AHS/AUPE Administrative Support III (April 1, 2018)	$22.56/hour	$25.34/hour
Ophthalmic Technician	AHS/HSAA Ophthalmic Technician I (April 1, 2018)	$33.98/hour	$39.08/hour
Registered Hearing Aid Practitioner	Alberta ALIS, Hearing Aid Practitioner	$20.85/hour	$25.61/hour
Respiratory Therapist	AHS/HSAA Respiratory Therapist II (April 1, 2018)	$39.27/hour	$44.53/hour
Managers/ Assistant Managers (Technologists)	AHS/HSAA Medical Radiation Technologist II (April 1, 2018)	$36.81/hour	$41.61/hour
Operations			
Operations Managers/ Assistant Managers	Government of Alberta, Band 1 Manager (effective April 1, 2015)	$2,568.30 bi-weekly	$3,344.7 bi-weekly
Other	AHS/AUPE Maintenance Worker III (April 1, 2018)	$29.93/hour	$32.61/hour
Executive			
Senior Executive Team	Government of Alberta, Band 3 Executive Manager I (effective April 1, 2015)	$4,801.47 bi-weekly	$5,555.75 bi-weekly
Executive Assistant	Alberta ALIS, Administrative Assistant	$21.48/hour	$25.93/hour

Addendum 4: Basic Office Equipment Lists

Small Basic Office (Four Physicians): Assumed Equipment Requirements by Room (Including Reprocessing Area)

Reception Area

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	2	$1,200	10	$60
Staff Chair	Office Furniture	2	$300	10	$15
Computer	IT Equipment – Computers	2	$1,600	3	$267
Sanitizer Dispenser	General Office Equipment	1	$110	5	$6
Reception Chair	Office Furniture	14	$100	10	$35
Magazine Rack (wall mount)	Office Furniture	1	$100	10	$3
Reception Area Table	Office Furniture	1	$2,750	10	$69
Waste Container	Office Furniture	2	$80	10	$4
Reception Area Decor (e.g., framed prints)	Office Furniture	4	$200	10	$20
Sub Total					**$477**

Business Office

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	2	$1,200	10	$60
Staff Chair	Office Furniture	2	$300	10	$15
Computer	IT Equipment – Computers	2	$1,600	3	$267
Filing Cabinet	Office Furniture	2	$300	10	$15
Medical Record Filing System (Rotary File Cabinet)	Office Furniture	2	$2,700	10	$135
Book Case	Office Furniture	3	$250	10	$19
Multi-line Telephone System (21 phones)	General Office Equipment	1	$4,200	5	$210
Computer Networking System (routers, etc.)	IT Equipment – Other	1	$5,310	5	$266
Printer / Copier / Fax Machine	General Office Equipment	1	$450	5	$23
Shredder	General Office Equipment	1	$250	5	$13
Waste Container	Office Furniture	2	$80	10	$4
Sub Total					**$1,025**

Nursing Area

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	4	$1,200	10	$120
Staff Chair	Office Furniture	4	$300	10	$30
Computer	IT Equipment – Computers	4	$1,600	3	$533
Filing Cabinet	Office Furniture	2	$300	10	$15
Drug Cabinet	Office Furniture	1	$425	10	$11
Small Fridge	General Office Equipment	1	$250	5	$13
Waste Container	Office Furniture	4	$80	10	$8
Sub Total					**$729**

Examination Rooms

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	8	$1,200	10	$240
Physician Stool	Office Furniture	8	$150	10	$30
Computer	IT Equipment – Computers	8	$1,600	3	$1,067
Small Printer	General Office Equipment	8	$100	5	$40
Sink	Office Fixtures	8	$530	10	$106
Storage Cabinet	Office Furniture	8	$350	10	$70
Reception Chair	Office Furniture	8	$100	10	$20
Magazine Rack (wall mount)	Office Furniture	8	$100	10	$20
Examination Table	Medical Equipment – Extended Life	8	$4,100	10	$820
Examination Light	Medical Equipment – Medium Life	8	$450	5	$180
Sharp Container	Medical Equipment – Limited Life	72	$30	2	$270
Thermometer	Medical Equipment – Medium Life	8	$400	5	$160
Otoscope/Ophthalmoscope	Medical Equipment – Medium Life	8	$210	5	$84
Sphygmomanometer	Medical Equipment – Medium Life	8	$200	5	$80
Waste Container	Office Furniture	8	$80	10	$16
Sub Total (represents 2 rooms per physician)					**$3,203**

Physician's Office

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	4	$1,200	10	$120
Staff Chair	Office Furniture	4	$300	10	$30
Computer	IT Equipment – Computers	4	$1,600	3	$533
Book Case	Office Furniture	4	$250	10	$25
Filing Cabinet	Office Furniture	4	$300	10	$30
Desk Lamp	General Office Equipment	4	$90	5	$18
Dictation Equipment	General Office Equipment	4	$725	5	$145
Waste Container	Office Furniture	4	$80	10	$8
Sub Total					**$909**

Conference Room / Staff Lounge Area

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Reception Chair	Office Furniture	6	$100	10	$15
Sofa	Office Furniture	1	$2,000	10	$50
Table (6 - person)	Office Furniture	1	$300	10	$8
Storage Cabinet	Office Furniture	2	$350	10	$18
Microwave	General Office Equipment	1	$200	5	$10
Fridge	General Office Equipment	1	$800	5	$40
Coffee Machine	General Office Equipment	1	$100	5	$5
Toaster	General Office Equipment	1	$60	5	$3
Kettle	General Office Equipment	1	$40	5	$2
Sub Total					**$150**

Medical Equipment

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Portable Oxygen Tank	Medical Equipment – Extended Life	2	$400	10	$20
Adult Scale	Medical Equipment – Extended Life	2	$900	10	$45
Paediatric Scale	Medical Equipment – Extended Life	1	$510	10	$13
O2 Monitor	Medical Equipment – Extended Life	2	$6,500	10	$325
Electric Cautery (box of 10 disposable pens)	Medical Equipment – Limited Life	1	$140	2	$18
Audiometer	Medical Equipment – Extended Life	1	$1,900	10	$48
Tympanometer	Medical Equipment – Extended Life	1	$7,500	10	$188
Ultrasound Machine	Medical Equipment – Extended Life	1	$15,400	10	$385
Electronic Blood Pressure Monitor	Medical Equipment – Extended Life	1	$800	10	$20
Doppler	Medical Equipment – Extended Life	2	$1,000	10	$50
Surgery Tray	Medical Equipment – Limited Life	2	$100	2	$25
Medical Tray	Medical Equipment – Limited Life	10	$45	2	$56
Sub Total					**$1,192**

Reprocessing Adjustments (if required)

Note: IPC Equipment, space, and staffing are incremental adjustments to basic model Office

Infection Prevention and Control

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Ultrasonic Washer	Medical Equipment – Extended Life	1	$2,500	10	$63
Autoclave	Medical Equipment – Extended Life	1	$7,200	10	$180
Incubator	Medical Equipment – Medium Life	1	$3,375	5	$169
Sink	Office Fixtures	1	$530	10	$13
Biological Indicator	Medical Equipment – Limited Life	1	$315	2	$39
Mask	Medical Equipment – Limited Life	4	$125	2	$63
Tray	Medical Equipment – Limited Life	2	$45	2	$11
Sharp Container	Medical Equipment – Limited Life	3	$30	2	$11
Medical Heat Sealer	Medical Equipment – Limited Life	1	$2,870	2	$359
Water Distiller	General Office Equipment	1	$1,000	5	$50
Tag-gun	Medical Equipment – Limited Life	1	$100	2	$13
Sub Total					**$970**

Medical Equipment w IPC

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Speculum	Medical Equipment – Extended Life	50	$35	10	$44
Proctoscope	Medical Equipment – Extended Life	2	$100	10	$5
Sub Total					**$49**

IPC Staff Workstation

Equipment Type	Depreciation Category	Assumed Units for 4-physician Office	2020 Price	Amort Period	Annual OH per Physician
Workstation Desk	Office Furniture	1	$1,200	10	$30
Staff Chair	Office Furniture	1	$300	10	$8
Computer	IT Equipment – Computers	1	$1,600	3	$133
Additional Phone Set for Multiline Phone System	General Office Equipment	1	$240	5	$12
Sub Total					**$183**

10. Layer 3 Overhead Details

Background

Layer 3 represents additional costs that are unique to a section or subgroup of a section above those included in the Layer 2 basic office. Sections were invited to submit data for Layer 3 if (a) the model practice represented approximately 15% of the section's physicians, and (b) the group's overhead costs were 15% above those defined in the basic Layer 2 office.

A survey template (addendum 1: Layer 3 survey, page 171) was shared with all sections to facilitate the submission of data for Layer 3. There were five general overhead categories; staffing, building and space, administrative costs, infection prevention and control, and equipment; as well as space for additional comments. Data were intended to be submitted for 1.0 FTE physician.

Layer 3 Model Development Process

Sections that identified a Layer 3 model(s) submitted data for the model using the survey template. With the exception of two sections, data were submitted for each model on behalf of the section. Data were submitted by individual clinics/organizations for both Diagnostic Imaging, and the Respiratory Medicine Pulmonary Function Testing models. AMA staff collated the data for these two models into databases and aligned the data across submissions, and with the model approach. The calculated data were used for the respective Layer 3 models. If clarification was needed on any of the Layer 3 submissions, AMA staff and the Overhead Working Group contacted or met with the section representative(s).

The Layer 3 data were shared with other sections at the Panel Meetings, where sections had the opportunity to respond to questions and provide further clarification. Staff followed up for additional clarification where directed.

AMA staff reviewed the data further as it was inputted into the overhead model and sought further clarification from the sections as required.

Layer 3 Model Submissions

Layer 3 submissions were received from, and developed for, the following model practices:

- **Cardiology:**
  - EKG/Holter/Stress Testing
  - Cardiac Nuclear Medicine
  - Cardiac Ultrasound
- **Dermatology:**
  - Dermatological Medical
  - Dermatological Surgery
  - Mohs Surgery
  - Phototherapy
- **Family Medicine:**
  - Patient's Medical Home (future state; 0 weight in the model currently)
- **Gastroenterology:**
  - Fibroscan
- **Ophthalmology:**
  - Cornea
  - General Ophthalmology
  - Retinal Surgery
- **Otolaryngology:**
  - Endoscopy only
  - Endoscopy and Audiology
- **Physical Medicine and Rehabilitation:**
  - Interventional Pain Management
- **Radiology**
- **Respiratory Medicine:**
  - Pulmonary Function Testing

Cardiology Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Cardiology provides services to diagnose, assess and treat patients with diseases and defects of the heart and blood vessels (the cardiovascular system). Specialized services include ECG/stress testing/Holter, echocardiology and carotid doppler, and nuclear medicine. Each type of office requires additional staff, space, equipment, and related administrative costs. The number of cardiologists in Alberta who perform these services varies across the Section, so the calculations have been weighted to determine the overhead amounts for the Section's Layer 3 model.

Based on recommended policy and Overhead Working Group direction, 2019-20 Layer 3 overhead is $540,118 for a Cardiology model office. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Cardiology

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$258,247
Space Costs	$83,234
Administrative Costs	$124,099
Equipment Costs	$42,813
Total Costs	**$540,118**

Layer 3 Data Sources

The AMA's Section of Cardiology submitted data for Layer 3 based on actual data from one clinic that performs all three modalities. Additional work was conducted to separate costs for each of the modalities. Layer 3 submissions were incremental to Layer 2 costs, thus the amounts for the two layers were added.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

In total, Layer 3 Cardiology physicians require an average of 3.73 staff FTEs. All three modalities require 0.90 FTE Reception/booking, 0.10 Admin/transcription, and 0.20 FTE Clinic Manager. The ECG/Stress Testing/Holter modality requires the addition of 0.60 FTE Medical Office Assistants/Aides, 0.20 FTE Licensed Practice Nurses, and 1.00 FTE Cardiology Technologist. The Echocardiology and Carotid Doppler modality requires the addition of 1.05 FTE Medical Office Assistants/Aides, 0.25 FTE Licensed Practice Nurses, and 1.00 FTE Sonographer. Nuclear Cardiology requires the addition of 3.60 FTE Medical Office Assistants/Aides, 0.20 FTE Licensed Practice Nurses, and 3.00 FTE Nuclear Medicine Technologists.

Layer 3: Estimated Cardiology Staff FTEs by Staff Type

Staff Type	Layer 3 FTEs
Reception/booking	0.90
Admin/transcription	0.10
Medical Office Assistant/Aides	1.14
Licensed Practical Nurse	0.23
Clinic Manager	0.20
Cardiology Technologist	0.27
Sonographer	0.65
Nuclear Medicine Technologist	0.25
Total Staffing	**3.73**

Staffing Costs: Wages

Standardized wage rates from Layer 2 are applied to the Cardiology model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Point of Layer 3 Cardiology Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Clinic Manager	$2,568.30 biweekly	$3,344.78 biweekly
Cardiology Technologist	$29.84 per hour	$33.98 per hour
Sonographer	$39.27 per hour	$44.53 per hour
Nuclear Medicine Technologist	$33.98 per hour	$39.08 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Admin/Transcription	$51,504.64	$57,904.96
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Licensed Practical Nurse	$49,937.60	$58,414.72
Clinic Manager	$60,611.88	$78,936.81
Cardiology Technologist	$56,337.92	$64,154.24
Sonographer	$74,141.76	$84,072.64
Nuclear Medicine Technologist	$64,154.24	$73,783.04

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance,

and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Cardiology model are estimated to be $35,620.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for the Cardiology Layer 3 is estimated to be 1,450 square feet per physician. The ECG/Stress Testing/Holter modality requires 1,340 square feet, the Echocardiology and Carotid Doppler modality requires 1,365 square feet and the Nuclear Cardiology modality requires 2,490 square feet. The Echocardiology and Carotid Doppler modality requires electrical upgrades, and the Nuclear Cardiology modality requires additional upgrades including lead-lined walls, so the leasehold improvement costs are expected to be higher.

2019-20 Space Costs for Cardiology Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,450	$58,741
Maintenance costs	$0.52	1,450	$754
Amortized leasehold improvement costs	$16.37	1,450	$23,738
Total Space Costs			**$83,234**

Administrative Costs

The administrative costs for the Cardiology office were derived from the Section's submissions. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Cardiology Layer 3 office are assumed to have $124,099 in administrative charges in 2019-20. Administrative costs vary between the three modalities and were weighted to represent the number of physician SAEs in each modality. Variable costs not

calculated using submission data, which are described in the Layer 2 report (page 60).

2019-20 Cardiology Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Annual Cost
Telephone/Internet services	$2,000
Licensing	$6,021
Clinical insurance	$1,787
Practitioner and patient relations	$911
Storage of old charts	$0
Document destruction	$181
Office supplies	$5,631
Other supplies	$1,837
Medical supplies	$40,227
Medical waste disposal	$448
EMR and medically necessary software	$8,463
Equipment maintenance	$14,848
Office professional services	$1,304
Computer maintenance	$17,957
Laundry services	$3,452
Staff training costs	$2,773
Staff parking	$3,601
Financing costs	$12,658
Total Administration Costs	**$124,099**

Equipment Costs/Depreciation

Additional equipment is required for cardiology medical services and in the reception, nursing/tech, and business office areas to accommodate additional staff. Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses. The average cardiologist incurred $42,813 in equipment expenses (depreciation) in 2019-20. These differed significantly by modality: $18,672 in ECG/Stress Testing/Holter, $45,331 in Echocardiology and Carotid Doppler, and $101,976 in Nuclear Cardiology.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Cardiology Offices

Cost Type	Transferable Layer 2 Annual Cost	Layer 3
Reception area	$417	$699
Business office	$957	$1,170
Nursing /Tech Area	$729	$2,513
Examination Room	$0	$1,773
Physician's office	$909	$909
Conference room /staff lounge area	$150	$150
Medical Equipment	$0	$35,599
Total Equipment Costs	**$3,164**	**$42,813**

Dermatology Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

For Layer 3, there are four types of Dermatology offices with additional overhead: medical; phototherapy; surgical; and Mohs, which includes Mohs surgery and general dermatological surgery. Each type of office requires additional staff, space, equipment, and related administrative costs. The number of dermatologists in Alberta who perform these services varies across the section, so the calculations have been weighted to determine the overhead amounts for the section's Layer 3 model.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $864,697 for a Dermatology office with sterilization capabilities. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Dermatology

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$592,348
Space Costs	$92,508
Administrative Costs	$131,293
Equipment Costs	$16,822
Total Costs	**$864,697**

Layer 3 Data Sources

The AMA's Section of Dermatology and Dermatological Surgery submitted data for Layer 3 based on data collected by the Section. Estimates for administration costs and equipment requirements are largely based on small offices of one to two physicians. Additional work was conducted to separate costs for each of the modalities.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Employee Counts

In total, each physician SAE in the Layer 3 model requires 8.13 staff FTEs. The Reception/Booking, Admin/Transcription and Clinic Manager staff requirements are the same across the three modalities. Offices that perform Medical services require 2.00 FTE Registered Nurses and those that perform surgical services require 2.50 FTE Registered Nurses. Office that performs phototherapy require 2.50 FTE Registered Nurses and 2.00 FTE Phototherapy Technicians. Mohs offices require 4.00 FTE Registered Nurses and 0.60 FTE Laboratory Technologists.

Layer 3: Estimated Dermatology Staff FTEs by Staff Type

Staff Type	Layer 2 FTEs	Layer 3 FTEs
Reception/Booking	0.40	2.00
Admin/Transcription	0.10	2.00
Medical Office Assistant/Aides	0.80	0.00
Licensed Practical Nurse	0.20	0.00
Registered Nurse	0.00	2.57
Clinic Manager	0.20	0.50
Laboratory Technologist		0.08
Phototherapy Technician		0.98
Total Staffing	**1.70**	**8.13**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Dermatology model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Point of Layer 3 Dermatology Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Registered Nurse	$36.86 per hour	$42.54 per hour
Clinic Manager	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Laboratory Technologist	$36.81 per hour	$41.61 per hour
Phototherapy Technician	$22.56 per hour	$25.34 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$42,593.28	$47,841.92
Admin/Transcription	$51,504.64	$57,904.96
Registered Nurse	$69,591.68	$80,315.52
Clinic Manager	$60,611.88	$78,936.81
Laboratory Technologist	$69,497.28	$78,559.68
Phototherapy Technician	$42,593.28	$47,841.92

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Dermatology Layer 3 model are estimated to be $81,703.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for the Dermatology Layer 3 is estimated to be 1,745 square feet per SAE physician based on the Layer 3 submission. The medical, phototherapy and surgical modalities require 1,725 square feet, and Mohs requires 1,875 square feet. The surgical and Mohs modalities require upgraded ventilation equipment for reprocessing rooms which adds to the leasehold improvement costs.

2019-20 Average Space Costs for Dermatology Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,745	$70,683
Maintenance costs	$0.52	1,745	$908
Amortized leasehold improvement costs	$11.99	1,745	$20,917
Total Space Costs			**$92,508**

Administrative Costs

The administrative costs for the Dermatology office were derived from the Section's submission. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Dermatology Layer 3 office with sterilization are assumed to have $131,293 in 2019-20 in administrative charges. Administrative costs in 2019-20 ranged from $105,421 for medical dermatologists to $193,767 for Mohs surgeons. The majority of administrative cost differences are attributable to medical supplies.

2019-20 Dermatology Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$7,213
Clinical insurance	$5,000
Practitioner and patient relations	$5,000
Storage of old charts	$3,000
Document destruction	$1,500
Office supplies	$6,772
Other supplies	$1,100
Medical supplies	$37,713
Medical waste disposal	$9,000
EMR and medically necessary software	$10,500
Equipment maintenance	$10,000
Office professional services	$5,500
Computer maintenance	$6,000
Laundry services	$1,500
Staff training costs	$5,712
Staff parking	$3,481
Financing costs	$10,302
Total Administration Costs	**$131,293**

Equipment Costs/Depreciation

Additional equipment is required for dermatology to perform medical services and to accommodate additional staff. Phototherapy equipment is added for the phototherapy modality, and surgical equipment added for the surgery modality. Laboratory equipment (e.g., fume hood, cryostat, microscope) is required in addition to the surgical equipment for the Mohs modality.

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Dermatology Offices

Cost Type	Transferable Layer 2 Annual Cost	Layer 3
Reception area	$417	$981
Business office	$957	$1,982
Nursing/tech area	$729	$1,539
Examination room	$0	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$8,348
Infection prevention and control room	$957	$957
IPC staff workstation	$183	$183
Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$4,303**	**$16,822**

Diagnostic Imaging Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Diagnostic Imaging provides services to produce images of internal structures of the body for the purpose of accurate diagnosis and intervention. Services include ultrasound, fluoroscopy, mammography, bone mineral densitometry, and nuclear medicine, as well as additional, more specialized technologies. There is a significant amount of specialized staff and equipment required to provide these services so physicians typically practice in large groups.

Based on recommended policy and Overhead Working Group direction, 2019-20 Layer 3 overhead is $895,988 for a Diagnostic Imaging model office with sterilization capabilities. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As seen in the next section of the report, Diagnostic Imaging submitted their Layer 3 data by group. Unlike other sections, their layer 3 costs need to be interpreted as cost per headcount instead of cost per SAE.

Layer 3: Estimated 2019-20 Overhead for Diagnostic Imaging

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$484,043
Space Costs	$121,187
Administrative Costs	$203,177
Equipment Costs	$55,856
Total Costs	**$895,988**

Layer 3 Data Sources

The nine largest Diagnostic Imaging providers in Alberta provided individual submissions to the AMA on behalf of the Section. Each group operates multiple sites. The submissions were compiled by the group's accounting departments and reflect actual expenditures, staffing levels, and clinic sizes for all radiology sites in the groups. The nine providers represent 336 physicians, which is the majority of the radiologists working in the community. AMA staff collated the information from the submissions into a database and aligned the data across submissions and with model requirements. Given the data provided, the entire radiology submission is treated as a single office with 336 physicians in the model. This office size assumption enables the total submitted workforce and equipment to be captured accurately in the model. Details regarding the approach to each cost category are described in the cost category section.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Staff positions were aligned across the nine submissions based on the two to four main duties reported in each submission. Staff types were also categorized. The amount of hours that comprised one staff FTE varied between submissions, so FTE were scaled to a 40-hour work week. The total number of scaled FTEs for each staff type were added across the submissions which resulted in the total number of each staff type for the 336 physicians represented. The total was then divided by 336 to obtain the number of staff FTEs per physician. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

In total, each physician in Diagnostic Imaging requires 6.13 staff FTEs.

Layer 3: Estimated Diagnostic Imaging Staff FTEs by Staff Type

Staff Type	Layer 3 FTEs
Reception/Booking	0.94
Admin/Transcription	0.14
Billing Clerk	0.05
Clinic Manager	0.01
Information Technology	0.16
Administrative/Clerical	0.12
Finance and Accounting	0.09
Managers/Assistant Managers	0.08
Coordinators	0.07
Business Development	0.06
Human Resources	0.05
Infrastructure/Operations	0.05
Other Administration	0.02
Medical Office Assistant/Aides	0.66
Coordinators/Liaisons/ Specialists	0.15
Clinic Managers/Assistant Clinic Managers	0.06
Registered Nurse	0.04
Clinic Directors	0.01
Licensed Practical Nurse	0.01
Sonographer	1.54
X-ray (Medical Radiation Technologist, MRT)	0.42
Mammography (MRT)	0.35
Fluoroscopy (MRT)	0.23
Nuclear Medicine Technologist	0.19
Medical Radiation Technologist	0.16
Team Leads/Leaders	0.12
Enhanced Practice	0.06
Other Specialized Technologist	0.05
Modality Coordinators	0.04
Bone Mineral Density (MRT)	0.03
Technologist Floats	0.02
Managers/Assistant Managers (Technologists)	0.02
Operations Managers/ Assistant Managers	0.04
Other Operations	0.04
Senior Executive Team	0.06
Executive Assistants	0.01
Total Staffing	**6.13**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Diagnostic Imaging model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Point of Layer 3 Diagnostic Imaging Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Billing Clerk	$22.43 per hour	$25.52 per hour
Clinic Manager	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Information Technology	$29.92 per hour	$34.89 per hour
Administrative/Clerical	$20.42 per hour	$22.96 per hour
Finance and Accounting	$33.60 per hour	$37.13 per hour
Managers/Assistant Managers	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Coordinators	$24.99 per hour	$28.10 per hour
Business Development	$28.73 per hour	$36.24 per hour
Human Resources	$32.84 per hour	$39.69 per hour
Infrastructure/Operations	$29.93 per hour	$32.61 per hour
Other Administration	$25.90 per hour	$31.90 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Clinical Coordinators/Liaisons/ Specialists	$24.99 per hour	$28.10 per hour
Clinic Managers/Assistant Clinic Managers	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Registered Nurse	$36.86 per hour	$42.54 per hour
Clinic Directors	$3,352.75 bi-weekly	$4,240.18 Bi-weekly
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Sonographer	$39.27 per hour	$44.53 per hour
X-ray (MRT)	$33.98 per hour	$39.08 per hour
Mammography (MRT)	$33.98 per hour	$39.08 per hour
Fluoroscopy (MRT)	$33.98 per hour	$39.08 per hour
Nuclear Medicine Technologist	$33.98 per hour	$39.08 per hour
Medical Radiation Technologist	$33.98 per hour	$39.08 per hour
Team Leads/Leaders	$36.81 per hour	$41.61 per hour
Enhanced Practice	$36.81 per hour	$41.61 per hour
Other Specialized Technologist	$33.98 per hour	$39.08 per hour
Modality Coordinators	$36.81 per hour	$41.61 per hour
Bone Mineral Density (MRT)	$33.98 per hour	$39.08 per hour
Technologist Floats	$33.98 per hour	$39.08 per hour
Managers/Assistant Managers (Technologists)	$36.81 per hour	$41.61 per hour

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Operations Managers/ Assistant Managers	$2,568.30 bi-weekly	$3,344.78 Bi-weekly
Other Operations	$29.93 per hour	$32.61 per hour
Senior Executive Team	$4,801.47 bi-weekly	$5,555.75 Bi-weekly
Executive Assistants	$21.48 per hour	$25.93 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Admin/Transcription	$51,504.64	$57,904.96
Billing Clerk	$42,347.84	$48,181.76
Clinic Manager	$60,611.88	$78,936.81
Information Technology	$56,488.96	$65,872.32
Administrative/Clerical	$38,552.96	$43,348.48
Finance and Accounting	$63,436.80	$70,101.44
Managers/Assistant Managers	$60,611.88	$78,936.81
Coordinators	$47,181.12	$53,052.80
Business Development	$54,242.24	$68,421.12
Human Resources	$62,001.92	$74,934.72
Infrastructure/Operations	$56,507.84	$61,567.68
Other Administration	$48,899.20	$60,227.20
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Clinical Coordinators/Liaisons/ Specialists	$47,181.12	$53,052.80
Clinic Managers/Assistant Clinic Managers	$60,611.88	$78,936.81
Registered Nurse	$69,591.68	$80,315.52
Clinic Directors	$79,124.90	$100,068.25
Licensed Practical Nurse	$49,937.60	$58,414.72
Sonographer	$74,141.76	$84,072.64
X-ray (MRT)	$64,154.24	$73,783.04
Mammography (MRT)	$64,154.24	$73,783.04
Fluoroscopy (MRT)	$64,154.24	$73,783.04
Nuclear Medicine Technologist	$64,154.24	$73,783.04
Medical Radiation Technologist	$64,154.24	$73,783.04

Staff Types	40 Hours per Week per FTE	
	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Team Leads/Leaders	$69,497.28	$78,559.68
Enhanced Practice	$69,497.28	$78,559.68
Other Specialized Technologist	$64,154.24	$73,783.04
Modality Coordinators	$69,497.28	$78,559.68
Bone Mineral Density (MRT)	$64,154.24	$73,783.04
Technologist Floats	$64,154.24	$73,783.04
Managers/Assistant Managers (Technologists)	$69,497.28	$78,559.68
Operations Managers/Assistant Managers	$60,611.88	$78,936.81
Other Operations	$56,507.84	$61,567.68
Senior Executive Team	$113,314.69	$131,115.70
Executive Assistants	$40,554.24	$48,955.84

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Diagnostic Imaging model are estimated to be $66,765.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for the Diagnostic Imaging Layer 3 is estimated to be 1,954 square feet per physician. The total space was added across the nine

submissions and divided by the 336 physicians. Building space costs per physician are estimated at $121,187 in 2019-20 in Diagnostic Imaging offices (with reprocessing) and are expected to be high as specialized features such as lead-lined walls and upgraded HVAC systems are required.

2019-20 Average Space Costs for Diagnostic Imaging Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,954	$79,137
Maintenance costs	$0.52	1,954	$1,016
Amortized leasehold improvement costs	$21.00	1,954	$41,034
Total Space Costs			**$121,187**

Administrative Costs

The administrative costs for the Diagnostic Imaging Layer 3 office were derived by adding the amounts from the nine submissions and dividing them by 336. Significant outliers in any of the administrative costs categories were discussed with the Section. For "Practitioner and patient relations," two submissions were outliers on the high end and likely included private advertising costs. The average expenditures of these top two groups were reduced to the value of the third highest submission lowering the average cost per radiologist to $6,383 (a reduction of $3,050). This change was made with the approval of the Section.

Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Diagnostic Imaging office with sterilization are assumed to have $203,177 in administrative charges in 2019-20. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Diagnostic Imaging Office Administrative Costs per Physician

Cost Type	Layer 3 Annual Cost
Telephone/Internet services	$2,000
Licensing	$9,522
Clinical insurance	$3,542
Practitioner and patient relations	$6,383
Storage of old charts	$315
Document destruction	$258
Office supplies	$8,954
Other supplies	$1,100
Medical supplies	$45,151
Medical waste disposal	$718
EMR and medically necessary software	$20,286
Equipment maintenance	$34,411

Cost Type	Layer 3 Annual Cost
Office professional services	$8,263
Computer maintenance	$20,174
Laundry services	$7,051
Staff training costs	$5,339
Staff parking	$5,260
Financing costs	$24,451
Total Administration Costs	**$203,177**

Equipment Costs/Depreciation

Equipment were aligned across the nine submissions and categorized according to the primary technology the equipment supported (i.e. ultrasound, fluoroscopy, X-ray, etc.). The number of units of major equipment was totaled across the nine submissions and divided by the 336 physicians represented. The cost of each type of equipment was averaged across submissions. Service life is based on the model's categories and the typical submission response for the specific items. The cost of the other equipment related to the technology was totaled and divided by 336. The 2019-20 medical equipment costs for Layer 3 are summarized as follows:

Modality	Equipment Type	Units	Cost	Total
Ultrasound	Ultrasound machine	521	$50,797,500	$61,291,924
	Echo ultrasound machine	39	$4,290,000	
	Automated breast ultrasound machine	8	$1,766,251	
	Ultrasound probes	501	$4,345,173	
	Other equipment		$93,000	
Xray	Xray machine	89	$21,226,945	$22,821,145
	Other equipment		$1,594,200	
Mammography	Mammography machine	69	$18,670,000	$19,470,000
	Other equipment		$800,000	
Nuclear Medicine	Nuc med camera - standard	29	$13,952,500	$16,997,500
	Nuc med camera - cardiac	3	$2,070,000	
	Other equipement		$975,000	
Fluoroscopy	C-arm fluoroscopy machine	37	$3,959,000	$10,113,750
	Fluoroscopy machine	22	$2,640,000	
	Mobile fluoroscopy equipment	8	$800,000	
	Stretcher	295	$2,138,750	
	Other equipment		$576,000	
Bone Densitometry	BMD machine	50	$4,166,600	$4,166,600
Other	Examination beds /chairs	393	$1,886,871	$2,892,670
	Other equipment		$1,005,798	
Total				**$137,753,589**
Annual cost per physician assuming 10-year service life				**$40,998**

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician are derived using straight line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). Diagnostic Imaging groups submitted their

purchase prices for each piece of required equipment. Straight-line depreciation was applied to calculate annual expenses.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Diagnostic Imaging Offices

Cost Type	Layer 2 Annual Cost	Layer 3
Reception area	$417	$947
Business office	$957	$6,311
Nursing/tech area	$729	$3,628
Examination rooms	$1,773	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$40,998
Infection prevention and control room	$957	$957
IPC staff workstation	$183	$183
Layer 2 Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$6,076**	**$55,856**

Extrapolating Costs to Community Radiologists Outside of Nine Groups that Submitted Data

The calculated Layer 3 costs represent 336 community radiologists in the nine submitting groups. An additional 86 community radiologists provided diagnostic services in Alberta in 2019-20. There are several reasons to believe that costs for these 86 radiologists are lower than those in the submitting groups. An overhead estimate needs to be attached to the 86 radiologists in order to compute the section's average Layer 3 costs.

The nine groups operate high volume clinics in Edmonton, Calgary and select regional centres. These groups provide all the community nuclear medicine radiology services in the province. Nuclear medicine has the highest cost among all of radiology's modalities based on higher equipment prices and substantially higher costs for medical supplies. It also has higher leasehold improvement costs because of the necessity of incorporating lead-lined walls into the clinic.

Radiologists in smaller centres often make extensive use of hospitals to provide lower volume and higher cost services. Radiology clinics outside of the nine groups tend to be smaller in terms of patient volumes and the number of modalities that are offered. They are also likely to be less efficient based on lower volumes.

The Section of Diagnostic Imaging President proposed that the estimated Layer 3 costs be pro-rated for the 86 community physicians. A two-prong methodology is used to prorate the measured Layer 3 costs.

The first step in this strategy is to calculate estimates of variance in physician claims between the nine groups and other community radiologists. AMA data holdings show anonymous clinic numbers and regions (based on the suspended 9 RHA maps). The AMA is not able to map the nine groups to the anonymous site numbers. Most radiologists in Edmonton and Calgary are part of the nine groups. Additionally, all nuclear medicine services and most fluoroscopy services are performed by the nine groups. Facilities were allocated to one of two groups based on these patterns. The first group includes all facilities in the Calgary and Edmonton regions and all facilities performing nuclear medicine and fluoroscopy in other regions. The second group includes all other facilities.

All radiologists with community procedure billings exceeding $100K were mapped to the facility in which they had the highest annual claims. The average annual claims of the 376 radiologists in the first group (Calgary/Edmonton/nuclear medicine/fluoroscopy) are $1.270M. The average annual claims of the 16 radiologists in the second group are $690K, 54.3% of the first group. The ratio of 54.3% is considered as a starting point for the average overhead of community physicians outside of the nine groups. Applying this ratio to the estimate Layer 3 costs yields an overhead of ($895,988*54.3% =) $486,576.

The second step is to adjust the starting point for unaccounted modalities. More physicians are included in the first group than in the submitting groups (376 vs 336). Also, costly modalities are undercounted in the second group. The Section of Diagnostic Imaging provided facility listings by service modality for the province. The file identifies if each facility is in the nine submitting groups. There are 16 sites providing fluoroscopy and 40 sites providing ultrasound in the non-submitting community facilities. The 16 physicians in the second group all provide ultrasound at a different location. As such, ultrasound facilities are undercounted by (40-16 =) 24 facilities in the data for the second group.

Incremental adjustments are made to the starting overhead of $486,576 for the 16 fluoroscopy sites and 24 ultrasound sites. These adjustments are based on the Layer 3 submissions for fluoroscopy from physician medicine and rehabilitation and ultrasound from cardiology. The Layer 3 fluoroscopy costs are $396,412 higher than Layer 2 basic office costs. The majority of these incremental costs ($339,440) are directly related to fluoroscopy (technician wages, medical supplies, equipment maintenance, and equipment) but other costs are indirect (administrative and management wages, EMR, licensing fees). For cardiology ultrasound, costs exceed Layer 2 basic office costs by $284,615 of which $204,422 are direct costs. Some cardiology equipment costs are not included as cardiac ultrasound is expensive than other ultrasound equipment. Considering only these direct costs, each ultrasound unity would add ($204,422/441=) $463.54 and each fluoroscopy unit would add ($339,400/441=) $769.71 to average radiology section costs. These costs are born by the 86 physicians in the non-submitting

group. Therefore the adjustment to the starting overhead is ($463.54/(86/441)=) $2,377.00 per ultrasound modality and ($769.71/(86/411)=) $3,946.98 per fluoroscopy modality.

Given the number of facilities reporting, the overhead for the community physicians outside of the nine groups is estimated to be ($486,576+24*$2,377.00+16*$3,946.98=) $606,776. A weighted average is used to calculate the overall Layer 3 overhead for the section of ((336*$895,988+86*$606,776)/ (336+86) =) $837,049.

Family Medicine: Patient Medical Home Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Family Medicine in Alberta, and across Canada, is moving toward a Patient's Medical Home model of care. The model strives to provide readily accessible care, centered on the patient's needs, provided throughout every stage of life, and seamlessly integrated with other services in the health care system and the community. One of the core pillars of the Patient's Medical Home is comprehensive, team-based care with Family Physician leadership. The expansion of the primary care team in the community has overhead implications which are outlined in this appendix.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $566,586 for a Patient's Medical Home model office with sterilization capabilities. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for the Patient's Medical Home

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$395,670
Space Costs	$72,828
Administrative Costs	$54,409
Equipment Costs	$11,954
Total Costs	**$566,586**

Layer 3 Data Sources

The AMA's Section of Family Medicine developed a Patient's Medical Home Model Office in 2019-20 to define the key components of a Patient's Medical Home office in relation to overhead. The Model Office was developed by a Physician Working Group and external consultants based on information gathered from a literature review and environmental scan of Alberta-based clinics operating in or close to the Patient's Medical Home. The draft Model Office was validated by nine Alberta clinics practicing in or close to the Patient's Medical Home, and three academic/practice experts. Further revisions to the Model Office were made based on the validation.

The Patient's Medical Home Model Office structure and final data were used to inform the Section's Layer 3 submission.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. The number of employees was established based on the Patient's Medical Home Model Office. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

In total, each physician SAE in the Patient's Medical Home requires 5.3 staff FTEs as follows:

Layer 3: Estimated Patient's Medical Home Staff FTEs by Staff Type

Staff Type	Layer 2 FTEs	Layer 3 FTEs
Reception/Booking	0.40	0.30
Billing Clerk		0.20
Admin/Transcription	0.10	0.55
Medical Office Assistant/Aides	0.80	1.30
Licensed Practical Nurse	0.20	0.50
Registered Nurse	0.00	0.75
Clinic Manager	0.20	0.20
Behaviour Health Consultant		0.75
POET		0.30
Dietician		0.20
Pharmacist		0.25
Total Staffing	**1.70**	**5.30**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Patient's Medical Home model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Point of Layer 3 Patient's Medical Home Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Billing Clerk	$22.43 per hour	$25.52 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Registered Nurse	$36.86 per hour	$42.54 per hour
Clinic Manager	$2,568.30 biweekly	$3,344.78 biweekly
Behavior Health Consultant	$36.96 per hour	$42.65 per hour
POET	$22.56 per hour	$25.34 per hour
Dietician	$37.85 per hour	$43.72 per hour
Pharmacist	$52.44 per hour	$56.31 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Billing Clerk	$42,347.84	$48,181.76
Admin/Transcription	$51,504.64	$57,904.96
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Licensed Practical Nurse	$49,937.60	$58,414.72
Registered Nurse	$69,591.68	$80,315.52
Clinic Manager	$60,611.88	$78,936.81
Behavior Health Consultant	$69,780.48	$80,523.20
POET	$42,593.28	$47,841.92
Dietician	$71,460.80	$82,543.36
Pharmacist	$99,006.72	$106,313.28

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Patient's Medical Home model are estimated to be $54,575.

Staffing Costs: Primary Care Network Funding

In addition to funding through the Physician Services Budget, funding for primary care in the community flows through Primary Care Networks. The funding primarily supports other health care professionals such as nurses, nurse practitioners, dietitians, pharmacists, social workers, and mental health professionals, as well as smaller amounts of funding for special projects. Primary Care Network funding is based on the number of patients attached to the physicians who are a part of the network. Team support is also allocated to individual physicians based on their number of attached patients. Depending on whether the physician is a member of a Primary Care Network, some of the staffing costs, such as the Behavior Health Consultant, POET, Dietician, Pharmacist, and potentially the Registered Nurses, may be provided in part or whole by the Primary Care Network. However, current Primary Care Network support would not address the FTE requirements of the Layer 3 model. As well,

physicians who are not linked to a Primary Care Network would not have access to any Primary Care Network support.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

Office space requirements are based on a four-SAE physician office. The model office requirement for the Patient's Medical Home Layer 3 is estimated to be 1,400 square feet per SAE physician based on the Layer 3 submission. Building space costs per physician are estimated at $72,828 in Patient's Medical Home offices (with reprocessing).

2019-20 Average Space Costs for Patient's Medical Home Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,400	$56,700
Maintenance costs	$0.52	1,400	$728
Amortized leasehold improvement costs	$11.00	1,400	$15,400
Total Space Costs			**$72,828**

Administrative Costs

The administrative costs for the Patient's Medical Home office were derived from the Section's submission. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Patient's Medical Home office with sterilization are assumed to have $54,409 in administrative charges in 2019-20. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Patient's Medical Home Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$7,962
Clinical insurance	$1,200
Practitioner and patient relations	$750
Storage of old charts	$0
Document destruction	$100
Office supplies	$3,500
Other supplies	$1,100
Medical supplies	$5,175
Medical waste disposal	$500
EMR and medically necessary software	$8,600
Equipment maintenance	$2,200
Office professional services	$1,304
Computer maintenance	$3,900
Laundry services	$300
Staff training costs	$4,242
Staff parking	$5,316
Financing costs	$6,261
Total Administration Costs	**$54,409**

Equipment Costs/Depreciation

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Patient's Medical Home Offices

Cost Type	Layer 2 Annual Cost	Layer 3 Incremental	Layer 3 Total
Reception area	$417	$0	$417
Business office	$957	$513	$1,470
Nursing area	$729	$2,311	$3,040
Examination rooms (cost of two per physician)	$3,097	$0	$3,097
Physician's office	$909	$0	$909
Conference room/staff lounge area	$150	$0	$150

Cost Type	Layer 2 Annual Cost	Layer 3 Incremental	Layer 3 Total
Medical equipment (excluding examination rooms)	$1,192	$491	$1,682
Infection prevention and control room	$957	$0	$957
IPC staff workstation	$183	$0	$183
Incremental medical equipment	$49	$0	$49
Total Equipment Costs	**$8,640**	**$3,314**	**$11,954**

Gastroenterology Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Fibroscan is a relatively new technology that measures liver fibrosis and is replacing liver biopsies. Currently, there is no Schedule of Medical Benefits fee code related to Fibroscan; however, the service is still performed in Alberta by 24 gastroenterologists specializing in hepatology.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $249,749 for a Layer 3 Gastroenterology clinic using Fibroscan. The Fibroscan model reflects the majority of Layer 2 cost with the addition of some staff and the Fibroscan equipment. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Gastroenterology Fibroscan

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$107,953
Space Costs	$58,653
Administrative Costs	$37,982
Equipment Costs	$13,436
Total Costs	**$249,749**

Layer 3 Data Sources

The AMA's Section of Gastroenterology submitted data for the Layer 3 Fibroscan model based on actual data from one clinic.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy

applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

The Layer 3 Gastroenterology Fibroscan model requires the addition of 0.25 FTE Medical Technician per physician FTE to the Layer 2 staffing compliment. The Medical Technician was added to the Layer 2 Medical Office Assistant count. Thus, 1.75 FTE staff are included in this model.

Layer 3: Estimated Fibroscan Staff FTEs by Staff Type

Staff Type	Layer 2 FTEs	Layer 3 FTEs
Reception/Booking	0.40	0.40
Admin/Transcription	0.10	0.10
Medical Office Assistant/Aides	0.60	0.85
Licensed Practical Nurse	0.20	0.20
Clinic Manager	0.20	0.20
Total Staffing	**1.50**	**1.75**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Fibroscan model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Range of Layer 3 Fibroscan Office Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Medical Technician	$22.56 per hour	$25.34 per hour
Clinic Manager	$2,568.30 biweekly	$3,344.78 biweekly

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Admin/Transcription	$51,504.64	$57,904.96
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Licensed Practical Nurse	$49,937.60	$58,414.72
Medical Technician	$42,593.28	$47,841.92
Clinic Manager	$60,611.88	$78,936.81

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Fibroscan model are estimated to be $14,890.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

Office space requirements are based on a four-SAE physician office. The model office requirement for the Fibroscan Layer 3 is estimated to be 1,128 square feet per SAE physician based on the Layer 3 submission. Building space costs per physician are estimated at $58,653 in Fibroscan offices.

2019-20 Average Space Costs for Fibroscan Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,128	$45,664
Maintenance costs	$0.52	1,128	$586
Amortized leasehold improvement costs	$11.00	1,128	$12,403
Total Space Costs			**$58,653**

Administrative Costs

The administrative costs for the Fibroscan office were derived from the Section's submission. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Fibroscan office are assumed to have $37,982 in administrative charges in 2019-20. Administrative costs are the same as Layer 2 with the exception of Staff training costs, Staff parking, and Financing costs which are increased based on the additional staff and equipment. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Fibroscan Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/internet services	$2,000
Licensing	$2,154
Clinical insurance	$1,200
Practitioner and patient relations	$200
Storage of old charts	$0
Document destruction	$100
Office supplies	$2,600
Other supplies	$1,100
Medical supplies	$5,175
Medical waste disposal	$200
EMR and medically necessary software	$7,000
Equipment maintenance	$1,600
Office professional services	$1,304
Computer maintenance	$3,900
Laundry services	$300
Staff training costs	$975
Staff parking	$1,914
Financing costs	$6,261
Total Administration Costs	**$37,982**

Equipment Costs/Depreciation

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

The office equipment for this model reflects the Layer 2 office plus a $170,000 Fibroscan machine (shared between four physicians) and minor adjustments for workstations and computers for the additional staff.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Fibroscan Offices

Cost Type	Layer 2 Annual Cost	Layer 3 Total
Reception area	$417	$417
Business office	$957	$957
Nursing area	$729	$729
Examination rooms (cost of two per physician)	$1,773	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$8,500
Infection prevention and control room	$0	$0
IPC staff workstation	$0	$0
Layer 2 Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$4,936**	**$13,436**

Ophthalmology Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

For Layer 3, there are three types of Ophthalmology offices with additional overhead: general ophthalmology, offices offering corneal services, and offices conducting retinal surgery. Each type of office requires additional staff, space, equipment, and related administrative costs. The number of ophthalmologists in Alberta who perform these services varies across the section, so the calculations have been weighted to determine the overhead amounts for the Section's Layer 3 model.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-2020 Layer 3 overhead is $1,174,171 for an Ophthalmology office. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Ophthalmology

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$626,846
Space Costs	$150,844
Administrative Costs	$208,599
Equipment Costs	$156,156
Total Costs	**$1,174,171**

Layer 3 Data Sources

The AMA's Section of Ophthalmology submitted two data submissions for Layer 3 requirements. The general ophthalmology and cornea submission represents a group opinion based on discussions with several Section members and survey responses from 8 separate clinics. The retina surgery submission is based on a survey of members for staffing and office size with nearly 80% of Alberta's retina specialists responding. Geographically speaking, clinics from Edmonton, Calgary, Grande Prairie, Lethbridge and Medicine Hat are represented in the collected data. Estimates for administration costs and equipment requirements are primarily based on a large office. Following the submissions, additional work

was conducted to standardize equipment prices and service lives for any items that had discrepancies.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: *Employee Counts*

In total, each physician SAE in the Layer 3 Ophthalmology model requires 8.86 staff FTEs. The staff compliment for general ophthalmology and cornea are the same and include 4.00 FTE Ophthalmic Technicians. Retina surgery includes slightly more Clinic Manager and Coordinator FTEs and slightly less reception/booking. Additional Medical Office Assistants (5.50 FTE), Registered Nurses (0.50 FTE), Finance and Accounting (1.10 FTE) and Human Resources (0.80 FTE scaled) staff are also required. Billing Clerks and Ophthalmic Technicians are not included in the retina surgery modality.

Layer 3: Estimated Ophthalmology Staff FTEs by Staff Type

Staff Type	Layer 2 FTEs	Layer 3 FTEs
Reception/Booking	0.40	1.99
Admin/Transcription	0.10	0.00
Medical Office Assistant/Aides	0.80	1.64
Licensed Practical Nurse	0.20	0.00
Registered Nurse	0.00	0.07
Clinic Manager	0.20	0.51
Coordinators		0.51
Billing Clerk		0.43
Ophthalmic Technician		3.43
Finance and Accounting		0.16
Human Resources		0.11
Total Staffing	**1.70**	**8.86**

Staffing Costs: *Wages*

Standardized wage rates from Layer 2 were applied to the Ophthalmology model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Range of Layer 3 Ophthalmology Staff Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Registered Nurse	$36.86 per hour	$42.54 per hour
Clinic Manager	$2,568.30 bi-weekly	$3,344.78 bi-weekly
Coordinators	$24.99 per hour	$28.10 per hour
Billing Clerk	$22.43 per hour	$25.52 per hour
Ophthalmic Technician	$33.98 per hour	$39.08 per hour
Finance and Accounting	$33.60 per hour	$37.13 per hour
Human Resources	$32.84 per hour	$39.69 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

Annual Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Registered Nurse	$69,591.68	$80,315.52
Clinic Manager	$60,611.88	$78,936.81
Coordinators	$47,181.12	$53,052.80
Billing Clerk	$42,347.84	$48,181.76
Ophthalmic Technician	$64,154.24	$73,783.04
Finance and Accounting	$63,436.80	$70,101.44
Human Resources	$62,001.92	$74,934.72

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects

average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-2020 total benefits for the Ophthalmology Layer 3 model are estimated to be $86,461.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for the Ophthalmology Layer 3 is estimated to be 2,900 square feet per SAE physician based on the Layer 3 submissions. Both general ophthalmology and cornea services require 2,800 sq. ft. per physician and retina surgery requires 3,500 sq. ft. per physician. Building space costs per physician are estimated at $150,844 in Ophthalmology offices (with reprocessing).

Space Costs for Ophthalmology Offices with Equipment Reprocessing

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	2,900	$117,439
Maintenance costs	$0.52	2,900	$1,508
Amortized leasehold improvement costs	$11.00	2,900	$31,897
Total Space Costs			**$150,844**

Administrative Costs

The administrative costs for the Ophthalmology office were derived from the Section's submissions. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in an Ophthalmology Layer 3 office with sterilization are assumed to have $208,599 in

administrative charges in 2019-2020. Costs not calculated using submission data are described in the Layer 2 report (page 60).

Ophthalmology Office Administrative Costs per FTE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$5,900
Clinical insurance	$9,888
Practitioner and patient relations	$4,910
Storage of old charts	$1,344
Document destruction	$291
Office supplies	$15,005
Other supplies	$2,567
Medical supplies	$63,429
Medical waste disposal	$2,425
EMR and medically necessary software	$9,785
Equipment maintenance	$15,158
Office professional services	$9,473
Computer maintenance	$28,597
Laundry services	$300
Staff training costs	$2,322
Staff parking	$3,857
Financing costs	$31,347
Total Administration Costs	**$208,599**

Equipment Costs/Depreciation

Ophthalmology equipment is a significant component of overhead costs. General ophthalmology requires $146,663 in equipment depreciation, cornea requires $160,413, and retinal surgery requires $206,124. The majority of the costs are specialized medical equipment and computer integration, with additional costs added to the reception, nursing, and business office areas to accommodate additional staff.

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

Annual Equipment Depreciation Overhead for Layer 3 Ophthalmology Offices

Cost Type	Transferable Layer 2 Annual Cost	Layer 3
Reception area	$417	$820
Business office	$957	$14,357
Nursing area	$729	$2,730
Examination room	$0	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$134,278
Infection prevention and control room	$957	$957
IPC staff workstation	$183	$183
Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$4,303**	**$156,156**

Otolaryngology Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Otolaryngology clinics deliver a wide range of services that require the support of additional assistants and allied health care practitioners with specialized expertise to help perform the work. The clinics also require capital intensive technology and medical equipment including specialized ear testing and audio testing, endoscopy, standard minor surgical procedures, and sterilization of this equipment. Layer 3 overhead is required surrounding audio testing and endoscopy. All the physicians who perform audio testing (audiology) also perform endoscopy; however, there are physicians who do not do audiology but still perform endoscopy. Calculations have been weighted between the two modalities to determine the overhead amounts for the Section's Layer 3 model.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $621,620 for an Otolaryngology office with sterilization capabilities. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Otolaryngology

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$264,881
Space Costs	$131,824
Administrative Costs	$158,618
Equipment Costs	$34,571
Total Costs	**$621,620**

Layer 3 Data Sources

The AMA's Section of Otolaryngology submitted data for the Layer 3 model based on actual data from one clinic that performs endoscopy and audiology services. Further information was obtained from the Section about the effects of not performing audiology services on space and administrative costs.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across sections and model Layers.

Staffing Costs: Community Office Employee Counts

In total, each physician SAE in the Otolaryngology Layer 3 model requires 4.09 staff FTEs. Weighted amounts were used to determine the staffing for the Section. Physicians performing both audiology and endoscopy require 4.70 FTE staff and physicians performing endoscopy but not audiology require 3.70 FTE staff. The different between the two models is 1.00 FTE Registered Hearing Aid Practitioner.

Layer 3: Estimated Otolaryngology Staff FTEs by Staff Type

Staff Type	Layer 2 FTEs	Layer 3 FTEs
Reception/Booking	0.40	0.50
Admin/Transcription	0.10	0.50
Medical Office Assistant/Aides	0.80	1.20
Licensed Practical Nurse	0.20	1.00
Registered Nurse	0.00	0.00
Clinic Manager	0.20	0.25
Respiratory Therapist	0.00	0.25
Registered Hearing Aid Practitioner	0.00	0.39
Total Staffing	**1.70**	**4.09**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Otolaryngology model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Range of Layer 3 Otolaryngology Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Clinic Manager	$2,568.30 biweekly	$3,344.78 bi-weekly
Respiratory Therapist	$39.27 per hour	$44.53 per hour
Registered Hearing Aid Practitioner	$20.85 per hour	$25.61 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/booking	$42,593.28	$47,841.92
Admin/transcription	$51,504.64	$57,904.96
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Licensed Practical Nurse	$49,937.60	$58,414.72
Clinic Manager	$60,611.88	$78,936.81
Respiratory Therapist	$74,141.76	$84,072.64
Registered Hearing Aid Practitioner	$39,364.80	$48,351.68

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Otolaryngology model are estimated to be $36,535.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

Office space requirements are based on a four-SAE physician office. The model office requirement for the Otolaryngology Layer 3 is estimated to be 2,353 square feet per SAE physician based on the Layer 3 submission. Otolaryngology requires upgraded ventilation equipment for its reprocessing rooms which adds to the leasehold improvement costs. Space requirements for an office performing endoscopy are 2,275 sq. ft. with an additional 200 sq. ft. for audiology. Building space costs per physician are estimated at $131,824 in Otolaryngology offices (with reprocessing).

2019-20 Average Space Costs for Otolaryngology Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	2,353	$95,303
Maintenance costs	$0.52	2,353	$1,224
Amortized leasehold improvement costs	$15.00	2,353	$35,297
Total Space Costs			**$131,824**

Administrative Costs

The administrative costs for the Otolaryngology office were derived from the Section's submission. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in an Otolaryngology Layer 3 office with sterilization are assumed to have $158,618 in administrative charges in 2019-20. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Otolaryngology Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$5,983
Clinical insurance	$4,800
Practitioner and patient relations	$4,277
Storage of old charts	$0
Document destruction	$524
Office supplies	$27,100
Other supplies	$1,100
Medical supplies	$60,000
Medical waste disposal	$3,126
EMR and medically necessary software	$7,000
Equipment maintenance	$8,000
Office professional services	$4,325
Computer maintenance	$9,442
Laundry services	$1,200
Staff training costs	$2,204
Staff parking	$3,522
Financing costs	$14,014
Total Administration Costs	**$158,618**

Equipment Costs/Depreciation

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

The addition of audiology equipment accounts for $770 of additional medical equipment per physician. There is also a minor increase in the amount for workstations and computers for the additional Registered Hearing Aid Practitioner. Otherwise, the two modalities have the same equipment.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Otolaryngology Offices

Cost Type	Transferable Layer 2 Annual Cost	Layer 3
Reception area	$417	$417
Business office	$957	$1,128
Nursing area	$729	$1,851
Examination room	$0	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical Equipment (excluding examination rooms)	$0	$27,203
Infection prevention and control room	$957	$957
IPC staff workstation	$183	$183
Medical Equipment w IPC	$0	$0
Total Equipment Costs	**$4,303**	**$34,571**

Physical Medicine and Rehabilitation Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Some of the physicians in the Section of Physical Medicine and Rehabilitation provide multidisciplinary interventional musculoskeletal pain management services. These practices require special imaging equipment such as fluoroscopy and ultrasound, technicians to run the equipment, specialize disposable procedural equipment, and personnel to assist with procedures/recovery and post-procedure rehabilitation and follow-up.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $608,103 for an Interventional Pain Management model office. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Interventional Pain Management

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$188,641
Space Costs	$141,648
Administrative Costs	$225,935
Equipment Costs	$20,153
Total Costs	**$608,103**

Layer 3 Data Sources

The AMA's Section of Physical Medicine and Rehabilitation submitted data for the Layer 3 Interventional Pain Management model based on actual data from one clinic.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

The Layer 3 model requires the addition of a Registered Nurse (0.25 FTE), finance and accounting staff (0.19 FTE) and an X-ray Technologist (1.00 FTE). In total, the Interventional Pain Management model includes 2.75 FTE staff.

Layer 3: Estimated Interventional Pain Management Staff FTEs by Staff Type

Staff Type	Layer 3 FTEs
Reception/Booking	0.50
Medical Office Assistant/Aides	0.25
Registered Nurse	0.25
Clinic Manager	0.25
Finance and Accounting	0.19
X-ray Technologist (Medical Radiation Technologist, MRT)	1.00
Total Staffing	**2.44**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Interventional Pain Management model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Range of Layer 3 Interventional Pain Management Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Registered Nurse	$36.86 per hour	$42.54 per hour
Clinic Manager	$2,568.30 bi-weekly	$3,344.78 biweekly
Finance and Accounting	$33.60 per hour	$37.13 per hour
X-ray Technologist (MRT)	$33.98 per hour	$39.08 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	**Benchmark: Minimum Amount**	**Benchmark: Mid-Range Amount**
Reception/Booking	$42,593.28	$47,841.92
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Registered Nurse	$69,591.68	$80,315.52
Clinic Manager	$60,611.88	$78,936.81
Finance and Accounting	$63,436.80	$70,101.44
X-ray Technologist (MRT)	$64,154.24	$73,783.04

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Interventional Pain Management model are estimated to be $26,019.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for Interventional Pain Management is estimated to be 2,400 square feet per physician. Electrical upgrades are required to support ultrasound services. Building space costs per physician are estimated at $141,648 in Interventional Pain Management offices.

2019-20 Average Space Costs for Interventional Pain Management Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	2,400	$97,200
Maintenance costs	$0.52	2,400	$1,248
Amortized leasehold improvement costs	$18.00	2,400	$43,200
Total Space Costs			**$141,648**

Administrative Costs

The administrative costs for the Interventional Pain Management office were derived from the Section's submission. Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in an Interventional Pain Management office are assumed to have $225,935 in administrative charges in 2019-20. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Interventional Pain Management Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$11,880
Clinical insurance	$3,990
Practitioner and patient relations	$315
Storage of old charts	$0
Document destruction	$727
Office supplies	$6,920
Other supplies	$1,100
Medical supplies	$128,270
Medical waste disposal	$2,000
EMR and medically necessary software	$28,471
Equipment maintenance	$4,506
Office professional services	$7,325
Computer maintenance	$5,345
Laundry services	$1,388
Staff training costs	$2,342
Staff parking	$2,126
Financing costs	$17,232
Total Administration Costs	**$225,935**

Equipment Costs/Depreciation

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple sections before the straight-line depreciation was applied to calculate annual expenses.

The office equipment for this model reflects the Layer 2 office with additional overhead for medical equipment (for fluoroscopy, ultrasound, and electromyography) and minor adjustments for workstations and computers for the additional staff.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Interventional Pain Management Offices

Cost Type	Layer 2 Annual Cost	Layer 3
Reception area	$417	$417
Business office	$957	$957
Nursing/tech area	$729	$1,071
Examination rooms	$1,773	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$14,875
Infection prevention and control room	$0	$0
IPC staff workstation	$0	$0
Layer 2 Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$4,936**	**$20,153**

Respiratory Medicine Layer 3 Expenses

Background

Layer 3 represents unique overhead costs beyond the basic physician office represented in Layer 2. As in Layer 2, there are five general categories of costs incurred by physicians in Layer 3: general professional expenses that are associated with being a physician (i.e., Layer 1 expenses); staffing costs; building and space costs; administrative costs; and depreciation on equipment.

Pulmonary Function Testing (PFT) enables physicians to assess respiratory physiology to support the assessment, monitoring, and treatment of medical and surgical patients. The incorporation of a PFT lab into a respiratory medicine practice has additional overhead costs including additional space; respiratory therapists; a medical office assistant; up-to-date testing equipment; and multiple perishable supplies.

Based on recommended policy and Overhead Working Group (OWG) direction, 2019-20 Layer 3 overhead is $738,647 for a respiratory physician that has a Pulmonary Function Testing lab in addition to working in a small community office. The overhead model assumes that community clinics are open and operating almost all business days. Physicians' offices are often closed for vacation periods. As such, the community costs need to be scaled to reflect typical physician workload measures.

Layer 3: Estimated 2019-20 Overhead for Pulmonary Function Testing

Cost Types	Layer 3
Layer 1 Costs	$31,725
Staffing Costs	$450,439
Space Costs	$103,520
Administrative Costs	$139,250
Equipment Costs	$13,714
Total Costs	**$738,647**

Layer 3 Data Sources

The AMA's Section of Respiratory Medicine submitted Layer 3 data for Pulmonary Function Testing labs from six clinics. These submissions represented the stand-alone costs for the laboratories. As such, they are incremental to assumed Layer 2 office costs. Each clinic completed a separate submission. AMA staff collated the information from the submissions into a database and aligned the data across submissions and with model requirements. Some clinics operated multiple locations or conducted testing for respirologists outside of the clinic. In these cases, efforts were made to identify the overhead required per physician. Details regarding the approach to each cost category are described in the cost category section.

Layer 1 Costs

All physicians have Layer 1 costs. The Layer 1 estimate of $31,725 per physician is added to the office specific costs in Layer 3 to derive Layer 3 physician overhead.

Staffing Costs

Staffing costs are calculated based on the number of employees and the wages and benefit costs per employee. Staff positions were aligned across the six submissions based on the two to four main duties reported in each submission. The amount of hours that comprised one staff FTE varied between submissions, so submissions were scaled to a 40-hour work week. Typical FTEs were calculated as average (Admin/Transcription) or median (Clinic Manager, Respiratory Therapist). The raw data showed an average of 4.33 FTE staff per lab. Standardize wages and benefits from the policy applied to Layer 2 were applied to reflect costs of the Alberta labor market and are consistent across Sections and model Layers.

Staffing Costs: Community Office Employee Counts

In total, each physician SAE in Pulmonary Function Testing requires 5.75 staff FTEs.

Layer 3: Estimated Pulmonary Function Testing Staff FTEs by Staff Type

Staff Type	Layer 3 FTEs
Reception/Booking	1.00
Admin/Transcription	0.75
Medical Office Assistant/Aides	0.80
Licensed Practical Nurse	0.20
Clinic Manager	1.00
Respiratory Therapist	2.00
Total Staffing	**5.75**

Staffing Costs: Wages

Standardized wage rates from Layer 2 were applied to the Pulmonary Function Testing model in accordance with the approach described in the Layer 2 report (page 60). The wage amounts used for this model are outlined in the table below.

Minimum and Mid-Range of Layer 3 Pulmonary Function Testing Staff 2019-20 Wage Scales

Staff Type	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$22.56 per hour	$25.34 per hour
Admin/Transcription	$27.28 per hour	$30.67 per hour
Medical Office Assistant/Aides	$22.56 per hour	$25.34 per hour
Licensed Practical Nurse	$26.45 per hour	$30.94 per hour
Clinic Manager	$2,568.30 biweekly	$3,344.78 biweekly
Respiratory Therapist	$39.27 per hour	$44.53 per hour

Annualized wage payments are obtained by multiplying the hourly wage by eight hours per day (40 hours per week) by 236 days per year as outlined in the Approach Appendix (page 36). This effectively means that the office is fully staffed all working days. Employees are entitled to annual vacation and statutory holidays. No replacement staff are introduced for these unstaffed days. Staff payments are scaled to accommodate physicians who work less than a full SAE.

2019-20 Costs by Staff Type by Wage Grid and FTE Hours Options

	40 Hours per Week per FTE	
Staff Types	Benchmark: Minimum Amount	Benchmark: Mid-Range Amount
Reception/Booking	$42,593.28	$47,841.92
Admin/Transcription	$51,504.64	$57,904.96
Medical Office Assistant/Aides	$42,593.28	$47,841.92
Licensed Practical Nurse	$49,937.60	$58,414.72
Clinic Manager	$60,611.88	$78,936.81
Respiratory Therapist	$74,141.76	$84,072.64

Staffing Costs: Benefits

Physician benefits are estimated using the methodology from the Physician Business Costs Model. A base benefit amount of 10% was included that reflects average Alberta benefits for pensions (often provided through matching RRSP contributions), health, dental and optical benefits, life and disability insurance, and Workers Compensation Benefits. A supplemental amount is added to cover mandatory government contributions to CPP and EI. The supplemental amount was updated in 2015 and was estimated at 6%. The OWG recommends that the supplemental amount be re-estimated once final wages are available. Using the 16% estimate, the 2019-20 total benefits for the Pulmonary Function Testing model are estimated to be $62,129.

Space Costs

Physicians incur several expenses related to the space associated with their office:

- Initial construction expenses, often named leasehold improvements, to transform a building space into a medical office.
- Ongoing lease, utility, and janitorial expenses.
- Routine maintenance expenses to repair facilities and keep them in good order.

Layer 3 submission information provided the office footprint for Sections that provide unique services. Rates need to be attached to the square footage estimates to determine expenses related to building space.

The model office requirement for the Pulmonary Function Testing Layer 3 is estimated to be 1,990 square feet per physician. The space requirements were averaged across the six submissions. Building space costs per physician are estimated at $103,520 in Pulmonary Function Testing offices.

2019-20 Average Space Costs for Pulmonary Function Testing Offices

Cost Type	$ / Square Foot	Layer 3 Submission Square Feet	Layer 3 Total Cost
Lease costs (includes utilities and janitorial)	$40.50	1,990	$80,595
Maintenance costs	$0.52	1,990	$1,035
Amortized leasehold improvement costs	$11.00	1,990	$21,890
Total Space Costs			**$103,520**

Administrative Costs

The administrative costs for the Pulmonary Function Testing office were derived by averaging the amounts from the six submissions. Typical costs were computed as average submitted cost rounded to nearest $25 after excluding the lowest and highest responses. The administrative costs included in the submission were for Pulmonary Function Testing only, so they were added to the Layer 2 administrative costs to represent an entire clinic.

Further clarification on certain items was obtained from the Section following staff and panel review. Overall, physicians in a Pulmonary Function Testing office are assumed to have $139,250 in administrative charges in 2019-20. Costs not calculated using submission data are described in the Layer 2 report (page 60).

2019-20 Pulmonary Function Testing Office Administrative Costs per SAE Physician

Cost Type	Layer 3 Total Cost
Telephone/Internet services	$2,000
Licensing	$8,752
Clinical insurance	$4,650
Practitioner and patient relations	$5,075
Storage of old charts	$1,900
Document destruction	$550
Office supplies	$14,150
Other supplies	$1,100
Medical supplies	$45,950
Medical waste disposal	$500
EMR and medically necessary software	$14,200
Equipment maintenance	$7,250
Office professional services	$6,254
Computer maintenance	$7,475
Laundry services	$300
Staff training costs	$5,067
Staff parking	$5,103
Financing costs	$8,974
Total Administration Costs	**$139,250**

Equipment Costs/Depreciation

The number of each type of equipment and the equipment cost were averaged across submissions. The number of units for body boxes and arterial blood gas analyzers reflect the average number of units in the submissions (rounded to the nearest unit). Total cost in the two various categories was calculated as the average submitted expenditure for a group of heterogeneous equipment. As well, only a portion of submissions listed an AED or wheelchair, but AMA staff felt these were reasonable to include these for all labs. Half the submissions include reprocessing facilities. Costs for reprocessing are estimated by adding 0.5 units of each type of reprocessing equipment to the basic community office without reprocessing. Service life is based on the model's categories and the typical submission response for the specific items. The estimated annual equipment costs for a Pulmonary Function Testing office are $13,714.

Depreciation outlays are driven by the number of units of equipment required, purchase prices, and the period (number of years) that each piece of equipment is depreciated over. Annual equipment costs per physician were derived using straight-line depreciation (i.e., purchase price multiplied by the required units and divided by the new service life). For Layer 3, Sections were asked to input their purchase prices for each piece of required equipment. The average submitted price was applied for Layer 3 equipment that was used in multiple

sections before the straight-line depreciation was applied to calculate annual expenses.

2019-20 Average Equipment Depreciation Overhead for Layer 3 Pulmonary Function Testing Offices

Cost Type	Layer 2 Annual Cost	Layer 3
Reception area	$417	$699
Business office	$957	$1,812
Nursing/Tech Area	$729	$2,267
Examination Rooms	$1,773	$1,773
Physician's office	$909	$909
Conference room/staff lounge area	$150	$150
Medical equipment (excluding examination rooms)	$0	$6,104
Infection prevention and control room	$0	$0
IPC staff workstation	$0	$0
Layer 2 Medical Equipment w/ Reprocessing	$0	$0
Total Equipment Costs	**$4,936**	**$13,714**

Addendum 1: Layer 3 Survey

Alberta Medical Association Overhead Study
Unique Office Overhead Survey

The AMA Overhead Study recognizes that some practices require additional resources over and above the basic office overhead. This fillable template is designed to collect information on total required Section resources (Layer 2 and Layer 3 expenses). Sections will be asked to present this information to the Overhead Study Panel, which is comprised of representatives from each Section, for review and discussion. ***This survey is intended to collect publicly-insured medical care only, reported on a per 1.0 physician FTE basis.***

Please enter your answers into the ***blue*** *cells. Please contact Jennifer at jennifer@kwanconsulting.ca or 780-278-5926 if you have questions about any part of this survey.*

Please return this survey to heather.sobey@albertadoctors.org *by* ***July 20, 2020****. Earlier submissions are encouraged if possible.*

Section 1: Explanation of Unique Practice

1. Services delivered and why additional resources are required

Explanation:	

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2. What 5-10 most common billing codes are associated with these services?

Most common billing codes?	

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Section 2: Staffing for Unique Practice

3. How many hours per week is a staff 1.0 FTE in the unique practice?

Number of hours per week?	

4. What staff are required for the unique practice (for publicly-insured medical care, per 1.0 physician FTE)?

Position	2-4 Main Duties	FTEs

**these boxes will expand as you type*

Section 3: Office Space Costs for Unique Practice

5. How many square feet is required the unique practice (per 1.0 physician FTE)?

Square feet per physician FTE?	

6. If not included in your lease, what is the average annual leasehold improvement and building maintenance costs for 1.0 physician FTE?

Annual average leasehold improvement and building maintenance costs?	
What does this include?	
If it is $0 this year, was it $0 last year?	

Section 4: Administrative and Operating Costs for Unique Practice

7. What is the annual cost of (for publicly-insured medical care, per 1.0 physician FTE):

Licensing (business licence, office equipment rental (copiers, printers), software (excluding EMR), College certification for medical equipment)?		
Practitioner and patient relations (building signage, patient education materials, referral forms)?		
Storage of old charts?		
Document destruction?		
Office supplies (including postage, courier fees)?		
Staff room and physician lounge supplies?		
Medical waste disposal (including sharps and pharmaceuticals)?		
Clinic insurance (practice related insurance: general liability, property, cyber, business interruption, privacy/injury, etc.)? *Please do not include physicians' or other practitioners' practice insurance.*		
EMR and other medically necessary software (including customization of forms)?		
Interest, bad debts, bank charges?		
Laundry services?		
Medical supplies?		
Equipment maintenance?		
Computer maintenance?		
Professional fees for the office/clinic (legal, accounting, etc.) *Please do not include physicians' or other practitioners' professional fees.*		
Other significant (>$1000) annual budget lines (not including equipment, computers, staffing, lease, or utility costs)?		
Budget line		
Budget line		
Budget line		
How many staff (non-physician) cell phones are paid for by the office?		

8. Are there any significant ($>1000) home office equipment costs for the unique practice (per 1.0 physician FTE)?

Equipment	Rationale	Purchase Price	Service Life (Years)	Number of Units

**these boxes will expand as you type*

Section 5: Infection Prevention and Control

9. Does the office reprocess (sterilize) medical equipment?

Reprocessing?	

Section 6: Medical Equipment Required for Unique Practice

10. What medical equipment is required for the unique practice (please do not include any equipment that would be in the majority of physician offices)?

Equipment	Rationale	Purchase Price	Service Life (Years)	Number of Units

these boxes will expand as you type

Section 7: Additional Comments

11. Do you have any comments about any of the data you are submitting?

Comments?	

this box will expand as you type

Thank you for completing the Unique Office Overhead. Please email this form to heather.sobey@albertadoctors.org *by* ***July 20, 2020*** *. Earlier submissions are encouraged if possible.*