H/TB-10('07)

PathDept

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Health & Community Services
Office of the Deputy Minister

February 26, 2007

Mr. David Gale
Deputy Minister
Public Service Secretariat

Dear Mr. Gale:

Re: Report of the External Review of Pathology Services

As directed by Treasury Board, please find attached a summary document that outlines the results of the external review of Pathology Services in the province of Newfoundland and Labrador.

The review was completed by Dr. Raymond Maung, a nationally-recognized expert in the area of pathology workload measurement.

The review identified that:

- the current total number of approved positions for pathology in the province is slightly less than what is estimated to meet the current workload;
- there is no site that has an excess of positions approved relative to the geographic distribution of work;
- the current complement of pathologists in the province, particularly in St. John's, is inadequate to meet current demands;
- nationally, there is a significant shortage of pathologists, including such provinces as Ontario. The cause of this shortage is multi-factorial and includes issues that will take many years to address;
- increased financial recognition is recommended to improve the recruitment and retention of pathologists in this province.

To address the specific area of compensation, the Department is recommending that an adjustment be made to the current Salaried Physician Policy – the *Oncology Stipend Policy*, currently covered by the MOU. Removal of one of the qualifying conditions, which will not distort the intention of the policy, will allow the financial recognition of the specialty of pathology and will improve their remunerative package to that of their Maritime and national peers. This recommended change to the existing payment policy will not impact on any other physician specialty group.

Based on the current complement of pathologists, the estimated initial cost of the policy change is $1,200,000. With successful recruitment of the 8 positions currently vacant and step progression of all pathologists to the top of the scale, the maximum annual cost would be $1,900,000. Based on current cash flow projections, the cost of the proposed change to the Oncology Stipend Policy can be accommodated within the current Salaried Physician budget for 2006/07. For future fiscal years, the Department will manage the funding requirement for pathologists within the overall allocation for Salaried Physicians.

The work of Dr. Maung was overseen by a small working committee consisting of representation from the Department (Dr. Cathi Bradbury), the NLMA (Mr. Stephen Jerrett) and the pathology group (Dr. Nash Denic). All three parties are in agreement with the analysis performed by Dr. Maung as well as the recommendations arising from his review.

I am available to meet with you to discuss the results and disposition of the report at your request.

Yours truly,

JOHN G. ABBOTT
Deputy Minister

Enclosure

REVIEW OF PATHOLOGY SERVICES NEWFOUNDLAND & LABRADOR

Submitted by
The Department of Health and Community Services

February 06, 2007

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Executive Summary and Recommendations

The review of Pathology services in the province of Newfoundland and Labrador was requested by Treasury Board, with analysis and recommendations on the following four issues:

1. the number of Pathologists (full-time equivalents), by type and location for the province required to meet current and near future demands for service;
2. a national comparison of the compensation package for clinical, insured services;
3. workload measurement tool;
4. identification of information required for input into #3.

The review was performed by Dr. Raymond Maung, a RCPSC –certified Pathologist from British Columbia who has an extensive background in Pathology workload and measurement, particularly in Canada. His work was overseen by a working group comprised of Mr. Steve Jerrett (NLMA), Dr. Nash Denic (Pathologist – Eastern Health) and Dr. Cathi Bradbury (DHCS).

Results

All sites in the province that provide Pathology services have recording systems in place that can document the current workload and efforts of individual pathologists. A representative sample of this information was provided to Dr. Maung, and formed the basis of his analysis and this report.

Based on the workload data provided, Dr. Maung's analysis indicated that **a total of 32.4 FTE of Pathology services are required to meet the current service demand.** At present, there are 30.14 FTE of Pathology services funded by the Department of Health and Community Services for the province. Furthermore, based on the current and projected shift in the province's demographics to an older population, Dr. Maung predicted that **the province's need for Pathologists will not decrease into the near future**, and may increase.

The compensation analysis was difficult in that there is no one method of remuneration for physician services in Canada, including the specialty of Pathology. However, unlike many other medical disciplines, fee-for-service is not an option for many pathologists, which helped to limit the number of provincial models that had to be considered.

Analysis of the compensation levels for Pathologists in Canada indicates that Pathologists in our province receive 61-75% of the gross income of their national counterparts and 65-86% of their Maritime counterparts.

When compared to other medical specialties, the most comparable would be the specialties of Radiology and Nuclear medicine, which also provide diagnostic services and for the majority of provinces, is performed exclusively in publicly-funded facilities. In 2005/06, a full-time fee-for-service Radiologist/Nuclear Medicine specialist in

Newfoundland and Labrador had an average income of $481,000 from MCP sources only. A full-time Pathologist in St. John's would be compensated only 40% of this amount.

Recommendations

1. That Dr. Maung's recommendations on the number of Pathologists (FTE) by type and location be forwarded to the Physician Resource Planning exercise underway by the DHCS for inclusion in the final report. The Resource Planning Committee will need to further consider and make recommendations regarding the two Pathology sub-specialties of Pediatric and Neuro-Pathology as part of its analysis and recommendations on solo practices.

2. *That the Oncology Annual Service Stipend* policy that is in effect under the *Memorandum of Understanding*, between the Government and the NLMA be adjusted as it applies to the specialty of Pathology. Removal of the registration criteria, which requires that the physician have training credentialed by the Royal College of Physicians and Surgeons of Canada in the specialty/sub-specialty of Oncology will allow Pathologists to be financially recognized under this policy.

   Recognition of the specialty of Pathology under this policy will result in compensation levels estimated to be 82-93% of their national peers and 87-107% of their Maritime counterparts for Pathologists in St. John's, depending on their step assignment and retention bonus levels.

Because the diagnostic services provided by Pathologists are critical as well as time-sensitive, it is imperative than an adequate and qualified pool of Pathologists be available at all time. Based on Dr. Maung's analysis, the province is currently short 10 FTE of Pathology services, the majority of which is in St. John's – the tertiary referral center, particularly in the area of Oncology. Throughout the country, a general shortage of Pathologists prevails, particularly in the province of Ontario. This situation is not easily remedied as Canada, on the whole, is not producing an adequate supply of Pathologists to meet its needs. In such a highly competitive market for a scare resource, attention to competitive levels of compensation is but one of the tools – albeit critical - for the recruitment and retention of physicians.

What is a Pathologist?

The following illustrative example is meant to highlight some of the functions and scope of services provided by a pathologist:

Sara has just seen a surgeon regarding a lump in her breast. While her family doctor reassured her it was likely a cyst, the possibility of breast cancer was there. Sara's mother had died of breast cancer at the age of 60, after having both her breasts removed and suffering for years with large swollen arms as a complication of her surgery.

The surgeon performed a needle aspiration of Sara's breast lump. A small needle was inserted and fluid/cells removed. The sample was sent to pathology, and the report indicated abnormal cells, with the possibility of breast cancer being the diagnosis (1-2 slides examined).

As a result of the initial pathology report, the next step was for the surgeon to perform a core biopsy with a small sample of tissue being removed from Sara's breast. This sample was again sent to pathology (6-12 slides examined), which resulted in a definitive diagnosis of breast cancer being made.

Once the pathology report was back, the surgeon outlined Sara's surgery options – ranging from the removal of only the tumor (lumpectomy) to the more invasive removal of the complete breast and lymph nodes in the armpit, based on the description of the cancer in the pathology report.

In the operating room the surgeon removed a representative lymph node from Sara's armpit. While she was still asleep this tissue sample was sent to the pathology department to be read immediately (or "frozen section". This intra-operative consultation would determine the extent of the surgery required to treat the cancer). In Sara's case, when the result came back showing no sign of cancer spread to her lymph nodes, the surgeon completed Sara's surgery quickly by removing only the tumor and forgoing the more invasive surgery options.
After the surgery was completed, the breast tissue that was removed was again sent to pathology to determine if the edges of the surgery were clear of the cancer; if not, a more extensive second surgery would be required. Analysis was also completed which described the type and severity of the cancer that Sara had (staging). The pathology report (10-15 slides examined) was good news for Sara – the initial surgery was complete, no further surgery was indicated, and the cancer type was in its early stages of development.

Six weeks after surgery, Sara was referred to the oncology service. In the interim, pathology had done further tests on the tumor and determined the cell's sensitivity to various hormones (3 slides). Based on the pathology report and staging, the oncologist diagnosed the "clinical stage" of Sara's cancer. Based on this, a course of radiation, chemotherapy and anti-hormone treatment was prescribed.

Following completion of her treatment, Sara continued to be seen at the oncology clinic. If any further tumours or spread were found, she would be referred back to the surgeon for further examination and diagnosis, via pathology.

The pathologist, in the meantime discussed Sara's case and others like her, with the oncologists in oncology rounds and radiologists in mammography rounds, two processes used to address quality assurance and patient care.

Ten years ago, if a case just like Sara's had presented for diagnosis and treatment, the work of the pathologists would have typically involved the preparation and interpretation of 3-5 slides, with a very short report outlining the result of the analysis. Based on today's standards, dozens of slides are examined throughout the course of the patient's diagnosis and treatment, with extensive, standardized reports being generated by the pathologist.

This true-to-life example is intended to illustrate one of the primary roles of a pathologist; to diagnose illness, particularly cancers, and to provide information that directly affects a patient's treatment. When most people think of pathology, they often think of the old TV show Quincy, and that Pathologists deal primarily with "dead people". The reality is that while the performance of autopsies is one of the roles of a pathologist, it typically involves less than 1% of their time. A pathologist's focus is on the living – to diagnose, provide information and recommend treatment to physicians that help to determine a course of medical care for a patient – all in an accurate and timely fashion.

Review of Newfoundland & Labrador Pathology Services

Background – The Provincial Picture

Pathology – Number of Positions and Full-Time Equivalents (FTE)

There are 31 funded salaried Pathology positions in the province of Newfoundland and Labrador, covering seven (7) different geographic sites:

RHA	# of Pathology Positions	# of Positions by Site
Eastern Health	21	18 - St. John's 1 - Carbonear 2 - Clarenville
Central Health	4	2 - Gander 2 - Grand Falls/Windsor
Western Health	5	5 - Corner Brook
Labrador/Grenfell	1	1 – St. Anthony

Of the 31 positions, 9 are designated at something less than full-time employment for the provision of clinical services; ***6 positions have a University commitment (GFT component),*** 1 position is less than full-time, and 2 positions provide a significant administrative role within the respective RHA, but outside of Pathology services.

RHA	# of Positions	Full-time Equivalent (FTE) (Clinical, Academic & Administration -Pathology Only)
Eastern Health	21	20.43
Central Health	4	4
Western Health	5	5
Labrador/Grenfell	1	.71
Totals	**31**	**30.14**

Physician Recruitment and Retention Analysis

Vacancy Analysis – Historical

The workload presented to a Pathologist is beyond their control, i.e. it is determined by the number and type of diagnostic services required by other physicians to do their work, e.g. the number of breast biopsies performed by surgeons, or PAP smears performed by General practitioners, etc.

In addition, most physicians have either physical or temporal limitations in terms of office or operating room time that limits the number of consultations and procedures that they can perform. If these limits are exceeded, a "waiting period" is the result. Pathologists do not have these physical limitations. As such, all laboratory data and slide interpretations by pathologists must be performed, which may take precedence over other duties, such as Quality assurance activities.

Because the diagnostic services provided by Pathologists are critical as well as time-sensitive, it is imperative that an adequate and qualified pool of Pathologists is available at all times.

In the recent past, the issue of vacancies in Pathology, and therefore workload, has been primarily concentrated in the Central and Eastern RHA's.

For Central, with only 2 positions per geographic site, a vacancy results in a single Pathologist having to be available and on-call 24/7, if a locum replacement is not available.

As a result of vacancies, maintenance of work output in a timely manner has been the major issue for Eastern Health. In order to address the challenges created by vacancies, since January 2006, Eastern Health has sent 600 specimens per month out-of-province for reporting in order to provide results in a time-sensitive manner. As the tertiary referral center for highly specialized services and second opinions, vacancies in this region impacts on all other regions. Further, any decrease in physician resources in the St. John's region will have a negative impact on the residency training programs, as well as the teaching commitment this program has with the medical school.

Locum coverage is a critical element of any professional service, and particularly in a diagnostic area, where workload is independent of vacancies, and any type of leave taken by incumbents (4 weeks annual leave, 2 weeks for Continuing Medical Education, etc.) During the same 2-year time period noted above (September 2004 to August 31, 2006), a provincial total of only 356 days of locum coverage were invoiced to the Department of Health and Community Services – a little more than **6 days per position/per year, *assuming that all positions were occupied.***

RHA	% of Total Position Vacant	Total Number of Locum Days
Eastern	14.21%	190
Central	27.36%	131
Western	0.0%	0
Labrador/Grenfell	0.0%	35
Provincial average	**12.60%**	**356**

Vacancy Analysis - Current

Currently, there are 4 vacant positions in St. John's, with an additional loss of 2 more Pathologists anticipated by the end of March 2007. This will result in a vacancy factor of 33% for the city. Outside of St. John's, there are two positions vacant at the present time 1 in Clarenville and 1 in Gander. Combined, this will result in a Province-wide vacancy factor of 26%.

RHA	# of Pathology Positions	# of Positions Vacant
Eastern Health	21	7
Central Health	4	1
Western Health	5	0
Labrador/Grenfell	1	0

Physician Turnover

Once recruited, the retention of qualified and competent medical practitioners is the cornerstone to Quality assurance programs.

The following summarizes the turnover experienced in the provinces for all Pathology positions over a 4-year period, **from April 01, 2002 to March 31, 2006:**

RHA	Turnover %
Eastern	29%
Central	50%
Western	40%
Labrador/St. Anthony	0%
Provincial total	**32%**

Nine positions have turned over at least once over the last four years – or 29% of all of the positions in the province. One position turned over twice.

Retention of qualified staff in the Adult Pathology Division in St. John's has been a particular challenge. Since 1996, there have been 33 physicians who have filled the 18 positions dedicated to Adult Pathology services – effectively, an 83% turnover factor for this physician group. There are only 8 positions that have not turned over since 1996: however, two of these positions are now vacant due to 1 physician retirement and 1 physician death. Two of the positions have had 4 recruits each in the last 10 years.

Demographics of the current Pathology Workforce in NL:

As of March 31, 2006 the following summarize the demographics of the Pathology workforce in Newfoundland and Labrador:

	Age 30-39	Age 40-49	Age 50-59	Age 60-69
Head count of Pathologists	4	16	8	2

As of March 31, 2006:

- The average age of a Pathologist in practice in Newfoundland & Labrador is 48, with the range being ages 31 to 64. In 1999-2000, the average age of a Pathologist in the province was 46.
- Twenty-six % are in the pre-retirement age of 50-59. This is less than the national average of 35% (*BC Laboratory Services Review, July 2003* – Lillian Bayne & Associates).
- Forty percent (40%) of Pathologists were female in 2006/07, down from a high of 48% in 1999-2000.
- Sixty-one percent (61%) were International medical graduates and 36% were Memorial University graduates. There was only 1 graduate from another Canadian medical school.

Background – The National Picture

Physician Resource Needs

In a survey done by the Canadian Association of Pathologists in 2002, there was a 9.5% decrease in the number of full-time practicing Pathologists in Canada over the preceding 10 years – 1,203 to 1,089. *(Sullivan, P., Delays in Cancer Diagnosis loom, lab medicine specialists warn, CMAJ 2002, 167 (6):683).*

This decrease has occurred at the same time that ongoing advances in science and technology have created an increasing need for more sophisticated and numerous laboratory tests, particularly in the area of cancer diagnosis. This trend would require additional Pathology expertise and resources, not less.

In an discussion paper authored by the Physician Working Group, Provincial Advisory Group and the Ontario Regional laboratory Services Planning Program, a shortfall of 150 laboratory physicians (majority being Pathologists) was identified in Ontario in 2001.

Despite this projected shortfall, Ontario had only 12 Pathology positions in the CaRMs (Canadian national residency matching system) match in 2005/06. A similar picture of undersupply and "underproduction" can be documented in all other provinces in Canada.

Pathology Training Programs

In order to become a Pathologist, a medical student must undertake a minimum of 5 years additional study in a post-graduate residency program in the specialty – the same as all other specialty groups. All residency positions offered by Canadian medical schools are entered into a national matching program (CaRMS), which matches residency positions and applicants following a ranking process.

A steady decline in the number of medical graduates entering residency programs in laboratory medicine in both the U.S. and Canada has been documented. (*Garcia, B. M. Recruitment into Pathology Residency Programs" Can our Undergraduate Pathology Programs Affect the Outcomes? University of Western Ontario).*

With changes to the residency program and elimination of the general first year rotating internship, less and less medical students are being exposed to laboratory services and are therefore not choosing this field as their area of post-graduate study.

In 2006 there were only 21 first year residency positions available for Laboratory medicine. Following the most recent match, in 2006, 20 of the 21 positions were filled with successful applicants. However, of the 1200+ graduates from Canadian medical schools, only 30 identified Laboratory medicine as a career choice. Fourteen of the 30 were successful in obtaining residency positions in this field. The remaining 6 positions were filled by International medical graduates. **There have been no Memorial medical students apply to the specialty of Laboratory Medicine since 1998.**

In addition to being currently under-resourced in the specialty of Pathology in the country, it is clear that the number of graduates from Canadian medical schools will not meet our future needs.

- In 2001, only 50% of the Canadian training positions for Laboratory medicine were filled;

- In 1992, 55 residents graduated from Canadian medical school Pathology residency positions. On an annual basis this figure has ranged from a high of 58 in 1993 to a low of 42 in 1999. Since 2000, the annual numbers of Pathology graduates has been 44, 36, 24, 29, and 27 respectively.

A. PATHOLOGY WORKLOAD MEASUREMENT & ANALYSIS[1]

There is no one nationally-accepted benchmark for determining the number of Pathologists needed in a geographically defined area.

Historically, a region or province has looked at such things as its physician to population ratios compared to other provinces, nationally or internationally. e.g. in 2001, the Canadian pathologists per 100,000 population was 3.8 versus 6.8 in the United States of America. The biggest criticism of this approach has been that it does not take into consideration the complexity of the work done, or regional variations. Furthermore, a comparison to an area or region that is under-resourced itself, will only serve to enshrine ongoing under-resourcing in the area being reviewed.

Recent trends in most province's that have undergone review is a bottom-up approach, whereby all of the work and responsibilities associated with the service are identified at the individual physician level and subsequently converted in a required number of physicians required, or Full-time equivalents (FTE). This type of methodology is of critical importance in St. John's, which has seen the total number of work units for Pathologists increase by 29% between 1999 and 2005. During the same period of time, no new Pathology positions were created.

The workload required of a Pathologist is both regional, site and physician specific. Having said that, the general categories of Pathology work can be divided into:

1. Clinical services – related directly to diagnostic services provided to a patient, which include both Anatomic and Clinical Pathology services.
2. Administrative duties – related to direct patient care as well as to meeting the needs of the RHA;
3. Teaching and research, particularly as it related to MUN Medical school;
4. Services unique to a facility

Clinical Services:

The external consultant used to complete the review, used the ***Level 4 Equivalent Model*** (L4E) to determine the full-time equivalent requirements for clinical services, specific to anatomic pathology.

The L4E model is a weighted specimen calculation, which divides specimens into 6 levels and gives a weight to each level according to the degree of difficulty and responsibility in relationship to Level 4 (given a value of 1) – hence the name, Level 4 Equivalent. The less complex specimens (Levels 1 to 3) have a lower L4E value and the

[1] The information contained in this document regarding Pathology workload and requirements was provided by Dr. Raymond Maung, a certified Pathologist in British Columbia through an external consultancy contract with the Department of Health and Community Services. His C.V. is attached as an Appendix to this document.

more complex specimens (Levels 5 and 6) have higher value. Thus, the L4E model is a weighted specimen calculation.

This model correlates well with several other models currently described in the literature, including the CPT coding system from the US and the Royal College of Pathologists of the UK and the recommendations from the Royal College of Physicians and Surgeons of Canada.

> ***Note: The L4E methodology is not applicable to the Pathology sub-specialties of Pediatric and Neuropathology. For these two services, an assumption made was that one Pathologist per service (current staffing levels) is required. The issue and challenges associated with the maintenance of a solo specialist/su-bspecialist will be referred to the Physician Resource planning exercise for consideration and further recommendation.***

When comparing the various models, the recommended L4E per full-time Pathologist is:

Model	Recommended Workload per FTE
Dr. Maung's study	**3455 L4E**
The Royal College of Pathologists (UK)	3000 L4E
The Royal College of Pathologist (UK) **adapted to Canadian hours of work**	3570 L4E
Medical Group Management Assoc. (USA)	3442 L4E

The validity of Dr. Maung's model is further confirmed by converting his L4E model to the more traditional physician per population ratios. The Royal College of Physicians and Surgeons of Canada uses a ratio of 1 Pathologist to 24, 500 patient services. Dr. Maung's model results in a ratio of 1:25,819.

For **Anatomic Pathology** services only, and using the L4E model, the following FTE of Pathologists is required:

Facility	James Paton	Central West	Western Memorial	Clarenville	Carbonear	St. John's	St. Anthony
FTE	1.81	1.84	3.42	1.16	0.89	10.49	0.83

It is generally accepted practice in Canada to use a ratio to determine the Pathology resources required for Clinical Pathology and administration, based on the FTE for Anatomic Pathology, i.e.

Anatomic Pathology: Clinical Pathology = 2:1

This ratio has been determined based on actual "time studies" performed in Canada. However, use of this ratio to determine Clinical and administrative needs in this review is limited to Pathology Departments outside of St. John's. For St. John's laboratory, which is devoted to Anatomic Pathology services only (Clinical pathology services are provided by other specialists), the resource need must be tailored to meet its many roles, including as a tertiary referral center, the academic requirements for the undergraduate and post-graduate teaching programs, and research.

To determine the FTE required in St. John's for these services, an estimation was provided by each individual physician employed at the time of the percentage (%) breakdown of their time commitments for each of the various services, which were then averaged. Reasonableness of the information was confirmed by comparison with similar teaching sites elsewhere in North America.

For **Clinical Pathology and administrative** (specific to Pathology only) services only, it is estimated that the following additional FTE of Pathologists are required:

Facility	James Paton	Central West	Western Memorial	Clarenville	Carbonear	St. John's	St. Anthony
FTE	.905	.92	1.71	.58	.445	2.5	.415

Services Unique to a Facility

In his review, Dr. Maung including specific FTE adjustments for St. John's based on the academic needs of Memorial Medical school. Based on comparable programs, he estimated that an additional 2.5 FTE are required.

Summary:

Based on Dr. Maung's review and analysis the **Total FTE of Pathology services** required at each of the current seven sites can be summarized based on the following table:

	James Paton	Central West	Western Memorial	Clarenville	Carbonear	St. John's	St. Anthony
Anatomic Pathology	1.81	1.84	3.42	1.16	0.89	10.49	0.83
Clinical & Administration	.905	.92	1.71	.58	.445	2.5	.415
Academic						2.5	
Pediatric and Neuropathology						2	
Total	**2.71**	2.76	**5.13**	**1.74**	**1.33**	**17.49**	**1.24**
Provincial Total							**32.4**

In his analysis Dr. Maung also suggested consideration of an additional 2 FTE in St. John's in recognition of their responsibility of being the consultative centre for difficult cases and to act as the overflow centre for the province. This recommendation is not reflected in the above numbers.

Analysis

Based on Dr. Maung's assessment of Pathology resources required, an analysis can be performed looking at any "gap" that might exist between the FTE required and the number of FTE of salaried positions approved, as well as the number of current incumbents.

	James Paton	Central West	Western Memorial	Clarenville	Carbonear	St. John's	St. Anthony
FTE required	2.71	2.76	5.13	1.74	1.33	17.49	1.24
FTE funded (DHCS and MUN)	2	2	5	2	.945	17.8	.71
GAP	**-.71**	**-.76**	**-.13**	**+.26**	**-.39**	**+.31**	**-.535**

Based on Dr. Maung's analysis, current workloads indicate that an additional 1.5 FTE of Pathology positions should be funded for the Central region and 0.5 FTE for St. Anthony. All remaining sites are at or very near their requirements for the funding of positions.

What are Newfoundland and Labrador's needs anticipated to be for the future?

Pathology services have witnessed increases in the complexity of the work, more intensive informational needs of physicians to diagnose and treat patients, increasing attention to reduce medical errors and the upgrading of standards and reporting requirements. If these trends continue into the future, as is anticipated, no decrease in Pathology resources can be anticipated.

Despite the recent and anticipated future decreases in Newfoundland and Labrador's population, the changes in the aging demographics of our population – the shift towards an older population –will more than off set any population decline, e.g. in Kamploops, B.C., the number of units of pathology services for the 65+ age group are 40% greater than those provided to the 45-64 age group.

B. COMPENSATION FOR PATHOLOGY SERVICES

There is no one method of remuneration for physician services, including the specialty of Pathology. Main methods of remuneration include Fee-for-service, salaried, fixed contract, and blends of those three main methods. Pathology remuneration is further complicated by the presence/absence of private laboratories that require operational payments (often made to the Pathologists, and at a profit) as well as private, third party services, e.g. second opinions, non-Canadian beneficiaries, etc.

Unlike many other medical disciplines, fee-for-service is not an option for many pathologists. Although the fee-for-service has its own inherent problems, it does recognize workload. In the majority of centers across Canada, pathologists are paid either by salary or fixed contract. As workload has increased over time, however, these two models have failed to recognize this. In the province of Newfoundland and Labrador all Pathologists are salaried and work in publicly-funded health care facilities. There is also little, if any, third party, non-insured work performed.

Based on the current complement of Pathologists in the province and the need estimated by Dr. Maung, compensation is a critical recruitment factor, particularly for new graduates with debt loads in the range of $125-$150K upon completion of their residencies. The main reason given by the last 16 physicians who were attempted to be recruited to the province but did not accept a position, was compensation.

Pathology Compensation in Newfoundland and Labrador

All Pathologists in NL are on the provincial salaried specialist scale; Fee-for-service remuneration for clinical services is not an option.

Pathologists are on a 5-step scale, ranging from $141,600 at Step 1 to $169,920 on Step 5. In addition, they are eligible to receive an annual retention bonus, which varies based on years of retention and geography, ranging from a low of $4,000 to a maximum of $36,000. The maximum retention bonus in St. John's, where more than half the Pathologists in the province are located is $12,000.

Pathology Compensation

In completing an inter-provincial comparison of payments to Pathologists, many difficulties were encountered. These include:

- differing compensation and benefit structures within and between provinces;
- the ability of some pathologists to supplement their public sector incomes with private sector fee-for-service billings. Total incomes of pathologists in this "hybrid" group are estimated at well over 2 to 3 times those of the salaried or contracted pathologists;

- supplementation of clinical income from other things such as medico-legal autopsies, private Laboratory work (none in NL), consultations, and University appointments.

- Individual or regional "deals" based on need and ability to pay that are negotiated outside of provincial agreements with physicians (not considered in the following analysis)

Comparison of Pathology Compensation – National and Maritime

SEE ATTACHED COMPENSATION WORKSHEET – Appendix A

Based on the province-specific information provided in Appendix A, the average compensation for a Pathologist in Canada (excluding NL) is estimated to be $248,863 ranging from a low of $211,172 to a high of $311,725. Not factored fully into this analysis is Ontario, which established a province-wide Uniform **Minimum** Level of Compensation (UMLC) per FTE, which has no maximum and does not limit greater pay than what is stated in the Appendix. The UMLC for the fiscal year 2005/06 was $316,200 and is estimated to be $330,000 for 2006/07.

Based on the analysis, a Pathologist in St. John's would be compensated between 61 - 70% of the national averages (lowest and highest), depending upon their individual step assignment and retention bonus level.

A similar exercise for Pathologists in the Maritime provinces estimates their average level of compensation at $225,287, without the opportunity for step advancement. A Pathologist in St. John's would be compensated between 65-81% of their Maritime peers, again depending upon their individual step assignment and retention bonus.

Pathologists outside of St. John's would have a higher % of compensation due to higher retention bonuses, but would still be 63-75% of their national peers and 66-86% of their Maritime peers.

Comparison of Pathology Compensation with other Specialty Groups

The most obvious specialties to compare Pathology remuneration to are the specialties of Radiology and Nuclear medicine. Both specialties perform diagnostic services and the work is, for the majority of provinces, performed exclusively in publicly-funded facilities.

According to the 1997 Revenue Canada Net Income Sources, Pathologists earn 30-32 % less than physicians in the fields of Radiology and Nuclear Medicine. With the increases that have been awarded to Fee-for-service in the interim, this gap is anticipated to have widened even further.

In 2005/06, a full-time FFS radiologist/Nuclear Medicine specialist in Newfoundland and Labrador had an average income of $481,000 from MCP sources only. A full-time Pathologist in St. John's, at the top of the salaried scale and retention bonus grid, is compensated only 40% of this amount currently.

Comparison with Salaried Specialists recognized for Oncology Services

Within our own province, in the Arbitration process of 2002, the specialty of Oncology was noted to be both hard to recruit as well as a scarce resource on a national basis. Following their review, the Arbitration Board recommended that the provincial specialist scale be adjusted to recognize the recruitment and retention challenges facing the Oncology specialties. A stipend grid was recommended to address these circumstances based on the following 5-step scale:

Step 1	Step 2	Step 3	Step 4	Step 5
$50,000	$56,250	$60,000	$60,000	$60,000

Based on the arbitration panel direction, a provincial policy was developed and implemented regarding the physician groups who should be recognized as eligible to receive the Oncology stipend (**See Appendix B**). Two of the main eligibility criteria include:

- a minimum of 80% of the physician's workload must be in the field of Oncology; and
- a specialty or sub-specialty designation recognized by the Royal College of Physician and Surgeons in the specialty field of Oncology.

Based on the policy, the stipend is now applied to the specialties of Radiation Oncology, Medical Oncology, Gynecological Oncology and Hematology/Oncology – both Adult and Pediatric.

Clinically, 100% of the tissue specimens reviewed by Pathologists are screened regarding the potential diagnosis of cancer. Approximately 50% of their diagnoses made as a result of their examinations are for cancer. However, this group does not meet the policy's second eligibility criteria; namely, being a recognized Oncology specialty or sub-specialty of the Royal College of Physicians and Surgeons.

If the specialty of Pathology in NL were deemed eligible for the Oncology stipend current in effect for salaried physicians in the province, a St. John's pathologist's compensation would be estimated at 82-93% of their national peers, and 87-107% of their Maritime peers, depending on their step assignment and retention bonus level.

C. WORKLOAD MEASUREMENT TOOL

Dr. Maung's L4E analysis was used to estimate the number of Pathologists (full-time equivalents) required to meet the current service needs in the province. This weighted-specimen analysis could be used to measure and monitor individual physician workload effort. All of the necessary information is currently captured by existing administrative data banks within the hospital facilities and is physician-specific.

Recognition of administrative, teaching and research requirements can be agreed to between Eastern Health, Memorial medical school and each individual physician. Once the % of time required for administrative/teaching and research are determined, a parallel reduction in clinical workload expectation and demand can be made.

Whether work effort should be collected at the group level versus the individual could be at the discretion of the individual RHA, in consultation with the Department of Health and Community Services.

APPENDIX A

Interprovincial Compensation Comparison for the Specialty of Pathology

Province	Type of Remuneration	Low	High	Effective Date	
Newfoundland Labrador	salary	$141,600	$169,920	1-Oct-06	5-step salaried scale. Does not include an Range of retention bonus is $4,000 to $36, on-call rate of $140.00. No third party billin
Prince Edward Island	salary	$210,000	$210,000	1-Oct-06	Four class-specialist scale. Pathologists a not include up to $7000 per annum per Pat
Nova Scotia	Alternate Funding Plan	$254,690	$254,690	1-Oct-06	Rate quoted is for the Alternate Payment p revenue shares reported for 2006/06 range regional arrangements.
New Brunswick	salary	211,172*	211,172*	1-Oct-06	10% in lieu of benefits. Can also bill for aut 35% premium on rates quoted) .Receive $ evening, weekends and stat holidays, $23
Ontario	UMLC standard	$300,000	No upper limit	2005/06	As of 2004, a new MOU with the OMA wa with no maximum and does not limit greate $330,000 for April 06/07. Includes compen benefits., or the value of fees received with consultations, etc.
Manitoba	2 - step salary scale	$223,560	$250,627	1-Apr-06	Salary range quoted is applicable to Patho April 01, 2007. Outside of Winnipeg, salar
Saskatchewan	4-step salary scale	$228,485	$262,758	1-Apr-05	Department will fund up to a maximum of $
Alberta	4 step grid	$267,974	$311,725	2005	Developed in 2001 based on the Vancouv
British Columbia	Salary	$215,553	$269,441	1-Apr-06	4 methods of payment, salary and fixed pr Salary can be anywhere on the range, i.e..

Appendix B

11. Oncology Annual Service Stipend

(a) Oncologists may be eligible to receive an Annual Service Stipend based on a 5-step grid that is paid out on their anniversary dates.

(b) Physician Eligibility

1. This arrangement will continue during the life of the MOU, and will include only those Oncologists employed on or before October 1, 1998.

2. For those Oncologists entering employment after October 1, 1998 the following criteria must be met:

Registration Criteria:

(i) Salaried specialist physician in Newfoundland and Labrador;

(ii) Credentialed training recognized by the Royal College of Physicians and Surgeons of Canada in the specialties of either Radiation Oncology and/or Medical Oncology; or Sub-specialty training in Oncology within the Disciplines of Pediatrics, Internal Medicine or Surgery, recognized by the appropriate chapter of the Royal College and/or Newfoundland Medical Board;

(iii) Cross-appointment with the Newfoundland Cancer Treatment and Research Foundation;

(iv) A member, in good standing, of the Medical Staff of NCTRF, or other regional health care Boards.

Service Criteria:

(i) Oncology services provided by the physician must include:
- (a) direct patient care,
- (b) indirect patient care,
- (c) teaching and research duties.

(ii) Physician must be willing and able to act as a provincial resource for patient care.

(iii) 75% or more of clinical work carried out must be in the specialty/sub-specialty of Oncology.