

Physician Human Resource Report

**Final Report Submitted to:
Department of Health and Wellness,
Prince Edward Island**

Hay Group Health Care Consulting

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1.0 Introduction

The Department of Health and Wellness of PEI sought a consultant help create a credible physician human resource report

The Department of Health and Wellness of the Province of Prince Edward Island sought a consultant to develop, collaboratively with Department of Health and Wellness staff and the Medical Society of Prince Edward Island, a credible physician human resource report. Hay Group Health Care Consulting was contracted to provide this assistance.

1.1 Background

PEI has a Physician Resource Planning Committee (PRPC)

Prince Edward Island established a Physician Resource Planning Committee (PRPC) in 1988. The mandate of this committee is to provide advice to the Minister on the appropriate number, mix and distribution of physicians by specialty for the province. The committee is composed of four persons appointed by the Medical Society of Prince Edward Island and four persons appointed by the Minister.

The committee is mandated to recommend an appropriate and affordable number of physicians, and to provide recommendations on the distribution of the physician human resource. It is also responsible for advising the Minister on the implementation, management and amendment of the human resource plan, based on requests received from hospitals pertaining to adjustments to the physician complement.

The Department of Health and Wellness also operates a recruitment and retention Secretariat that assists physicians and communities seeking permanent or locum physicians.

The current complement of approved full-time positions for the province is 220. At the time this undertaking commenced, there were 3.6 full-time equivalent vacancies in diagnostic imaging, but no other discipline had more than one unfilled position.

Two models of physician compensation

There are two models of physician compensation in Prince Edward Island. Physicians are reimbursed either in a fee-for-service or alternative payment model, which may take the form of a contract, contract plus fee-for-service, or a salary. As of July 2009, approximately two thirds of the physicians in the province were compensated in a model other than fee-for-service.

1.2 Objectives

The specific objective was to anticipate the needs of the population for physician services for the next five to 10 years. While the exercise focused largely on physician needs, in an era of increasing focus on interdisciplinary and team based approaches to care, as well as chronic disease management, health human resource strategies are heavily dependent on the resources of non-physician professionals (such as dietitians, social workers, nutritionists, etc.). Thus, it is necessary to develop a “health human resource plan” in order to accurately predict the need for physician resources.

Specific Parameters for the Study

Specific parameters for this exercise included:

- Assume, wherever possible, an evidence based/best practice model of care which places emphasis on primary and preventive care
- Assume that the consumption of resources and the utilization of non-physician, family physician and consulting physician services reflects the literature on best practice
- Identify clinical services that cannot be cost justified in Prince Edward Island, and the volume of services that will subsequently need to be provided in adjacent provinces
- Anticipate the incorporation of nurse practitioners
- Use a methodology that is based on population health, rather than ratio based approaches for human resource planning
- Reflect not only the clinical needs of the population, but also the requirements of the family medicine residency program of Prince Edward Island
- Review the current impact analysis model and make suggestions for its modification, where appropriate.

This report summarizes our process, findings and recommendations.

2.0 Methodology

Variety of processes used to achieve objectives

In the course of this undertaking, we have reviewed the requirements to support patient care, teaching, and research (including clinical research).

In compiling this report, a variety of processes have been used. These include, but are not limited to, data review, literature review, reviews of existing documents pertaining to health planning for the province, reviews of medical staff bylaws and rules and regulations, reviews of previously conducted health planning exercises (including the Corpus Sanchez study and the surgical services review), a review of pertinent medical literature, and reviews of agreements between the province and Dalhousie medical school, other Canadian provinces, and physicians practicing in Prince Edward Island.

The data review has included a review of fee-for-service and shadow billing data, CIHI data, in patient and out-patient surgery volumes, and records of PEI residents hospitalized in other provinces.

Utilizing this data, we have determined the volume of service offered to residents of Prince Edward Island, both in the province and in sister provinces. We have also, utilizing population projections, determined whether the volume of need for service will increase or decrease over the next five to 10 years for each discipline or specialty. This is been tempered by estimates of the impact of strategies such as chronic disease management, enhanced prevention, or primary care reform.

We have also estimated the human resource needs the province will incur as a consequence of the family medicine residency program, including not only the current volume of residents (5), but the anticipated growth to a total of 10 residents in the next year.

An agreement with Memorial University to increase the province's commitment to undergraduate medical education is currently before government. This may increase PEI's involvement to 44 months per year of undergraduate supervision over the next 5 years.

We have measured, using provincial billing data, individual physician productivity, and compared it with that of specialists working in other geographic constituencies utilizing the CIHI/Hay Group benchmarking comparison of Canadian hospitals as a measure of productivity as pertains to inpatient care. The peers were chosen to match the size, nature and care profile of the hospitals in

Prince Edward Island. They are community based hospitals with a small or limited teaching profile, offering generalist specialist support in communities of small to medium size. It is recognized that the metric we have used reflects hospital based activity, but the distribution of “hospital based” as opposed to “community/office based” time by the physicians in the peer communities chosen is not, to our knowledge, different from that in PEI. In this report, we present our analysis of physician productivity, identify whether current productivity appears to be high or low (relative to peers), suggest reasons why this may be true, and strategies that may or should be used to address productivity issues.

By applying the current or target productivity to projections for required future service volumes, we have been able to provide an estimate of the number of physicians required to meet the future service needs of the population by specialty or subspecialty. These estimates are based not only on service requirements, but also reflect the opportunity to further incorporate alternate care providers into the clinical service delivery model. Readers are encouraged to remember that many of the recommendations in this report are “interdependent” in nature, and cannot be conceptualized or implemented in isolation. For instance, the suggested changes in the number of Family Physicians can only be achieved once the recruitment of other health care professionals (e.g. nurse practitioners, physiotherapists, etc.) have been not only planned but achieved. Consideration of the relocation of surgical activity must be accompanied by a shift in nursing, anaesthesia, equipment and other resources. Failure to coordinate these changes will result in adverse outcomes.

Recognizing that physicians only have a finite capacity to provide after-hours services, we have commented, where appropriate, on the current or anticipated future viability of each service, based on whether or not a sufficient critical mass of clinical activity exists to support enough physicians to maintain work-life balance.

This report contains a detailed annotation of our projections for the number of physicians required based on the criteria outlined above. It also contains our review of the current impact analysis process, and the province’s recruitment and retention practices.

During the course of this review, some responsibility for the governance of health services in Prince Edward Island shifted from the Department of Health and Wellness to the newly created Health PEI. As a consequence, some responsibilities for physician and other health professional resources were transferred to Health PEI. While

some of the recommendations in this report are directed specifically to either the Department of Health and Wellness or Health PEI, it is not the intent of the consultants to have the recommendation(s) acted on by a group that will not ultimately take responsibility for the specific undertaking. Rather, the two bodies should determine, based on their legislated mandates, which should take responsibility for each recommendation.

We wish to take this opportunity to thank all those who contributed to this undertaking, without whose time, energy, and commitment the completion of this task would not have been possible.

We wish to particularly thank Ms. Carolyn Villard, who devoted incredible amounts of time and energy to arranging interviews, making infrastructure arrangements and assisting the consultants, wherever possible.

3.0 Themes

All themes need to be considered to determine how to construct the HR plan

A number of consistently repeated themes emerged in the course of this exercise, most of which were articulated by an array of providers, support personnel, and others. While each of these issues has significant impact on the development of the physician human resource report, none is, in and of itself, determinative of the number of physicians required for any discipline. They all, however, need to be carefully considered to determine how the ultimate human resource plan will be constructed.

Many of these themes have been identified in previously conducted exercises, such as the Corpus Sanchez review and the review of surgical services. While the province has, in some cases, committed to major changes in the service delivery model, the array of services delivered, and the venue in which the services will be delivered, the ultimate resolution of these discussions will have major impact on the physician human resource report.

Options and “preferred alternatives” provided

In recognition of the fact that resolution of many of these crucial issues has not yet been completed, we have provided “options” for the number of physicians necessary for a service, or whether the service can or should be offered in Prince Edward Island.

In many cases, we have provided a “preferred alternative” if we believe that a choice has significant benefits for the province and its health consumers, while recognizing that our preferred choice may not be viable for political, financial or other reasons.

3.1 Consolidation of Surgical Services

The surgical services review report suggests an opportunity to reconfigure surgical services in the province to maximize the efficiency of utilization of existing resources, including consolidation of some surgical activities at one site, and ambulatory surgical services at the Prince County Hospital. It suggested that since the vast majority of surgical procedures conducted by some disciplines (e.g. ophthalmology, plastic surgery, urology) are outpatient in nature, the consolidation of the ambulatory surgical activity of these disciplines at the Prince County Hospital would capitalize on available operating room time and staff in that facility, while creating enhanced opportunities for the conduct of inpatient surgery at the Queen Elizabeth Hospital.

In the course of this exercise, objections to the consolidation or rationalization of services were frequently encountered.

Notwithstanding this resistance, in later sections of this report we have made discipline specific recommendations based on the volume and array of procedures conducted and on opportunities to consolidate clinical services. Acting on these recommendations will maximize the efficiency of utilization of both resources and physician specialists.

3.2 *Previous Health Human Resource Plans*

The consultants were informed that on occasion previous attempts at health human resource planning have been frustrated by a lack of transparency. While rare, individuals and groups of physicians have been able to engage in direct appeals that circumvent the physician planning process. If, indeed this is true, any attempt at health human resource planning will be unsuccessful.

Recommendation:

It is recommended that:

- (1) Health PEI should ensure that the human resource planning process is consistently and transparently applied.**

3.3 *Primary Care Reform*

The province has embarked on a process of primary care reform

The province's primary care reform exercise will result, among other outcomes, in health planning processes specific to each of five primary care networks in the province. Each will be imbued with family physicians and other health professionals according to a population based health needs planning exercise. Ideally, the family physicians in the area will be linked to each other electronically, and will be supported by, among others, physiotherapists, occupational therapists, dietitians and other health professionals as needed to support the health needs of their local and area communities. Ideally, no individual will be located more than 30 km from access to healthcare.

The consolidation of primary care activity into a smaller number of sites with not only physicians, but other health professionals – will provide both efficient and effective service delivery

As the model evolves comments made elsewhere in this report regarding the consolidation of inpatient activity and the evolution of existing small hospital facilities into comprehensive community care facilities should be considered. The consolidation of primary care activity into a smaller number of sites offering an array of services – not only physicians, but other health professionals – will provide both efficient and effective service delivery. The energies and skills of physicians, nurse practitioners, speech language pathologists, and others can be maximized if their time is devoted to direct patient

care, rather than traveling to smaller communities to see small number of patients on an infrequent basis.

3.4 *Locum Service*

The province has operated a locum service for physicians for many years

Currently, physicians determine the dates and times of their holidays, but have no imperative to coordinate them with their specialty or primary care group. Arranging locum coverage has been the responsibility of representatives of the Department of Health and Wellness. This is both an expensive and inefficient method of ensuring coverage of health care practices. In virtually every other provincial constituency, the responsibility for arranging holiday coverage rests with the physician him or herself.

In addition, the province underwrites not only the cost of seeking the locum, but also travel, housing, and other incidental expenses.

The Department of Health and Wellness should play no role in physician recruitment

The Department of Health and Wellness should play no direct role in physician locum recruitment. Physicians planning a vacation should, either on their own initiative, or in collaboration with other members of their department or division, ensure that coverage is adequate.

This will necessitate the following:

- Physicians coordinating their holiday with their partners and peers
- Physicians working in (call) groups, departments or divisions of a size that is sufficient to incorporate a minimum of 6 weeks of holiday and 2 weeks of continuing professional development for each group member (see below)
- Physicians advertising in a timely way to make arrangements for locums and the necessary documentation
- Groups of physicians coordinating the number of weeks of vacation and the timing thereof within their own group.

Recommendation:

It is recommended that:

- (2) **The Department of Health and Wellness should no longer operate a locum service.**

In PEI, as in most other constituencies, there is insufficient attention paid to the notion of “total workload” in a group or specialty. If, for example, five physicians working in a group or discipline, each take

six weeks of vacation time and approximately 2 weeks of study leave, they are effectively serving as only four physicians. To continue with five "full" practices means that, in essence, each physician is working at 120% of his or her capacity in order to provide coverage for his or her peers, while also ensuring that he or she has adequate vacation time. This phenomenon is, to some measure, a source of physician stress and burnout.

Physician groups should work collaboratively to determine coverage requirements

To remedy this problem physician groups, either specialty or primary care, should determine annually the number of weeks of vacation and study each physician plans for the following year, and cooperate and collaborate with each other in ensuring adequate coverage in their periods of absence.

Recommendation:

It is recommended that:

- (3) **Health PEI should ensure that the province's human resource plan factors in time for vacation and continuing professional development.**

3.5 *Payment Plans*

Two payment models

Physicians working in Prince Edward Island are reimbursed in one of two models- either fee-for-service or another arrangement. The other arrangement may include salary, salary plus fee-for-service, contract or a combination of salary, contract, and fee-for-service for services delivered outside the terms of agreement of the contract or the salary arrangement.

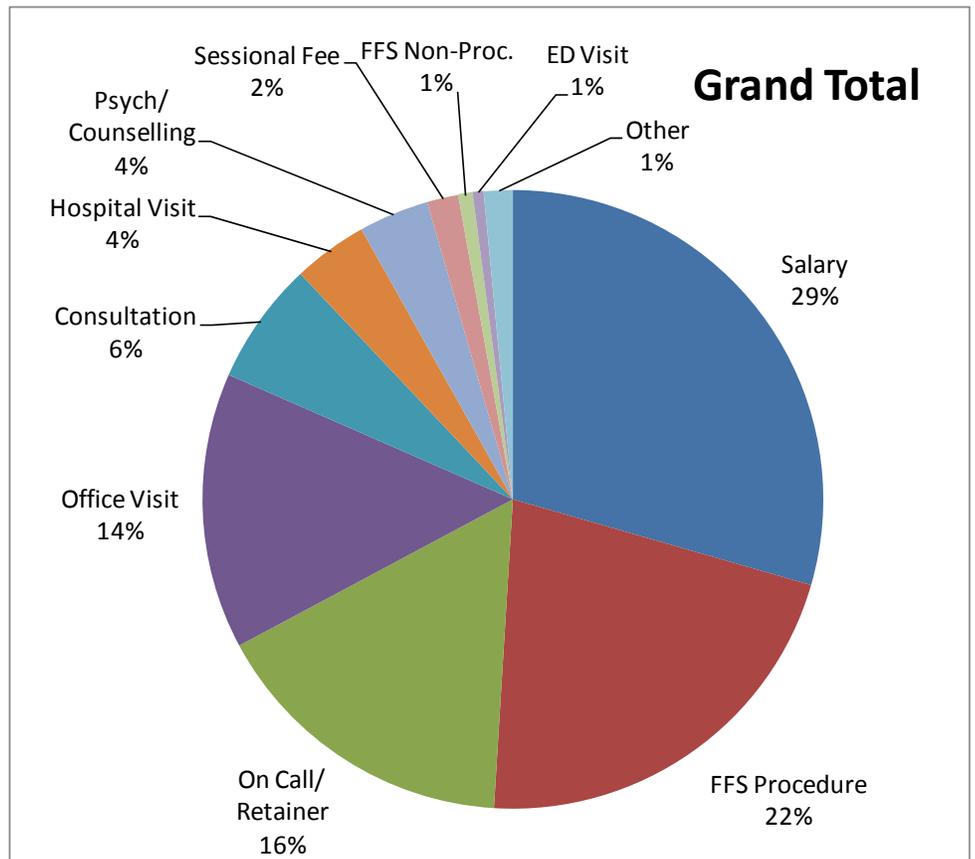
There is a frequently expressed concern by fee-for-service physicians that their peers working in salaried arrangements do not work "as hard" as those on fee-for-service. Many of the physicians interviewed were of the opinion that many workload issues arise as a consequence of the work ethic of those on salary.

The availability of the "combination" arrangement that allows physicians to collect funds from a variety of "pots" simultaneously creates the illusion, whether or not it is borne out by the facts, that physicians can manipulate the system and shift workload from the salaried to the fee-for-service model. In addition, providing a plethora of arrangements through which physicians can collect revenues, such as fee-for-service, salary and contract, creates an additional level of complexity that makes it extremely difficult to track workload.

29% of Total Physician Payments were via Salary

The following chart shows the distribution of PEI physician payments for the first 6 months of the 2009/10 fiscal year by payment type and amount paid. 29% of total payments were salary payments, followed by 22% for fee-for-service procedures, and 16% for on call/retainer payments.

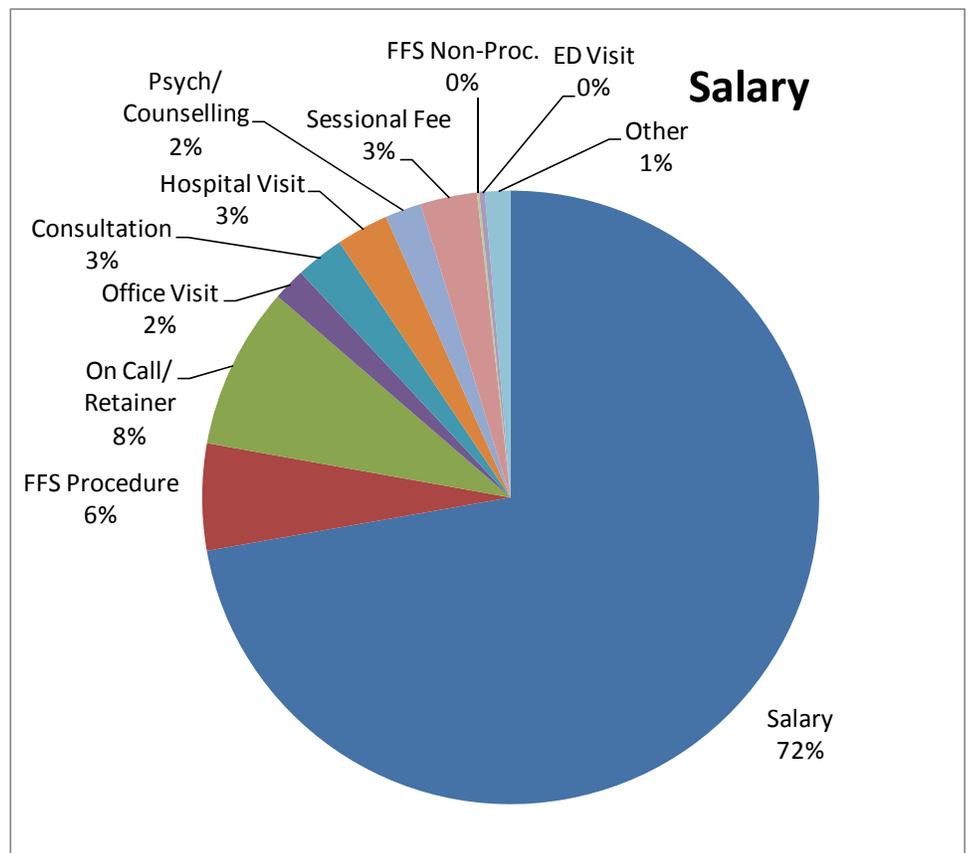
Exhibit 1: Distribution of 2009/10 6 month YTD Amount Paid by Payment Type – All Physicians



Salaried Physicians Also Received On Call/Retainer FFS Payments

The following table shows the same breakdown of paid amounts by payment type, for the first 6 months of 2009/10, for the salaried physician group. Salary payment account for 72% of the paid amount for this group, but there were also payments for on call/retainer (8% of total payments), fee-for-service procedures (6%), and consultation, hospital visits, and sessional fees (3% each).

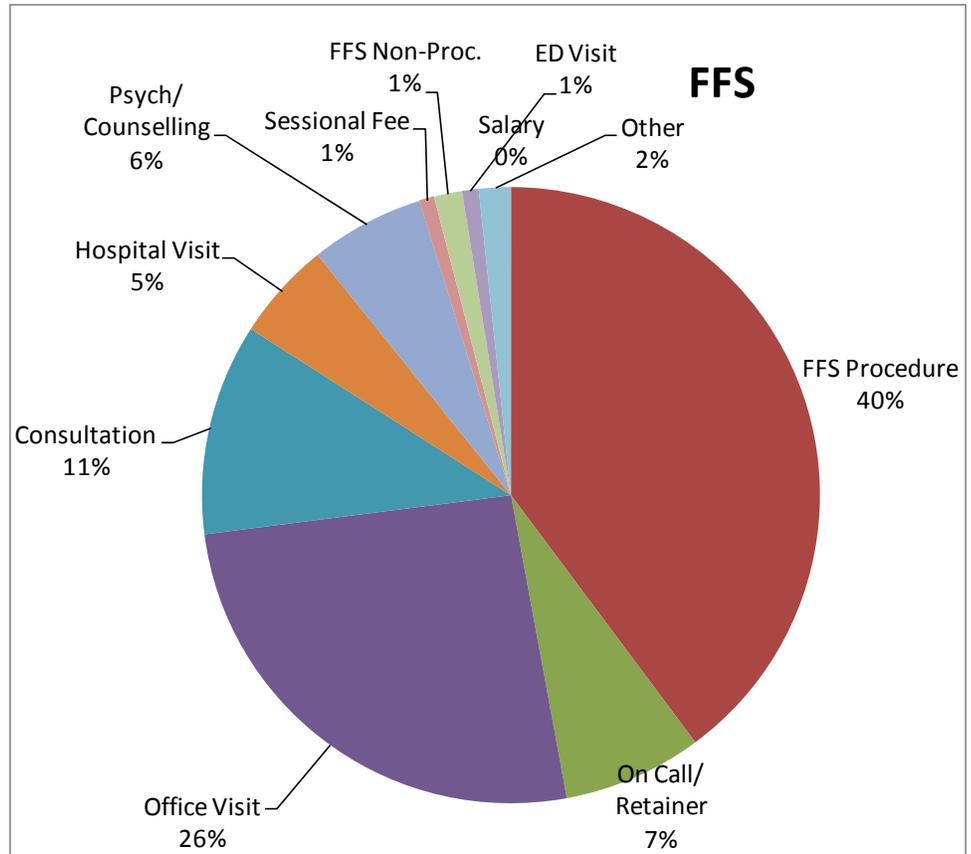
Exhibit 2: Distribution of 2009/10 6 month YTD Amount Paid by Payment Type – Salaried Physicians



40% of Payments to FFS Physicians were for Procedures

40% of payments to fee-for-service physicians were for fee-for-service procedures. A further 26% of payments were for office visits, and 11% for consultations.

Exhibit 3: Distribution of 2009/10 6 month YTD Amount Paid by Payment Type – FFS Physicians



Payments by Specialty by Payment Type

The following table shows the distribution of physician payments by physician specialty by payment type, for the first 6 months of fiscal year 2009/10.

Exhibit 4: Percent Distribution of Payments (6 month YTD 2009/10) by Payment Type by Physician Specialty

Physician Specialty	Total Paid (6 Months)	% Distributon of Payment by Payment Type									
		Salary	FFS Procedure	On Call/ Retainer	Office Visit	Consultation	Hospital Visit	Psych/ Counselling	Sessional Fee	FFS Non-Proc.	Other
Family Practice	\$11,472,086	27%	4%	17%	32%	0%	8%	5%	1%	2%	4%
Internal Medicine	\$2,709,763	36%	20%	4%	13%	16%	8%	0%	0%	0%	4%
Emergency Medicine	\$2,513,513	0%	0%	91%	9%	0%	0%	0%	0%	0%	0%
Radiology	\$2,145,809	0%	97%	3%	0%	0%	0%	0%	0%	0%	0%
Psychiatry	\$2,089,356	62%	0%	3%	1%	5%	0%	29%	0%	0%	0%
General Surgery	\$1,946,328	0%	61%	8%	4%	23%	3%	0%	0%	0%	1%
Obstetrics/Gynecology	\$1,832,162	46%	34%	7%	3%	4%	5%	0%	0%	1%	1%
Anaesthesia	\$1,691,440	60%	7%	6%	0%	1%	0%	0%	27%	0%	0%
Ophthalmology	\$1,428,362	0%	70%	4%	12%	14%	0%	0%	0%	0%	1%
Pediatrics	\$1,083,432	80%	1%	6%	0%	6%	7%	0%	0%	0%	0%
Orthopedic Surgery	\$1,031,523	0%	55%	6%	10%	24%	1%	0%	0%	0%	4%
Anatomic Pathology	\$786,777	93%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Otolaryncology	\$580,844	42%	27%	3%	15%	13%	0%	0%	0%	0%	0%
Plastic Surgery	\$493,185	0%	33%	12%	1%	47%	0%	0%	0%	6%	1%
Urology	\$435,387	0%	58%	6%	11%	20%	0%	2%	0%	0%	3%
Neurology	\$336,862	36%	22%	5%	8%	28%	0%	0%	0%	0%	0%
Medical Oncology	\$296,885	95%	0%	0%	0%	1%	3%	0%	0%	0%	1%
Hospitalist	\$217,651	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
All Other Specialties	\$762,438	70%	7%	8%	5%	9%	0%	0%	0%	0%	0%
Grand Total	\$33,853,803	29%	22%	16%	14%	6%	4%	4%	2%	1%	2%

The specialties where a majority of payments were made via salary are:

- Psychiatry
- Anaesthesia
- Paediatrics
- Pathology
- Medical Oncology

The specialties where a majority of payments were made via fee-for-service payments for procedures are:

- Radiology
- General Surgery

- Ophthalmology
- Orthopaedics
- Urology

Payments to Non-FFS Physicians by Day of Week

In the tables below we provide evidence of the quantity of fee for service billings by salaried physicians by the time of day and day of the week. Exhibit 5 shows the amounts paid to non-FFS physicians (i.e. salaried or contract) by service site description by day of week for the first 6 months of fiscal year 2009/10. On-call retainer payments are not included in this data. Only 6% of payments to non-FFS physicians were for Saturday/Sunday or Night Clinic services.

Exhibit 5: Amount Paid by Day of Week for Non-FFS Physicians by Service Site Description

Service Site Description	Paid Amount by Day of Week - Non-FFS (Salary or Contract)						
	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Inpatient	\$360,505	\$196,284	\$177,369	\$197,967	\$217,668	\$195,789	\$312,638
Outpatient	\$143,032	\$82,855	\$83,707	\$91,848	\$94,726	\$65,939	\$154,764
Office	\$6,828	\$60,756	\$65,937	\$110,144	\$49,918	\$85,727	\$25,473
Speciality Clinic	\$21,634	\$34,925	\$55,159	\$14,554	\$32,776	\$30,248	\$85,983
N - Night Clinic	\$3,282	\$18,772	\$52,814	\$30,177	\$74,506	\$22,036	\$8,632
Other Office	\$31,160	\$32,746	\$17,493	\$10,586	\$11,899	\$7,331	\$14,619
Day Surgery	\$0	\$10,369	\$3,310	\$8,844	\$7,187	\$2,364	\$174
Community Care Facility	\$257	\$242	\$434	\$6,711	\$617	\$3,878	\$240
S - Saturday/Sunday Office	\$4,995	\$0	\$0	\$0	\$0	\$0	\$4,192
Home Visit	\$564	\$56	\$950	\$802	\$402	\$70	\$420
Specialty Clinic	\$79	\$0	\$0	\$0	\$0	\$0	\$0
Other Site	\$40	\$0	\$0	\$0	\$0	\$0	\$0
X - Radiology	\$30	\$0	\$0	\$0	\$0	\$0	\$0
Grand Total	\$572,406	\$437,005	\$457,172	\$471,632	\$489,699	\$413,383	\$607,134

Exhibit 6 compares the daily payments for inpatient care for fee-for-service physicians and non-fee-for-service physicians. Exhibit 7 shows the same information for payments made for services provided in the physician's permanent office.

Exhibit 6: Comparison of FFS and Non-FFS Physician Payments for Inpatient Care by Day of Week (6 month YTD FY 2009/10)

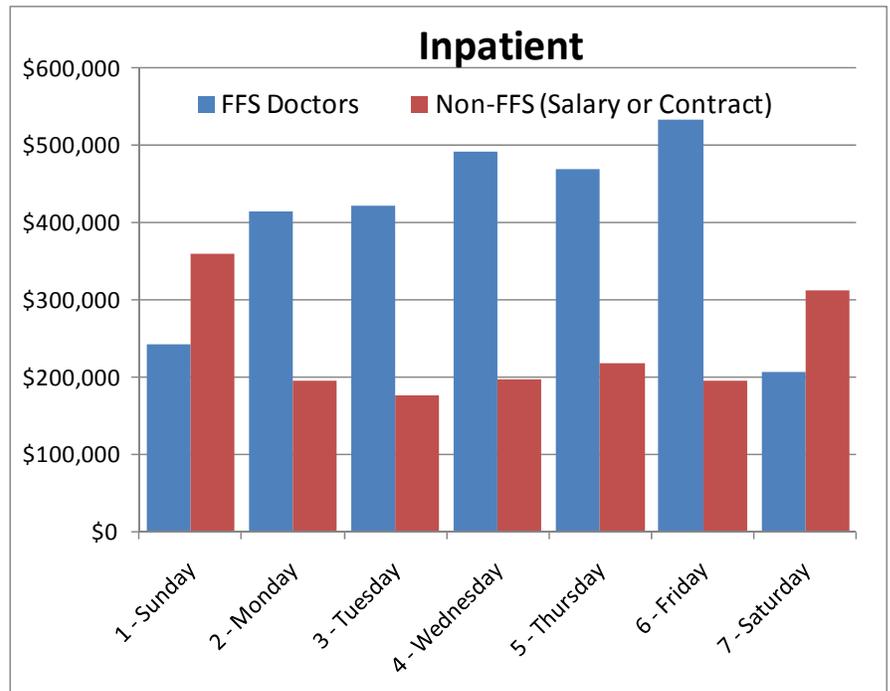
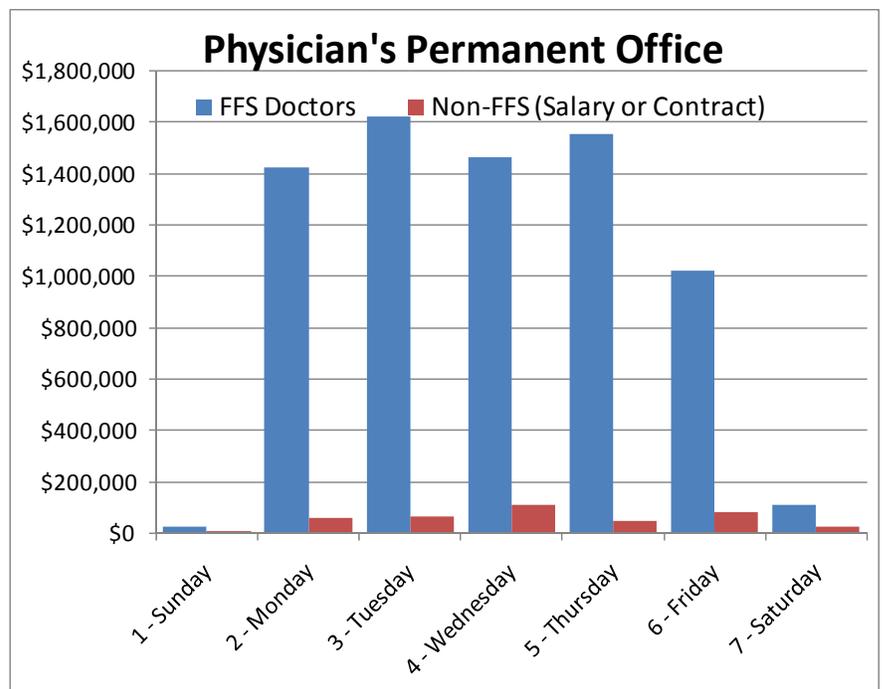
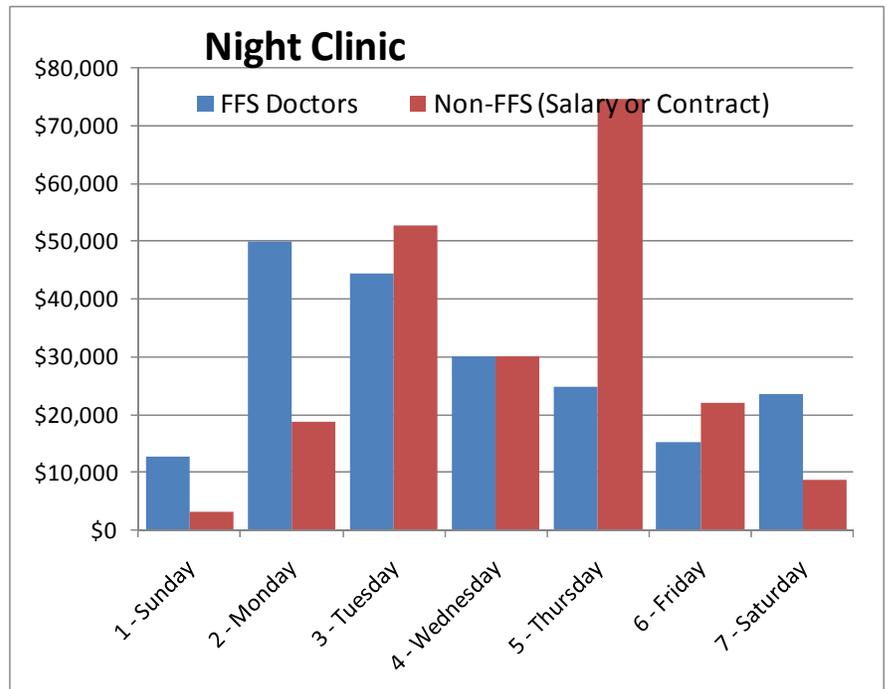


Exhibit 7: Comparison of FFS and Non-FFS Physician Payments for Office Care by Day of Week (6 month YTD FY 2009/10)



Night clinic payments are shown in Exhibit 8.

Exhibit 8: Comparison of FFS and Non-FFS Physician Payments for Night Clinic by Day of Week (6 month YTD FY 2009/10)



The accumulated data presented above suggests that the rate of utilization of “fee for service” codes by salaried physicians offering services outside of “contract” hours is not excessive, and that there is no evidence of physicians “shifting” patient contacts to out of hours periods in order to increase revenue.

Other provincial medical associations and the Medical Society of Prince Edward Island are adamant in maintaining a fee-for-service option for physicians, and modifying the remuneration model to place all physicians on salary or in an APP will be impossible.

Therefore it is suggested that Health PEI commence discussions with the Medical Society of PEI to limit the number choices of models of compensation to two:

1. A fee-for-service model, in which physicians are remunerated only in this model, with no alternative to generate fees through alternate payment schemes

OR

2. An “all-inclusive” model, which is inclusive of all work provided -- including office work, hospital services, on-call

services, and any service other than those billed to third-party agencies (such as the RCMP, Worker's Compensation Board, etc.) or "self-pay" patients, such as tourists.

Physicians will be expected to opt for one model or the other.

*Explicit expectations
required for physicians on
contract*

This will necessitate the development of clear and explicit expectations for every physician on contract. These expectations should include, among other deliverables, the number of hours of office service, on call, administrative time, teaching time etc. In order to maintain transparency, collegiality and consensual decision-making, the contract should be "bidirectional" in nature, outlining the explicit commitment of the hospital and the provincial government, such as the number of hours of OR time, clinic time, etc. that will be committed to the physician. In this way, the quantity of service to be offered will be clearly and concisely articulated in a transparent model. It will also allow for future human resource planning exercises to be conducted in a much more defined model.

Recommendation:

It is recommended that:

- (4) The Department of Health and Wellness and the Medical Society of PEI should discuss compensating physicians either only in a fee for service model or a “comprehensive” model that includes payment for all services except those reimbursed by a third party.**

The province and the Medical Society may wish to consider alternative payment plans. These may be established on a provincial, institutional, or department specific basis. Many such precedents exist in the country. Queen’s University, for instance, has a Faculty of Medicine-wide alternate payment plan for all of its staff physicians. Hospital for Sick Children has a hospital-wide alternative payment plan, in which all payments for physician services are channelled through the hospital to individual departments, which then take responsibility for allocating the dollars based on department specific goals and objectives.

While, at this time, it is unlikely that the province’s entire medical community, or even the medical community attached to any hospital, will wish to be reimbursed in an alternate payment plan, the province and the Medical Society are encouraged to begin investigating and planning for department specific APP’s, should such opportunities present themselves.

Recommendation:

It is recommended that:

- (5) The Medical Society and the Department of Health and Wellness should consider the development of Alternate Payment Plans for some services or departments.**

3.6 Impact Analysis

The current impact analysis process is a “two phase” process. Part one confirms the need for a physician, and the secondary process attempts, but, according to informants, inaccurately defines the impact of the appointments.

It is necessary to recognize that physicians never replace departing colleagues on a “one-to-one” basis. Younger physicians inevitably bring newer surgical procedures or skills that necessitate the acquisition of capital equipment. They may also offer services which historically have not been offered in the province and that drive utilization of allied health professionals, diagnostics, pharmacy or other costs. Retiring family physicians, who may have been responsible for as many as 2,500 to 3,500 patients, will not be replaced on a 1:1 basis, as contemporary graduates much more commonly determine their practice capacity to be in the 1,000 to 1,500 patient range.

Impact of Increasing Female Physician Population

An additional factor that will impact future family physician productivity is the increase in the population of female family practitioners. The following table shows that while 30% of PEI family practitioners are female, the majority of family practitioners under 40 years old are female. For each age group the average annual payments (and presumably the workload) for female physicians are lower than for male physicians.

Exhibit 9: Distribution of Family Practitioners and Average Annual Payments by Physician Age

Age Group	Count of Physicians w/ > \$40k Paid in 1st 6 Months of 09/10			Average Annual Payment per Physician (extrap. From 6 mo.)			% Female Phys.
	Female	Male	Total	Female	Male	Total	
25 to 39	11	9	20	\$ 187,684	\$ 243,962	\$ 213,009	55%
40 to 49	5	19	24	\$ 135,744	\$ 284,267	\$ 253,324	21%
50 to 59	7	21	28	\$ 215,791	\$ 261,208	\$ 249,854	25%
60 Plus	4	13	17	\$ 208,527	\$ 319,922	\$ 293,712	24%
Total	27	62	89	\$ 188,440	\$ 278,082	\$ 250,887	30%

It will be essential, in the future, to develop an impact analysis model

In the exhibit above it is noteworthy that the average annual payment is higher for the “60 plus” age group than any other cohort (for males), providing some support for the argument that the current cohort of “senior” family physicians cares for a larger patient population than their younger colleagues, as those in their 40’s would be expected to have “mature” practices.

As noted above, non-physicians such as occupational therapists, physiotherapists and social workers, providers regularly commented that they are not regularly consulted about the anticipated impact of new physicians on their services. In addition, the province does not have a model that ensures that the anticipated impact of the physician appointment matches the actual. It will be essential, in the future, to develop an impact analysis model that addresses all the above issues.

Suggestions include the following:

- Before searching for a physician, prepare a detailed annotation of the requirements for the individual to participate in clinical care, administration, teaching, and research.
- The amount of time to be devoted to each responsibility, as well as the requisite skills required for each responsibility should also be documented.
- Advertisements for the position should reflect the skill requirements and the approximate “level” at which the skills can be offered (such as whether the person is an experienced teacher or researcher).
- A clear and explicit understanding of the supports to be offered for each of these tasks should also be arrived at before advertisements are placed or interviews take place. These should include, for instance, whether the physician will be provided with secretarial support, office space, computers, research infrastructure, etc. There should also be an understanding of the clinical support (supportive therapies, diagnostics, etc) available.
- Only once all of the above have been documented, should the job be advertised.
- It should be made explicit to every candidate exactly what the expectations are, and an assurance received that the candidate is willing to undertake the responsibilities that have been explained to him or her.
- The contract or agreement should then reflect not only the candidate’s commitment to each of those tasks, but the

commitment of the province and/or hospital to provide the infrastructure and support necessary to allow the individual to be successful.

- Subsequent to the appointment, there should be a performance appraisal at 3, 6 and 12 months.
- During each of those interviews, a review of the individual's contribution, and the cost and infrastructure implications of the appointment, relative to the anticipated, should be reviewed.
- Contracts should be renegotiated annually, with the new contract reflecting the needs and input of both the physician and the province and/or hospital.

Such a model will enhance both recruitment and retention as there will be clear and explicit understanding on the part of both parties of the expectations, and the role and metrics that will be used to assess the individual. Additionally, the bidirectional performance appraisal system will provide physicians with an assurance that the commitments that were made will be met, and will give him or her the opportunity to modify those commitments in response either to the province's or the physician's needs.

Such a model ensures the true impact of an appointment can be measured and monitored, and budgetary controls can be ensured.

As a corollary, this model will also allow the province to accurately define the cost implications of any appointment, and determine whether the proposed program or service will exceed the hospital's budgetary capacity.

Recommendation:

It is recommended that:

(6) Health PEI should revise its impact analysis process.

It is anticipated that the nature of the relationship between physicians and hospitals will change in the near future from one of “credentialing” to one of “contracting”

Finally, it is anticipated that the nature of the relationship between physicians and hospitals will change in the near future from one of “credentialing” to one of “contracting”. Among the anticipated consequences of this shift will be an annual process in which the actual performance of physicians, including “deliverables” such as the number of hours of service provided, the number of procedures completed, the quality of work performed will all be reviewed as part of a 360° performance assessment. The failure on the part of the physician to comply with or perform up to the expectations delineated in the contract may result in nonrenewal. This increases the imperative for the province to think critically about the skills and

attitudes that it requires of its physician appointees, as well as what constitutes a sustainable work-life balance, in order to ensure a viable platform to establish a contracting relationship is established.

Recommendation:

It is recommended that:

- (7) Health PEI should consider shifting from a model of granting privileges and credentials to contracting for physician services on an annual basis.**

3.7 Viable and Non-Viable Services

The number of patients in Prince Edward Island requiring certain highly specialized procedures is insufficient to allow physicians or surgeons to maintain their skills. It is essential to not only plan for services that will be offered, but also to think critically about which services should not be offered. For instance, it is clear that the province of Prince Edward Island will not, in the foreseeable future, be able to support services such as neurosurgery, complex pancreatic surgery or cardiac surgery.

PEI Cardiology and Cardiac Surgery 2008/09 Off-Island Activity

For example, based on CIHI Discharge Abstract Database (DAD) data for PEI residents treated in hospitals outside PEI in 2008/09, there were:

- 354 inpatient Cardiology cases and 201 ambulatory procedures (including 114 PCIs and 242 diagnostic catheterizations)
- 141 Cardiac Surgeon cases (including 106 open heart surgery cases)

The recommended minimum number of PCI procedures per centre per year is at least 400 procedures (BC PHSA and Ontario CCN planning guidelines). (1,2)

The recommended number of CABG and other open heart procedures per year is 150 procedures per surgeon, and 450 procedures per centre (i.e. a minimum of 3 surgeons).

Given current (and projected) volumes, there will not be sufficient critical mass to support on-Island Cardiac Surgery. There is also not sufficient volume to support interventional cardiology (particularly without on-site cardiac surgery as back-up). A diagnostic only catheterization lab is not recommended (since it would offer no opportunity for conversion of diagnostic procedures to an interventional procedure).

For cardiac surgery, cardiology, and such services, the province will need to forge contractual arrangements with neighbouring provinces to ensure the timely provision of care.

In general, in the absence of a sufficient volume of activity to support a minimum of three specialists in any given discipline, the province should consider carefully whether or not the service should be offered. As will be seen in later sections of this report, there is currently an insufficient volume of activity to support more than 2 surgeons in many disciplines (e.g. urology, plastic surgery). Based on population projections, this will continue to be true for at least the next 10 years. While the incumbents are able and willing to support the service at this time, future graduates will almost certainly not be willing to provide after hours service more often than 1 in 3 at a MAXIMUM, and may wish to only be on call 1 in 4 or 5 nights.

In such cases, there are options to consider. As is the case currently with urology, it may be possible to develop interprovincial shared agreements for call, particularly for specialties that have relatively low demands for out of hours service, and few life threatening emergencies. In this model, patients with emergent conditions are transferred, but in the rare instance when a life threatening emergency arises, the local surgeon agrees to intervene, even if not “on-call”. Additionally, they may see “deferrable” cases the following day, avoiding patient transfers.

In some cases, patients in need of consultation may be “held” under the care of another service or specialist until the following day, when a “local” specialist is on site.

The newly established Health PEI board and the Department of Health and Wellness, in consultation with the Medical Society, should determine those procedures that require a critical mass that exceeds the population of Prince Edward Island, and determine which procedures should not be conducted in the province.

Ultimately, the province will need to decide which, if any service, MUST be available locally even if subsidization of physician incomes is required to maintain a minimum number of practitioners on the island. At the current time, with the possible exception of Infectious Disease (see later sections of this report) no services meet this definition.

Recommendation:**It is recommended that:**

- (8) The Department of Health and Wellness, Health PEI and the Medical Society should begin a process to evaluate the long term viability of low volume services in Prince Edward Island.**

3.8 Family Medicine Residency

The development of an “Island specific” family medicine residency program in collaboration with Dalhousie University is a significant opportunity to ensure an ongoing source of family physicians. However, it is crucial that the skills imparted to trainees match the needs of the province in general, and, wherever possible, the needs of specific communities.

For example, given that after hours care (either in an emergency department or urgent care centre) will be essential to provide, those vested with responsibility for the development of the family medicine residency program should ensure that graduates are sufficiently skilled in urgent and emergent care to provide this service. As mentioned in other sections of this report, one model the province may wish to consider to meet some of its human resource needs in specialized areas, such as geriatrics, palliative care, emergency medicine, sports medicine, etc. is to consider the utilization of family physicians with extra training in these disciplines. Consideration of reinvigorating the practice of family medicine obstetrics should also be entertained.

Thus, the selection criteria for family medicine trainees for the province’s program may include favouring those with an interest in and or willingness to consider taking additional training in these disciplines.

The residents should be mentored during their training to ensure that they are acquiring the skills necessary to practice in Prince Edward Island, and if there are specific communities in which they are interested in locating, to ensure that their training is configured to meet the specific needs of those communities.

The Family Medicine Residency Director of the provincial program should negotiate a “province specific” educational curriculum for residents assigned to PEI with the Dalhousie Department of Family Medicine. While it is necessary to accommodate for the time taken for teaching in determining the future medical human resource,

given the current and projected size of the teaching program, it is doubtful (with the exception of the Residency Program Director) if significant time and energy will, in fact, be taken in teaching and resident supervision. The impact on the human resource needs for service delivery will be minimal.

At least one group of specialists estimated that the impact of teaching would add 30% to their work load. Based on the experience of other constituencies, this is grossly overstated. While it is acknowledged that the education of junior undergraduate trainees is time consuming and does decrease physician efficiency, training those in their second year of postgraduate training and beyond is, at worst, “work neutral”.

Given the small size of the program, the likelihood is that any given specialty program will host, at the most, one resident per month. The workload associated with this volume of teaching is insignificant, and does not factor into the HR requirements for the province, with one exception. The program director (presumably a Family Physician) will need to devote approximately 50% of his or her time to the program.

3.9 International Medical Graduates

IMG model cannot reliably provide for HR needs in the ongoing

The province has, to some extent, relied on international medical graduates (IMG's) to meet some of its human resource needs. While this model offers a reasonable solution when physician recruitment is difficult, it does pose logistic issues. Specialist physicians may need to be mentored by those already in possession of Royal College certification. While quality concerns may be minimized, there have been reports of individual IMG's whose skills, attitudes and knowledge are not appropriate for the Canadian environment. Oftentimes, international medical graduates see Prince Edward Island as a “jumping off point” to another part of Canada, and thus are not retained over the long term.

The IMG model is not stable, and cannot reliably provide for the province's human resource needs on an ongoing basis. As the family medicine program grows, consideration of discontinuing the certification of IMG's may be appropriate.

Recommendation:**It is recommended that:**

- (9) The College of Physicians and Surgeons of Prince Edward Island should consider no longer credentialing physicians whose training does not meet Canadian standards.**

3.10 Non-Physician Professionals

Many other jurisdictions have incorporated non-physician professionals into array of services

Most other provinces have incorporated substitute, alternative or complementary providers, such as nurse practitioners, physician assistants and midwives, into their service delivery model. Some of these practitioners (e.g. nurse practitioners and midwives) are regulated and have an independent scope of practice.

Midwives provide antenatal, intrapartum and postpartum care, and nurse practitioners offer a comprehensive array of primary care services including the diagnosis and treatment of a variety of primary care presentations.

Nurse anaesthetists and/or anaesthesia technicians provide anaesthesia care to patients who are ASA 1 or 2 risk. In many centres, nurses are performing endoscopy.

Fundamental lack of understanding of contribution of such non-physician professionals

Prince Edward Island has not actively incorporated substitute, alternative or complementary practitioners. Interviews revealed a fundamental lack of understanding of the fact that these professionals have an independent scope of practice and can contribute materially to the health and well-being of the patient population. These practitioners do not need to be supervised by physicians, as they have independent malpractice insurance, and pose no liability risk. As this planning exercise is designed to create a plan for the next five to 10 years, we have assumed that the province will develop standards and philosophies of care that maximize opportunities to employ these types of practitioners.

Increasingly, the model of care employed in both community and institutional settings is a highly integrated team based approach. For such models to succeed, it is essential that the model be consensual and collaborative. Individuals must be recognized for their expertise, and not only permitted, but encouraged to practice to their full scope of practice. There are abundant opportunities in Prince Edward Island, many of which will be enumerated in other sections this report, to address human resource needs by the incorporating and integrating nurse practitioners, midwives, physician assistants,

clinical nurse specialists and anaesthesia technologists into the care model.

However, considerable resistance was expressed on the part of Prince Edward Island's physicians to this idea. Many of the concerns focused on issues such as control, medical legal risk, and the implications for physician incomes. Given that many specialists have long waitlists for office appointments, and even longer wait lists for elective surgical procedures, any opportunity to hasten access to care should be welcomed.

Credentialing bodies are fastidious in ensuring that graduates of their programs have the requisite knowledge, skills, attitudes and aptitudes to be fully functioning members of the health care team. If Prince Edward Island wishes to be successful in recruiting such individuals to the province, it is essential that they are able to practice at their maximum scope of practice, and be fully integrated members of the team.

It is essential that the prevailing attitudes towards these professionals change

For example, nurse practitioners and midwives are fully trained professionals with independent scopes of practice, liability coverage, and skill sets. There are national standards delineating their scope of practice, which empower them to undertake tasks such as prescription writing and the independent management of a number of disease entities. There are abundant articles that attest to the quality of care that they offer, and patient and family acceptance of their role in health care team. (3)

Physicians practicing in the province must recognize the skill and knowledge of these individuals, and prepare themselves for their full integration into the health service delivery model. Insisting that additional physicians be recruited because of a lack of available human resources, in the absence of a willingness to incorporate others into the health care system, is seen as self-serving and should not be encouraged. It is essential that the prevailing attitudes towards these professionals change.

Recommendations:

It is recommended that:

- (10) Health PEI should develop and circulate policies on the integration of non physician providers of care, including physician assistants, nurse practitioners, midwives and anaesthesia technicians into the care delivery model.**

- (11) Health PEI should develop and circulate a compensation model for non physician providers of care.**
- (12) The Director of Medical Programs should coordinate an educational program designed to inform physicians on the scope of practice, liability protection, etc. of non-physician providers of care.**

3.11 Primary Care Transformation

The province has begun a primary care project that will impact the province's human resource plan. The increasing emphasis on prevention, chronic disease management, best practice and an evidence based approach to care will almost certainly decrease the need for physicians, while concomitantly increasing the need for other health professionals. (4) It has been demonstrated in the literature that the incidence and prevalence of many diseases (e.g. hypertension, congestive heart failure, depression)(5,6,7,8) and the frequency of emergency visits, hospitalizations, and long-term morbidity and mortality arising from these diseases will fall over time. However, this is not likely within the 10 year time frame of this human resource plan.

The routine vigilance of patients suffering from chronic diseases will increasingly shift, assuming that the utilization project is successful, from physicians to an array of other health professionals including, but not limited to, nurse practitioners, social workers, dietitians, and other therapists. Thus, the number of primary care physicians (and to a certain degree specialists) necessary to treat such conditions will diminish. There will be a need to plan for appropriate increases in other health professionals. Health PEI is cautioned that until such time as the planning for and recruitment of these professionals has been completed, alterations to the physician human resource report, particularly the cohort of family physicians, should not be implemented.

Recommendations:

It is recommended that:

- (13) Health PEI, with the support of the Department of Health and Wellness, should develop a plan for the recruitment of health professionals such as dieticians, social workers, therapists, etc.**

- (14) Until such time as the recruitment process is completed, changes to the Family Physician human resource complement suggested elsewhere in this report should not be implemented.**

3.12 Bed Allocation

The Queen Elizabeth Hospital frequently experiences a lack of bed availability. This results in significant numbers of patients being kept in the emergency department for extended periods of time while waiting access to inpatient care. This results in a quality of care that does not meet patient or family expectations and poses an increased burden of care on the emergency department. It engenders costs (for instance, overtime for nursing), and lowers quality. While not unique to Prince Edward Island, these events should be addressed, in order to improve the quality of care and minimize the number of surgical cancellations. The hospital may wish to revisit the data pertaining to the number of emergency department visits, and the frequency of admission to hospital by discipline, and readjust the bed allocations accordingly.

Once this is completed, it is possible that the increased ease of access to surgical beds may result in an increase in the volume of elective surgeries completed, and have an effect on the surgical human resource needs.

Recommendations:

It is recommended that:

- (15) The Medical Directors, in cooperation with the Chiefs of Medicine and Surgery at both the Queen Elizabeth and Prince County hospitals, should review the current bed allocation.**
- (16) The Medical Directors and Chiefs of Medicine and Surgery should review the number of beds allocated to each service every two years.**

3.13 Visiting Specialists

Historically, specialists visited outlying communities on PEI to conduct consultations and follow-up evaluations. Recently, with the exception of some mental health services, the frequency of visiting specialists has diminished significantly. It is recognized that having physicians spend significant amounts of time traveling to see small numbers of patients is not a prudent use of physician human

resources. Conversely, some communities may be of sufficient size, and have a sufficient number of patients in need of special services, that establishing regular clinic visits is a cost efficient and effective model of delivering care.

Should there be sufficient volume to justify clinics, there may be effects on the human resource needs. It may be necessary to increase the number of specialists in any discipline in order to service outlying communities. Specialists should not conduct inpatient procedures outside of Charlottetown or Summerside, but there may be opportunities to complete minor procedures, consultations, and post operative care in such a model.

Recommendation:

It is recommended that:

- (17) The Director of Medical Programs should determine the advisability of establishing visiting specialist clinics in communities.**

3.14 Retirement Planning

Unless there is retirement planning the province may experience a significant physician short-fall in the next 5-10 years

There is no medical staff regulation or by law that requires physicians to provide notice of impending retirement. In reviewing the ages of appointees across all departments, there are a number of physicians over the age of 60, and a number of departments with a large cohort of physicians in their mid-50s to mid-60s, with very few younger colleagues. Thus, it is possible, and indeed likely, that unless there is a plan in place to replace departing physicians, that in the next five to 10 years the province will experience a significant physician human resource shortfall. In order to be able to plan proactively and effectively, it will be necessary to develop a model in which anticipated retirements are announced at least two years before the physician's departure.

The following table shows the distribution of active¹ PEI physicians during 2009/10. 51% of active physicians are 50 years or older. Physicians aged 60 and older represent 18% of the active physicians and 17% of total physician payments.

¹ For purposes of this analysis, any physician with payment of more than \$20,000 for the first 6 months of the 2009/10 fiscal year was considered to be an active physician.

Exhibit 10: Distribution of Active PEI Physicians and Annual Payments by Physician Age Group (based on 2009/10 6 month YTD data)

Age Group	Physicians and Payments by Age Group *			Cumulative Percent of Total	
	Count of Phys.	Total Amount Paid **	Avg. Amount Paid **	Count of Phys.	Total Amount Paid **
30-34	14	\$ 2,754,045	\$ 196,718	6.1%	4.2%
35-39	31	\$ 8,331,492	\$ 268,758	19.6%	16.8%
40-44	35	\$ 10,874,088	\$ 310,688	34.8%	33.3%
45-49	32	\$ 9,587,915	\$ 299,622	48.7%	47.8%
50-54	45	\$ 13,793,467	\$ 306,521	68.3%	68.7%
55-59	31	\$ 9,597,284	\$ 309,590	81.7%	83.3%
60-64	21	\$ 6,126,559	\$ 291,741	90.9%	92.5%
65-69	10	\$ 2,710,141	\$ 271,014	95.2%	96.6%
70-74	8	\$ 1,938,589	\$ 242,324	98.7%	99.6%
75-79	3	\$ 273,777	\$ 91,259	100.0%	100.0%
Grand Total	230	\$ 65,987,357	\$ 286,902		

* Based on Physicians with > \$20 K Paid in 1st 6 months of 2009/10.
 ** Extrapolated from 1st 6 months of 2009/10.

It is suggested that physicians be required, at the time of annual credentialing, to indicate their career plan for the next two years. Options may include:

- Continue providing service at the same volume
- Decreasing service by a fraction of the current volume
- Anticipated retirement within the next two years

Once notification has been received, planning for the replacement of the departing individual should commence.

The province also has no policies regarding diminution of the on-call responsibility for physicians of a specific age. While it has been determined to be unconstitutional to demand that physicians retire at a certain age, physicians must reapply for privileges annually, and it may be appropriate to have different credentialing processes for older physicians. In addition, however, many physicians feel that they are “entitled” to decrease the frequency of on-call once they reach the age of 55, 60 or 65, depending on the group sampled.

The province should develop and enforce a policy that links access to hospital-based resources with the provision of services in support of a hospital

While it is not unreasonable for physicians to seek to decrease their workload as they age, allowing individuals to continue to fully participate in the use of the hospital's resources (e.g. operating rooms, endoscopy suites, etc.) while not participating fully in call or administrative responsibilities will make it difficult, if not impossible, to recruit new physicians, as access to operating rooms etc. will be minimized.

Many organizations have a policy that allows senior physicians to continue operating and/or providing the full spectrum of practice once they exceed the age of 60 or 65, but require that, in exchange, the physician continue to contribute fully to the organization by the provision of on-call services.

Recommendation:

It is recommended that:

- (18) The Director of Medical Programs, Medical Society and hospital Medical Directors should develop and enforce a policy that links access to hospital-based resources with the provision of services in support of a hospital.**

4.0 *Service Delivery Model*

4.1 *Service Delivery Model Changes*

The Canadian health care system continues to evolve. Profound changes in the service delivery model have been successfully introduced in a variety of constituencies. For instance, the clinical decision unit in the emergency department has been shown to be a valuable adjunct, improving the quality of care for some conditions, while concomitantly reducing hospital admissions and lowering costs. Equally, the use of social workers, physiotherapists, and others in the emergency department has been shown to reduce the numbers of patients admitted to hospital who eventually become ALC, or minimizing the length of stay of such patients once admitted to hospital.

Significant delays are encountered between family physician referral and consultant evaluation in a number of disciplines. These delays can extend up to one year. Many other provinces have used single point of entry assessment models to minimize the interval from family physician referral to patient evaluation in a variety of disciplines. The single point of entry or joint assessment centre for patients being considered for hip or knee replacements has proven to shorten wait lists. These clinics, staffed by nurse practitioners or advanced practice therapists with special training in the evaluation of such patients, operating under medical directives using an evidence based/best practice approach to care, have been shown to decrease significantly the wait list for orthopaedic consultation and surgery. As a result, the workload of orthopaedic surgeons is also decreased.

It is entirely possible for other providers, such as nurse practitioners, to learn the skills of history taking and physical examination and the appropriate use of investigations for patients with back pain according to best practice. Using such methodologies, up to 50% of all patients referred for orthopaedic assessment may be able to have their consultation deferred, as they will not meet the evidence based criteria for joint replacement, surgical intervention or sophisticated diagnostic imaging.

Such models have also been used to develop comprehensive breast centres, prostate centres, and other “centres of excellence” in order to provide high-quality care with much shorter lead times.

It is suggested that the province incorporate these and other models of care, into the province's delivery system.

In this chapter, we present a variety of opportunities to reconfigure existing service delivery models in order to maximize the efficiency and effectiveness of clinical service delivery, and also manage physician recruitment.

Recommendation:

It is recommended that:

- (19) Health PEI should review recommendations in this report that pertain to service delivery model reconfiguration, and develop processes to implement the changes.**

4.2 Critical Care

Increasingly, admitting privileges to critical care units are restricted to those credentialed in the management of critically ill patients. While, at the current time, Prince Edward Island does not have a sufficient cadre of physicians with critical care certification to limit admitting privileges to those with critical care training, the critical care units at each hospital should be closed units. Admitting privileges should be restricted to those with the skills, training and knowledge (whether gained through medical, surgical or anaesthesia training) to manage patients in the intensive care unit independently. Current literature affirms that this will minimize inappropriate admissions, improve the quality of care, improve the standard of nursing care, and decrease operating costs (9).

Recommendation:

It is recommended that:

- (20) The Medical Directors of the Prince County and Queen Elizabeth Hospitals should restrict admitting privileges to critical care units to those with appropriate training and skills.**

4.3 Obstetrical Analgesia

The lack of epidural coverage in the obstetric unit at the Prince County Hospital is seen as a significant negative by both the obstetricians and the patient population in the community. While the anaesthetists are trained to perform this procedure, the limited number of anaesthetists (three), and the fact that two of the three are a couple, significantly increases the burden of call in order to provide such a service. Apparently, a plan to begin to introduce epidural analgesia has been recently developed.

Recommendation:**It is recommended that:**

- (21) A plan should be developed by the Chief of Anaesthesia at the Prince County Hospital to ensure the availability of epidural analgesia on a 24/7 basis.**

4.4 Pre-Anaesthetic Clinic

Those patients thought to require a comprehensive evaluation by anaesthetists prior to a surgical procedure are generally evaluated by them preoperatively. However, there is no established model that ensures a timed, planned, integrated workup by all relevant professionals (e.g. physio, anaesthesia, OT, etc.) for every patient who is going to undergo a general anaesthetic. Such clinics have proven to be invaluable in many constituencies. They allow for the detection of risk prior to an anaesthetic, maximize opportunities to manage medications, activities, etc. prior to a surgical procedure, and provide an opportunity for all health professionals who will be involved with the patient to interact with the patient and plan for their immediate pre-op and postoperative course.

Additionally, the clinic provides the anaesthetist an opportunity to better evaluate the patient's risks, and plan the appropriate anaesthetic procedure. Such evaluations can, and should, be compensated appropriately.

Recommendations:**It is recommended that:**

- (22) The Chiefs of Anaesthesia at both acute care hospitals should develop pre anaesthetic clinics.**
- (23) The Medical Society, Health PEI and the Department of Health and Wellness should negotiate a fee for the provision of pre-anaesthetic evaluations.**

4.5 The Family Physician "Specialist"

In some cases, family physicians may be used as an alternative to specialists. For instance, it is entirely feasible and appropriate for emergency physicians to staff and operate a clinic for the longitudinal management of minor hand injuries and fractures. Not all such patients need to be seen and/or treated by plastic surgeons, orthopods or other specialists. Establishing an emergency physician

follow-up clinic adjacent to the emergency departments, in which emergency physicians may see 16 to 20 patients in follow-up in a 4-hour session, will decrease the burden of care on some surgical specialties, while providing accelerated access to care for patients.

In the United States, procedures that have traditionally been the reserve of specialists are increasingly performed by family physicians. It is entirely possible, for instance, to train family physicians to perform screening colonoscopy.

Recommendation:

It is recommended that:

- (24) The Director of Medical Programs should consider opportunities to recruit family physicians with extra training or enhance the training of current family physicians in order to decrease the demand for specialist services.**

4.6 Specialist Provision of Primary Care

While it is impossible to determine the actual frequency with which specialists are providing primary care, it was reported that this is not uncommon. For instance, many patients with stable ischemic heart disease and hypertension are being regularly reviewed by internal medicine specialists. This compromises the availability of the specialists to conduct consultations and/or provide patient care to those with urgent and emergent health care needs.

It also sends an inappropriate message to trainees in the province's nascent family medicine residency program, and will interfere with their willingness to care for patients with such problems when they emerge from training. It creates the expectation in the mind of patients that it is necessary to see a specialist in order to ensure an adequate standard of care.

Recommendation:

It is recommended that:

- (25) The Director of Medical Programs should consult with leaders of the province's primary care community on to how to avoid using specialists to provide primary care.**

4.7 *Specialist versus Subspecialist*

Increasingly, Royal College training programs focus on the training of subspecialists. The availability of general surgeons, general paediatricians and general internists has been curtailed as a consequence. Given the lack of critical mass to support a subspecialty model of care in Prince Edward Island, it will be essential for the province to forge relationships with those training programs focused on the training of generalist specialists. Once those relationships have been established, opportunities for residents to gain training in Prince Edward Island should be created, if possible, in order to familiarize those individuals with the opportunities available in the province, and make them familiar with the medical and social community, as a means of enhancing recruitment

Recommendation:

It is recommended that:

- (26) The PRPC should ensure that the provincial human resource strategy focuses on the recruitment of generalist versus subspecialty trained individuals.**

4.8 *Group versus Solo Practice*

Maintaining a solo practice, including the cost of rent, staff, and utilities is expensive. By sharing reception staff, nursing staff, waiting rooms and examining rooms, physicians are able to significantly decrease their overhead.

As many specialist groups (e.g. orthopaedic surgeons, internists, etc.) devote considerable amounts of time to hospital-based care, many physicians can share office space.

The bringing together of physicians in a common space also may help address difficulties ensuring coverage, holiday schedules, etc. Groups of physicians may be able to employ non-physician professionals efficiently, while solo physicians cannot. Thus, for instance, a group of obstetricians can cost efficiently purchase an ultrasound machine, or share space with a midwife, while individual physicians may find this financially burdensome.

Recommendation:**It is recommended that:**

- (27) Health PEI should support those physicians willing to consider the development of group practices.**

4.9 Care Maps/Clinical Protocols

The use of care maps and clinical protocols has been shown to shorten lengths of stay, decrease operating costs, and improve quality. There is a lack of such protocols in both the Prince County and Queen Elizabeth Hospitals. The use of care maps may facilitate the incorporation of nurse practitioners, physician assistants, or others into the MRP role, and decrease the need for physician services.

Recommendation:**It is recommended that:**

- (28) Chiefs of each medical department should begin developing (or searching) care maps for commonly encountered conditions. These protocols should be distributed and used Province-wide.**

4.10 Most Responsible Physician (MRP) Models

Currently, the family physician serves as MRP in hospitals outside of Summerside and Charlottetown. In the larger hospitals, the MRP role is served by family physicians and/ or hospitalists, be they full-time or part-time.

The hospitalist model has proven to be fragile (10,11,12,13). The average career expectancy of a full-time hospitalist is approximately 2 years, necessitating frequent recruitment, orientation, etc. In addition, in the Canadian model, it is impossible for a full-time hospitalist to generate sufficient income in a fee-for-service model, thus necessitating a drain on the hospital's or the province's operating budget. In many communities, the hospitalist has been coerced into taking on a specialist or consultant role, resulting in emergency physicians referring patients to physicians who are less well-trained than themselves for the management of certain diagnoses.

Given the difficulties with recruitment and costs associated with the hospitalist model, the province may wish to consider other models to

ensure the provision of MRP services, while eliminating some of the risks and costs involved in the hospitalist model.

If the family physicians in a community were able to identify, for instance, 16 family physicians willing to devote part of their time to inpatient care, then four groups of four physicians could be assigned to a 40 bed unit. In this model, each family physician would be responsible for 10 inpatients, a sufficiently large number to make it cost-effective and efficient for him or her to visit the hospital on a daily basis. The family physicians would be “on service” one month in three during which call would be one in four for the inpatient service and emergency call.

The frequency of in-patient work would be sufficient to maintain skill, while not too onerous. This would encourage and facilitate ongoing family physician involvement in inpatient care, and avoid the costs of the hospitalist model.

The hospitalists do not respond to consult requests from the ED after hours. Hospitals instead rely on the emergency physicians to determine the need for admission out of hours, and to write orders. This practice is discouraged by both the Canadian Association of Emergency Physicians and the Canadian Medical Protective Association. It leaves patients in limbo, and creates risk, or potential risk, for emergency physicians.

This model should be discontinued. It should be the responsibility of those who provide inpatient care to provide service on a 24/7 basis, determine the appropriateness of admission, and write admitting orders for all patients admitted from the emergency department. Hospitals should expect that their consultant staff will provide timely consultations in response to requests from emergency physicians.

If, in the opinion the emergency physician, is not necessary for the consultant to personally intervene because the condition is stable and does not require urgent or emergent treatment, the specialist may choose to simply leave orders and review the patient in the morning. Thus, for instance, patients with bowel obstructions or fractured hips would be admitted under the care of the specialist, without the necessity for an “on scene” response.

Recommendations:**It is recommended that:**

- (29) The Medical Advisory Committees should develop consultant response time standards.**
- (30) The Medical Directors at each hospital should investigate models of assigning the MRP role.**

4.11 Multispecialty Group Practice

Much has been written regarding the quality and efficiency of multispecialty group practices. The literature frequently cites the high quality of care offered in such facilities (such as the Algoma Clinic in Sault Ste. Marie, Ontario), and the decreased operating costs associated with such models. While not applicable to the smaller centres on Prince Edward Island, the province may wish to explore opportunities to create such clinics in Summerside and Charlottetown. This would allow large groups of family physicians and specialists to be co-located with non-physician professionals, such as nurse practitioners, midwives, etc. who could support their practices. Proximity of family physicians and specialist would ease the referral and consultation process. Such clinics could invest in technology to minimize reliance on hospital-based diagnostic resources. Such groups can cost efficiently employ nursing and/or other staff to manage blood sugars and INR's using computer-based algorithms.

4.12 Ambulatory Care

The Queen Elizabeth Hospital is currently constructing an ambulatory wing. Much of the activity taking place in the acute care hospital could, and should, be conducted in this centre. Endoscopic procedures, minor surgical procedures which take place under local anaesthesia and many surgical procedures (cataract surgery, ear nose and throat surgery, urologic procedures, plastic surgery) could easily be shifted from the operating room to such a facility. This would decrease the congestion in the operating room, and ease access to surgical time for those with long wait lists. Such models have been shown to be very cost-efficient and cost-effective high quality care in a variety of constituencies.

Recommendation:**It is recommended that:**

- (31) The Senior Management team of the Queen Elizabeth Hospital should strike a committee with responsibility for developing a plan for the provision of surgical services in the new ambulatory facility.**

4.13 Telehealth/Telemedicine

One model of provision of specialist consultation to those living in rural centres is to capitalize on the availability of telehealth and telemedicine resources. These systems allow for the conduct of a comprehensive history and physical by physicians who are a significant distance away from the patient and/or family. They can be used for diagnostic, consultative, and educational services. The technology has not been sufficiently capitalized on in the province.

Recommendation:**It is recommended that:**

- (32) Health PEI should develop a telehealth technology acquisition plan.**

4.14 Operating Room Access

Urgent and emergent surgeries are conducted on evenings, nights (occasionally) and weekends. The use of the evening operating rooms is associated with nursing stress and burnout, high operating costs for overtime, and increased surgical morbidity owing to physician fatigue.

The hospitals should develop models that maximize the utilization of the operating room for urgent and emergent procedures during the day. In doing so the number of out of hours procedures conducted will decrease, decreasing physicians stress and burnout, and minimizing the perceived need for additional surgeons and anaesthetists.

In order to achieve this objective, it will be necessary to provide a staffed, equipped room for four to eight hours per day, depending on historic patterns of out of hours utilization. It will then be necessary for surgeons to agree to cover each other, with the on-call surgeon being available to complete cases in the "urgent" operating room that have been admitted either that day or the previous day. This will

also decrease lengths of stay and decrease postoperative morbidity, as it has been demonstrated, for instance, that intervals in excess of 48 hours from fractured hip to surgical treatment increase postoperative morbidity.

Recommendation:

It is recommended that:

- (33) The Chiefs of Surgery and Anaesthesia should develop a plan for the provision of urgent and emergent surgery during daytime hours at each site.**

4.15 Access to Diagnostic Resources

Apparently, family physicians are currently prohibited from ordering MRI, CT and other investigations without a specialist consultation before these investigations can be completed. Relying on an evidence-based process for decision making regarding the use of diagnostic resources, noting specialists and family physicians that do not use such resources appropriately, is much preferred. This will decrease the time allocated by specialists to perform consults done only to enable patients to gain access to investigations, and increase the time available to deliver “true” consultations.

4.16 Clinical Diagnostic (Decision) Units

Clinical diagnostic units have been demonstrated in the literature to decrease the rate of emergency admissions. Extended periods of observation and treatment for conditions such as head injuries, abdominal pain of unknown origin, mild diabetic ketoacidosis, congestive heart failure, croup, bronchiolitis and an array of other conditions have been shown to be an effective model of treatment, and concomitantly decrease admission rates. They also decrease the number of consultation requests and, as a consequence, specialist workload.

Recommendation:

It is recommended that:

- (34) The Chiefs of Emergency Medicine at both the Prince County and Queen Elizabeth Hospitals should develop clinical decision units that are under the administrative aegis of the emergency department.**

4.17 New Therapeutic Modalities

As technology evolves, new therapeutic modalities will become increasingly pervasive. While, for instance, colonoscopy remains the “gold standard” for colon cancer screening, there is evidence that suggests that CT colonography may replace it. Similarly, there is an increasing body of evidence that CT coronary angiography may be used as a “screening tool” for those presenting to the emergency department with chest pain of unknown origin. If such transitions in care occur, then the province will need to consider investing in new technology, and the attendant human resources. For instance, the number of gastroenterologists may decrease, but the number of radiologists and CT techs will need to be increased.

Conversely, as awareness of the radiation risks associated with CT become better understood and more widely publicized, it is possible that there will be shifts to other modalities. Thus, the province may need to plan the replacement of some CT diagnostics with ultrasound or other modalities.

5.0 *Specialty Specific Recommendations*

The planning for human resources needs to be informed by awareness of the actual number of hours of service that can and should be provided by physicians. Importantly, few constituencies incorporate the fact that the average physician will take six weeks of holiday and two weeks of study leave per year into their human resource planning. Thus, a group of five family physicians will only be able to offer service 220 weeks per year, as opposed to the theoretic 260 weeks. As a consequence, if, in fact, the group wishes to offer the equivalent of five of full-time practices to a community, it will be necessary to recruit six physicians in order to avoid significant periods of overwork before and after one's holidays. The calculations and recommendations which follow assume that each physician will take six weeks of holiday and two weeks per year for continuing professional development activity.

5.1 *2009 Actual PEI Physician Numbers*

The following exhibit shows the actual number of physicians who practiced in PEI in 2009, not the number of allotted positions. The data presented are derived from a "Master Physician File", reflecting the status during the period April 1 to Sept. 30, 2009. The "Complement FTE" column recognizes that not all physicians are 1.0 FTE. It reflects the number of physicians identified in the file as "complement" physicians, all of whom are identified as providing a portion of an FTE that ranges up to 1.0. Thus, for instance, if a specialty had 6 identified "complement" physicians attached to it, each of whom worked 0.5 of an FTE, the complement FTE would total 3.0. It is noteworthy that Paediatrics is identified as having a FTE complement of 8.6. That figure reflects the fact that there were a total of 9 Paediatricians providing service in PEI during that 6 month interval as "complement" physicians, providing 8.6 FTE's of service. One of those physicians was on leave from March of 2009 until June of 2009, at which time the physician resigned. However, because the physician was still nominally "appointed" he is counted as a FTE Paediatrician. The ACTUAL number of positions approved and filled as of April 2010 is reflected in Exhibit 12. The other columns present only the number of individuals by discipline (i.e. not necessarily FTEs, and not necessarily providing clinical service) working as locums, visiting specialists, etc.

Exhibit 11: 2009 Count of PEI Physicians by Specialty by Physician Type

Specialty	Complement FTE	Locum Head Count	Tele-Radiology	Visiting Spec.	Super-numary
Family Practice	91.8	28	-	-	6
Radiology	6.0	18	34	-	-
Psychiatry	17.2	1	-	-	-
Emergency Medicine	16.0	-	-	-	-
Internal Medicine	14.0	1	-	1	-
Anaesthesia	10.0	3	-	-	1
Pediatrics	8.6	3	-	1	-
General Surgery	7.0	2	-	-	4
Obstetrics/Gynecology	8.2	1	-	-	1
Anatomic Pathology	5.0	3	-	-	-
Orthopedic Surgery	4.0	1	-	2	-
Ophthalmology	5.3	-	-	-	-
Neurology	2.0	-	-	2	-
Otolaryngology	3.0	-	-	1	-
Medical Oncology	2.9	-	-	1	-
Urology	2.0	1	-	-	1
Pediatric Cardiology	-	-	-	3	-
Dental	3.0	-	-	-	-
Hospitalist	3.0	-	-	-	-
Physical Medicine	1.0	1	-	-	-
Genetics/Metabolic	-	-	-	2	-
Plastic Surgery	2.0	-	-	-	-
Microbiology	2.0	-	-	-	-
All Others	6.8	-	-	5	-
Grand Total	227.6	63	34	23	13

The actual complement as of April, 2010 is shown in the following exhibit.

Exhibit 12: April 2010 PEI Physician Complement

Specialty	Actual Complement Data as of April 2010			
	Approved Positions	Filled Positions	Vacancies	Committed
Family Practice	94.6	91.9	2.7	3.0
Emergency	17.0	17.0	-	-
Psychiatry	15.0	13.9	1.1	1.0
Internal Medicine	14.0	15.0	(1.0)	-
Anaesthesia	10.0	10.0	-	-
Radiology	8.6	6.0	2.6	1.0
Paediatrics	8.0	7.6	0.4	-
Obs/Gyn	8.0	8.0	-	-
General Surgery	7.0	7.0	-	-
Laboratory Medicine	7.0	6.3	0.8	1.0
Oncology	6.0	6.9	(0.9)	-
Ophthalmology	5.0	5.3	(0.3)	-
Orthopaedics	4.0	4.0	-	-
ENT	3.0	3.0	-	-
Neurology	2.0	2.0	-	-
Addiction	2.0	1.5	0.6	-
Physical Medicine	2.0	1.0	1.0	-
Urology	2.0	2.0	-	-
Plastic Surgery	2.0	2.0	-	-
Geriatrics	1.5	1.5	-	-
Chief Health Office	1.3	1.3	-	-
Palliative Care	1.2	1.2	-	-
Pain Clinic	1.0	0.8	0.3	-
Dermatology	1.0	1.0	-	-
Reprod End & Fertility	0.2	0.2	-	-
Grand Total	223.4	216.2	7.2	6.0

Note: Hospitalists included in Family Practice.

5.2 Geriatrics

The proportion of the population of Prince Edward Island over the age of 65 will increase over the next 10 years.

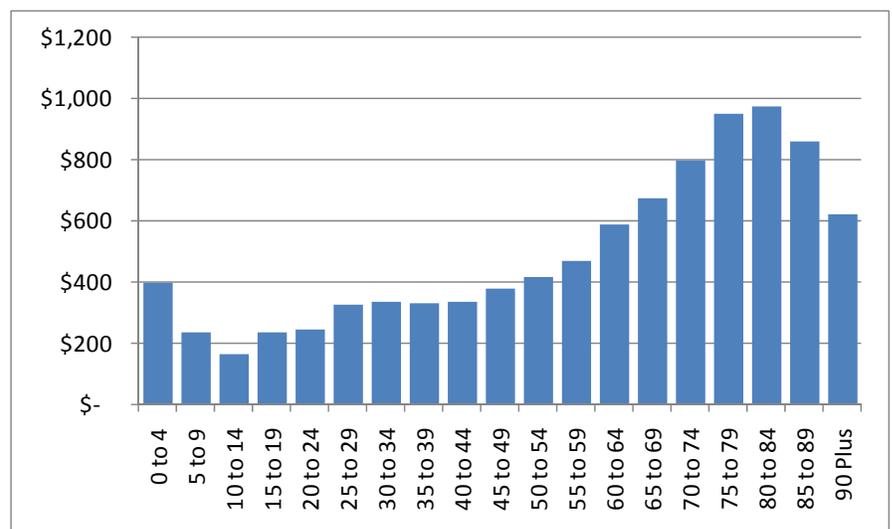
Exhibit 13: PEI Population Projections for 2014 and 2019 and % Change from 2008

Age Group	2008	2014	% Chg. From 08 to 14	2019	% Chg. From 08 to 2019
0 to 19	34,324	31,208	-9.1%	29,571	-13.8%
20 to 44	46,015	45,744	-0.6%	44,889	-2.4%
45 to 64	40,185	42,383	5.5%	41,946	4.4%
65 to 74	11,060	14,504	31.1%	17,098	54.6%
75 to 84	6,712	7,572	12.8%	8,535	27.2%
85 Plus	2,704	2,889	6.8%	3,137	16.0%
Total	141,000	144,300	2.3%	145,177	3.0%
% 65 and Older	14.5%	17.3%		19.8%	

From 2008 to 2019, the percentage of the PEI population aged 65 and older will increase from just under 15% to almost 20%.

It has been well demonstrated that those over the age of 65 are more frequent users of the emergency department and inpatient services, as well as community services. The following chart shows the average physician payments per patient for FFS services for which patient age information is available. Use of physician services (as evidenced by the volume of physician payments) is highest for patients aged 65 and older.

Exhibit 14: Average Annual FFS Physician Payments per Patient by Patient Age



The province needs to ensure a model is in place to accommodate the needs of this patient population. This includes not only physicians trained in the care of elderly, but also ensuring that other

health professionals, such as speech language pathologists, social workers, and others have the requisite knowledge and skills to provide the services unique to the geriatric population.

Geriatricians are highly skilled and very valued resources for the planning and delivery of care for the elderly. Given the small population base, it is unlikely that a full-fledged model of geriatric care, using Royal College trained specialists in geriatrics, will be feasible. A model integrating one or two Royal College trained Geriatricians with a group of College of Family Physicians trained experts in geriatrics and an array of other health care specialists such as clinical nurse specialists, nurse practitioners, and others with interest and skills in geriatrics will lead to a highly integrated network of skilled resources meeting the needs of the geriatric population. Continuing the current Family Physician based model with the incremental resources noted above is an acceptable alternative.

There are two physicians with family medicine backgrounds providing the equivalent of 1.5 FTE's of geriatric consultation service for the province. There is a need to develop a much more elaborate, integrated and comprehensive approach to the care of the elderly. As mentioned elsewhere, the population of those over 65 will grow in the province, and those over 65 are much more likely to visit an emergency department, be admitted to hospital, and convert to ALC status. The management of elderly patients, whether in the community or in acute care hospital, can be significantly improved and made much more efficient by incorporating the skills of those trained in geriatrics. The skills of physicians with extra training in geriatrics have been significantly underutilized in the province. There is no geriatric consultation team available to emergency departments to assist in determining whether or not patients should be admitted and/or assist with recruiting the services necessary for those returning to the community or those admitted to hospital. In addition, while the physicians offering the geriatric service in the province have expressed a willingness to provide consultations for admitted geriatric patients, these are rarely, if ever, called for.

Creating a geriatric consultation team that serves as a resource to emergency departments and to inpatient units will greatly assist with the medical and rehabilitative management of such patients. The team should, at a minimum, include not only a physician with training in geriatrics, but also a clinical nurse specialist, physiotherapist and occupational therapist.

The province should consider creating a geriatric assessment unit of approximately four to six beds in size. This unit could be used to rapidly assess those in the senior age group who are failing to thrive at home, optimize their medications and other treatments, and rapidly return patients to the community.

Once created, the geriatric consultation team should be accessed not only by physicians, but also by nurses, social workers, and others who become aware of opportunities to capitalize on such a service.

Considering the ageing of the population and the underuse of the existing service, we recommend that the number of allocated positions for geriatrics be increased to three full-time equivalents. The Geriatricians may be recruited either from Royal College or College of Family Physicians training programs, although the latter is preferred because of the flexibility of such individuals, their lower income expectations, and the capacity they have to serve as a resource to trainees in the province's family medicine residency program.

It is emphasized that the geriatric consultation team will need to be associated with significant non-physician resources, including, at a minimum, pharmacy, a clinical nurse specialist, social worker, physiotherapist and occupational therapist.

Recommendations:

It is recommended that:

- (35) The quota of Geriatricians should be increased to three full time equivalents in addition to the recruitment of the other members of the team noted above.**
- (36) Health PEI should develop a four to six bed Geriatric Assessment Unit.**
- (37) Health PEI should create a provincial Geriatric Assessment or Consultation Team with a mandate, among other tasks, to provide consultations in both acute care hospitals.**

5.3 Palliative Care

The aging of the population and the increasing array of technologies and treatments for chronic and malignant disease will significantly increase the prevalence of patients with these conditions. While the province's palliative care physicians are currently providing

excellent service, and are deeply committed to the provision of palliative care, it will be necessary to increase not only the number of physicians, but the number of other health professionals devoting all or significant portions of their career to palliative care. A minimum of three full-time equivalent physicians will be necessary. They may be full time specialists trained in Internal Medicine or Family Physicians with extra training (diplomas) in Palliative Care. In addition, the province, in consultation with the lead physician for the palliative care program, should be planning for the addition of other health care professionals, either full-time or part-time, to the palliative care team. These will include, among others, social workers, chaplaincy, clinical nurse specialists, and pharmacists.

Recommendation:

It is recommended that:

- (38) The quota of physicians providing palliative care should be increased to three full time equivalents.**

5.4 *Obstetrics and Gynecology*

There are 2 Obstetric units. The Charlottetown group is seeking permission to conduct further recruitment.

Appendix B presents the approach to analysis of the projected requirement for hospital-based physician specialists. The projections are based on estimated future hospital service requirements (derived from PEI CIHI hospital discharge data and population projections) and physician FTE annual hospital workload standards (derived from peer hospital data).

The following table shows the results of the analysis for the Obstetrics and Gynaecology group. We have adjusted the average peer workload downward to reflect the fact that terminations are not conducted in PEI, but do account for a component of the workload in peer groups.

Exhibit 15: Projected Workload and FTE Requirements for Obstetrician and Gynaecology

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Obstetrics and Gynecology	3,268	3,304	1.1%	350	8.2	9.3	1.1	9.5	9.4	0.1

Demographic data suggest that the number of childbirths will decrease in the future owing to aging of the population.

In an effort to move to a more interdisciplinary model of care, and decrease the reliance on Obstetricians for routine obstetric care, the province should also consider the integration of midwives into the care delivery model, as has occurred in virtually every other province.

It is recognized that, ideally, obstetrics and paediatric services should be co-located. The lack of an epidural service at the Prince County Hospital is also seen as a significant negative both by the obstetricians and the patient population, but is, apparently, being addressed with efforts to provide an epidural service.

It is also ideal to ensure that obstetric activity occurs in centres where nursing staff have a sufficient volume of exposure to ensure maintenance of competence in obstetric and post partum care, and paediatric nurses also have a sufficient volume of exposure to newborns and ill and injured children to optimize their skills.

At current levels, there is evidence that the province should add one obstetrician/gynecologist, with no further need anticipated until 2018. However, should all obstetric activity be consolidated to one site, it is possible that the diminution in the frequency of call, the integration of midwives and the sharing of referrals may obviate this need.

Significant antipathy was expressed to the concept of consolidating obstetric and paediatric activity at one site. While transit time from Summerside to Charlottetown is not excessive, parturients living in the western part of the province may have to travel for an incremental 30-45 minutes should the service be consolidated in Charlottetown. If the specialists in these disciplines insist on maintaining separate and parallel programs, then the recruit should be located in Charlottetown.

Recommendation:

It is recommended that:

- (39) The quota for Obstetrician/Gynecologists should be increased by one, with the new recruit situated in Charlottetown.**

5.5 Paediatrics

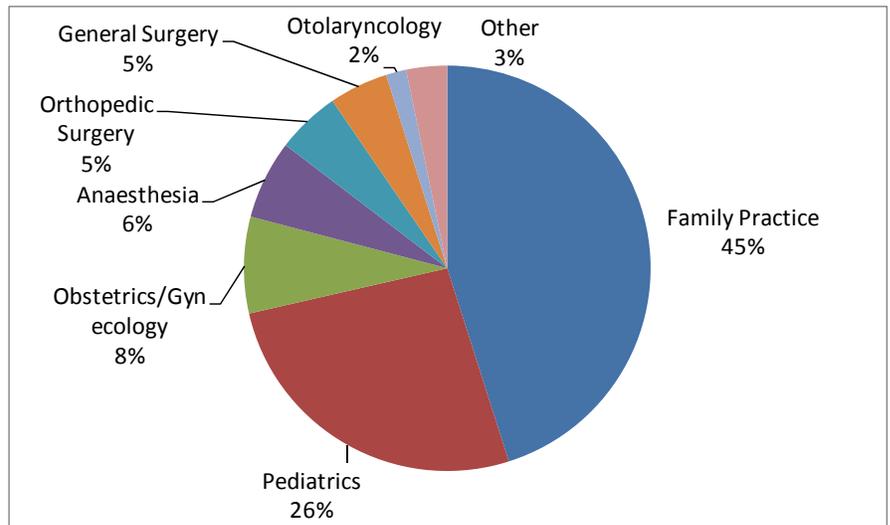
The paediatric population of the province is small and is anticipated to decrease in the next 10 years; there are projected to be 9.1% fewer PEI residents aged 19 and younger in 2014, and 13.8% fewer in 2019 compared to the 2008 population. For the population aged 14 and younger, the PEI population is projected to shrink by 7.1% from 2008 to 2014, and by 9.0% from 2008 to 2019 (PEI population projections are provided only by 5-year age cohorts, so the specific projected change in the 0 to 18 [i.e. paediatric] population cannot be calculated).

The utilization of in-patient beds is low and the average inpatient work load of the paediatricians is significantly below that of peers. The number of reported inpatient encounters is probably higher than medically necessary because many patients who, would be treated in the ED and discharged (perhaps after an extended ED stay in a CDU) in other constituencies, are admitted. This skews the existing low workload higher.

The province currently has eight paediatricians, providing 7.6 FTE's of service. Many of them have special areas of interest, but do not have subspecialty certification. Therefore, there may, at times, be a need to rely upon adult specialists to provide some services in children. As the volume of paediatric activity is insufficient to merit to the recruitment of paediatric sub-specialists, the province should deliberate whether it wishes its adult specialists to be able to perform some procedures on children, particularly those of older or near adult size. Careful consideration of whether it is desirable and/or appropriate, for instance, to have adult physicians doing endoscopic procedures on teenage children, performing surgical procedures in children, or other interventions should be discussed jointly with surgeons and paediatricians. The volume of activity will not be sufficient to adjust the physician resource plan, but will affect the impact analysis process.

Paediatricians do not provide the majority of the FFS billed hospital inpatient services used by paediatric inpatients. Although many paediatric patients do not have a paediatrician serving as MRP, this is also true of many of the peer hospitals used for comparators, in which the family physician or a hospitalist serves the MRP role. The following pie chart shows the distribution of FFS payments by physician specialty for hospital inpatients aged 16 and younger. In 2009/10 (6 month YTD), 45% of FFS payments for paediatric inpatients were made to family practitioners, and 26% to paediatricians.

Exhibit 16: 2009/10 6 month YTD Distribution of Hospital FFS Payments for Paediatric Patients by Physician Specialty



It is acknowledged that the largest volume of paediatrician’s activity involves the provision of community based consultation and care, and that inpatient activity only represents a small portion of their overall activity. However, that observation is equally valid for the centres used as peers for purposes of deriving the suggested number of paediatricians on a go forward basis. There is an insufficient volume of paediatric activity to justify the existence of 2 inpatient units.

Additionally, both groups are currently seeking permission to conduct further recruitment. Our methodology suggests that the appropriate number of paediatricians to meet the hospital service needs of the province is 2.4 FTE’s, and is not likely to increase before the year 2019. This is not to suggest that incumbents should have their appointments terminated, but rather that no further recruits be sought until at least the year 2019. As, apparently, recent external reviews have suggested that a perinatal “centre of excellence” and a paediatric oncology satellite program be created at the QEH, the existing human resource could be used to lead these undertakings.

As is suggested elsewhere in this report with respect to adults, the quality of care of critically injured and ill children has been demonstrated to improve in “closed” units. Should the province expand its’ neonatal and/or paediatric intensive care unit(s), it is suggested that these units be “closed” with admitting privileges granted to only those with requisite training in neonatology and /or paediatric critical care.

Of note, the volume of neonatal activity undertaken by paediatricians has been included in the assessment of volumes of activity, accounting for approximately one third of the volume of inpatient services offered by the paediatricians. Should the province proceed with establishing a centre of excellence in perinatology, it is not anticipated that the volume of activity will expand sufficiently to require further recruitment.

Ideally, obstetrics and paediatric services should be co-located. Given the relative low frequency of paediatric admissions (compared to adults) and the (fortunately) small number of children with serious or critical illness and injury, it is ideal to ensure that inpatient paediatric activity occurs in centres where the nursing staff has a sufficient volume of exposure to ensure their maintenance of competence. Some providers expressed opposition to the concept of consolidating paediatrics activity at one site. In any case, there will be an insufficient volume of activity to justify additional recruitment, and the specialists will have to accept the frequency of call as a consequence of the inability to consolidate services.

Recommendation:

It is recommended that:

- (40) Health PEI should consolidate all Obstetric and inpatient Paediatric activity at one site. As an alternative, Obstetric service may be offered at two sites and Paediatric inpatient activity at one site.**

5.5.1 Child Psychology

There is currently a strongly perceived lack of child psychology services. This is been expressed both by the psychiatric and paediatric communities. There is no data source that could support or refute this need, but the growing number of consultations being sought for behavioural and developmental assessments in the paediatric population nationally would suggest that the need is valid.

Recommendation:

It is recommended that:

- (41) Health PEI should recruit a paediatric psychologist.**

5.6 Vascular Surgery

The province has recently invested in a vascular surgery program. Vascular surgery is, in the current era, both expensive and resource

intensive. Young vascular surgeons have been trained in EVAR and non-surgical modalities for the treatment of vascular disorders. The capital equipment requirements for these procedures are, however, considerable. Ideally, in the current era, the vascular service operates as a collaborative between radiologists and vascular surgeons, using the skills of both disciplines. The literature suggests that any practitioner should conduct at least 40 procedures to gain skill in EVAR and 20 per year to maintain it. A recent review article (14) concluded that a strong relationship exists between higher volume and lower mortality for elective and emergency EVAR, open AAA repair and carotid endarterectomy. The authors suggest “these data highlight the need for regionalization of vascular surgery services to high volume centres offering a full range of vascular surgery services”.

PEI Vascular Surgery Activity

Provincial CIHI hospital discharge data shows that a total of 28 abdominal aorta cases were performed in PEI in 07/08 and 29 in 08/09, not all of which were performed as endovascular procedures. The article cited above suggests that the minimum threshold for minimization of complications is 43 elective open AAA repairs per year, significantly higher than the current volume. A further 31 and 32 “bypass” cases per year respectively were performed. A total of 16 abdominal aorta interventions were transferred out of province during the same time, 3 of which were ruptured aneurysms, and 1 patient died.

Concern was expressed that a vascular surgery service is essential to maintain for the treatment of trauma and the management of unforeseen vascular complications in the operating room. PEI has no “designated” trauma centre, and the QEH would only qualify for a Level 3 designation owing to the lack of neurosurgery and cardiac surgery. On site vascular surgery is not a prerequisite for Level 3 designation. The frequency of “urgent” intra-operative vascular surgery consultation is impossible to determine (unless the vascular procedure become the “most responsible diagnosis”).

At the current time, there is only one vascular surgeon on Prince Edward Island, and there has not been planning for a collaborative program. It is doubtful, even with the ageing of the population, that there will ever be sufficient volume to merit the development of an EVAR program, even for one full time vascular surgeon. While discussion of a “shared” program with Nova Scotia has taken place²,

² This program began in April 2010.

given the logistic issues of shared call, the volume of activity, and the limited opportunities for others in the care team to maintain competence, careful consideration of whether the service should be offered on Prince Edward Island, or arrangements made to transfer all eligible patients to Nova Scotia or New Brunswick for care is required.

An alternative model for consideration would be to continue with a “Nova Scotia based” program, with a visiting surgeon conducting major procedures early in the week, and consultations and follow up care for the remaining days, thus allowing for a return on invested capital and for the provision of the bulk of surgical services locally.

Recommendation:

It is recommended that:

(42) Health PEI should consider the discontinuation of the vascular surgery program.

5.7 *Emergency Medicine*

Estimating the human resource requirement for emergency medicine is best accomplished by relying on the published literature. There are three references that attest to the need for emergency physician resources in the Canadian environment. The first model, the so-called “Murray Formula”, was used to determine the number of hours of service required in emergency departments in Ontario in the course of establishing alternate funding models. It has a “built in” factor that includes the provision of night coverage, notwithstanding the fact that low volume emergency departments will not likely need (based on the volume of visits) an emergency physician on the night shift.

A second model is based on real-time observations of the amount of time taken with patients in St. Paul’s Hospital in Vancouver based on triage category. The limitation of this model is that it was done in a single site, and in an inner-city academic health science centre.

Finally, the POWER study is also a real-time observational study, conducted using stopwatch methodology, in an array of emergency departments in Ontario including small, community, and academic health science centres.

A table indicating the number of minutes assigned per patient by triage category in each of the three models is attached below.

Exhibit 17: Model Comparison for Number of Physician Minutes by Triage Category

CTAS	Murray	St. Paul's	POWER
1	75.6	40.2	73.6
2	41.4	25.3	38.9
3	25.2	21.8	26.3
4	12.6	15.6	15.0
5	7.8	15.2	10.9

Notwithstanding the fact that the quantities of time assigned to patients presenting with each triage category vary between models, experience has revealed that the total amount of time predicted to be required to staff a department is remarkably constant across the models when the necessary hours of service are calculated.

The Murray formula is designed to account for the need to ensure continuous staffing, even in small volume emergency departments. Thus, for instance, since emergency departments such as those at Prince County with visit volumes less than 30,000 per year would not need an emergency physician to be present continuously on the night shift, owing to low visit volumes, the formula compensates to ensure that there are sufficient hours of coverage to provide seamless coverage of the night shift. This reflects the fact that whether or not volumes require it, full-time staffing is necessary.

A recent article, as yet unpublished,⁽¹⁵⁾ suggests that in addition to the hours of coverage calculated using the formulas above, additional hours of service are necessary to cope with the "realities" of contemporary emergency department practice. These include, for instance, negotiating with consulting services, assisting in ambulance offload issues, attending at in patient emergencies and caring for admitted patients housed in the emergency department. For purposes of this exercise, we have calculated the number of hours of service necessary for each of the provinces two full-service emergency departments, and added a further 10% (a minimal figure) to the calculated number of hours to account for these nonclinical activities.

We have also assumed that the number of hours of service for a full time equivalent emergency physician should be maximized at 1,400 hrs per year. The "definition" of full-time varies from institution to institution and province to province, with a minimum of 1,100 hours and a maximum of 1,600 hrs per year reported. While the number of hours appears small, it is important that readers recognize that, on average, at least two thirds of emergency physicians' hours of

service are provided on evenings, nights and weekends, and that the constant changing of shifts is physiologically demanding.

The number of hours of service represents total hours of service, including time spent on clinical, administrative, teaching and research activity. As the province's teaching and research programs are, at the current time, not fully developed, the bulk of the 1,400 hrs a year provided can be assumed to be "clinical" in nature.

5.7.1 *Queen Elizabeth Hospital*

There is no department chief in place at the Queen Elizabeth Hospital at the current time. Based on the visit volume, number of care providers, and complexity of care provided in that hospital, and data pertaining to the number of worked hours in the Hay Group Physician Leaders Compensation Survey (16) the chief, when selected, will need to spend approximately half of their time on administrative duties.

There is also no formal second call system for the department, with a physician designated to be on backup call and paid to take this responsibility. It is essential to have such an individual available, should it be necessary to dispatch an emergency physician on a transfer, or should a critical incident, such as a multicasualty accident, occur.

Emergency physicians at the Queen Elizabeth Hospital are currently working too many hours per year. 1,750 hours of clinical service is seen as the equivalent of one full-time emergency physician. At the Queen Elizabeth Hospital, teaching and administration are added to the 1,750 hours per year of service. At this rate of utilization, the career life of emergency physicians will be shortened, owing to issues of stress and burnout. The work commitment is particularly disconcerting in a group with five members over the age of 50, who will, undoubtedly, soon seek to decrease their workload, and are unlikely to be replaced with physicians who are willing to work a similar number of hours.

In addition, at the Queen Elizabeth site emergency physicians also respond to code blue, write admission orders, and perform sexual assault exams. This adds further responsibilities, increases risk, and increases further the risk of stress and burnout.

The emergency department is currently under renovation/construction. The block schematics of the architectural plan were reviewed. Although a detailed architectural review of the new emergency department was beyond the purview of this assignment,

because of the design of the new physical plant it will be necessary to recruit not only more physicians, but also more nursing staff to provide appropriate patient care. This will be necessary as a consequence of building a number of “pods” each of which will require dedicated staffing, including provision for coverage during breaks, meals, patient transport, etc. In addition, many rooms have poor vigilance, further increasing the need for extra staff, as does the size of the footprint.

The hospital will need to plan, in our estimate, a minimum of an additional \$2.5 million per year in nursing costs, and it will likely be necessary to ensure a minimum of triple coverage 16 hours per day in order to provide appropriate medical staffing in the new physical plant.

The number of hours of coverage per day necessary based solely on visit volumes and acuity are calculated in the table below.

Emergency Medicine (Queen Elizabeth)

	Murray	St. Paul's	Power
HRS/DAY	45	44	50

These calculations indicate the total numbers of hours per year of coverage necessary are 16,060, 16,425 and 18,250 respectively. As indicated elsewhere, these figures should be augmented by 10% to account for the non clinical but necessary activities conducted by the physicians, resulting in a need for 18,000 – 20,000 hours of coverage per year (exclusive of a second call roster). If, as suggested, the number of hours of service per physician was 1400, the department would require 13 - 14 FTE emergency physicians. As the chief should only carry one half of a clinical load. The total figure is 13.5 - 14.5 FTE’s (assuming that the second call responsibility was accommodated by the existing cohort, which is feasible).

Recommendations:

It is recommended that:

- (43) The Queen Elizabeth Hospital should increase its quota of full time equivalent emergency physicians to 13.5 - 14.5.**
- (44) The Nursing Manager of the Queen Elizabeth Hospital emergency department should begin recruiting additional nursing staff as the construction project nears completion.**

5.7.2 *Prince County Hospital*

The physician human resource needs for this department are calculated below, using the same formula. The currently employed and deployed number of physicians and hours of service match the calculated need. There is no anticipated need for further recruitment for the next ten years except for the replacement of departing members. As there are several members of the department in or near their 50's, planning for replacement should begin in the near future.

The visit volume at this site has decreased recently, but the decrease is seen primarily among the CTAS 3-5 categories, and although in need of future monitoring, will have no immediate impact on the need for emergency physicians, as patients in these categories are less time intensive than those with higher acuity..

In keeping with data in the Hay Group Physician Leader Survey, the volume of activity and number of physicians at his site suggest the need for a chief who devotes one day a week (.2 FTE) to the role of chief.

Emergency Medicine (Prince County)

	Murray	St. Paul's	Power
HRS/DAY	33	31	35

The hours of coverage per year calculated are 12,045, 11,315 and 12,775 respectively. Physicians at this site also take responsibility for writing admit orders, attending at cardiac arrests and conducting sexual assault examinations. Thus, the number of hours of coverage required should be augmented by an additional 10%, indicating a need for between 12,500 and 14,000 hours of coverage per year. Again using 1,400 hours as the desired yearly work load for a FTE, the number of physicians required is 9 - 10, with an additional 0.2 required for the role of chief, for a total of 9.2 - 10.2 FTE's. Thus, another 2.2 - 3 FTE positions should be added to the current complement.

5.8 *Physical and Rehabilitation Medicine*

As mentioned elsewhere, the demographic profile of the province is shifting to those over the age of 65. As the population ages, the incidence and prevalence of some diseases, such as stroke, peripheral vascular disease, etc. will increase. The impact of chronic disease management will not be felt by the "baby boom" generation, as the strategies have evolved after the risk for the development of

long term complications of diseases such as diabetes and hypertension has been determined. Such strategies will have no impact on the HR plan being developed for the next 5-10 years.

Concomitant with the treatment of complications of these disorders, such as stroke and amputation for peripheral vascular disease, the need for psychiatrist services will increase. Currently, the human resource plan allocates two FTE positions for psychiatry, although only one position is filled. There are a limited number of graduates from residency programs in Canada and a large number of vacancies, both in Atlantic Canada and nationally. There are no College of Family Physician of Canada sanctioned training programs in this discipline. The province may need to consider recruiting an American graduate or designing a mentorship program for interested family physicians to allow them to undertake part of the case load.

Recommendations:

It is recommended that:

- (45) Health PEI should recruit at least one more psychiatrist.**
- (46) Non-physician supports for the rehabilitation program, particularly outpatient services such as physiotherapy, occupational therapy, social work, psychology, and speech language pathology should be increased.**

5.9 Psychiatry

There are currently 15 approved full-time equipment positions in the province, of which 13.9 are filled. Notwithstanding a significant expansion in the number of psychiatrists in the province, the specialty which is reported to be the most difficult access is psychiatry. It is difficult to know whether the issue is related to the number of psychiatrists, or their accessibility. It was frequently stated that the psychiatrist population takes no "ownership" of this issue. Given the number of psychiatrists practicing in the province, and the size of the population, access to psychiatric services should be easily accomplished in a timely way.

Estimating the workload of the psychiatrists is difficult, because Hillsborough Hospital activity is not included in the CIHI DAD data, but it is evident that psychiatrists are required to support the activity in that facility. Additionally, other provinces have ceased using the CIHI DAD reporting system to measure psychiatric activity, and PEI data that would be compatible with other data

collection systems (e.g. the OMHRS system in Ontario) is not available. Furthermore, many of the psychiatrists providing service in the province's acute care hospitals and or community venues concomitantly support activity at the Hillsborough site.

Based on the data available to us, it is estimated that the human resource requirements for the acute care hospitals equates to 12.7 full-time equivalent psychiatrists, given that many of these individuals also provide service at the Hillsborough Hospital and in the community.

Exhibit 18: Projected Acute Care Hospital Activity and Psychiatrist FTE Requirements

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Psychiatry	763	754	-1.2%	60	17.2	12.7	(4.5)	12.8	12.6	(0.2)

Based on historical patterns of utilization of inpatient psychiatric services by patient age, no increase in the number of psychiatrists providing in patient care is expected due to population change over the next 10 years.

Recommendation:

It is recommended that:

- (47) The shadow billing of the psychiatrists should be carefully examined in order to ensure that appropriate volumes of service are being provided.**

5.10 Nephrology

Apparently, the prevalence of patients with end-stage renal disease is increasing rapidly. If, indeed, this is the case, the number of patients needing dialysis therapy will increase significantly in the next five to 10 years. Much of the care provided to dialysis patients may be provided by nurse practitioners or other trained professionals. Additionally, the burden of after hours call for nephrologists is not significant. Given the need to ensure seamless coverage, the anticipated increase in the number of dialysis patients, the potential to provide dialysis services in multiple sites, we suggest three nephrologists will be sufficient to accommodate the province's needs for the next 10 years.

5.11 General Surgery

Based on peer comparisons, the calculated need for general surgeons in the province is 6.6 full-time equivalents, compared to the existing resource of seven. An increase to 7.7 is anticipated by the year 2019.

Exhibit 19: Projected Workload and FTE Requirements for General Surgery

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
General Surgery	6,512	7,584	16.5%	990	7.0	6.6	(0.4)	7.2	7.7	1.1

At this time, it is reported that there is only a sufficient volume of surgical activity for two general surgeons at the Prince County Hospital, notwithstanding the allotment of 3 surgeons at this site. Even this level of activity is achieved only by broadening the indications for consults, including, for instance, the use of “intermediate consults”. For example, patients with intrathoracic neoplasms are evaluated by a general surgeon prior to their definitive referral to a thoracic surgeon in another province.

Recommendation:

It is recommended that:

- (48) Health PEI should consider consolidation of the inpatient surgery program at one site.**

5.12 Otolaryngology

The number of ear nose and throat surgeons practicing in the province is three, with two of these individuals practicing in Summerside and the third in Charlottetown. Based on the current volume of activity, only 2.6 full-time equivalents are needed. Changes in population demographics (particularly given that ear nose and throat surgery is disproportionately provided to children, and this population is anticipated to decrease), would indicate there is no need to increase the number of practitioners until at least the year 2019. The increased complexity of evaluations conducted on the elderly (a population that will increase) for otolaryngology referrals (e.g. for dizziness) will offset the diminution of the paediatric population sufficiently that continuing with 3 FTE otolaryngologists is recommended.

Exhibit 20: Projected Workload and FTE Requirements for Otolaryngology

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Otolaryngology	712	707	-0.7%	279	3.0	2.6	(0.4)	2.5	2.5	(0.0)

A number of options must be considered for this service. Specifically, one in three call is anticipated to be the maximum frequency which emerging graduates of a surgical residency program will commit to. As a consequence, it will be necessary to either continue to credential three otolaryngologists in Prince Edward Island, or, alternatively, forge a collaborative arrangement with an adjoining province, either Nova Scotia or New Brunswick. As the number of out of hours calls is minimal, and true life-threatening emergencies are rare (although, importantly, there are occasions in which these life-threatening emergencies arise), a shared call arrangement with another province may be viable. If this is negotiated, it will be necessary to ensure that at least one of the ear, nose and throat surgeons resident in Prince Edward Island is available for true life-threatening emergencies, or, alternatively, another surgeon (perhaps a general surgeon) is prepared to cover for emergency tracheotomies or airway obstructions.

It is reported that there is unused surgical capacity at the Prince County Hospital, and a lack of access to operating rooms at the Charlottetown Hospital. In order to balance the volumes of surgical activity, and maximize access to operating room time, other considerations include:

- Consolidate all ENT ambulatory surgical activity at the Prince County Hospital, with only inpatient cases being provided at the Queen Elizabeth Hospital
- Consolidate the entire service at the Prince County Hospital
- Provide both ambulatory and inpatient activity at the Queen Elizabeth Hospital, with outpatient activity provided in the new ambulatory care facility, rather than the main operating room

5.13 Urology

There are two approved positions currently. The surgical workload is unevenly distributed, with one urologist performing 990 plus cases, and the other only approximately 350 cases per year. One of

the two surgeons has been disabled by a medical condition, thus limiting his surgical volume, but he does perform a significant volume of minor procedures in his office, rather than the hospital. An estimate of the current need, based on peer comparators, is 1.5 practitioners. While some urologic surgery is conducted on children, the single biggest demand for service is from those in the 65 plus age cohort of males for prostate disease, and this population is expected to increase in the next 10 years. In recognition of the volume of activity currently conducted in one Urologist's office, and the anticipated increase in the volume of service required, we suggest that two full-time equivalent urologists will be necessary.

Exhibit 21: Projected Workload and FTE Requirements for Urology

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Urology	1,341	1,621	20.9%	901	2.0	1.5	(0.5)	1.7	1.8	0.3

There are, however, other considerations for this service. As mentioned with respect to other surgical specialties, the likelihood of attracting future graduates to a service with a one in two call requirement is low. Thus, it will be necessary to maintain, if not enhance, the current shared call arrangement with urologists in Moncton. If, in fact, one surgeon retires, and a replacement cannot be recruited, consideration may need to be given to shifting the entire service to another centre. This will, of course, leave a gap in the array of services available in Prince Edward Island. Fortunately, life-threatening urologic emergencies are rare, and the limited number of emergencies (e.g. massive disruption of the kidney with haemorrhage, testicular torsion) may be treated by a general surgeon.

Most urologic procedures are conducted on an outpatient basis, and should be shifted out of the main operating room in the Queen Elizabeth Hospital to an ambulatory surgical facility- either in the new ambulatory facility at the Queen Elizabeth Hospital, or the Prince County Hospital. However, there is a significant amount of capital equipment required to support urologic surgery, and making this investment at the Prince County Hospital when the equipment is already available in Charlottetown will be expensive.

The province will also need to carefully consider the advisability of conducting major urologic procedures, such as radical prostatectomy

and/or radical cystectomy in a setting in which coverage on site is not seamless, and there is not resident backup.

5.14 Plastic Surgery

There are currently two approved positions for plastic surgery, and data analysis indicates the surgical volume is sufficient for 1.8 full-time equivalents. There are two plastic surgeons practicing in the province currently, one of whom maintains a full-time practice, and the other of whom works approximately 0.5 of a full-time equivalent.

Exhibit 22: Projected Workload and FTE Requirements for Plastic Surgery

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Plastic Surgery	459	500	8.9%	251	2.0	1.8	(0.2)	1.9	2.0	0.2

As noted with respect to other surgical specialties, the long-term viability of one in two calls is questionable, particularly as pertains to emerging graduates. Again, the frequency of true emergencies is low. Thus, to this point in time, one in two calls has been sustainable. Should one of these surgeons retire, and the province be unable to recruit a second plastic surgeon, consideration of a shared call arrangement with New Brunswick (where a provincial call system for plastic surgery exists) is suggested. If the province is unable to negotiate such an arrangement, consideration should be given to transferring the entire service to another province.

As mentioned with regard to other surgical specialties, most of the surgical procedures are outpatient in nature, and there are operating room resource constraints at the Queen Elizabeth Hospital.

Recommendation:

It is recommended that:

- (49) Ambulatory plastic surgery procedures should be transferred to the new ambulatory facility at the Queen Elizabeth Hospital or the operating rooms at the Prince County Hospital.**

5.15 Internal Medicine

There are a total of 14 approved positions for this specialty. Four of them are allocated at the Prince County Hospital, and ten at the Queen Elizabeth Hospital. All positions are currently filled. Even though the majority of inpatient MRP responsibility is filled by hospitalists, rather than internal medicine specialists, based on current workloads we suggest increasing the current cohort of internists to 15.8. Given the aging of the population, and the increasing prevalence of complex and multisystem disease in the elderly, it is anticipated that the number of internists necessary to provide service in the province will increase to 18.8 in the year 2019.

Exhibit 23: Projected Workload and FTE Requirements for Internal Medicine

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Internal Medicine	2,601	3,098	19.1%	165	14.0	15.8	1.8	17.5	18.8	3.0

Should the province transition from a hospitalist to an internist model of inpatient care, the number of internists required will increase even further.

Other considerations that pertain to the service include the advisability, or lack thereof, of creating subspecialty services, such as cardiology or respirology. The bulk of the internists currently credentialed are subspecialists who are willing to provide general medical coverage, while simultaneously limiting, to the extent possible, their office practice to subspecialty care. This model has been effective, but the number of graduating subspecialists willing to serve as general internists is small. There has been a diminution in the number of general internists emerging from training programs, but there is a renewed focus on the training them. The province would be well advised to focus future recruiting efforts in centres whose postgraduate training program has a focus on general internists. Readers are referred to other sections of this report where this discussion is entertained.

A further consideration is the future of the intensive care units in both hospitals. Ideally, the units should be “closed units”, as there is ample evidence that the quality of care in closed units exceeds that in “open” units. Critical Care trainees are accepted from a variety of

backgrounds including anaesthesia, surgery, and internal medicine. Should internal medicine specialists be recruited to serve as intensivists, it is anticipated that the frequency of service in the intensive care unit will be one week in four. Thus, a critical care specialist would be available to support the internal medicine service as a 0.75 full-time equivalent.

Recommendation:

It is recommended that:

- (50) Health PEI should begin the immediate recruitment of two internists. Once discussions regarding the future of the intensive care units have been conducted, the need for further recruits will become clarified.**

5.16 Anaesthesiologists

There are three positions designated at the Prince County Hospital, and seven at the Queen Elizabeth Hospital, all of which are currently filled. Of note, the province has yet to consider the recruitment of nurse anaesthetists or anaesthesia technicians into the care delivery model. There is some support within the department for such individuals, but a model of remuneration will need to be developed, as will standards of supervision. The province is referred to the Kensington Eye Centre in Toronto which has successfully integrated these providers into the care mix.

The anaesthesiologist requirements will be very dependent on decisions regarding the roles of each PEI hospital with respect to both inpatient surgery and ambulatory procedures. Other factors that will impact the requirement for anaesthesiologists include provision for epidurals at PCH, and critical care. There should also be consideration of a pre-anaesthetic care clinic and pain service.

The following exhibit shows the impact of the projected population change by broad program. There are no criteria in the literature for assessing the need for anaesthetists, and the Canadian Anaesthetist Society also has no criteria. Using Surgery as a proxy for anaesthesiology demand, there is projected to be growth in activity of 8.2% by 2014 and 14.5% by 2019, from the level of activity in 2008.

Exhibit 24: Projected Percent Growth in Hospital Cases by Broad Program from 2008 to 2014 and 2019

Program	% Growth in Cases from 2008 to:	
	2014	2019
Birthing	1.6%	1.6%
Medicine	9.9%	17.6%
Mental Health	2.6%	1.8%
Surgery	8.2%	14.5%
Grand Total	8.1%	14.0%

Assuming no other changes to the surgery program (e.g. incorporation of anaesthesia technologists, some consolidation of surgical activity) the number of anaesthetists should increase by one in 2014 and another FTE in 2019. This recommendation will need to be reviewed carefully in light of the multiple variables identified above.

5.17 Critical Care

Coverage of the critical care units is provided largely by the internists appointed at the two hospitals, although surgeons will serve as the MRP for postoperative patients not in need of ventilatory care. Currently, a limited number of internists participate in the call schedule. There is ample evidence in the literature that "closed" units provide a superior quality of care.(9) The province will need to determine, after discussion with the current medical appointees, the advisability of "closing" critical care units at both sites.

Those currently enrolled in critical care fellowship programs come from backgrounds that include emergency medicine, anaesthesia, surgery and internal medicine. Candidates from any of these backgrounds have been demonstrated to be capable critical care physicians.

The traditional work model for critical care physicians is to cover blocks of one week of time, with a maximum frequency of call one week in four. During the three weeks such individuals are "off service" they generally serve as consultants in their home discipline, but their on call responsibility is decreased in recognition of the onerous call in the ICU.

If the province decides to create a critical care service, given the limited volume of activity at the Prince County Hospital, the larger volume of activity at the Queen Elizabeth Hospital, and the

disproportionate concentration of gravely ill patients at the Queen Elizabeth Hospital, it is suggested that the service become the “provincial” service. One cohort of physicians should undertake the MRP responsibility at both sites.

An alternative would be to designate the Prince County Hospital as a lower acuity or Level 1 or 2 site. This would allow for the current pattern of coverage to continue unchanged, while a Level 3 critical care program would be created at the Queen Elizabeth Hospital. The work life of those at the Prince County Hospital would continue unchanged, but those appointed at the Queen Elizabeth Hospital would have a work life modeled after that outlined above.

Depending on the clinical background of those credentials as critical care physicians, the human resource plan for their "home" discipline would be adjusted accordingly, with critical care physicians considered as a 0.5 to 0.75 full-time equivalent in their background discipline.

Recommendations:

It is recommended that:

- (51) The Medical Directors of the hospitals and the province should develop a plan for critical care services.**
- (52) Once the plan is developed the PRPC should adjust the quotas for the “home” specialties of the critical care physicians.**

5.18 Family Medicine

Many of the comments made in the introductory sections of this report have high relevance to the discipline of family medicine. The concept of working in groups, the introduction of interdisciplinary care, and the development of chronic disease management strategies will greatly impact the need for family physicians.

The degree to which recommendations made in the Corpus Sanchez report and this report regarding primary care reform come to fruition, and the success of the province’s primary care reform initiatives will ultimately determine the number of family physicians necessary for the province.

The Corpus Sanchez report strongly suggests the devolution of the small hospital model, with an increasing concentration of inpatient services in larger centres, specifically the Prince County Hospital in

Summerside and the Queen Elizabeth Hospital in Charlottetown. We would endorse this recommendation, recognizing the implications for the number and array of services provided outside of those centres.

Currently, the only physicians resident in communities other than Summerside or Charlottetown are family physicians, who may work in solo practice, small or medium-sized groups. It is unlikely that any specialist physicians will have their primary focus in a community other than Charlottetown or Summerside in the next 10 years. Resolution of the role of the former hospitals that historically provided a venue for emergency services, inpatient care and some outpatient care will have a significant impact on the number and array of physician services to be offered locally and provincially. It is also necessary to resolve whether or not it is appropriate and/or necessary for “visiting consultant” services to be provided in some of those communities.

All acute care inpatient services should be consolidated in the hospitals in Summerside and Charlottetown

We concur with the Corpus Sanchez recommendation that all acute care inpatient services should be consolidated in the hospitals in Summerside and Charlottetown. Given the population base, the number of visits, and the acuity of visits to hospitals and health centres outside Summerside and Charlottetown, we believe that it is unnecessary to maintain a full-service emergency department in any other community.

Conversely, there is a role for the former hospitals that is crucial to the health and well-being of those communities. A variety of models should be considered for the delivery of care in rural communities, particularly in those sites with a hospital building. Models may include any or all of:

- All communities should continue to have access to urgent care services approximately 16 hours per day (this may range from 12-16 based on traditional visit volumes and patterns) seven days per week in order to ensure that the vast majority of patient urgencies and emergencies can be treated locally. The urgent care facility will need to be supported by diagnostic imaging and laboratory services, with on-site technical staff, and may have specialist consultation provided from the larger centres using teletechnology.

Urgent care services may be delivered during and after office hours by the family physicians resident in the community, supported by access to diagnostic facilities either in their “clinic” building or another facility in the community.

Urgent care may also be delivered locally by emergency physicians who are contracted to provide this service as a part of their contractual commitment to the provision of emergency services in Summerside or Charlottetown.

In some communities it may be appropriate to reconfigure the former hospital as a comprehensive primary care centre

The care centre could, or perhaps should, also serve as a venue for visiting specialists to conduct clinics

- Using the hospitals that remain open as venues for long-term, palliative, and rehabilitative care for patients who have had surgical or other interventions performed in Charlottetown or Summerside. It will be necessary to ensure that there is a sufficient quota of nurses and others (e.g. pharmacy, social work, etc.) with the appropriate training and skills to provide care for these populations of patients in each centre.
- In some communities it may be appropriate to reconfigure the former hospital as a comprehensive care centre, in which family physicians and an array of other health professionals work collaboratively in teams, providing comprehensive primary and some secondary services to the local population. These would include not only medical services, but also diagnostic services, and the services of an array of other health professionals including, but not limited to, social workers, physiotherapists, occupational therapists, dieticians, nutritionists and others. These services may be provided either by full-time providers in the community, or, if insufficient volumes exist, visiting health professionals. The profile of service offered should include urgent care.
- The care centre could, or perhaps should, also serve as a venue for visiting specialists to conduct clinics in which they either evaluate patients referred for consultation, or patients who are rehabilitating or recovering from a previous inpatient admission.

Recommendations:

It is recommended that:

- (53) Health PEI should plan to consolidate acute care in patient services in the hospitals in Summerside and Charlottetown.**
- (54) Health PEI must ensure access to urgent care for 12-16 hours per day in communities that formerly had full service hospitals. Staffing may be provided by local family physicians or by emergency physicians.**
- (55) Health PEI should consider the development of comprehensive primary care centres in the former hospital facilities.**

(56) If a hospital is not converted to a comprehensive primary care centre, Health PEI should consider its use as an Urgent Care Centre.

The current approved number of family medicine slots is 91, with 90 of these positions filled. There are, however, a number of family physicians over the age of 55, and a significant number over the age of 60. Most of these family physicians carry practice loads which will not be supported by emerging graduates of family medicine programs. Even those who do not opt to participate in interdisciplinary approaches to care are likely to consider 1,500 to 2,000 charts as their maximum capacity, as opposed to the larger number cared for by those physicians who will retire in the next five to 10 years.

For planning purposes, the Province of Ontario has estimated that the future full time Family Physician will consider 1,400 charts as a “full” practice, and that non physician providers (Nurse Practitioners) will “carry” 800 charts. Thus, a family physician working in a collaborative model with a nurse practitioner will have a total case load of 2,200 patients. While it could be argued that a highly functioning interdisciplinary team, including other professionals might be capable of providing care to an even larger cohort of patients, we have used 2,200 as the “target” case load for family physicians working in an interdisciplinary team.

Our population projections indicate that the population in the province will not exceed 146,000 by the year 2019. However, the changing in the age composition of the population will impact the need for family medicine practitioners.

Projected Increase in Family Medicine Demand of 6.6% by 2014 and 11.4% by 2019 Due to Population Aging

For the first 6 months of 2009/10, 56% of family medicine payments were for services where the patient age was specified. Using this data, combined with population projections, generates an estimate that if there were no changes in patterns of provision of family medicine, then the projected demographic changes alone would increase demand for family medicine services by 6.6% by 2014 and 11.4% by 2019 (from 2008).

Interdisciplinary Approach will Allow Accommodation of Growth in Demand

Although the percentage of the population over the age of 65 will increase, the interdisciplinary approach to primary care will have its greatest applicability to this age cohort, and therefore the net increase in physician workload will be effectively neutralized. In the “worst-case” scenario, in which all family physicians work as “solo” practitioners, it is anticipated that the average number of patients per

family physician will average 1500, thus necessitating a family physician workforce of approximately 90 family physicians.

However, the province is strongly committed to the development of the integrated primary care model, and it is reasonable to assume, for purposes of this exercise, that with the support of non-physician professionals including, but not limited to, nurse practitioners, social workers and others, individual family physicians will be able to care for a cohort of approximately 2,000 patients, at a minimum. It will, however, in our experience, take five years for the primary care reform model to become fully entrenched.

Recommendation:

It is recommended that:

- (57) The family physician quota for the province should be set at 90, with a plan to decrease the number to 65 but not until the year 2015, and only if the introduction of primary care reform, including an interdisciplinary model of care, is successful.**

While it will not affect greatly the family physician quota, we recognize that the expansion in the province's family medicine residency program will increase the total number of residents from five to ten. Given that family medicine trainees spend a total of approximately 9 months of their training in family practice offices, this equates to 108 months of resident supervision. Experience has taught at the presence of a first-year family medicine trainee does decrease productivity in the family physician's office, but the presence of a second-year trainee allows the family physician to see a larger volume of patients than he or she would normally be able to manage in the course of the workday.

Thus, with the exception of the family medicine residency program director, who will likely devote 0.5 of his or her work time to administering the educational program, the net impact on the family medicine quota will be minimal.

We have not included the family physician/specialist in this quota. Therefore, should recommendations contained elsewhere in this report regarding the use of the family medicine trainees for disciplines such as geriatrics and palliative care be adopted, the number of positions for family physicians should not be diminished.

We have also not included accommodation for family physicians involved in emergency medicine or serving as hospitalists in this quota.

5.19 Neurology

There are two neurologists in practice at this time. They serve a consultant role only, and although appointed in the Department of Internal Medicine, do not take general medical call. The neurologists do not share office space, and do not work in a collaborative model. They are available for urgent and emergent consults from nine to five Monday to Friday only, and will “occasionally” provide backup to the on call internist on an individual request basis.

In addition to their hospital practices, they provide a number of community based consultations and diagnostic services such as EEG, EMG, etc.

The provincial stroke strategy calls for the emergent management of stroke patients to be provided by emergency physicians who determine appropriate candidates for thrombolytic therapy and take responsibility for initiating this therapy with neurology “backup”. Once patients are admitted, hospitalists serve as the most responsible physician on the stroke unit, with a neurologist providing consulting service only.

Apparently, neither intends to retire within the next five years, but both may wish to decrease their frequency of call. According to Department of medicine protocols, given that both neurologists are over the age of 60, neither is obliged to take call. The volume of care provided is, apparently, not sufficient to merit recruiting a third neurologist.

The issues of coverage are further complicated by the fact that it is unlikely that neurologists emerging from training programs will be willing to take call with a frequency that exceeds one in four or one in five, and therefore the current model will prove to be unsustainable in the future.

Neurosurgical backup is available in either Moncton or Halifax, and neuro-oncology care is provided at the cancer centre.

There are a number of options to consider in planning for the future of this service. The emergency medicine literature is unequivocal in discouraging emergency physicians from taking responsibility for the initiation of thrombolytic therapy. (18) If the hospitals in the province wish to continue with a stroke program, it may be

necessary to ensure that neurologists take responsibility for initiating this therapy and monitoring treated patients in a critical care setting. Additionally, stroke is the commonest neurologic presentation to hospital, and it has been proven that the outcomes of stroke care are optimized in the setting of stroke units with multidisciplinary approaches to care. Currently, the Queen Elizabeth Hospital has a stroke unit, but does not have a fully integrated stroke program, which will further inhibit the province's ability to recruit neurologists in the future.

The options for the future include:

- Continue with the status quo, recognizing that the service delivery model will have to be revisited in the next three to five years
- Negotiate with the existing neurologists to provide more after-hours coverage, and take responsibility for the management of stroke patients requiring thrombolytic therapy
- Exploring with the internists their willingness to supervise and provide care for patients with neurologic disorders
- Commence recruitment of additional neurologists willing to provide coverage, and if this proves to be unsustainable, reconsider the advisability of offering a neurology service in Prince Edward Island
- Limit the access of physicians who no longer participate in call to hospital-based resources. This policy, common in many hospitals, is a way of ensuring that as physicians withdraw from the provision of inpatient services, new specialists can be recruited to the organization. Thus, for instance, gastroenterologists who do not participate in the call schedule are not granted access to the colonoscopy suite. With specific reference to neurology, this may mean limiting access to the hospital's EEG equipment or nerve conduction study facility

Recommendations:

It is recommended that:

- (58) The Department of Emergency Medicine should discontinue the practice of having emergency physicians administer thrombolytic therapy to stroke patients.**
- (59) Health PEI should carefully consider the future viability of the Neurology service.**

5.20 Orthopaedics

At this time there are four orthopaedic surgeons working at the Queen Elizabeth Hospital, where all surgical orthopaedics is conducted. The group is experiencing two significant problems -- a lack of collegiality, and difficulties accessing sufficient operating room time to ensure that wait times for joint replacement surgery are kept within standard of care guidelines.

Data confirm that the workload of the orthopaedic surgeons exceeds that of peers, and it is suggested that it is necessary to recruit another orthopaedic surgeon at this time.

Exhibit 25: Projected Workload and FTE Requirements for Orthopaedic Surgery

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Orthopedic Surgery	1,927	2,166	12.4%	367	4.0	5.3	1.3	5.6	5.9	0.7

In addition, the aging of the population will only increase the demand for access to services, particularly for joint replacement, and it is likely that a sixth orthopod will need to be recruited five years hence. However, successful recruitment will depend on providing the surgeon with sufficient operating room and clinic time. Some surgical volume could, in theory, be decanted to the Prince County Hospital, particularly ambulatory procedures. There are, apparently, three operating rooms fully equipped to perform minimally invasive orthopaedic procedures in that facility that are not currently used. Most knee, shoulder and ankle surgery is now done on an ambulatory basis and such procedures should be considered for the Prince County facility. "Visiting" orthopods could book day long lists at that facility. In addition, if additional orthopaedic surgeons are recruited, initiating a visiting orthopaedic consultation service and a "fracture" clinic for follow up visits of post operative and fracture patients should be considered. The visiting consultant could assess patients preoperatively, participate in the management of fractures that have been previously treated locally, and provide postoperative vigilance of patients in their local community.

The orthopaedic surgeons have not maximized opportunities to streamline the throughput of patients, minimize the demand for office based services, or maximized the efficiency with which surgical services are delivered. These opportunities include many of

those alluded to in earlier sections of this report, such as altering the coverage model to ensure the availability of an orthopaedic surgeon on site to hasten the surgical management of urgent and emergent surgery, creating joint assessment centers, and incorporating non-physician providers, such as nurse practitioners and physiotherapists into models of care that capitalize on their skill sets and scope of practice.

While such initiatives may improve the efficiency with which the service is delivered, it does, however, remain necessary to recruit an additional orthopaedic surgeon at this time. This will necessitate revisiting the schedule in the operating room, but extra surgical activity can be accommodated if suggestions made regarding the relocation of outpatient surgical volumes from the main OR to other facilities are acted upon.

Recommendations:

It is recommended that:

- (60) Health PEI should increase the quota of Orthopaedic surgeons by one.**
- (61) The Medical Director of the Queen Elizabeth Hospital and/or the Chief of Surgery (when appointed) and the Director of Medical Programs should work with the orthopods on developing alternative models of care.**

5.21 Ophthalmology

The human resource plan has five approved positions for ophthalmologists. Currently, there are six in practice, all of whom work in Charlottetown, but two of whom provide medical ophthalmology services only and do no surgery. Functionally, there are 5.3 FTE's in practice. There are 3.5 operating room days available, shared by the four practitioners providing surgical services. The current waitlist is two to three months, but becomes extended should anaesthesia standby coverage be requested.

The surgeries are conducted in the main operating room. It has been demonstrated in many centers that cataract surgery can safely be conducted in ambulatory centers. The Queen Elizabeth Hospital is facing significant problems scheduling surgery, and waitlists are increasing because of lack of access to operating room time. As mentioned in many other sections of this report, there are opportunities to decant a significant volume to other centers.

The Wait Time Project made a significant difference to the province, as increased operating room capacity increased throughput by 25%, bringing wait times into an acceptable range.

Formerly, significant volumes of patients were treated in New Brunswick, but according to the data below, virtually all patients now are receiving therapy locally.

Population Aging will Increase the Demand for Ophthalmologic Surgery

The aging of the population and the likely associated increase in demand for cataract surgery, associated with an increasing array of available therapies for macular degeneration indicate a need to continue with the current number of practitioners. The analysis of CIHI hospital data shown in the table below confirms that there will be growth in demand for ophthalmological surgery, but suggests that the current number of ophthalmologists is more than is required.

Exhibit 26: Projected Workload and FTE Requirements for Ophthalmology

Physician Specialty	PEI Hospital Separations (IP and SDS)			Target Annual Cases per Phys.	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Ophthalmology	1,208	1,573	30.2%	566	5.3	2.1	(3.2)	2.5	2.8	0.6

Analysis Above Does Not Include Impact of Successful Repatriation of Activity from Outside PEI

However, the CIHI data used for the analysis above pre-dates the successful repatriation of surgical activity from out-of-province ophthalmologists, and the estimated number of FTE's is less than that actually required. Factoring in the repatriation of activity from New Brunswick, it is suggested that the province continue with 5 FTE's as the appropriate number. As four members of the group are now in their mid-50s, and none anticipate retirement in the next five to 10 years, future recruitment is unlikely for 10 years.

Planning for the service should consider the following options:

- Continuing to provide surgical care at the Queen Elizabeth Hospital, but move it to the new ambulatory facility
- Use a anaesthesia technician or nurse anaesthetist rather than physician anaesthetist for the monitoring of patients undergoing cataract surgery
- Creating a community-based eye centre in which cataract surgeries are conducted, using anaesthesia services provided by the Department of Anaesthesia at the Queen Elizabeth Hospital
- Shift surgical activity from the Queen Elizabeth to the Prince County Hospital. It is recognized at this will necessitate

relocating capital equipment, and duplicating the equipment at the Queen Elizabeth Hospital in order to ensure the availability of surgical services to respond to eye emergencies. However, this will create opportunities to maximize the efficiency of service delivery by creating day long slates for cataract surgery at the Prince County Hospital, thus limiting the need to travel to one day per week

5.22 Radiology

The service which has experienced the greatest difficulty recruiting and retaining physicians is diagnostic imaging. There are currently 8.6 approved positions, of which only five are filled. Since the commencement of this exercise, three radiologists have been recruited, one of whom has experienced some immigration challenges. It is expected that the number of radiologists will increase by at least 2 by 2011. This will require that the Dalhousie group continue to support the service in Charlottetown by providing 1.6 FTE of service. The group offers general radiology services, including MRI and CT. No coronary angiography is conducted, and interventional vascular procedures are conducted by the vascular surgeon only. While some members of the group have interest in specific modalities, none are true sub-specialists. The age range of the group is from 35 to 55, with one individual planning to decrease his workload to 0.5 in the next few months. Two other radiologists are currently providing 0.8 FTE of care.

The group works in a fee-for-service model, which is seen as competitive in the Atlantic Canada environment. Recruitment is said to be inhibited by a lack of opportunities to train residents, and the requirement that new recruits provide a broad array of services, rather than having tailored practices.

Some of the excess workload is covered by radiologists in Halifax who provide interpretations remotely using PACS technology.

The group has not committed itself to supporting streamlined service models, such as those in other centers for breast diagnostics. At this time, there are no plans to participate in such models. There are no community imaging facilities in the province, and all radiology services are provided through the hospital.

The radiologists do provide an on-call service, and are supported by the ability to read films remotely. It is recognized that the array of interventional services provided will need to increase in the future, as will the array of nuclear medicine services provided.

The introduction of CT colonography as a routine screening tool for colon cancer, should it become the standard of care, will further augment the workload of the radiologists. It is also anticipated that there may be transitioning of some CT imaging to ultrasound, owing to concerns of radiation exposure. This will necessitate the recruitment of more ultrasound technicians, who are currently much in demand and difficult to recruit.

Wait lists for some imaging procedures are long, and currently outpatient plain films may take months to be read, creating dissatisfaction amongst both the provider and consuming public.

There are three options the province should consider as pertains to the radiologist human resource plan:

- Continue recruitment efforts, with the goal of filling the currently allocated number of FTE positions
- Transitioning the service delivery model to one that allows for a greater concentration of practice by the radiologists, thus enhancing the recruitment opportunities
- Formalizing an arrangement with an out of province provider (either in Canada or overseas) to ensure seamless coverage and the timely interpretation of diagnostic imaging procedures, but without reliance on the local provision of service

5.23 Oncology

The program has developed a highly functioning interdisciplinary model for which it should be congratulated

The oncology service, centered in Charlottetown, operates as a provincial program and provides satellite chemotherapy services in Summerside. There are 2.7 full-time equivalent medical oncologists and two full-time equivalent radiation oncologists. They are assisted by three family physician associates, whose responsibilities include supervising the chemotherapy program in Summerside and serving as the most responsible physician for admitted oncology patients.

There are no anticipated retirements from the group within the next five years. In addition to physician resources, the program has a gamut of other health-care providers including social work, clergy, and dietetic services as well as an excellent relationship with the existing palliative care program in the province.

There has been one nurse practitioner introduced in the program who, among other services, provides follow-up care, pain management, and anxiety and stress management for oncology patients.

The physicians in the program are appointed in the Department of Medicine, from which they receive excellent support. Any oncology patients requiring critical care are admitted to an intensive care unit under the aegis of an internist. There is good surgical backup for oncology patients. The wait list for access to services is very short, with the wait list for radiation therapy being amongst the shortest in Canada.

The only anticipated need to expand the human resource may be for additional nursing resources. It is also possible that in the future an additional nurse practitioner will be necessary to support the radiation oncology program.

5.24 Laboratory Medicine

The provincial human resource plan has five approved full-time equivalent positions for pathologists, all of which are currently filled. The recently appointed medical director of the Queen Elizabeth Hospital is a pathologist, but it is her intention to continue practicing on a part-time basis. This will result in an effective complement of 5.25 FTE's.

There is also a designated FTE position for Haematopathology, which is unfilled, and a FTE Microbiology position which is filled.

The pathologists' primary location is the Queen Elizabeth Hospital, but they rotate to the Prince County Hospital one week in four. The pathology program is a provincial resource, providing all of the autopsy, cytology, and immunochemistry services for the province. All of the pathologists are generalists, although some have a focus in a specific area. They are compensated in a salary model, although they receive some fee for service income for autopsies conducted under the aegis of the Attorney General's office.

The members of the group range from 35 to 52 in age, and there are no anticipated retirements in the future. In order to cope with the shortfall of one pathologist they have recently begun to use the services of a pathology assistant.

It is believed that the volume of work cannot be decreased, and it is anticipated that should service delivery models change there may be an increased demand for service, for instance to support a breast diagnostic clinic. Recently an additional nephrologist has been recruited, and this has increased the demand for kidney biopsies.

Recommendation:

It is recommended that:

- (62) The PRPC should recruit a Haematopathologist to meet the current manpower plan.**

5.25 Infectious Disease

There is no Infectious Disease specialist practicing in the province. ID is a specialty for which the consideration of offering a service with insufficient volumes to generate enough income to be self sustaining should be entertained.

However, the burden of call would be unsupportable, and there will never be sufficient volume to justify 2 specialists. Conversely, the quality of care for critical care and post operative patients with serious infections would almost certainly benefit from the presence of a physician with extra training in infectious disease.

The province may wish to consider seeking a critical care specialist or an internist with extra training or a special interest in infectious disease as one way of addressing this need.

Consideration may also be given to determining the appropriateness of asking the Microbiologist to serve as an ID consultant if he or she has the requisite training and interest.

Recommendation:

It is recommended that:

- (63) Health PEI should consider including extra training in or an interest in Infectious Disease as a criterion for future recruits.**

5.26 Medical Officer of Health

It has been suggested that the province requires 3 Medical Officers of Health. No data base is available to support or refute this request.

6.0 *Other Considerations*

6.1 *Physician Leadership*

In order to ensure the existence of a high quality, efficient medical service it is necessary to have motivated, well-trained, and appropriately compensated physician leaders. These individuals serve as a figurehead for the academic program, manage quality, and ensure the existence of a well-trained competent physician cohort for the province.

In order to expect leaders to demonstrate not only leadership, but stewardship of the health-care system it is necessary that they be imbued with the necessary skills, and compensated appropriately for the time and energy necessary to perform the tasks. Currently, there is no chief of surgery at the Queen Elizabeth Hospital, and has not been one for some time. The hospital only recently succeeded in recruiting a medical director.

The consultants were informed that the Department of Emergency Medicine at the Queen Elizabeth has not had a leader for some years, at least in part because no individual is willing to undertake the responsibility for a stipend of \$25,000 per year.

In order to have an effective physician leadership model, Health PEI must elaborate job and role descriptions for its physician leaders, provide them with appropriate mentorship, and appropriate compensation. In addition, they must be supported in their pursuit of the skills necessary to serve as efficient physician leaders (such as PMI or other training).

This will necessitate the commitment of a significant budget in order to recruit, mentor, and train such individuals. On average, physician leaders across the country are compensated at rates that vary from \$30-\$67,500 per day of administrative service offered. Thus, for instance, the physician leader at the Queen Elizabeth Hospital emergency department should expect, at a minimum, a stipend of \$100,000 per year for his or her contribution.

Is also essential to make sure that medical directors have the requisite skills to mentor department chiefs, and that they themselves have job and role descriptions.

Recommendations:

It is recommended that:

- (64) **Health PEI should develop a compensation and performance management program for clinical chiefs that reflect current practice.**
- (65) **Job and role descriptions should be developed for physician leaders by the Director of Medical Programs.**

6.2 Clinical Efficiency

The Corpus Sanchez report contains many references to opportunities to improve the efficiency with which care is delivered. While improving clinical efficiency will decrease costs, this will be achieved largely as a consequence of length of stay reductions accompanied by bed closure, because otherwise the frequency of admission will rise, and costs will, in effect, increase.

Notwithstanding the cost savings and efficiency improvements, these strategies will not have significant impact on the physician human resource needs. They may, however, require increased numbers of non-physicians, such as social workers, therapists, and others in order to maximize the efficiency of utilization of inpatient resources.

PEI Acute Care LOS was Above National Norms

In both 2007/08 and 2008/09, the PEI acute care hospital average length of stay for “typical” patients was longer than national norms:

- 12% above the CIHI expected length of stay (ELOS) in 2007/08
- 14% above CIHI ELOS in 2008/09

The PEI physician specialties most above the CIHI expected LOS were:

- Orthopaedic surgery – 41% above
- Paediatrics – 30% above
- Obstetrics and gynaecology – 27% above
- Family/General practitioner – 21% above

The PEI physician specialties below the CIHI expected LOS were:

- Psychiatry (excl. Hillsborough) – 13% below
- Internal Medicine – 10% below
- General Surgery – 3% below

CIHI Expected Length of Stay Standards

CIHI expected length of stay standards are based on the national average acute length of stay for “Typical” discharges from acute care hospitals for each possible combination of Case Mix Group (CMG), patient age, and “resource intensity level” (RIL). The acute length of stay standards are calculated exclusive of reported “Alternate Level of Care” (ALC) days.

Under Reporting of ALC Days in PEI?

The accuracy of the clinical efficiency assessment using the CIHI ELOS is dependent on the accuracy of the hospital discharge data to which it is applied. Because the ELOS is for the acute portion of the stay, excluding ALC days, if ALC days are under-reported, it will cause the reported length of stay to be too long, and will lead to an over-estimate of the opportunity to reduce length of stay. In 2007/08, PEI hospitals reported 6.8% of hospital inpatient days as ALC. This increased to 7.4% of inpatient days for 2008/09.

Exhibit 27: PEI Hospital Total and ALC Days for Inpatient Discharges During 2007/08 and 2008/09

Hospital Site	2007/08 FY			2008/09 FY		
	Total Days	ALC Days	% ALC Days	Total Days	ALC Days	% ALC Days
Kings County Hospital	9,411	1,493	15.9%	9,094	1,605	17.6%
O'Leary Hospital	3,275	325	9.9%	3,395	586	17.3%
Prince County Hospital	30,519	1,911	6.3%	31,350	1,750	5.6%
Queen Elizabeth Hospital	78,861	4,594	5.8%	75,804	4,927	6.5%
Souris Hospital	4,681	414	8.8%	5,089	402	7.9%
Stewart Memorial Hospital	2,298	140	6.1%	2,258	405	17.9%
Western Memorial Hospital	5,856	276	4.7%	6,603	263	4.0%
Grand Total	134,901	9,153	6.8%	133,593	9,938	7.4%

The two largest acute care hospitals reported low ALC rates (5.6% for Prince County and 6.5% for Queen Elizabeth). The consultants were advised that ALC days may be under-reported in CIHI data, and that at least some of the apparent length of stay reduction opportunity was not real (i.e. the excess days were likely ALC days rather than acute days).

Recommendation:

It is recommended that:

- (66) Health PEI should conduct an audit of the accuracy and comprehensiveness of ALC day reporting in CIHI DAD submissions.**

6.3 Information Technology

The current information technology platform is perceived to be inadequate. The development of a province wide electronic health record and or electronic medical record will greatly improve communication and documentation, and provide an opportunity to enhance the quality of care.

The province may not accurately track the number of ALC patients which makes analysis of utilization trends and length of stay difficult. Additionally, the day surgery data available does not have DPG's assigned and analysis of hospital activity must then be based only on case counts, rather than weighted cases (see Appendix A). The day surgery data available to the Department is provided directly from the hospitals, rather than an edited data set from CIHI. The hospital data does not include accurate DPG and weighted case assignment.

Recommendations:

It is recommended that:

- (67) Health PEI should develop an information technology plan, with full implementation scheduled, at a maximum, for five years hence.**
- (68) Health PEI should ensure that data is collected and reported in a manner consistent with the CIHI reporting format.**
- (69) The Department of Health and Wellness should ensure that the patient separation data used for provincial analyses are obtained from CIHI.**

6.4 Recruitment and Retention

The PRPC is made up of representatives from the Medical Society, the Department of Health and Wellness, and hospitals. In addition to the deliberations of the PRPC, there is also a JCC and a Utilization Management Committee (UMC).

When there is a perceived need for an additional specialist, a new medical program or service or a planned retirement, the PRPC is asked to grant initial approval for a process to search for a new physician. The committee is vested with responsibility for determining whether or not departing individuals should be replaced, whether new services should be offered, or a program or service

should be granted permission to expand the number of full-time equivalents. If permission is granted, the decision is conveyed to the Department of Health (in the current iteration) and Treasury Board funding is then sought. The newly established Health PEI mandate includes operational (as opposed to policy based) decision making. Permission to replace departing physicians or add to the complement in a discipline should rest with this group.

Conversely, the Department of Health and Wellness has responsibility for policy decisions, and consideration of adding an entirely new program or discipline should be conducted in this forum.

Individuals at the PRPC table perceive that their mandate is to represent their own constituency, rather than the interests of the province and its population. Ideally, the committee should operate in a collaborative and cooperative manner, ensuring that recruitment of new physicians is “needs” as opposed to “wants” based, and reflects the best interests of the province, not their legacy organization. That is to say, there should be a determination whether there is a sufficient volume and/or acuity of need that is unmet and can only be met through the addition of physicians to the human resource pool, rather than by the use of non-physician providers, service delivery model change, or other alternatives.

The PRPC also needs to revise its impact analysis process, not only to measure the anticipated impact of the recruitment, but also to ensure that the actual impact matches the anticipated (and budgeted) impact. Prior to undertaking the recruitment, the committee should delineate the exact expectations of each recruit, including, for instance, his or her participation in education, research, administration, and clinical care. The percentage of time allocated to each of these pursuits should be clearly delineated, and only individuals willing to comply with those requirements should be interviewed. Once hired, individual contracts should reflect the commitments both of the individual and the province, and performance appraisal processes should reflect the terms of the contract. The initial performance appraisal should take place a maximum of 6 months after commencing the appointment and annually thereafter, and should reflect the specific contributions to each of the domains the individual was recruited to (e.g. teaching, administration, etc.).

The PRPC should also ensure that when physicians are recruited they have privilege specific credentialing. Individuals should not be granted “general” privileges, but have a detailed listing of specific

procedures that they will undertake, after the provision of evidence that they have, in fact, been trained during their residency to perform the procedure, and are competent in it. The “actual” number of cases or patients treated with each diagnosis or surgical condition should be tracked and reported annually, and if physicians are not conducting sufficient numbers to meet the critical mass necessary to maintain competence, consideration of removing specific procedures from the credential list, or seeking additional training should occur.

As mentioned elsewhere in this report, the committee should also have responsibility for ensuring that physicians that are recruited to the province have the requisite skills to meet the needs of the communities where they will be working.

Rather than a competitive model with communities competing with each other for physician human resources, a transparent methodology of establishing priorities among communities for family physician services should be established, and potential recruits preferentially directed to those communities in order to ensure that the areas of highest need have their needs met as a provincial priority.

It is also essential that the host hospital participate in negotiation of contracts with physicians who will be working within their walls. It is inappropriate for the province to make commitments regarding the availability of clinic space, beds, operating room time or other resources in the absence of the expressed willingness of the host hospital to provide those services.

The committee must operate by taking responsibility and accountability for its decisions.

Recommendations:

It is recommended that:

- (70) The PRPC members’ mandate should reflect the province’s interests, not those of their legacy organizations.**
- (71) Health PEI, with the participation of the Department of Health and Wellness, should consider restructuring the structures and processes for physician recruitment and retention.**
- (72) Health PEI should be given responsibility for granting permission to replace departing physicians or adding new physicians, and the Department of Health and Wellness**

should be responsible for granting permission to establish a new program.

- (73) Health PEI should ensure the PRPC reconciles the actual impact of physician appointments with the anticipated.**
- (74) Health PEI should ensure a six month review of every new appointee, and an annual performance appraisal of every physician.**

Appendix A – Hospital Data

PEI acute care hospital inpatient and day surgery discharge data for fiscal years 2007/08 and 2008/09 was provided to the consultants. While the initial intent had been to measure physician hospital workload using CIHI weighted cases, it was determined that the PEI day surgery data does not have DPGs assigned or weighted cases, and analyses of hospital activity was instead based only on case counts.

Records for were assigned to one of 4 regions on the basis of the patient residence:

- East Prince
- Kings
- Queens
- West Prince

Population estimates were provided for each region to support analysis of population-based utilization of hospital inpatient and day surgery services.

2007/08 and 08/09 Activity by Doctor Service

The following exhibit shows the 2007/08 and 2008/09 PEI hospital inpatient and day surgery cases by most responsible doctor service.

There was a 1.6% reduction in inpatient cases from 07/08 to 08/09 (primarily for FP/GP, Psychiatry). There was a corresponding 9.0% increase in SDS cases (primarily for General Surgery, Obs/Gyn, Ophthalmology), resulting in a net 2.7% increase in total cases.

Exhibit 28: 2007/08 and 2008/09 PEI Hospital Inpatient and Day Surgery (SDS) Cases by Most Responsible Doctor Service

Doctor Service	2007/08 Cases			2008/09 Cases		
	IP	SDS	Total	IP	SDS	Total
Family/General Practitioner	8,194	4	8,198	7,845	8	7,853
General Surgery	1,462	4,256	5,718	1,605	4,907	6,512
Obstetrics and Gynecology	2,487	689	3,176	2,450	818	3,268
Internal Medicine	1,021	1,700	2,721	1,012	1,589	2,601
Orthopedic Surgery	927	923	1,850	1,013	914	1,927
Urology	265	1,070	1,335	287	1,054	1,341
Ophthalmology	15	873	888	10	1,198	1,208
Psychiatry	917	20	937	762	1	763
Otolaryngology	221	506	727	198	514	712
Plastic Surgery	104	420	524	71	388	459
Pediatrics	456	9	465	490	5	495
Dentist	2	187	189	-	215	215
Oral Surgeon	33	106	139	43	90	133
Emergency Medicine	17	-	17	87	1	88
Diagnostic Radiology	2	19	21	2	75	77
Anesthesia	2	47	49	3	42	45
Medical Oncology	39	15	54	30	8	38
Radiation Oncology	1	6	7	1	3	4
Medical Microbiology	1	-	1	3	-	3
Neurology	1	1	2	1	-	1
Physical Medicine/Rehab	2	-	2	-	-	-
(blank)	1	-	1	1	-	1
Geriatric Medicine	1	-	1	-	-	-
Grand Total	16,171	10,851	27,022	15,914	11,830	27,744

Exhibit 29: 2007/08 and 2008/09 PEI Hospital Inpatient & Day Surgery (SDS) Cases by Hospital

Doctor Service	2007/08 Cases			2008/09 Cases			% Change		
	IP	SDS	Total	IP	SDS	Total	IP	SDS	Total
Queen Elizabeth Hospital	9,705	6,907	16,612	9,511	7,638	17,149	-2.0%	10.6%	3.2%
Prince County Hospital	4,084	3,944	8,028	4,108	4,192	8,300	0.6%	6.3%	3.4%
Kings County Hospital	891	-	891	805	-	805	-9.7%		-9.7%
Western Memorial Hospital	614	-	614	702	-	702	14.3%		14.3%
Souris Hospital	363	-	363	369	-	369	1.7%		1.7%
O'Leary Hospital	341	-	341	285	-	285	-16.4%		-16.4%
Stewart Memorial Hospital	173	-	173	134	-	134	-22.5%		-22.5%
Grand Total	16,171	10,851	27,022	15,914	11,830	27,744	-1.6%	9.0%	2.7%

There was a greater than 3% increase in case volume for both QE and Prince County hospitals.

PEI Hospital Length of Stay Performance for “Typical” Cases

The PEI hospital “typical” case (i.e. excluding deaths, transfers, sign-outs, long-stay outliers) length of stay (excluding ALC days) was 14% longer than Canadian average. The CIHI expected length

of stay (“ELOS”) includes adjustment for CMGs, patient age, and comorbidity.

Exhibit 30: “Typical” Case LOS Compared to CIHI Expected LOS by Hospital

Hospital	Typical Acute (excl. ALC Days)		ALC Days		Actual Acute Typical Days as % of CIHI Expected Days	
	2007/08	2008/09	2007/08	2008/09	2007/08	2008/09
Queen Elizabeth Hospital	44,530	40,638	1,345	775	114%	116%
Prince County Hospital	17,657	17,210	419	308	105%	108%
Kings County Hospital	4,133	3,130	135	94	118%	115%
Western Memorial Hospital	2,601	2,196	9	14	119%	110%
Souris Hospital	1,751	1,473	43	14	120%	132%
O’Leary Hospital	1,589	851	130	29	114%	103%
Stewart Memorial Hospital	804	745	13	3	125%	154%
Grand Total	73,065	66,243	2,094	1,237	112%	114%

The PEI Typical case (i.e. excluding deaths, transfers, sign-outs, long-stay outliers) length of stay (excluding ALC days) was more than 20% longer than the Canadian average for FP/GP, Obs/Gyn, Ortho, and Paediatrics.

Exhibit 31: “Typical” Case LOS Compared to CIHI Expected LOS by Dr. Service

Hospital	Typical Acute (excl. ALC Days)		ALC Days		Actual Acute Typical Days as % of CIHI Expected Days	
	2007/08	2008/09	2007/08	2008/09	2007/08	2008/09
Family/General Practitioner	42,233	36,540	1,958	1,134	120%	121%
Obstetrics and Gynecology	7,553	7,014	10	5	127%	127%
General Surgery	6,391	6,483	56	-	99%	97%
Psychiatry	6,566	6,195	-	53	75%	87%
Orthopedic Surgery	4,432	4,234	65	15	144%	141%
Internal Medicine	2,364	2,298	-	-	92%	90%
Pediatrics	1,790	1,751	1	-	121%	130%
Urology	795	749	4	-	110%	111%
All Other Services	941	979	-	30	104%	97%
Grand Total	73,065	66,243	2,094	1,237	112%	114%

CIHI Expected Length of Stay Standards

CIHI expected length of stay standards are based on the national average acute length of stay for “Typical” discharges from acute care hospitals for each possible combination of Case Mix Group (CMG), patient age, and “resource intensity level” (RIL). The acute length of stay standards are calculated exclusive of reported “Alternate Level of Care” (ALC) days.

Under Reporting of ALC Days in PEI?

The accuracy of the clinical efficiency assessment using the CIHI ELOS is dependent on the accuracy of the hospital discharge data to

which it is applied. Because the ELOS is for the acute portion of the stay, excluding ALC days, if ALC days are under-reported, it will cause the reported length of stay to be too long, and will lead to an over-estimate of the opportunity to reduce length of stay. In 2007/08, PEI hospitals reported 6.8% of hospital inpatient days as ALC. This increased to 7.4% of inpatient days for 2008/09.

Exhibit 32: PEI Hospital Total and ALC Days for Inpatient Discharges During 2007/08 and 2008/09

Hospital Site	2007/08 FY			2008/09 FY		
	Total Days	ALC Days	% ALC Days	Total Days	ALC Days	% ALC Days
Kings County Hospital	9,411	1,493	15.9%	9,094	1,605	17.6%
O'Leary Hospital	3,275	325	9.9%	3,395	586	17.3%
Prince County Hospital	30,519	1,911	6.3%	31,350	1,750	5.6%
Queen Elizabeth Hospital	78,861	4,594	5.8%	75,804	4,927	6.5%
Souris Hospital	4,681	414	8.8%	5,089	402	7.9%
Stewart Memorial Hospital	2,298	140	6.1%	2,258	405	17.9%
Western Memorial Hospital	5,856	276	4.7%	6,603	263	4.0%
Grand Total	134,901	9,153	6.8%	133,593	9,938	7.4%

The two largest acute care hospitals reported low ALC rates (5.6% for Prince County and 6.5% for Queen Elizabeth). The consultants were advised that ALC days may be under-reported in CIHI data, and that at least some of the apparent length of stay reduction opportunity was not real (i.e. the excess days were likely ALC days rather than acute days).

Use of Acute Care Hospital Services by Residents of PEI

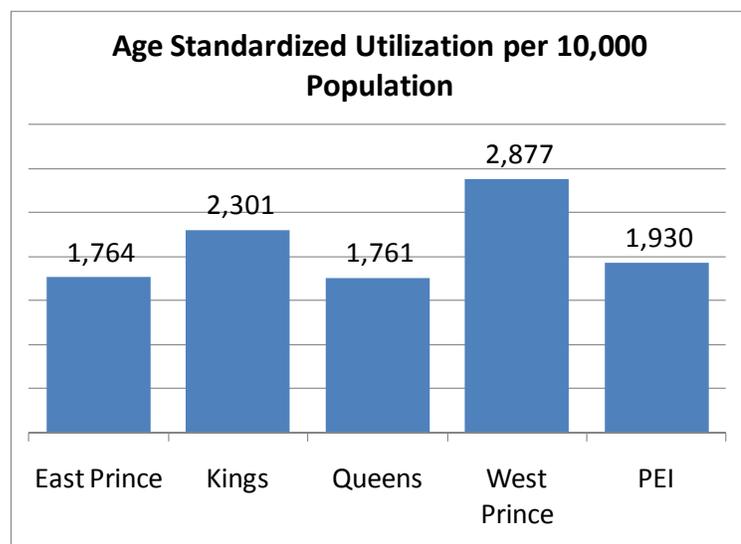
The following section shows the results of analysis of rates of use of hospital services by residents of 4 regions within PEI. The rates are age standardized to take into account differences in demographics by region. If there are differences in rates of hospital utilization by region, it could mean:

- Residents of regions with high rates may be over-relying on hospital services?
- May reflect lack of access to primary and community services, necessitating reliance on hospitals for care?
- Residents of regions with low rates may be under-utilizing hospital services?
- May be barriers to access, such as lack of local capacity?
- May reflect good access to alternate services?

Exhibit 33: Population Estimates and Projections by Region

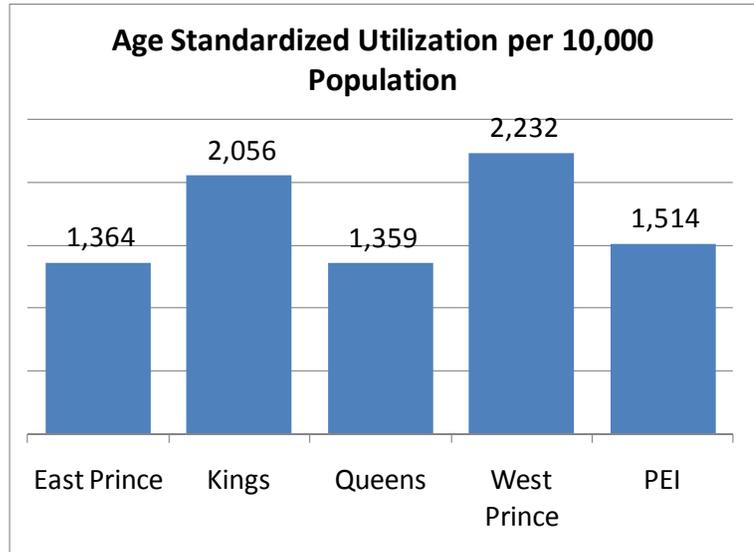
Age Group	2008 Population				2014 Population				2019 Population			
	East Prince	Kings	Queens	West Prince	East Prince	Kings	Queens	West Prince	East Prince	Kings	Queens	West Prince
0-4	1,863	871	3,477	776	1,881	880	3,510	784	1,889	883	3,525	787
5-9	1,970	1,047	3,917	821	1,828	972	3,636	762	1,828	972	3,636	762
10-14	2,152	1,367	4,724	897	1,865	1,185	4,093	777	1,749	1,111	3,839	729
15-19	2,506	1,679	5,212	1,044	2,169	1,453	4,511	904	1,887	1,264	3,924	786
20-24	2,297	1,475	5,008	957	2,398	1,540	5,227	999	2,104	1,351	4,587	877
25-29	1,940	886	5,175	809	2,137	976	5,701	891	2,160	987	5,762	900
30-34	2,100	1,005	4,563	875	2,100	1,005	4,563	875	2,312	1,106	5,024	963
35-39	2,056	1,198	4,508	856	1,948	1,135	4,272	812	1,943	1,132	4,262	810
40-44	2,395	1,492	5,423	998	2,130	1,327	4,823	888	2,000	1,246	4,529	833
45-49	2,653	1,536	5,720	1,105	2,379	1,377	5,128	991	2,200	1,273	4,742	916
50-54	2,539	1,561	5,597	1,058	2,846	1,750	6,274	1,186	2,471	1,520	5,447	1,030
55-59	2,399	1,513	5,438	999	2,638	1,665	5,980	1,099	2,890	1,824	6,552	1,204
60-64	1,865	1,197	4,227	777	2,097	1,346	4,753	874	2,284	1,465	5,176	952
65-69	1,453	939	3,019	605	2,061	1,332	4,284	859	2,189	1,414	4,549	912
70-74	1,311	821	2,365	546	1,551	972	2,799	646	2,088	1,308	3,768	870
75-79	959	557	1,873	399	1,077	625	2,103	449	1,247	724	2,435	519
80-84	716	385	1,525	298	813	437	1,730	339	884	475	1,882	368
85-89	420	157	1,024	175	435	162	1,061	181	480	179	1,171	200
90 +	246	53	526	103	278	60	595	116	294	64	627	122
Total	33,840	19,740	73,320	14,100	34,631	20,198	75,042	14,430	34,899	20,300	75,436	14,541

Exhibit 34: 2008/09 Total Cases (IP & SDS) per 10,000 Age Standardized Population



The residents of West Prince have the highest rate of use of hospital services, while residents of East Prince and Queens have lower rates of use of hospital services.

Exhibit 35: 2008/09 Total Inpatient Cases per 10,000 Age Standardized Population

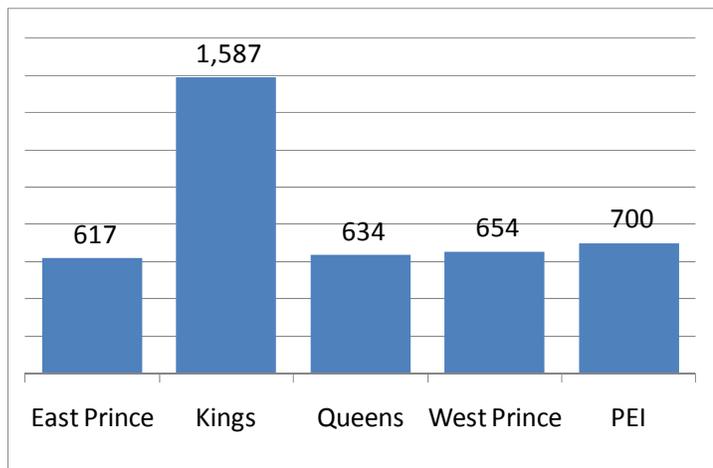


Residents of Kings and West Prince have higher rates of use of inpatient hospital services than residents of East Prince and Queens.

ALC Days per Population

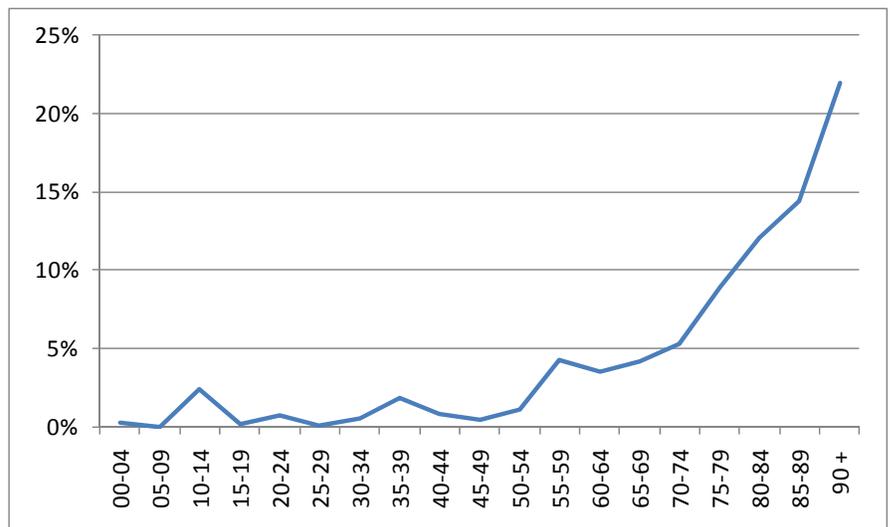
On average, there are 700 ALC days per 10,000 population reported in the 2008/09 CIHI data, but the reported ALC rate is much higher for residents of Kings. This could mean that the Kings population faces greater barriers in accessing post-acute care (e.g. an inadequate supply of long-term care beds) or it could mean (given the reported inadequacy of ALC reporting) that the hospital(s) serving the Kings population do a better job of reporting ALC days.

Exhibit 36: 2008/09 ALC Days per 10,000 Age Standardized Population



While ALC days may be under-reported, the available data does demonstrate that elderly inpatients are most likely to face discharge delays waiting for access to post-acute care. The average percent of the total stay in an acute care hospital for PEI inpatients that is spent as ALC is less than 5% for patients under 70 years old, but increases to more than 20% for the oldest inpatients.

Exhibit 37: Percent of Inpatient Days in PEI Acute Care Hospital Beds Reported as ALC by Patient Age



Impact of Demographic Change on PEI Hospital Activity

The PEI population is projected to increase by 2.3% from 2008 to 2014, and by 3.0% from 2008 to 2019. However, there is a projected decrease in population aged 5 to 24 by 2019, a greater than 10% increase by 2014 in population aged 50 to 84, and a greater than 20% increase by 2019 in population aged 55 to 84.

The physician specialties that focus on diseases of the elderly population will experience greatest increase in demand.

Exhibit 38: Projected Change in PEI Population by Age Group

Age Group	2008	% Chg. To 2014	% Chg. 2008 to 2019
00-04	6,988	1.0%	1.4%
05-09	7,754	-7.2%	-7.2%
10-14	9,140	-13.4%	-18.7%
15-19	10,442	-13.5%	-24.7%
20-24	9,737	4.4%	-8.4%
25-29	8,810	10.2%	11.3%
30-34	8,542	0.0%	10.1%
35-39	8,618	-5.2%	-5.5%
40-44	10,308	-11.1%	-16.5%
45-49	11,014	-10.3%	-17.1%
50-54	10,756	12.1%	-2.7%
55-59	10,349	10.0%	20.5%
60-64	8,066	12.5%	22.5%
65-69	6,016	41.9%	50.6%
70-74	5,043	18.3%	59.3%
75-79	3,787	12.3%	30.0%
80-84	2,925	13.5%	23.4%
85-89	1,777	3.6%	14.3%
90 +	928	13.1%	19.3%
Total	141,000	2.3%	3.0%

If the PEI population projections are applied to the historical PEI hospital activity by physician specialty by age group, an 8.1% increase in hospital separations is projected by 2014, and a 14.0% increase in separations from 2008/09 to 2019.

The services with the largest % increase are projected to be:

- Ophthalmology 30.2%
- Urology 20.9%
- Internal Medicine 19.1%

The services with projected decreases are:

- Oral Surgeon -5.0%
- Paediatrics -3.0%
- Psychiatry -1.2%
- Otolaryngology -0.7%

**Exhibit 39: Projected Impact of Population Projections on PEI
Hospital Separations by Physician Specialty**

Physician Specialty	PEI Hospital Separations (IP and SDS)				
	2008/09 Actual	2014 Proj.	% Change to 2014	2019 Proj.	% Chg. 08/09 to 2019
Family/General Practitioner	7,853	8,578	9.2%	9,212	17.3%
General Surgery	6,512	7,166	10.1%	7,584	16.5%
Obstetrics and Gynecology	3,268	3,312	1.3%	3,304	1.1%
Internal Medicine	2,601	2,889	11.1%	3,098	19.1%
Orthopedic Surgery	1,927	2,072	7.5%	2,166	12.4%
Urology	1,341	1,503	12.1%	1,621	20.9%
Ophthalmology	1,208	1,391	15.2%	1,573	30.2%
Psychiatry	763	770	1.0%	754	-1.2%
Otolaryngology	712	710	-0.3%	707	-0.7%
Plastic Surgery	459	486	6.0%	500	8.9%
Pediatrics	495	484	-2.2%	480	-3.0%
Dentist/Oral Surgeon	348	337	-3.1%	330	-5.0%
Other Specialties	257	286	11.4%	311	20.8%
Grand Total	27,744	29,986	8.1%	31,639	14.0%

Appendix B – Projected Requirement for Hospital-Based Specialties

Appendix A showed the projected change in PEI hospital activity by physician specialty. Because of the projected change in the age distribution of the PEI population, there will be an 8.1% increase in hospital separations by 2014, and a 14.0% increase in separations from 2008/09 to 2019.

Annual Hospital Physician Caseload Standards Applied to Projected Volume

Based on data from large community hospitals with more than 5,000 total separations (IP and SDS cases) per year and greater than 20% of cases with General/Family Practitioner as most responsible physician (MRP), the 75th percentile annual separations by MRP doctor service was calculated.

These calculated peer annual separations per physician were then applied to the projected PEI case volume by doctor service to generate an estimate of FTE physician requirements for hospital-based care.

The physician requirement estimates in section 5 of this report for hospital-based specialties are informed by the results of this analysis.

Exhibit 40: Comparison of PEI 08/09 caseload by MRP specialty with peer hospital annual 08/09 caseload

Physician Specialty	PEI Hospital Separations (IP and SDS)					Target Annual Cases per Physician	2009 Actual Comp. FTE	Estimated Hospital FTEs Required				Growth from 2008/09 Estimate to 2014
	2008/09 Actual	2014 Proj.	% Change to 2014	2019 Proj.	% Chg. 08/09 to 2019			2008/09	Req'd. Change to Match Estimate	2014	2019	
Family/General Practitioner	7,853	8,578	9.2%	9,212	17.3%	105	91.8	74.8	(17.0)	81.7	87.7	12.9
General Surgery	6,512	7,166	10.1%	7,584	16.5%	990	7.0	6.6	(0.4)	7.2	7.7	1.1
Obstetrics and Gynecology	3,268	3,312	1.3%	3,304	1.1%	350	8.2	9.3	1.1	9.5	9.4	0.1
Internal Medicine	2,601	2,889	11.1%	3,098	19.1%	165	14.0	15.8	1.8	17.5	18.8	3.0
Orthopedic Surgery	1,927	2,072	7.5%	2,166	12.4%	367	4.0	5.3	1.3	5.6	5.9	0.7
Urology	1,341	1,503	12.1%	1,621	20.9%	901	2.0	1.5	(0.5)	1.7	1.8	0.3
Ophthalmology	1,208	1,391	15.2%	1,573	30.2%	566	5.3	2.1	(3.2)	2.5	2.8	0.6
Psychiatry	763	770	1.0%	754	-1.2%	60	17.2	12.7	(4.5)	12.8	12.6	(0.2)
Otolaryngology	712	710	-0.3%	707	-0.7%	279	3.0	2.6	(0.4)	2.5	2.5	(0.0)
Plastic Surgery	459	486	6.0%	500	8.9%	251	2.0	1.8	(0.2)	1.9	2.0	0.2
Pediatrics	495	484	-2.2%	480	-3.0%	206	8.6	2.4	(6.2)	2.4	2.3	(0.1)
Dentist/Oral Surgeon	348	337	-3.1%	330	-5.0%	105	3.0	3.3	0.3	3.2	3.1	(0.2)
Other Specialties	257	286	11.4%	311	20.8%	Total for Spec. Above	166.1	138.2	(27.9)	148.6	156.7	18.5
Grand Total	27,744	29,986	8.1%	31,639	14.0%							

Appendix C - Reliance by PEI Residents on Out of Province Hospitalization

The majority of inpatient hospitalizations outside PEI for PEI residents are at QE II in Halifax, followed by IWK, and Moncton. There was a decrease in out of province day surgery from 07/08 to 08/09 (primarily for cataracts; there was a reduction of 600 cataract cases in 08/09).

Exhibit 41: Out of Province Hospitalizations for PEI Residents

Hospital	2007/08 Cases			2008/09 Cases		
	Inpatient	Day Surgery	Total	Inpatient	Day Surgery	Total
Queen Elizabeth II Health Sciences	911	610	1,521	888	653	1,541
The Moncton Hospital	245	55	300	231	59	290
IWK Health Centre	257	-	257	300	-	300
Cumberland Reg. Healthcare Centre	1	399	400	3	6	9
Hopital Reg Dr-Georges-L-Dumont	24	265	289	26	51	77
Saint John Regional Hospital	89	6	95	102	4	106
All Other Hospitals (~ 50)	148	48	196	177	69	246
Total	1,675	1,383	3,058	1,727	842	2,569

Exhibit 42: Reliance by PEI Residents on Out of Province Hospitalization – 2008/09 Activity by MRP Doctor Service

Most Responsible Dr. Service	IP Cases	IP Days	Avg. LOS	SDS Cases
Cardiology	354	1,494	4.2	201
Ophthalmology	21	41	2.0	196
General Surgery	114	904	7.9	67
Urology	70	322	4.6	98
Orthopedic Surgery	101	566	5.6	44
Neurosurgery	140	802	5.7	2
Cardiac Surgery	134	1,871	14.0	7
Obstetrics And Gynecology	79	582	7.4	56
Vascular Surgery	80	553	6.9	9
Otolaryngology	55	256	4.7	16
Family/General Practioner	52	280	5.4	14
Thoracic Surgery	45	273	6.1	15
Nephrology	52	784	15.1	1
Internal Medicine	45	495	11.0	1
Radiation Oncology	13	52	4.0	32
Plastic Surgery	20	101	5.1	20
Diagnostic Radiology	1	6	6.0	34
Paediatric Orthopedic Surgery	34	174	5.1	-
Paediatric Hematology	33	233	7.1	-
Neonatal-Perinatal Medicine	32	416	13.0	-
Gynecologic Oncology	24	143	6.0	3
Paediatric General Surgery	25	137	5.5	-
Hematology	13	427	32.8	11
Paediatrics	22	134	6.1	-
Oral Surgeon	20	51	2.6	1
Gastroenterology	12	32	2.7	8
Paediatric Neurosurgery	13	66	5.1	-
Critical Care Medicine	12	117	9.8	-
Paediatric Neurology	11	42	3.8	-
Other Paediatric Specialty	73	254	3.5	-
All Others	27	304	11.3	6
Total	1,727	11,912	6.9	842

**Exhibit 43: Out of Province Hospitalization for
Children – 2008/09 Highest Volume CMGs**

Case Mix Group	2008/09 Cases		
	Inpatient	SDS	Total
Chemo/Radio Session Neoplasm	24	-	24
Seizure Disorder	11	-	11
NB/Neo 1000-1499 gm, 29+ Wks	7	-	7
Maj Interv Male Reproduct Syst	6	-	6
Ungroupable	-	6	6
Larynx/Trachea Intv w ENT Dx	5	-	5
NB/Neo 2500+, Oth Min Prob	5	-	5
Soft Tissue Intv of Lower Limb	4	1	5
Fix Lower Limb exc Ankle/Foot	3	2	5
Normal Newborn Sing Vag Deliv	5	-	5
Hard/Soft Palate/Gingiva Intv	5	-	5
Strain/Sprain/Joint/Tendon Dis	5	-	5
Major Intv Upper Urinary Tract	4	-	4
Other Chemotherapy	4	-	4
Fixation/Repair Hip/Femur	4	-	4
NB/Neo 1500-1999 gm, <32 Wks	4	-	4
Cardiac Conduction System Intv	1	3	4
NB/Neo 2500+, Cardiovasc Anom	4	-	4
Minor Upper GI Interv	4	-	4
NB/Neo 2500+ gm, Jaundice	4	-	4
Liver Dis exc Cirrhosis/Mal	3	-	3
C1/C2/Thoracic Spine Intv	3	-	3
Other MSK Interv on Head	3	-	3
Follow-Up Treatment/Exam	3	-	3
Cancelled Intervention	2	1	3

**Exhibit 44: Out of Province Hospitalization for
Adults – 2008/09 Highest Volume CMGs**

Case Mix Group	2008/09 Cases		
	Inpatient	SDS	Total
PCI w MI/Shock/Arrest/Hrt Fail	115	1	116
Unstable Ang/ASHD w Card Cath	12	98	110
Ungroupable	20	60	80
Lens Extraction/Insertion	-	65	65
Vitrectomy	6	58	64
MI/Shock/Arrest w Cardiac Cath	54	6	60
PCI wo MI/Shck/Arrst/Hrt Fail	56	1	57
Ang (exc Unst)/CP w Card Cath	24	28	52
Spinal Vertebrae Intervention	38	2	40
Cancelled Intervention	22	16	38
CABG+Cath+MI/Shock/Arr+Pump	35	-	35
CABG-Cath-MI/Shock/Ar+/-Pump	34	-	34
Cardiac Valve Replacement	34	-	34
Other Ophthalmic Intervention	-	33	33
Min Intv Upp Urin Trct Ext/ PO	9	23	32
Other Intervention Back/Neck	23	8	31
Mal Neo Male Reprod System	-	30	30
Follow-Up Treatment/Exam	-	30	30
Other/Misc Cardiac Disorder	15	14	29
Other/Misc Vascular Intv	16	12	28
Extraocular Intv exc Lacr Sys	8	19	27
Convalescence	22	-	22
Cardiac Valve Disease	6	16	22
Major Intv Upper Urinary Tract	21	-	21
Cardiac Conduction System Intv	11	10	21

The highest volume out-of-province inpatient activity was related to cardiac catheterization (diagnostic and interventional). There were only 65 out-of-province lens extraction/insertion cases in 08/09, a reduction from 669 in the prior year.

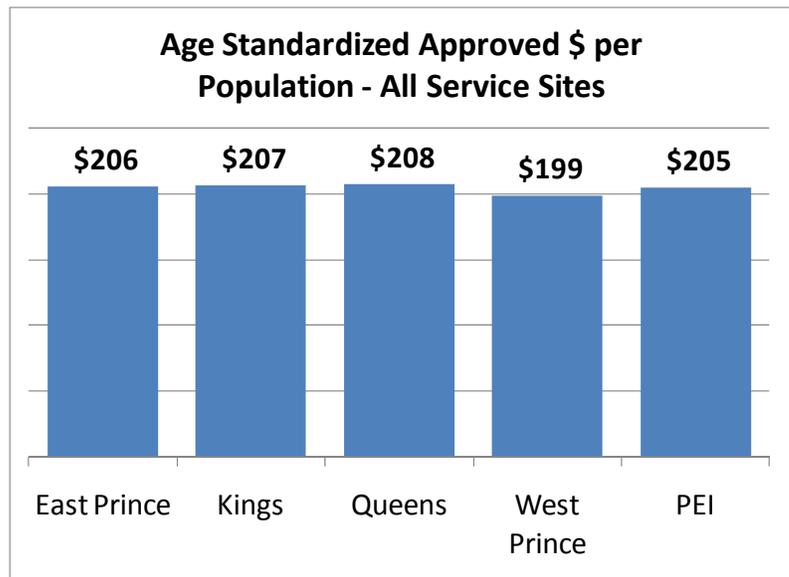
Appendix D – Fee-For-Service Data

Population- Based Utilization of Physician Services

For claims with identified patients, approved amounts were attributed to the geographic region where the patient lives. Approved amounts per population were calculated, adjusting for age distribution of population (i.e. age standardized).

The results below show remarkably similar utilization of physician services (as measured by approved amount) per population by PEI region.

Exhibit 45: Age Standardized Approved Dollars per Population – All Service Sites (2009/10 6 Month YTD Utilization)



Appendix E – List of Recommendations

- (1) Health PEI should ensure that the human resource planning process is consistently and transparently applied.**
- (2) The Department of Health and Wellness should no longer operate a locum service.**
- (3) Health PEI should ensure that the province’s human resource plan factors in time for vacation and continuing professional development.**
- (4) The Department of Health and Wellness and the Medical Society of PEI should discuss compensating physicians either only in a fee for service model or a “comprehensive” model that includes payment for all services except those reimbursed by a third party.**
- (5) The Medical Society and the Department of Health and Wellness should consider the development of Alternate Payment Plans for some services or departments.**
- (6) Health PEI should revise its impact analysis process.**
- (7) Health PEI should consider shifting from a model of granting privileges and credentials to contracting for physician services on an annual basis.**
- (8) The Department of Health and Wellness, Health PEI and the Medical Society should begin a process to evaluate the long term viability of low volume services in Prince Edward Island.**
- (9) The College of Physicians and Surgeons of Prince Edward Island should consider no longer credentialing physicians whose training does not meet Canadian standards.**
- (10) Health PEI should develop and circulate policies on the integration of non physician providers of care, including physician assistants, nurse practitioners, midwives and anaesthesia technicians into the care delivery model.**
- (11) Health PEI should develop and circulate a compensation model for non physician providers of care.**
- (12) The Director of Medical Programs should coordinate an educational program designed to inform physicians on the**

scope of practice, liability protection, etc. of non-physician providers of care.

- (13) Health PEI, with the support of the Department of Health and Wellness, should develop a plan for the recruitment of health professionals such as dietitians, social workers, therapists, etc.
- (14) Until such time as the recruitment process is completed, changes to the Family Physician human resource complement suggested elsewhere in this report should not be implemented.
- (15) The Medical Directors, in cooperation with the Chiefs of Medicine and Surgery at both the Queen Elizabeth and Prince County hospitals, should review the current bed allocation.
- (16) The Medical Directors and Chiefs of Medicine and Surgery should review the number of beds allocated to each service every two years.
- (17) The Director of Medical Programs should determine the advisability of establishing visiting specialist clinics in communities.
- (18) The Director of Medical Programs, Medical Society and hospital Medical Directors should develop and enforce a policy that links access to hospital-based resources with the provision of services in support of a hospital.
- (19) Health PEI should review recommendations in this report that pertain to service delivery model reconfiguration, and develop processes to implement the changes.
- (20) The Medical Directors of the Prince County and Queen Elizabeth Hospitals should restrict admitting privileges to critical care units to those with appropriate training and skills.
- (21) A plan should be developed by the Chief of Anaesthesia at the Prince County Hospital to ensure the availability of epidural analgesia on a 24/7 basis.
- (22) The Chiefs of Anaesthesia at both acute care hospitals should develop pre anaesthetic clinics.

- (23) The Medical Society, Health PEI and the Department of Health and Wellness should negotiate a fee for the provision of pre-anaesthetic evaluations.**
- (24) The Director of Medical Programs should consider opportunities to recruit family physicians with extra training or enhance the training of current family physicians in order to decrease the demand for specialist services.**
- (25) The Director of Medical Programs should consult with leaders of the province's primary care community on to how to avoid using specialists to provide primary care.**
- (26) The PRPC should ensure that the provincial human resource strategy focuses on the recruitment of generalist versus subspecialty trained individuals.**
- (27) Health PEI should support those physicians willing to consider the development of group practices.**
- (28) Chiefs of each medical department should begin developing (or searching) care maps for commonly encountered conditions. These protocols should be distributed and used Province-wide.**
- (29) The Medical Advisory Committees should develop consultant response time standards.**
- (30) The Medical Directors at each hospital should investigate models of assigning the MRP role.**
- (31) The Senior Management team of the Queen Elizabeth Hospital should strike a committee with responsibility for developing a plan for the provision of surgical services in the new ambulatory facility.**
- (32) Health PEI should develop a telehealth technology acquisition plan.**
- (33) The Chiefs of Surgery and Anaesthesia should develop a plan for the provision of urgent and emergent surgery during daytime hours at each site.**
- (34) The Chiefs of Emergency Medicine at both the Prince County and Queen Elizabeth Hospitals should develop clinical decision units that are under the administrative aegis of the emergency department.**

- (35) The quota of Geriatricians should be increased to three full time equivalents in addition to the recruitment of the other members of the team noted above.**
- (36) Health PEI should develop a four to six bed Geriatric Assessment Unit.**
- (37) Health PEI should create a provincial Geriatric Assessment or Consultation Team with a mandate, among other tasks, to provide consultations in both acute care hospitals.**
- (38) The quota of physicians providing palliative care should be increased to three full time equivalents.**
- (39) The quota for Obstetrician/Gynecologists should be increased by one, with the new recruit situated in Charlottetown.**
- (40) Health PEI should consolidate all Obstetric and inpatient Paediatric activity at one site. As an alternative, Obstetric service may be offered at two sites and Paediatric inpatient activity at one site.**
- (41) Health PEI should recruit a paediatric psychologist.**
- (42) Health PEI should consider the discontinuation of the vascular surgery program.**
- (43) The Queen Elizabeth Hospital should increase its quota of full time equivalent emergency physicians to 13.5 - 14.5.**
- (44) The Nursing Manager of the Queen Elizabeth Hospital emergency department should begin recruiting additional nursing staff as the construction project nears completion.**
- (45) Health PEI should recruit at least one more physiatrist.**
- (46) Non-physician supports for the rehabilitation program, particularly outpatient services such as physiotherapy, occupational therapy, social work, psychology, and speech language pathology should be increased.**
- (47) The shadow billing of the psychiatrists should be carefully examined in order to ensure that appropriate volumes of service are being provided.**

- (48) Health PEI should consider consolidation of the inpatient surgery program at one site.**
- (49) Ambulatory plastic surgery procedures should be transferred to the new ambulatory facility at the Queen Elizabeth Hospital or the operating rooms at the Prince County Hospital.**
- (50) Health PEI should begin the immediate recruitment of two internists. Once discussions regarding the future of the intensive care units have been conducted, the need for further recruits will become clarified.**
- (51) The Medical Directors of the hospitals and the province should develop a plan for critical care services.**
- (52) Once the plan is developed the PRPC should adjust the quotas for the “home” specialties of the critical care physicians.**
- (53) Health PEI should plan to consolidate acute care in patient services in the hospitals in Summerside and Charlottetown.**
- (54) Health PEI must ensure access to urgent care for 12-16 hours per day in communities that formerly had full service hospitals. Staffing may be provided by local family physicians or by emergency physicians.**
- (55) Health PEI should consider the development of comprehensive primary care centres in the former hospital facilities.**
- (56) If a hospital is not converted to a comprehensive primary care centre, Health PEI should consider its use as an Urgent Care Centre.**
- (57) The family physician quota for the province should be set at 90, with a plan to decrease the number to 65 but not until the year 2015, and only if the introduction of primary care reform, including an interdisciplinary model of care, is successful.**
- (58) The Department of Emergency Medicine should discontinue the practice of having emergency physicians administer thrombolytic therapy to stroke patients.**

- (59) Health PEI should carefully consider the future viability of the Neurology service.**
- (60) Health PEI should increase the quota of Orthopaedic surgeons by one.**
- (61) The Medical Director of the Queen Elizabeth Hospital and/or the Chief of Surgery (when appointed) and the Director of Medical Programs should work with the orthopods on developing alternative models of care.**
- (62) The PRPC should recruit a Haematopathologist to meet the current manpower plan.**
- (63) Health PEI should consider including extra training in or an interest in Infectious Disease as a criterion for future recruits.**
- (64) Health PEI should develop a compensation and performance management program for clinical chiefs that reflect current practice.**
- (65) Job and role descriptions should be developed for physician leaders by the Director of Medical Programs.**
- (66) Health PEI should conduct an audit of the accuracy and comprehensiveness of ALC day reporting in CIHI DAD submissions.**
- (67) Health PEI should develop an information technology plan, with full implementation scheduled, at a maximum, for five years hence.**
- (68) Health PEI should ensure that data is collected and reported in a manner consistent with the CIHI reporting format.**
- (69) The Department of Health and Wellness should ensure that the patient separation data used for provincial analyses are obtained from CIHI.**
- (70) The PRPC members' mandate should reflect the province's interests, not those of their legacy organizations.**
- (71) Health PEI, with the participation of the Department of Health and Wellness, should consider restructuring the structures and processes for physician recruitment and retention.**

- (72) Health PEI should be given responsibility for granting permission to replace departing physicians or adding new physicians, and the Department of Health and Wellness should be responsible for granting permission to establish a new program.**
- (73) Health PEI should ensure the PRPC reconciles the actual impact of physician appointments with the anticipated.**
- (74) Health PEI should ensure a six month review of every new appointee, and an annual performance appraisal of every physician.**

Appendix F – References

1. “British Columbia Revascularization & Open Heart Services”, Report Prepared for the Provincial Health Services Authority, October 2006.
2. Cardiac Care Network of Ontario (2001). Expert Panel on Invasive Cardiology in Ontario: Final Report and Recommendations. CCN Publications, June 2001.
3. Annotated Bibliography from “The Integration of Specialty Nurse Practitioners into the Ontario Healthcare System” M. van Soren & C. Hurlock-Chorostecki, not dated.
4. “Chronic Disease Management and Prevention” Orchard et al Healthcare Quarterly Vol.11, No. 1, 2008, pp38-43.
5. “OMA Policy on Chronic Disease Management” Ontario Medical Review Jan.2010, pp20-34.
6. “Evaluation of a Depression Health Management Program to Improve Outcomes in First or Recurrent Episodes of Depression” Aubert et al American Journal of Managed Care , May 2003, pp374-380.
7. “Quality Improvement and Cost Reduction Realized Through Diabetes Disease Management” Snyder et al Disease Management Vol.6 No. 4 2003 pp233-241.
8. “A Systematic review of Randomized Management Programs in Heart Failure” McAlister et al American Journal of Medicine April, 2001 Vol. 110 pp 378-384.
9. “Final Report of the Ontario Critical Care Steering Committee” March 2005.
10. “The Hospitalist: New Boon for Internal Medicine or Retreat from Primary Care?” Schroeder and Schapiro Annals of Internal Medicine 16 February 1999, Vol. 130 No.4 pp382-387.
11. “The Hospitalist Model: Perspectives of the Patient, Internist and Internal Medicine Service” ibid pp369-372.
12. “Implications of a Hospitalist System in a Large HMO: the Kaiser Permanente Experience” Craig et al ibid pp355-359.
13. “Hospitalism in Ontario: Managing the Legal Risks” Health Law Bulletin Distributed by McMillan Binch LLP Nov. 2004.

14. "Volume Outcome Relationships in Vascular Surgery, the Current Status" Karthikesalingam et al J. Endovascular Ther. 2010: 17: 356-65.
15. "Emergency Physician Workload Modeling" Dubinsky CJEM Accepted for Publication 2010.
16. "2009 Physician Leader Compensation Survey" Published by Hay Group Health Care Consulting March, 2009.
17. "Thrombolytic Therapy for Acute Ischemic Stroke" CAEP Committee on Thrombolytic Therapy for Acute Ischemic Stroke CJEM Jan. 2001: 3(1) pp8-12.