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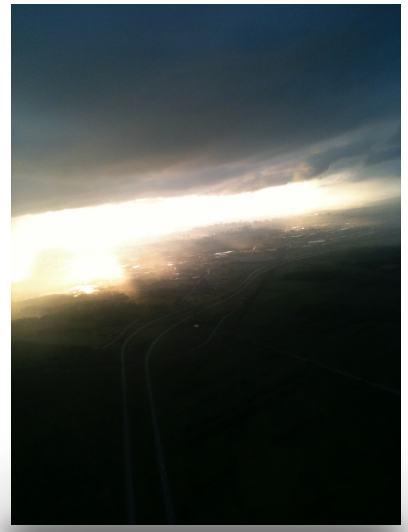
# PROVINCIAL CLINICAL AND PREVENTIVE SERVICES PLANNING FOR PRINCE EDWARD ISLAND

## DOING THINGS DIFFERENTLY AND BETTER



Final report submitted to:

Deputy Minister, Department of Health and Wellness

Chief Executive Officer, Health PEI

February 25, 2023

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and associates


**Note to Reader**

This report is aligned with the **Provincial Clinical and Preventive Services Planning for Prince Edward Island: Environmental Scan** (February25, 2023).

The scan provides both context and detail that supplement the information and analysis presented in this report.

Where additive, abstractions from the scan have been distilled for inclusion in the report.

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Health Intelligence Inc. confirms no actual, perceived, or potential conflict of interest with any of Prince Edward Island Department of Health and Wellness, Health PEI, and all health organizations in Prince Edward Island.

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# Letter of Introduction

February 25, 2023

**Ms. Lisa Thibeau**
Deputy Minister, Ministry of Health and Wellness
**Dr. Michael Gardam**
Chief Executive Officer, Health PEI

Dear Ms. Thibeau and Dr. Gardam:

Attached is the final report of Health Intelligence and associates on Clinical and Preventive Services Planning for Prince Edward Island. Using our adjusted population needs-based methodology, this report has progressed through phases of a project charter, qualitative and quantitative acquisitions and analyses, and a detailed Environmental Scan, underpinned by a Data Compendium that has been provided as a companion document. The Environmental Scan and Data Compendium are important documents; the comprehensive information in these files is not replicated in the report, but are cross-referenced or emphasized where appropriate.

An overview schematic and related key points are provided in the Introduction. The details are within the report and reflect the environmental scan, modeling, and forecasting that converge into the plan.

The data that inform the report have been acquired with careful attention to validation and harmonization. The merger of data with informed qualitative observations is the basis of assessing the current state in Prince Edward Island and forecasting the future state in a ten-year rolling model that is founded on evidence and incorporates redesigned models of care. It is notable that even the most thorough examinations of Canadian healthcare are based on remote data, a fact particularly relevant in times of rapid change and fiscal constraint. Much of what has been presented here is a cross-sectional picture of a constantly evolving, often reactive, group of stakeholders, the structures they have developed and on which they depend, and the economic and societal forces shaping their decisions.

It has been our experience that a carefully considered clinical and preventive services plan can be implemented in an incremental fashion that is sensitive to government policy and fiscal reality, while upholding evidence-based decisions that are patient-centred and reflect articulated principles. Further, the shaping of health policy is more dependent on interactions among different components and sectors of the system than on determining the best solution for any one group in isolation.

Change can be difficult in a large, complex organization. It has been observed that upfront costs in health care, if carefully selected, will not only improve the quality of outcomes, but also can decrease system costs, both directly and through redistribution. However, the downstream direct and indirect savings can be difficult to quantify as healthcare often does not lend itself to a typical cost-benefit model.

Successful planning provides better services for patients and their families, and opportunities to address inequities. To achieve successful planning in the long-term requires commitment across the system, belief in the values of the system, and the imperative for change that maintains the patient at the centre of that system. Making progress will be incremental and the full engagement of stakeholders across the system will be inevitably staggered; however, policy persistence and an unwavering dedication to "our system" will lead to a successful endpoint.

It must be noted that failure to support an expanded reach of public health in Prince Edward Island will diminish the overall impact of clinical and preventive services planning. Further, the plan must transform the sectors of mental health and addictions, palliative care, care of older adults, home care, and primary care. These actions alone will distinguish the province as a leader in care and outcomes. There is a real opportunity to reshape healthcare boldly in an evidence-based and cost-efficient manner.

We have benefited substantially from the willingness of diverse stakeholders and clinical working groups who shared their perspectives and insight, and to the support provided by the project management and the oversight and technical committees.

While these diverse contributions have been invaluable, there should not be any attribution. The acquisition, collation, harmonization, and analyses of the data have been the responsibility of the consultancy alone. Transforming an environmental scan into an evidence-based clinical and preventive services plan that is patient-centred and driven by quality and measurement necessitates a fundamental shift in contextual thinking. Inevitably, there will be variation in the comfort with and capacity for change, whether as a political leader, senior administrator, funder, manager, or provider of care. However, the hallmark of this study has been wide support for bold change.

**This plan is the beginning of a journey, not the end.**

Respectfully submitted on behalf of the consultancy,

**David K. Peachey**
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## Applications of the Report

This report is the beginning of a planning process to do things differently and better in Prince Edward Island, with the continuing acquisition of quantitative and qualitative data across multiple sites and healthcare stakeholders in the province. It provides a planning tool that is navigational, not prescriptive, and positions the provincial leadership for an incremental implementation that aligns with the strategic direction of government, its priorities, and the fiscal realities.

The multiple forecasting tables provide layers of evidence-based conclusions that offer a predictable future on a rolling ten-year basis for clinical and preventive services planning in the province. The process of transition and implementation will lead to granular planning at multiple levels in the province with flexibility at decision points where variables and assumptions are confirmed or modified using ongoing real time data.

The report and its recommendations are founded on the principle that healthcare is a provincial resource that may be operationalized regionally, but always in the context of provincial planning and integration. It is a work-in-progress that will continue to be shaped and re-shaped, never with an endpoint. The constant touchpoint for the province is quality care that is patient-centric and provided by healthcare professionals committed to collaborative models and role optimization.

The convergence of qualitative and quantitative analyses is further adjusted through innovative models of care with the potential to be transformative. All of the requirements to succeed are in place in Prince Edward Island in the context of care driven by a belief in the values of a safe and sustainable healthcare system that is equitable and accessible.

While all sectors in the plan are important, some have been identified as priorities by the consultancy and without argument from the stakeholders and organizational leadership.

The challenges are not insignificant; some sectors in healthcare face the imperative for change to a degree much greater than that in other sectors. Some of the pressures are immediate and have been identified for early action by an implementation group.

The long-term success of the plan will reflect policy persistence, provincial thinking, and clinical governance that measures outcomes and adjusts for standards and best practices as lessons are learned.

**If it is not being done for the patient, why is it being done?**

# 1 Introduction

William Hsiao has described a healthcare system as a means to an end **(Hsiao WC: Comparing health care systems: What nations can learn from one another. J Health Politics Policy Law 1992; 17(4): 613-636)**.

Such a system will need to embrace the goals of universal and equal access to reasonable healthcare, control of expenditures at a reasonable level, and effective resource allocation.

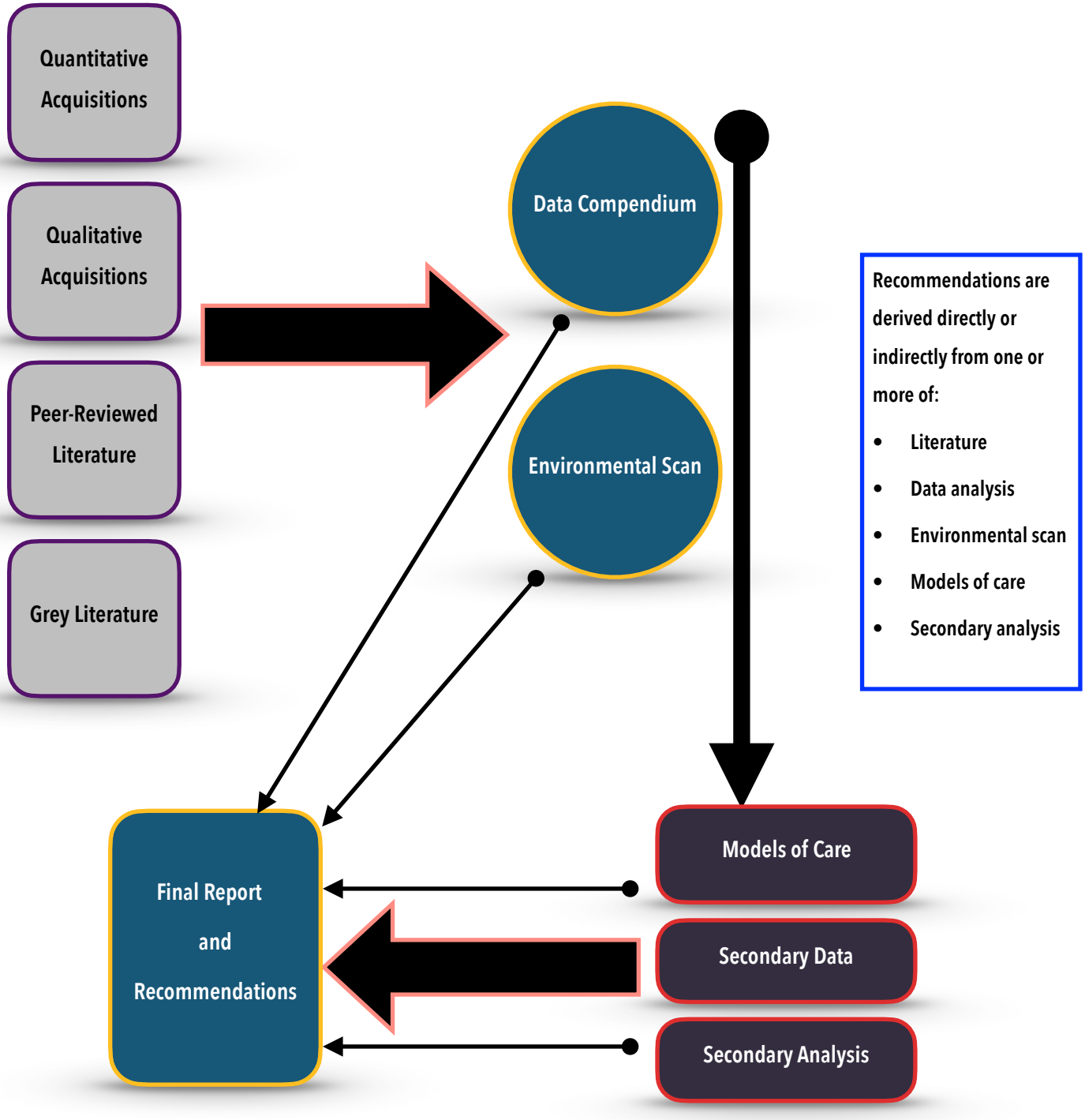
This is the underlying premise of implementing an evidence-based clinical and preventive services plan to improve quality and to measure outcomes of the care provided by collaborative teams, characterized by role optimization and providing safe care as close to home as possible. Clarification of socioeconomic and political objectives facilitate a synergy of funders, providers, and consumers to ensure that the consequences are manageable and the legacy is one of equity.

Integrating these goals into legislative and policy frameworks can be realized.

## 1.1 Overview

The following schematic summarizes the study over the past 15 months and the derivation of the final report and recommendations

.Exhibit 1-01
Project Overview Schematic



## 1.2 Process and Outcomes

Healthcare in Prince Edward Island has been considered a provincial system; however, much of the planning and service delivery has been in regional silos and programs.

This has resulted in fragmented services, concerns over quality and access, and challenges for those responsible for planning health human resources, capital investments, and digital technology.

On a positive note, commitment to this study has provided a substantial opportunity to improve health services, to improve the health of the population, and to make the system more sustainable by planning and managing health services from a provincial perspective.

Given that this is the first time Prince Edward Island has embarked on comprehensive clinical and preventive services planning from a provincial perspective, it has been impressive to witness the level of engagement by organizations and providers alike.

This report is a continuum of the environmental scan submitted on January 10, 2023, and is, effectively, a critical narrative built around an evidence-based nucleus of forecasting tables. Rather than a roadmap, it is the beginning of an ongoing exercise in the province, **one which will never end**. The environmental scan addressed details of the critical roles of non-physician providers of care and the need to expand those roles to the full capacity and role optimization.

The major directions of this study can be considered through the following lenses:

- Models of care
- Clinical governance
- Equity
- Population health
- Forecasting tables
- Recommendations

It became evident that the process of planning has been as important as the recommendations. The recommendations are an apt starting point for further planning and deliberations. The initial clinical and preventive services plan presented in this report should be viewed as a continuing and dynamic work-in-progress that provides broad directions to be shaped and reshaped over time, and to be subject to further planning through broad stakeholder engagement.

An effective planning processes never has an endpoint - - it is always forward-looking and the use of qualitative and quantitative data only improves until the applications are second-nature.

With a diverse range of activities underway in the province, the early implementation of this plan is essential, starting with the identification of the leadership and a transition team.

Doing things differently and better will take place in Prince Edward Island's healthcare system. It is the unreserved opinion of the consultancy that all the pieces are in place in the province.

# 2 Context

Much of healthcare policy can be characterized as derivations from an ignored legacy.

An analysis for the the Organization for Economic Cooperation and Development (OECD) evoked questions that continue to be succinct reminders of the pressures faced by healthcare systems today **(Schieber GJ, Poullier JP, Greenwald LM: Health system performance in OECD countries, 1980-1992. Health Affairs 1994; Fall: 100-112)**.

- How can nations deal with underlying socio-economic stressors?
- How can healthcare systems stem the increasing medicalization of social costs at both ends of the age spectrum?
- Can reductions in waste and inefficiency really underwrite the costs of healthcare reform?
- Can market-oriented efforts lead to efficient consumption and provision of health services?
- How can nations deal rationally with the increasing advances in technology?
- Can healthcare costs be constrained with socially affordable boundaries?
- Can healthcare costs be constrained without rationing?

**The corollary to these questions is central to the evidence-based development and implementation of a clinical and preventive plan that is patient-centred and sustainable:**

**Can preventive and services planning improve the quality of care with a holding or decrease of costs?**

**The conclusion of this study is that these parallel goals can be achieved.**

## 2.1 Purpose

The primary objective of the CPSP is to develop a planning tool to deliver a quality, expertly led, collaboratively developed services plan that is evidence-based, sustainable, equitable, and detailed.

The purpose of clinical and preventive services planning can be considered a convergence of "**3D**" and "**Triple Aim**":

In 2008, the Central Region District Health Boards in New Zealand completed a regional clinical services plan (www.rcsp.org.nz). The articulated purpose was to provide "**3D**" for the region:

- **Details** about what clinical services can be sustained and developed in the lower North Island and how they can be best organized
- **Direction** in the form of a draft plan for hospital services over the next 10 to 15 years, describing what types of clinical services will need to be provided where, and to what level, in order to best meet the needs of the population of the region; direction is also provided in relation to the enablers–the services and functions that need to be developed further in order to support the proposed changes in hospital care–including transport, information systems, and primary and community services
- **Decisions** to be made locally and regionally in order to implement this plan; in particular, a decision-making framework is proposed that will make it easier and faster for district health boards to make decisions jointly

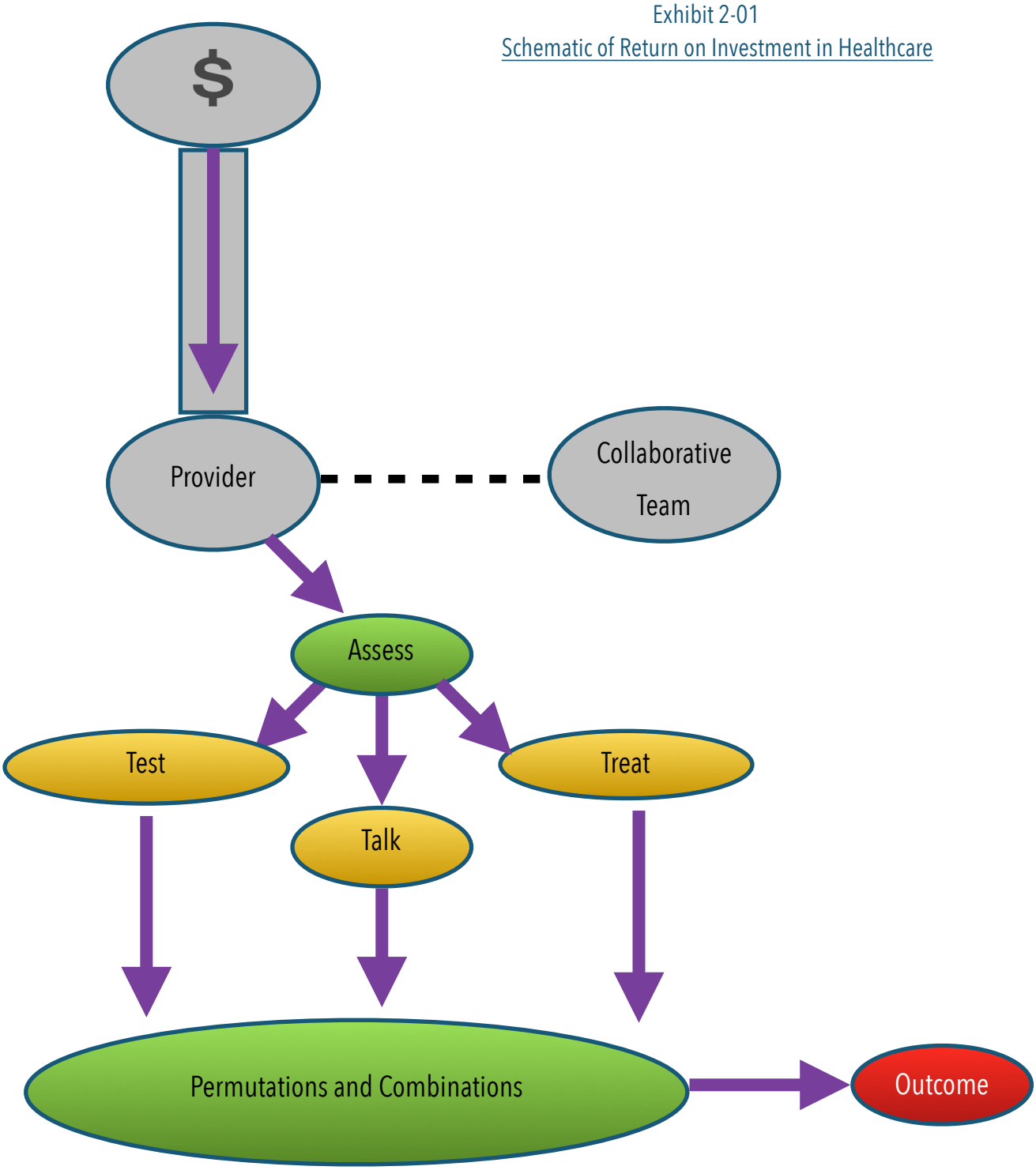
"**Triple Aim**"is a learning initiative of the Institute for Healthcare Improvement to understand models of care in a framework to optimize system performance (www.ihi.org/Engage/Initiatives/TripleAim):

- **Improve** the individual patient experience (quality and satisfaction)
- **Improve** the health of populations
- **Reduce** the per capita cost of health care

## 2.3 Return on Investment in Healthcare

On one hand, the funding of healthcare can be anticipated as a simple marketplace exchange, as demonstrated schematically:

Exhibit 2-01
Schematic of Return on Investment in Healthcare



There are reasonable assumptions associated with this schematic of a clinical sequence:

- ➡ The funding is adequate and is measurable
- The provider is seen in a timely fashion
- The provider is trained to provide the service and is working within the scope of this training
- The provider is part of a collaborative team and can share care when required
- The drivers of decision-making are patient-centred
- The tests are actionable and chosen wisely
- Talking and treating are linked
- The subsequent permutations and combinations are clinically sound
- ➡ The outcome is good and is measurable

**Ultimately, the return on the investment in healthcare pivots on the first and last bullets.** The challenge in transforming care is that the first bullet is generally easy to measure and the constituent elements, fairly precise; however, in times of fiscal constraint, the addition of a service to the front end is, not infrequently, viewed dimly. The last bullet exacerbates the concerns, as it is generally difficult to measure and almost never precise.

This scenario does not diminish the need for new services and planning - it makes them more difficult to achieve; the balance comes from the outcomes for patients and families (not "measures of satisfaction").

The outcomes can be material (disability years and other measures of productivity) or they can be "savings." This is where the return on investment becomes difficult for the funder of care. The savings may be distant in time (and not clearly able to be linked to the original action) or they may be speculative (especially with interventions of public health, prevention and health promotion, and mental health and addictions).

The other key variable is that the services that are provided are the most appropriate, timely, and based on evidence.

The lens through which the ROI schematic is viewed will often vary according to the funder, the provider, or the patient. Ultimately, there is a strong element of trust that is able to surpass the possible absence of a precise outcome linked to an earlier decision, process, provider, or infrastructure. This is the essence of quality-driven clinical and preventive services planning that can maintain or improve outcomes, most frequently with associated savings to a healthcare system or to society.

## 2.2 Scope

Clinical and preventive services planning requires consideration of many determinants that impact population need, including:

- Population
- Growth, age, gender, distribution, culture, fertility, mortality rate, in/out migration (permanent and seasonal), and socio-economic status (family income, employment, education)
- Disease incidence and prevalence
- Access to core services
- Target time to being seen, to diagnosis, and to treatment for defined core services
- Services delivered locally, regionally, territorially, and out-of-territory
- Clinical programs
- Factors impacting service sustainability, such as on-call intensity/frequency, and maintenance of competency, with an appropriate caseload
- Evidence-based technology innovation
- Facility capital projects

Clinical services forecasting and planning requires consideration of many determinants that impact the supply of providers:[1]

- Demography and mobility
- Age, gender, in-migration and out-migration, retirement, and separations using full-time equivalency
- Education and training
- Key determinants of supply, by discipline
- Professional profiles
- Productivity and service models
- Enhanced collaborative care

The scope, therefore, is comprehensive, and includes the following:

- All communities and facilities

[1] Please refer to the Environmental Scan for the categories of population need and provider supply

- All health services
- All residents
- Specified providers, such as specialist and general physicians, nurses including licensed practical nurses, registered nurses, registered psychiatric nurses, nurse practitioners, and clinical nurse specialists, dietitians, midwives, physiotherapists, occupational therapists, physician assistants, and mental health professionals, including psychologists and counselors
- Relevant indices of population health

The contextual basis of the scope includes, but is not limited to, the following:

- Strategic direction of the province
- Economic and fiscal realities in Prince Edward Island, with the highest quality return on the investment of public funds
- Alignment with current and future academic mandates
- Evidence-based care, based on population health needs and inclusive of:
    - Changing scopes of practice
    - Increased use of alternative providers of care with role optimization
    - Adoption and expansion of collaborative, inter-professional team-based care
    - Key influences in primary care, acute care, and shared care
- National and jurisdictional approaches to quality of care
- National and jurisdictional approaches to core services
- National and jurisdictional approaches to collaborative care
- Support for primary care and specialty groups in efforts to incorporate effective health promotion and prevention strategies into their specific provincial clinical services plan
- Providers as partners in team-based care, founded in mutual respect and an ability to achieve and support role optimization
- Consideration of cancer promotion and prevention strategies
- Support for the integration of various health promotion and prevention strategies to ensure they are delivered in a cost-effective manner
- Cultural competency and sensitivity

- Responsiveness to expectations of patients and families
- Opportunities to deploy nurses more cost-effectively (collaborative care models; role optimization to full scope; overtime and agency cost reduction; and, an increasing ratio of full-time positions)
- Opportunities to deploy physicians more cost-effectively (utilizing physicians more appropriately within multidisciplinary collaborative care models)

Note to Reader

The Environmental Scan also provides details of:

- Strategic directions in Prince Edward Island
- Granular profiles of Prince Edward Island and Providers
- Professional Profiles
- Approaches to Modeling
- Service Planning  Parameters in the National Environment
- Key Concepts
- Stakeholder and Clinical Interviews
- Governance and Clinical Governance

## 2.4 Public and Population Health

Public and population health are closely aligned. For the purposes of planning; their reference will be combined as public health. Regardless of semantics, public health and population health are not well understood beyond public health professionals, and the enormous potential of the impact of a greater relative resource allocation is greatly underestimated, in no small part attributable to the absence of a crisp ROI formula when applied to upfront public health investments. Yet, much could be achieved through a shifting (not addition) of health resources so that a fixed percentage of program funding is allocated to prevention and that "health in all policies" be advanced across government.

Prevention activities span all disciplines and professionals; this was underlined throughout the interview process in Prince Edward Island. The **real challenge is to translate beliefs and values into action** within a system as complex as healthcare:

- How do you start?
- Who takes the lead?
- What are the priorities?
- How are inputs and outcomes measured as part of continuing evaluations?
- Where will the services be provided and by whom?
- Is a new infrastructure necessary?
- Are all the pieces already available but not yet channeled?
- What is the evolution from communicable to non-communicable diseases?
- Is a provincial prevention strategy substantially different from a provincial chronic health strategy (previously identified as a chronic disease strategy)?

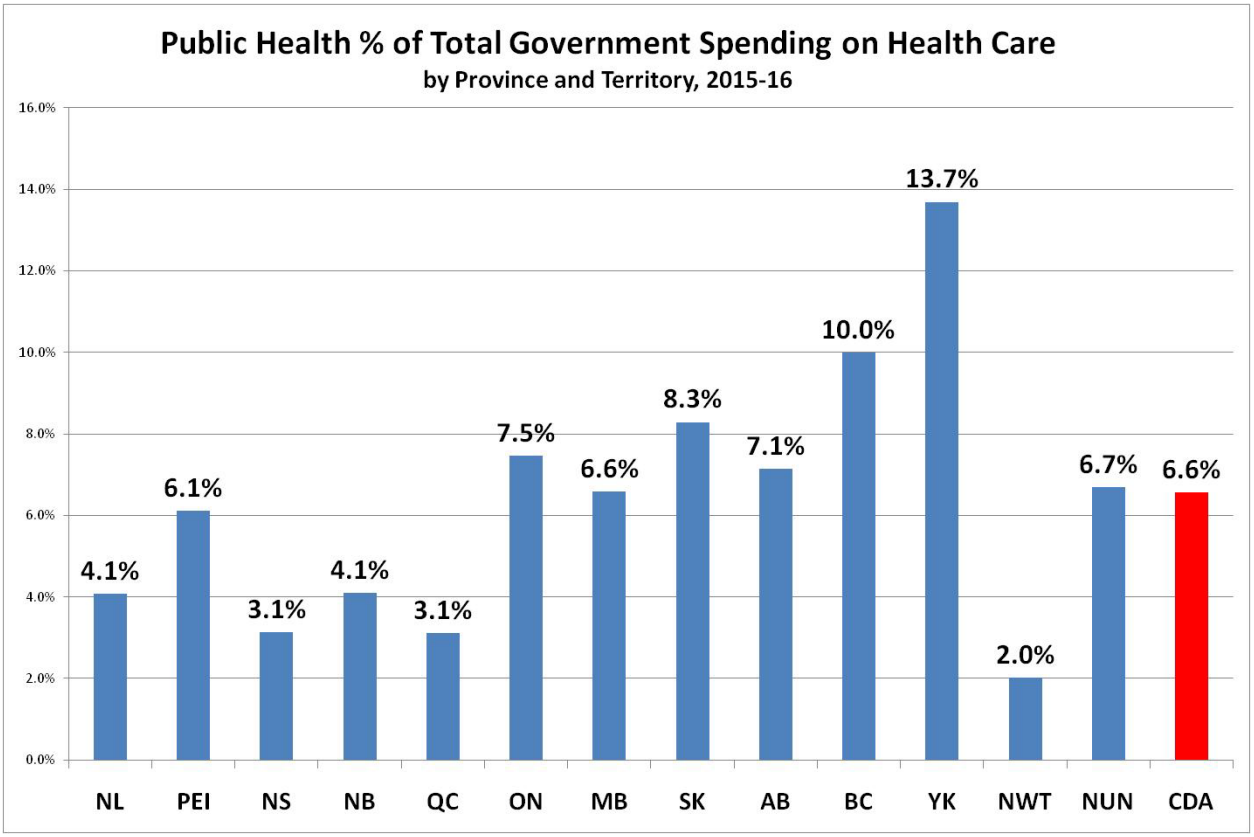
There are several starting points in a vast menu of public health initiatives that hold value to Prince Edward Island and an evolving health care system that is patient-centred and based on evidence:

- Public health initiatives have a greater potential to succeed if incorporated into system-wide organizational change (provincial, regional, and local) and clinical governance
- Electronic systems for surveillance are a necessity, as is a robust public health interconnectivity across Canadian jurisdictions[2]

Successful and visible public health activity is central to achieving equity in healthcare.

[2] Information and Outbreak Management (IOM)

Exhibit 2-02
Public Health Spending by Jurisdiction in Canada 2015-2016




Canadian Centre for Policy Alternatives 2016

The above graph demonstrates that, in 2016, the public health percentage of total government spending on healthcare in Prince Edward Island was 6.1%. This was just below the Canadian average of 6.6% and was surpassed by seven provinces and territories.

The following exhibit reveals the percentage of government health expenditure by use of funds on public health in 2022 and the per capita expenditure on public health (in current dollars).

Exhibit 2-03
Public Health Spending by Jurisdiction in Canada 2022

| Jurisdiction | % of government health expenditure by use of funds on public health 2022 | Per capita expenditure on public health 2022 (in current dollars) |
|---|---|---|
| Canada | 6.3% | - - - |
| NL | 3.9% | $281.40 |
| PE | 9.3% | $582.30 |
| NS | 3.8% | $222.45 |
| NB | 4.9% | $229.53 |
| QC | 2.1% | $128.27 |
| ON | 4.9% | $256.72 |
| MB | 8.0% | $427.51 |
| SK | 7.8% | $432.00 |
| AB | 7.0% | $395.75 |
| BC | 6.8% | $372.22 |
| YT | 11.4% | $1,117.43 |
| NT | 11.0% | $1,674.17 |
| NU | 10.8% | $1,999.72 |

Canadian Institute for Health Information National Health Expenditure Trends 2022

It has been argued by some that the target for public health funding as a percentage of government healthcare expenditure should be 8%.

With the exception of the three territories (and their unique geography and populations), Prince Edward Island now has the greatest percentage of government health expenditure on public health and the greatest per capita expenditure on public health.

## 2.5 Clinical Governance

Governance and clinical governance were reviewed in the Environmental Scan (**Provincial and Clinical Preventive Services Planning for Prince Edward Island: Environmental Scan; 235 - 240; January 10, 2023**)

The concept and applicability were explored further with a wide variety of Prince Edward Island stakeholders; support was expressed consistently and strongly. That section of the scan has been abstracted for inclusion here due to the essential role envisioned for clinical governance.

The absence of strong clinical governance would impede, if not imperil, the successful implementation and maintenance of the clinical and preventive services plan.

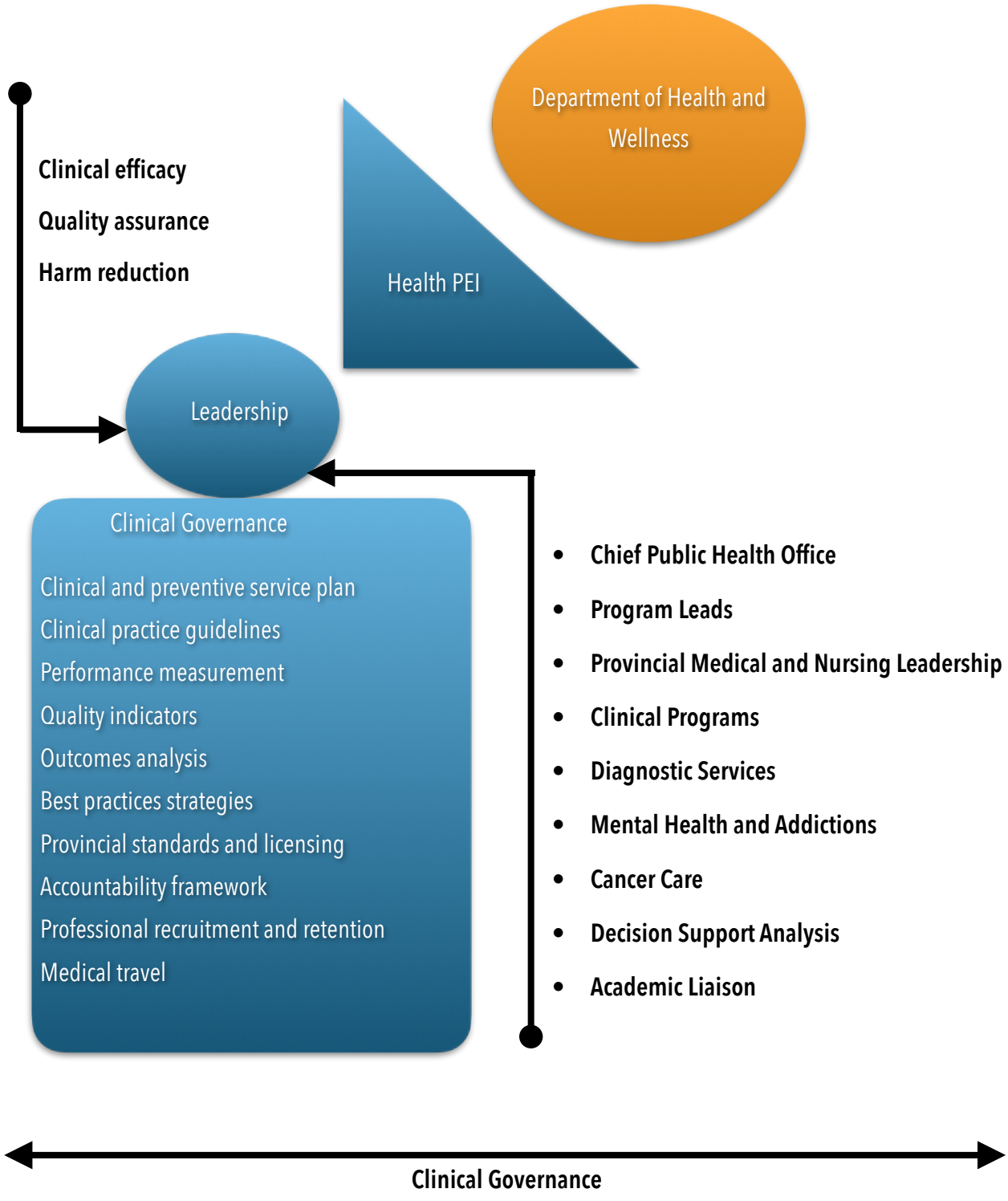
Clinical governance is contemplated as the leadership organization in Prince Edward Island for CPSP governance, measurement, and analytics; the responsibilities demand a strong leadership team. It would be anticipated that a public report would be generated annually.

Governance is about vision, strategy, leadership, probity, and ethics, as well as quality assurance and transparency. Decision-making is a significant element of clinical governance in the context of clinical and preventive services planning. This is a two-way process, with information flowing both to and from the providers of care. Effective management and governance are important at each of the hospital, community, regional, and provincial levels; and involve senior management of the health authorities, representatives of the Ministry of Health, Seniors, and Active Living, and health care providers and their representatives

The early establishment of clinical governance will require detailed functional planning, infrastructure, and strategic plans. Clinical and preventive services are the core businesses of the health system, and provincial clinical leadership to oversee planning and standards is essential. Many other essential support services and functions within the health system would benefit greatly from understanding how clinical and preventive services are likely to evolve over time across the province, and how decisions are made.

The successful implementation and maintenance of a clinical and preventive services plan is a convergence of system-wide commitment, the use of evidence through analysis of real-time data, and clinical governance.

Exhibit 2-04
Schematic of Clinical Governance



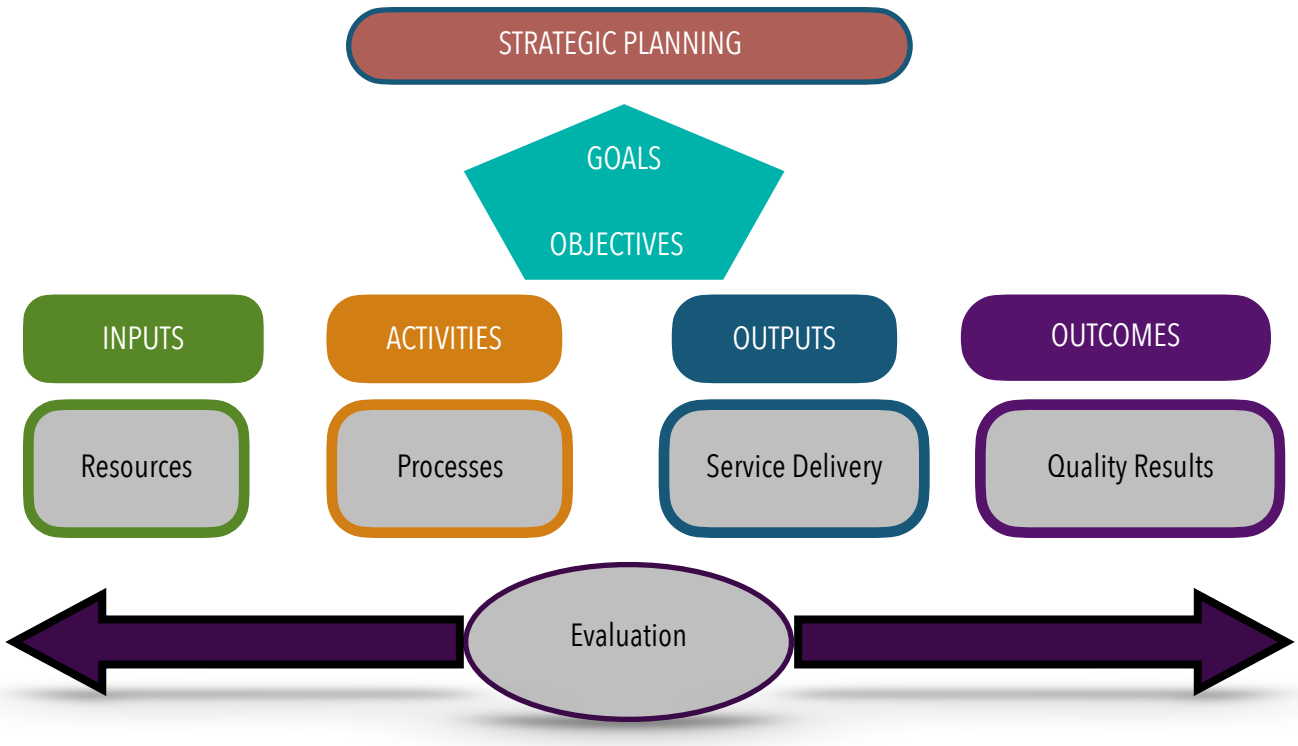
## 2.6 Models of Care

A **program logic model (PLM)** is a widely used planning framework in health and many other sectors of the economy.

- A PLM ensures bidirectional linkage from goals (top) to measurable outputs and outcomes (bottom)
- A PLM ensures continuity of actions from long-term (goals) to medium term (objectives) to short term (actions and activities)
- A PLM requires vision (goals, long-term), to objectives (strategies, medium-term), and to activities (actions, short-term) to be linked as a logical enabling cascade from one to the next
- A PLM requires defined, measurable indicators of inputs (resources invested) to outputs (the short- to medium-term products of the inputs and activities), to outcomes (the long-term products of the inputs and activities)

Models of care use a PLM approach or methodology for the majority of service lines when addressing major service streams.

Exhibit 2-05
Program Logic Model Framework



There are common elements to all models and disciplines:

Exhibit 2-06
Common Elements to Program Logic Model Framework

| | | |
|---|---|---|
| Performance Indicators | Outputs | Outcomes |
| | 1. Each discipline requires an accountability framework with defined metrics<br>2. Accountability metrics are to be defined by the discipline<br>3. Measurement and reporting requirements necessitate a customized information system | 1. Linkage to targeted cohorts<br>2. Linkages to other models of care<br>3. Participate in integrated care models with public health indicators being measured in parallel |
| Risks and Mitigating Strategies | | |
| | 1. Risk is inability to reallocate resources consistent with the forecast base case scenario - -mitigation is instituting a provincial planning process and accountability framework<br>2. Manage FTEs consistent with the forecast base case scenario<br>3. Risk is inability to recruit adequate professional resources - -mitigation is linkage to education programs<br>4. Risk is inability to achieve the optimal use of technology - - mitigation is linking requirements to broader system investments in technology, including EMR and telehealth | |

Goals, objectives, and inputs to outcomes are discipline-specific and should be identified as such.

## 2.7 Moving Forward

Advancing the clinical and preventive services plan for Prince Edward Island is a transition from theory and underpinning data to a clear process of implementation. This is initiated by an accurate and validated current state assessment (followed by an early refreshing of the data in parallel to the implementation process). The current state incorporates deficits, system issues and challenges, and sector issues and challenges. Likely, the binding force will be the legitimacy of healthcare in the province being accepted as a provincial resource.

Future state variables and drivers of workload can be extended to system redesign that includes an infrastructure for change and supportive modeling to populate that infrastructure. Inherent to its maintenance are three commitments:

- Maintenance of real-time data to refresh the planning database
- Measurement of clinical outcomes
- Advancement of evidence-based decision-making and best practices

These commitments require uniform regard for the provincial plan and operational integrity.

These are challenging undertakings for both government and providers. Change is easy to resist; however, the evidence at hand provides a compelling imperative for change. A very positive indicator for the future is the repeated encouragement for the planning to be bold and to resist "nibbling at the margins." As well, there is consonance between the underpinning principles supported by the Project Advisory Committee and the conclusions and recommendations of this final report. To maintain the status quo would only extend a cycle of provider-centric care and dismiss the opportunity for evidence-based patient-centred care that is collaborative.

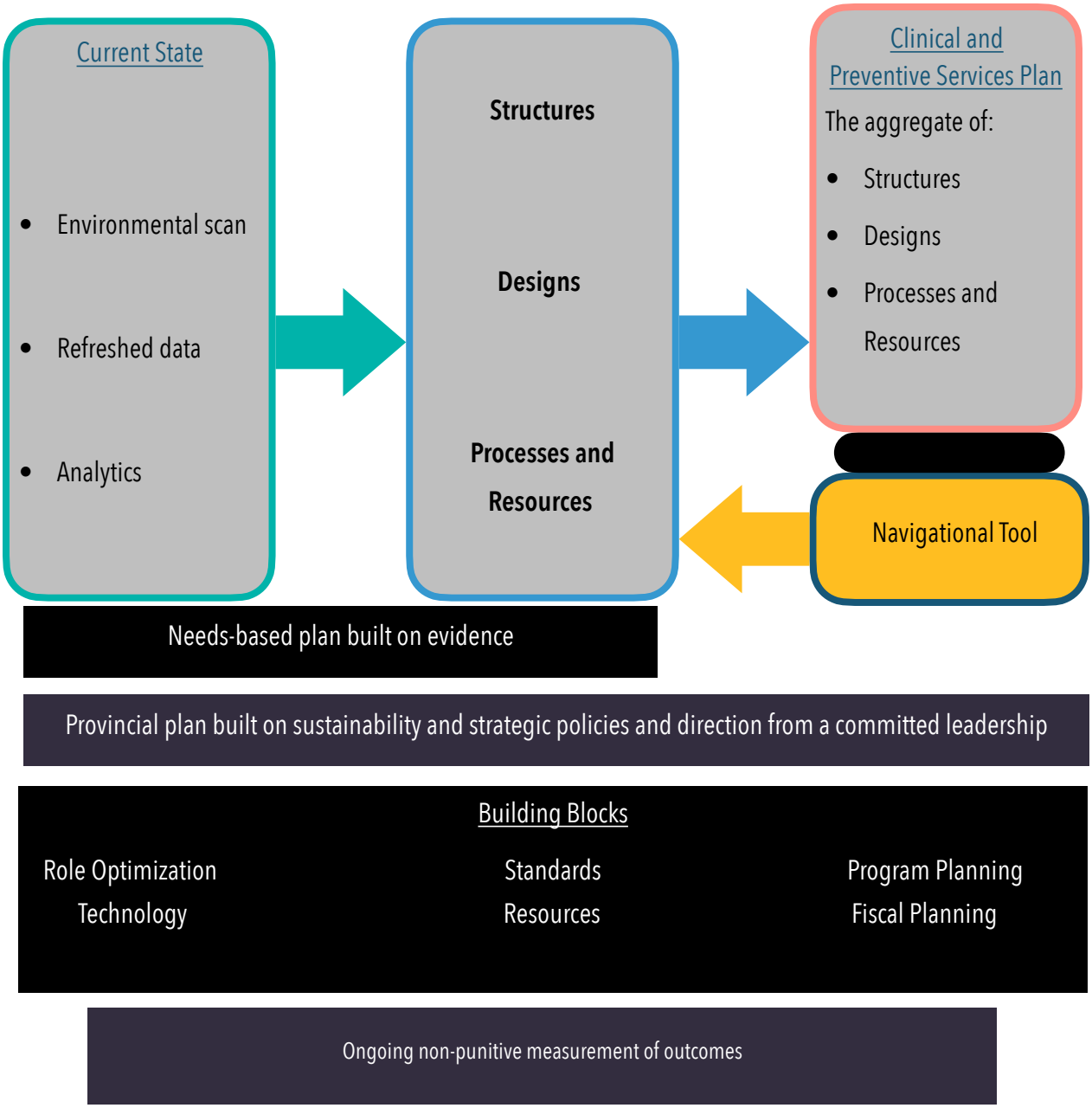
Experience has demonstrated that models of care can shift due to structure, design, and process, all modified by resources and organizational culture. All are achievable. Resources are a fiscal reality and require alignment of priorities and, especially with this type of planning, a reallocation. All the pieces are in place in Prince Edward Island - - their repositioning and the positive system impact should not require additional funding; in fact, savings are anticipated, particularly with the parallel process of a value audit being undertaken in the province. Organizational culture is not a plan - - it is a consequence of leadership, commitment, and education.

Change brings surprises, many of them predictable, and some not. Government will need to prioritize its spending on health and social services against other pressing demands, but always with a focus on needs. Equally, all provider groups will need to come to terms with shifts in the care model:

- Government is being asked to redefine its spending priorities, over time, and to contemplate revised a structure and governance for clinical and preventive services

- Clinical governance needs to be developed provincially and to be centralized in support of regional delivery of care, often using targeted core services in a hub-and-spoke model
- The medical profession is being asked to transition to provincial collaborative care and to leave the traditional medical model behind
- All other providers of care are being asked to adjust delivery models so that collaborative and integrated care is central and top-of-license is the norm

Exhibit 2-07
Schematic of Progressing to Services Planning



# 3 Forecast Methodology

## 3.1 Forecast Period

This report includes a ten-year work forecast from 2022-2023 to 2031-2032 with 2022-2023 being forecast year one (F1) and 2031-2032 being forecast year ten (F10). The base year or year zero (F0) of the forecast period is fiscal year 2021-2022 (April 1, 2021 to March 31, 2022).

## 3.2 Scope

There are 122 in-scope health disciplines (100 physician categories and 22 non-physician health professions):

Exhibit 3-01
In-Scope Health Professions

| Category | Name |
|---|---|
| PHYSICIANS | |
| Diagnostic/Therapeutic | Anatomical Pathology |
| Diagnostic/Therapeutic | Diagnostic Radiology |
| Diagnostic/Therapeutic | Forensic Pathology |
| Diagnostic/Therapeutic | General Pathology |
| Diagnostic/Therapeutic | Haematological Pathology |
| Diagnostic/Therapeutic | Interventional Radiology |
| Diagnostic/Therapeutic | Medical Biochemistry |
| Diagnostic/Therapeutic | Medical Microbiology |
| Diagnostic/Therapeutic | Neuropathology |
| Diagnostic/Therapeutic | Neuroradiology |
| Diagnostic/Therapeutic | Nuclear Medicine |
| Diagnostic/Therapeutic | Radiation Oncology |
| Diagnostic/Therapeutic | Transfusion Medicine |
| Emergency Medicine | Emergency Medicne |
| Emergency Medicine | Family Medicine (EM) |
| Emergency Medicine | General Practice (EM) |
| Family Practice | Family Medicine |
| Family Practice | General Practice |
| Family Practice (SI) | CAC - Addiction Medicine |
| Family Practice (SI) | SI - Child and Adolescent Health |
| Family Practice (SI) | SI - Cancer Care |
| Family Practice (SI) | SI - Critical Care Associate |

| Category | Name |
|---|---|
| Family Practice (SI) | SI - Emergency Medicine |
| Family Practice (SI) | CAC - Enhanced Skills Surgery |
| Family Practice (SI) | CAC - Family Practice Anaesthesiology |
| Family Practice (SI) | SI - Family Practice Cancer Care |
| Family Practice (SI) | SI - Global Health |
| Family Practice (SI) | CAC - Care of the Elderly |
| Family Practice (SI) | SI - Hospitalist Medicine |
| Family Practice (SI) | CAC - Obstetrical Surgical Skills |
| Family Practice (SI) | SI - Mental Health |
| Family Practice (SI) | SI - Occupational Medicine |
| Family Practice (SI) | CAC - Palliative Care |
| Family Practice (SI) | SI - Prison Health |
| Family Practice (SI) | SI - Respiratory Medicine |
| Family Practice (SI) | CAC - Sport and Exercise Medicine |
| Medical | Cardiology |
| Medical | Clinical Immunology and Allergy |
| Medical | Clinical Pharmacology and Toxicology |
| Medical | Critical Care Medicine |
| Medical | Dermatology |
| Medical | Endocrinology and Metabolism |
| Medical | Gastroenterology |
| Medical | General Internal Medicine |
| Medical | Geriatric Medicine |
| Medical | Haematology |
| Medical | Infectious Diseases |
| Medical | Internal Medicine |

| Category | Name |
|---|---|
| Medical | Medical Oncology |
| Medical | Nephrology |
| Medical | Neurology |
| Medical | Occupational Medicine |
| Medical | Pain Medicine |
| Medical | Physical Medicine and Rehabilitation |
| Medical | Public Health and Preventive Medicine |
| Medical | Respirology |
| Medical | Rheumatology |
| Obstetrics and Gynaecology | Gynaecological Oncology |
| Obstetrics and Gynaecology | Gynaecological Reproductive Endocrinology and Infertility |
| Obstetrics and Gynaecology | Maternal -Foetal Medicine |
| Obstetrics and Gynaecology | Neonatal - Perinatal Medicine |
| Obstetrics and Gynaecology | Obstetrics and Gynaecology |
| Paediatrics | Adolescent Medicine |
| Paediatrics | Developmental Paediatrics |
| Paediatrics | Medical Genetics |
| Paediatrics | Paediatric Anaesthesiology |
| Paediatrics | Paediatric Cardiac Surgery |
| Paediatrics | Paediatric Cardiology |
| Paediatrics | Paediatric Clinical Immunology and Allergy |
| Paediatrics | Paediatric Critical Care Medicine |
| Paediatrics | Paediatric Emergency Medicine |
| Paediatrics | Paediatric Endocrinology and Metabolism |
| Paediatrics | Paediatric Gastroenterology |
| Paediatrics | Paediatric Haematology / Oncology |

| Category | Name |
|---|---|
| Paediatrics | Paediatric Infectious Diseases |
| Paediatrics | Paediatric Nephrology |
| Paediatrics | Paediatric Neurology |
| Paediatrics | Paediatric Orthopaedic Surgery |
| Paediatrics | Paediatric Radiology |
| Paediatrics | Paediatric Respirology |
| Paediatrics | Paediatric Rheumatology |
| Paediatrics | Paediatric Surgery |
| Paediatrics | Paedatrics |
| Psychiatry | Child and Adolescent Psychiatry |
| Psychiatry | Forensic Psychiatry |
| Psychiatry | Geriatric Psychiatry |
| Psychiatry | Psychiatry |
| Surgical | Anaesthesiology |
| Surgical | Cardiac Surgery |
| Surgical | Colorectal Surgery |
| Surgical | General Surgery |
| Surgical | General Surgical Oncology |
| Surgical | Neurosurgery |
| Surgical | Ophthalmology |
| Surgical | Orthopaedic Surgery |
| Surgical | Otolaryngology - Head and Neck Surgery |
| Surgical | Plastic Surgery |
| Surgical | Thoracic Surgery |
| Surgical | Urology |
| Surgical | Vascular Surgery |

| Category | Name |
|---|---|
| ALLIED HEALTH PROFESSIONS | |
| Therapists | Occupational Therapist |
| Therapists | Physiotherapist |
| Therapists | Respiratory Therapist |
| Therapists | Speech Language Pathologist |
| Nursing | Licensed Practical Nurse |
| Nursing | Nurse Practitioner |
| Nursing | Registered Nurse |
| Public Health | Epidemiologist |
| Public Health | Emergency Preparation / Communicable Diseases |
| Public Health | Environmental Health Officer |
| Public Health | Health Promotion |
| Public Health | Registered Nurse |
| Patient / Resident Support | Home Support Worker |
| Patient / Resident Support | Patient Care Worker |
| Patient / Resident Support | Resident Care Worker |
| Allied Health Professions | Dietitian |
| Allied Health Professions | Medical Laboratory Technologist |
| Allied Health Professions | Pharmacist |
| Allied Health Professions | Pharmacy Technician |
| Allied Health Professions | Psychologist |
| Allied Health Professions | Radiology Technologist |
| Allied Health Professions | Social Worker |

## 3.3 Current Roster

### 3.3.1 Baseline

The physician registry file of 681 active, licensed individuals was narrowed by (220) to 461 physicians by filtering out those earning less than $15,000 per annum, who are low volume locums, casual workers, and transitioning into or out of the system. The shortened list of 461 physicians then underwent further review and those over age 75 (73) were removed as their retirement is deemed imminent.

The non-physician health professions file of 3,848 active individuals was comprised of 715 casual, 1,436 part-time, and 1,697 full-time employees of Health PEI (HPEI).

### 3.3.2 Full-Time Equivalency and Specialty

A physician full-time equivalency (FTE) was calculated for each of the remaining 388 physicians using a modified version of the CIHI FTE methodology as described below. **The end result was a count of 388 physicians and an FTE of 300.2 for the fiscal year 2021 - 2022 (April 1, 2021 to March 31, 2022).** There were 98 in the fourth quartile of 1.05 to 1.62 FTE, 116 in the third quartile of 1.0 to 1.04, 81 FTE in the second quartile of 0.40 to 0.99 FTE, and 93 in the first quartile of 0.03 to 0.39 FTE.

The non-physician health professional FTE was calculated based on their work status as full-time, part-time, or casual. Full-time employees were assigned an FTE value of 1.0 FTE, part-time 0.6 FTE, and casual 0.2 FTE based upon the consultant's experience over multiple similar projects.

The forecast model will generate a count greater than 1.0 to replace a health provider with an FTE higher than 1.0 and a count of 1.0 for those with less than 1.0 FTE.

The Health Canada definition of a physician FTE (Canadian Institute for Health Information FTE Methodology) with a modification was used as described below.

#### CIHI FTE "Modified" Methodology

The Health Canada definition of an FTE ("Canadian Institute for Health Information (CIHI)" methodology) was modified as noted below. This methodology is the national standard in the public health sector for converting physician earnings to FTE. The details of this method are as follows:

- All payments (fee-for-service, block funded, salary, third party, on-call, sessional) paid out in fiscal 2021 - 2022 to each uniquely and anonymously identified physician within each discipline are rank-ordered, smallest to largest. Physicians are sorted into percentiles with the 40th and 60th percentiles computed, as follows:
    - (# of physicians within the group) x (0.4) = 40th percentile physician

    - (# of physicians within the group) x (0.6) = 60th percentile physician

- FTE assignment is made using the following procedure:
    - Any ranked physician > 40th percentile and < 60th percentile is assigned a value of 1.0 FTE
    - Any ranked physician ("physician X") < 40th percentile is assigned an FTE equal to:
        - ($ value of payment to physician X) divided by ($ value of payment to 40th percentile physician)
    - Any ranked physician ('physician Y' )> 60th percentile is assigned an FTE equal to:
        - 1 + (log of $ value of payment to physician Y) / ($ value of 60th percentile)
- The methodology creates some compression in the range above the 60th percentile, but avoids assignment of extreme values (e.g., 4.0 FTE) to very high earning physicians.

Modification to CIHI Methodology

- FTE calculations need to include non-fee-for-service payments (contract payments, paid by HPEI to physicians), with the modification, as follows:
    - Gross non-fee-for-service payments by individual or specialty group, were calculated. These non-FFS payments were added into the preceding FTE formula to arrive at a more accurate estimate of FTE equivalents
- Individual physicians aged seventy five years or older in 2022 are effectively removed from the FTE calculations based upon statistical analysis of diminishing FTE values beyond age 74. Non-physician individuals (allied health professions) are set to retire at age 65 and are then removed from the model.
- Individuals earning less than $15,000 in total income in 2021 - 2022 were removed from the FTE calculations on the assumption they were casual, semi-retired, or brief locum physicians.

HPEI provided a comprehensive list of physicians with total incomes (contract amount, stipends, on-call payments, fee-for-service) This comprehensive list was used as the foundation for subsequent FTE calculations.

## 3.4 Roster of Health Professions by County April 1, 2021 to March 31, 2022

Exhibit 3-02
Health Professions FTE by County April 1. 2021 to March 31, 2022 (F0)

| Disciplines | Kings | Prince | Queens | Total |
|---|---|---|---|---|
| Anatomical Pathology | - - - | - - - | 7.2 | 7.2 |
| Diagnostic Radiology | - - - | - - - | 10.6 | 10.6 |
| Forensic Pathology | - - - | - - - | - - - | - - - |
| General Pathology | - - - | - - - | - - - | - - - |
| Haematological Pathology | - - - | - - - | 1.0 | 1.0 |
| Interventional Radiology | - - - | - - - | - - - | - - - |
| Medical Biochemistry | - - - | - - - | - - - | - - - |
| Medical Microbiology | - - - | - - - | 0.2 | 0.2 |
| Neuropathology | - - - | - - - | - - - | - - - |
| Neuroradiology | - - - | - - - | - - - | - - - |
| Nuclear Medicine | - - - | - - - | - - - | - - - |
| Radiation Oncology | - - - | - - - | 3.0 | 3.0 |
| Transfusion Medicine | - - - | - - - | - - - | - - - |
| DIAGNOSTIC / THERAPEUTIC TOTAL | - - - | - - - | 22.0 | 22.0 |
| Emergency Medicne | - - - | - - - | - - - | - - - |
| Family Medicine (EM) | 1.9 | 12.0 | 19.8 | 33.6 |
| General Practice (EM) | - - - | - - - | - - - | - - - |
| EMERGENCY MEDICINE TOTAL | 1.9 | 12.0 | 19.8 | 33.6 |
| Family Medicine | - - - | 1.1 | - - - | 1.1 |
| General Practice | 15.1 | 33.0 | 53.4 | 101.5 |
| CAC - Addiction Medicine | - - - | - - - | 1.0 | 1.0 |
| SI - Child and Adolescent Health | - - - | - - - | - - - | - - - |
| SI - Cancer Care | - - - | - - - | 2.5 | 2.5 |
| SI - Critical Care Associate | - - - | - - - | - - - | - - - |

| | | | | |
|---|---|---|---|---|
| SI - Emergency Medicine | --- | --- | --- | --- |
| CAC - Enhanced Skills Surgery | --- | --- | --- | --- |
| CAC - Family Practice Anaesthesiology | --- | --- | --- | --- |
| SI - Family Practice Cancer Care | --- | --- | --- | --- |
| SI - Global Health | --- | --- | --- | --- |
| CAC - Care of the Elderly | --- | --- | --- | --- |
| SI - Hospitalist Medicine | --- | 4.2 | 11.0 | 15.2 |
| CAC - Obstetrical Surgical Skills | --- | --- | --- | --- |
| SI - Mental Health | --- | --- | --- | --- |
| SI - Occupational Medicine | --- | --- | --- | --- |
| CAC - Palliative Care | --- | --- | 2.0 | 2.0 |
| SI - Prison Health | --- | --- | --- | --- |
| SI - Respiratory Medicine | --- | --- | --- | --- |
| CAC - Sport and Exercise Medicine | --- | --- | --- | --- |
| FAMILY PRACTICE TOTAL | 15.1 | 38.3 | 69.9 | 123.3 |
| Cardiology | --- | --- | 2.0 | |
| Clinical Immunology and Allergy | --- | --- | 0.1 | |
| Clinical Pharmacology and Toxicology | --- | --- | --- | |
| Critical Care Medicine | --- | --- | 1.0 | |
| Dermatology | --- | --- | 1.0 | |
| Endocrinology and Metabolism | --- | --- | --- | |
| Gastroenterology | --- | --- | 1.9 | 1.9 |
| General Internal Medicine | --- | 4.5 | 4.2 | 8.7 |
| Geriatric Medicine | --- | --- | 3.1 | 3.1 |
| Haematology | --- | --- | --- | --- |
| Infectious Diseases | --- | --- | 0.1 | 0.1 |
| Internal Medicine | --- | --- | --- | --- |

| | | | | |
|---|---|---|---|---|
| Medical Oncology | --- | --- | 3.2 | 3.2 |
| Nephrology | --- | --- | 2.6 | 2.6 |
| Neurology | --- | --- | 2.9 | 2.9 |
| Occupational Medicine | --- | --- | --- | --- |
| Pain Medicine | --- | --- | 2.1 | 2.1 |
| Physical Medicine and Rehabilitation | --- | --- | 2.0 | 2.0 |
| Public Health and Preventive Medicine | --- | --- | 2.0 | 2.0 |
| Respirology | --- | 1.0 | 2.0 | 3.0 |
| Rheumatology | --- | --- | 1.6 | 1.6 |
| MEDICAL TOTAL | --- | 5.5 | 31.6 | 37.1 |
| Gynaecological Oncology | --- | --- | --- | --- |
| Gynaecological Reproductive Endocrinology /Infertility | --- | --- | --- | --- |
| Maternal -Foetal Medicine | --- | --- | --- | --- |
| Neonatal - Perinatal Medicine | --- | --- | --- | --- |
| Obstetrics and Gynaecology | --- | 2.5 | 7.3 | 9.8 |
| OBSTETRICS AND GYNAECOLOGY TOTAL | | 2.5 | 7.3 | 9.8 |
| Adolescent Medicine | --- | --- | --- | --- |
| Developmental Paediatrics | --- | --- | --- | --- |
| Medical Genetics | --- | --- | --- | --- |
| Paediatric Anaesthesiology | --- | --- | --- | --- |
| Paediatric Cardiac Surgery | --- | --- | --- | --- |
| Paediatric Cardiology | --- | --- | --- | --- |
| Paediatric Critical Care Medicine | --- | --- | --- | --- |
| Paediatric Clinical Immunology and Allergy | --- | --- | --- | --- |
| Paediatric Emergency Medicine | --- | --- | --- | --- |
| Paediatric Endocrinology and Metabolism | --- | --- | --- | --- |
| Paediatric Gastroenterology | --- | --- | --- | --- |

| | | | | |
|---|---|---|---|---|
| Paediatric Haematology / Oncology | --- | --- | --- | --- |
| Paediatric Infectious Diseases | --- | --- | --- | --- |
| Paediatric Nephrology | --- | --- | --- | --- |
| Paediatric Neurology | --- | --- | --- | --- |
| Paediatric Orthopaedic Surgery | --- | --- | --- | --- |
| Paediatric Radiology | --- | --- | --- | --- |
| Paediatric Respirology | --- | --- | --- | --- |
| Paediatric Rheumatology | --- | --- | --- | --- |
| Paediatric Surgery | --- | --- | --- | --- |
| Paedatrics | --- | 4.6 | 7.6 | 12.2 |
| PAEDIATRICS TOTAL | --- | 4.6 | 7.6 | 12.2 |
| Child and Adolescent Psychiatry | --- | --- | --- | --- |
| Forensic Psychiatry | --- | --- | --- | --- |
| Geriatric Psychiatry | --- | --- | --- | --- |
| Psychiatry | --- | 4.3 | 12.2 | 16.5 |
| PSYCHIATRY TOTAL | --- | 4.3 | 12.2 | 16.5 |
| Anaesthesiology | --- | 4.7 | 10.1 | 14.8 |
| Cardiac Surgery | --- | --- | --- | --- |
| Colorectal Surgery | --- | --- | --- | --- |
| General Surgery | --- | 4.4 | 5.2 | 9.6 |
| General Surgical Oncology | --- | --- | --- | --- |
| Neurosurgery | --- | --- | --- | |
| Ophthalmology | --- | --- | 5.3 | |
| Orthopaedic Surgery | --- | --- | 7.0 | |
| Otolaryngology - Head and Neck Surgery | --- | 1.0 | 2.0 | |
| Plastic Surgery | --- | --- | 1.8 | |
| Thoracic Surgery | --- | --- | --- | |

| | | | | |
|---|---|---|---|---|
| Urology | - - - | - - - | 3.4 | |
| Vascular Surgery | - - - | - - - | 0.6 | 0.6 |
| SURGICAL TOTAL | - - - | 10.1 | 35.3 | 45.4 |
| Occupational Therapist | 5.6 | 16.0 | 36.6 | 58.2 |
| Physiotherapist | 2.8 | 12.4 | 29.0 | 44.2 |
| Respiratory Therapist | 0.6 | 5.8 | 20.8 | 27.2 |
| Speech Language Pathologist | 1.6 | 4.2 | 13.4 | 19.2 |
| Licensed Practical Nurse | 46.2 | 118.0 | 245.0 | 409.2 |
| Nurse Practitioner | 3.6 | 19.0 | 24.0 | 46.6 |
| Registered Nurse | 87.6 | 332.0 | 702.6 | 1,122.2 |
| Epidemiologist | - - - | - - - | 3.0 | 3.0 |
| Emergency Preparation / Communicable Diseases | - - - | - - - | 1.0 | 1.0 |
| Environmental Health Officer | - - - | - - - | 9.4 | 9.4 |
| Health Promotion | - - - | - - - | 5.0 | 5.0 |
| Registered Nurse | - - - | - - - | 3.2 | 3.2 |
| Home Support Worker | 23.4 | 28.0 | 53.6 | 105.0 |
| Patient Care Worker | 10.4 | 28.4 | 43.0 | 81.8 |
| Resident Care Worker | 56.8 | 164.6 | 189.8 | 411.2 |
| Dietitian | 4.2 | 8.0 | 19.2 | 31.4 |
| Medical Laboratory Technologist | - - - | 14.2 | 59.8 | 74.0 |
| Pharmacist | 2.2 | 5.8 | 34.0 | 42.0 |
| Pharmacy Technician | 0.6 | 9.6 | 32.2 | 42.4 |
| Psychologist | - - - | 1.0 | 11.6 | 12.6 |
| Radiology Technologist | 6.4 | 12.0 | 37.8 | 56.2 |
| Social Worker | 14.0 | 30.4 | 53.0 | 97.4 |
| ALLIED HEALTH PROFESSIONS TOTAL | 266.0 | 809.4 | 1,627.0 | 2,702.4 |
| COUNTY TOTAL | 283.0 | 886.7 | 1,832.8 | 3,002.6 |

Health PEI 2022

## 3.5 Future Supply

### 3.5.1 Canadian Medical Schools

Forecasting future supply from Canadian medical school-administered residency programs is based on past and current program size, mix, and duration by medical school. Current 2021 data projects future practice entrant graduates by specialty for the coming six years with most specialties being of two or five years duration. Current data from the Association of Faculties of Medicine of Canada (AFMC) and the Canadian Post-M.D. Education Registry (CAPER) allows future supply forecasts out to year six to be done with a high degree of confidence. Years seven to ten extrapolate the prior six years to year ten to complete the ten-year forecast. Foreign physician supply and recruitment is a function of provincial policy and regional recruitment services rather than created from a statistical forecast.

### 3.5.2 Undergraduate Medical Education

In Prince Edward Island, 40.7% of practising physicians graduated from Dalhousie University Faculty of Medicine and 9.3% from the Memorial University Faculty of Medicine.

Notable is that Dalhousie University Faculty of Medicine has increased first year enrolment by 41% from 90 in 2005 to 127 in 2021. Based on past recruitment, the expansion will translate directly to increased number of graduates practising in Prince Edward Island.

Exhibit 3-03
Physicians Practising in Prince Edward Island by Site of Medical School Graduation

| University | Number | Percentage |
|---|---|---|
| Africa - other | 1 | 0.3% |
| Australia | 2 | 0.6% |
| Brazil | 1 | 0.3% |
| Caribbean / Central America / South America | 7 | 2.0% |
| Dalhousie University | **144** | **40.7%** |
| Egypt | 1 | 0.3% |
| Europe - other | 1 | 0.3% |
| Germany | 3 | 0.8% |
| Hungary | 1 | 0.3% |

| University | Number | Percentage |
|---|---|---|
| India | 5 | 1.4% |
| Iraq | 1 | 0.3% |
| Ireland | 11 | 3.1% |
| Israel | 1 | 0.3% |
| Jamaica | 1 | 0.3% |
| Laval University | 2 | 0.6% |
| Lebanon | 2 | 0.6% |
| Libya | 1 | 0.3% |
| McGill University | 7 | 2.0% |
| McMaster University | 7 | 2.0% |
| Memorial University | **33** | **9.3%** |
| New Zealand | 1 | 0.3% |
| Nigeria | 3 | 0.8% |
| Canada - other | 3 | 0.8% |
| Pakistan / Bangladesh | 5 | 1.4% |
| Poland | 1 | 0.3% |
| Queen's University | 8 | 2.3% |
| Saudi Arabia | 1 | 0.3% |
| University of Sherbrooke | 6 | 1.7% |
| South Africa | 3 | 0.8% |
| United States | 6 | 1.7% |
| United Kingdom | 6 | 1.7% |
| University of Alberta | 5 | 1.4% |
| University of British Columbia | 7 | 2.0% |
| University of Calgary | 4 | 1.1% |

| University | Number | Percentage |
|---|---|---|
| University of Manitoba | 3 | 0.8% |
| University of Montreal | 2 | 0.6% |
| University of Ottawa | 10 | 2.8% |
| University of Saskatchewan | 5 | 1.4% |
| University of Toronto | 16 | 4.5% |
| Western University | 12 | 3.4% |
| Unknown | 13 | 3.7% |
| Canada - unknown | 2 | 0.6% |
| TOTAL | 354 | 100.0% |

Canadian Institute for Health Information National Health Expenditure Trends 2022

### 3.5.3 Canadian Resident Matching Services

It is difficult to compare the Canadian Resident Matching Services (CaRMS) results across provinces due to different entry criteria and International Medical Graduates (IMG) stream allocations. In 2022, 10.1% of Dalhousie University resident positions were unmatched after the first round. At 10.1%, Dalhousie University ranked seventh in unfilled first round positions of seventeen medical schools.

The size of Canadian medical school administered residency programs has increased tremendously since 2003. The first choice CaRMS match has increased 259% from 2003 (1,317 positions) to 2022 (3,410 positions). The greatest increases in residency programs, relative to the overall increase of 259%, are as follows:

Larger programs (>40 first year residency positions)

- Emergency Medicine
- Family Medicine
- Internal Medicine

Programs (>19 and <40 first year residency positions)

- Anatomic Pathology
- Dermatology
- Physical Medicine and Rehabilitation

Exhibit 3-04
R-1 Matches First Iteration by School of Residency and Discipline

| School | 2022 | | 2013 | | 2033 | |
|---|---|---|---|---|---|---|
| | Available | % Unfilled | Available | % Unfilled | Available | % Unfilled |
| Memorial University of Newfoundland | 81 | 16.0% | 77 | 14.3% | 60 | 10.9% |
| Dalhousie University | 149 | 10.1% | 125 | 12.8% | 96 | 8.2% |
| Laval University | 238 | 9.7% | 204 | 14.7% | - - - | 21.2% |
| University of Sherbrooke | 211 | 17.1% | 194 | 23.2% | - - - | 8.0% |
| University of Montreal | 303 | 13.9% | 281 | 6.8% | - - - | 9.6% |
| McGill University | 193 | 4.7% | 189 | 4.8% | 105 | 13.8% |
| University of Ottawa | 199 | 4.0% | 203 | 12.3% | 101 | 8.2% |
| Queen's University | 133 | 4.5% | 133 | 8.3% | 69 | 7.8% |
| Northern Ontario School of Medicine | 62 | 30.6% | 56 | 19.6% | - - - | 30.0% |
| University of Toronto | 407 | 0.0% | 418 | 0.0% | 218 | 3.6% |
| McMaster University | 216 | 11.1% | 223 | 8.1% | 105 | 29.4% |
| Western University | 185 | 10.8% | 187 | 10.2% | 97 | 15.2% |
| University of Manitoba | 143 | 14.0% | 137 | 13.1% | 77 | 3.2% |
| University of Saskatchewan | 128 | 18.0% | 119 | 21.8% | 57 | 32.9% |
| University of Alberta | 197 | 12.2% | 205 | 7.8% | 115 | 17.9% |
| University of Calgary | 203 | 10.8% | 202 | 4.5% | 98 | 3.7% |
| University of British Columbia | 362 | 1.9% | 308 | 5.2% | 124 | 5.7% |
| TOTAL | 3,410 | 9.1% | 3,261 | 9.2% | 1,317 | 14.4% |

Canadian Resident Matching Services (CaRMS) 2022

Notably, the larger programs with the greatest increase are generalist disciplines. Within Internal Medicine, general internal medicine increased 80% based upon practice entry data.

Exhibit 3-05

Matches by Discipline and Generalism 2003 - 2022

| Discipline | 2003 Matched (n) | 2022 Matched (n) | Change 2003 to 2022 (%) | Generalist ? |
|---|---|---|---|---|
| Anatomical Pathology | 7 | 34 | 386% | |
| Anaesrthesiology | 62 | 127 | 105% | X |
| Cardiac Surgery | 7 | 11 | 57% | |
| Dermatology | 5 | 28 | 460% | |
| Diagnostic Radiology | 43 | 76 | 77% | X |
| Emergency Medicine | 20 | 70 | 250% | X |
| Family Medicine | 370 | 1,399 | 278% | X |
| General Pathology | 1 | 8 | 700% | X |
| General Surgery | 55 | 80 | 45% | X |
| Haematological Pathology | 0 | 5 | - - - | |
| Internal Medicine | 159 | 461 | 190% | X |
| Laboratory Medicine | 16 | 0 | -100% | |
| Medical Genetics | 3 | 8 | 167% | |
| Medical Microbiology | 0 | 7 | - - - | |
| Neurology | 19 | 49 | 158% | |
| Neurology - Paediatric | 0 | 6 | - - - | |
| Neurosurgery | 17 | 22 | 29% | |
| Nuclear Medicine | 3 | 9 | 200% | |
| Obstetrics and Gynaecology | 46 | 85 | 85% | X |
| Ophthalmology | 17 | 36 | 112% | |
| Orthopaedic Surgery | 42 | 52 | 24% | |
| Otolaryngology | 12 | 28 | 133% | |
| Paediatrics | 87 | 140 | 61% | X |
| Physical Medicine and Rehabilitation | 6 | 29 | 383% | |

| Discipline | 2003 Matched (n) | 2022 Matched (n) | Change 2003 to 2022 (%) | Generalist ? |
|---|---|---|---|---|
| Plastic Surgery | 12 | 23 | 92% | |
| Psychiatry | 68 | 180 | 165% | |
| Public Health and Preventive Medicine | 4 | 9 | 125% | X |
| Radiation Oncology | 20 | 21 | 5% | |
| Urology | 15 | 30 | 100% | |
| Vascular Surgery | 0 | 10 | - - - | |
| TOTAL | 1,116 | 3,043 | | |
| CHANGE | | | 273% | |
| % GENERALIST | 65% | 71% | | |

Canadian Resident Matching Services (CaRMS) 2022

### 3.5.4 Residency Programs

Nationally, the number of individuals registered in a family medicine residency program increased 133% from 1,561 to 3,642 between 2000/01 and 2021/22 (Canadian citizen and permanent resident trainees). General paediatric positions grew 61% from 407 to 657. Medical specialties, including paediatrics, grew 104%. Laboratory medicine positions grew 128% and surgical specialties 48%. Overall growth was 96% since 2000/01. Growth at the specialty-specific level was very uneven. For example, ophthalmology grew 112% compared to general surgery at 45%. Emergency medicine grew 250% and internal medicine (pre-sub-specialization) by 190%.

## 3.6 Gender Adjustment

Gender Adjustment is the relative difference between males and females in absolute FTE value between the ages of 25 and 74 years

In general, a female health professional, over the course of her career, will work less than a similar male health professional. As the proportion of female health professionals entering the workforce increases, the number of health professionals required to replace each retiring male health professional increases. In 2021/22, the ratio of female to male FTE in family medicine was 0.82. A ratio of 0.82 to1.00 implies recruiting 1.2 females to equal 1.0 FTE and that, over her career, a female family physician will work 0.18 FTE less than a male family physician. Before and after family raising years, females will work similarly or equivalent to males. The Prince Edward Island physician workforce is 36% female, which is the lowest nationally, followed by Manitoba at 38% and Saskatchewan at 38.5%. The national average is 44% female. Prince Edward Island can, therefore, expect the percentage to increase to the national average in the coming years, meaning a higher annual rate of increase than other provinces. This will impact future FTE supply at a female-to-male FTE ratio of 0.81 in family medicine, 1.00 in RCPSC specialties, and 0.91 overall. The physician gender adjustment rates were applied also to non-physician health professionals.

Exhibit 3-06
Forecast Model Gender Adjustment FTE Ratio Female/Male

| Female / Male Full-Time Equivalency Ratios | MB 2015-2016 | NS 2009 - 2010 | PE 2021-2022 | SK 2012 - 2013 |
|---|---|---|---|---|
| Family Medicine | 0.81 | 0.84 | 0.82 | 0.82 |
| All Specialists (RCPSC) | 0.92 | 0.94 | 1.00 | 0.88 |
| All Physicians | 0.85 | 0.90 | 0.91 | 0.85 |

Social Sector Metrics

Exhibit 3-07

Prince Edward Island Physician Counts by Discipline, Fiscal Year, and Gender

| Discipline | 2017 - 2018 | | | 2018-2019 | | | 2019-2020 | | | 2020-2021 | | | 2021-2022 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | M | T | F | M | T | F | M | T | F | M | T | F | M | T |
| Alcohol/Drug Treatment | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 |
| Anaesthesiology | 2 | 11 | 13 | 3 | 15 | 18 | 2 | 17 | 19 | 4 | 18 | 22 | 6 | 20 | 26 |
| Anatomic Pathology | 6 | 3 | 9 | 6 | 4 | 10 | 7 | 6 | 13 | 6 | 5 | 11 | 5 | 5 | 10 |
| Dermatology | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 |
| Emergency Medicine | 13 | 28 | 41 | 14 | 29 | 43 | 10 | 31 | 41 | 11 | 32 | 43 | 11 | 28 | 39 |
| General Practice | 42 | 62 | 104 | 43 | 66 | 109 | 43 | 63 | 106 | 45 | 65 | 110 | 51 | 71 | 122 |
| General Surgery | --- | 9 | 9 | 1 | 10 | 11 | 1 | 8 | 9 | 3 | 10 | 13 | 5 | 11 | 16 |
| Geriatric Medicine | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 2 | 2 | 4 |
| Hospitalist | 12 | 6 | 18 | 12 | 8 | 20 | 12 | 8 | 20 | 12 | 7 | 19 | 10 | 8 | 18 |
| Immunology and Allergy | --- | --- | --- | --- | --- | --- | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 |
| Internal Medicine | 3 | 18 | 21 | 2 | 15 | 17 | 3 | 15 | 18 | 3 | 16 | 19 | 3 | 18 | 21 |
| Med Onc Associate | 2 | --- | 2 | --- | --- | --- | 2 | --- | 2 | 2 | --- | 2 | 1 | --- | 1 |
| Medical Oncology | 1 | 6 | 7 | 1 | 7 | 8 | 1 | 5 | 6 | 1 | 4 | 5 | 1 | 4 | 5 |
| Nephrology | --- | --- | --- | --- | 2 | 2 | --- | 3 | 3 | --- | 2 | 2 | --- | 3 | 3 |
| Neurology | 2 | 2 | 4 | 4 | 3 | 7 | 3 | 4 | 7 | 2 | 2 | 4 | 3 | 3 | 6 |
| Obstetrics/ Gynaecology | 5 | 9 | 14 | 5 | 8 | 13 | 6 | 6 | 12 | 7 | 6 | 13 | 8 | 6 | 14 |
| Ophthalmology | 1 | 5 | 6 | 1 | 7 | 8 | 1 | 6 | 7 | 1 | 5 | 6 | 2 | 5 | 7 |
| Orthopaedic Surgery | --- | 8 | 8 | --- | 7 | 7 | --- | 7 | 7 | --- | 8 | 8 | --- | 7 | 7 |
| Otolaryngology | --- | 3 | 3 | --- | 3 | 3 | --- | 3 | 3 | --- | 3 | 3 | --- | 3 | 3 |
| Paediatric Cardiology | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | 1 |
| Paediatrics | 7 | 6 | 13 | 10 | 5 | 15 | 8 | 4 | 12 | 8 | 4 | 12 | 10 | 4 | 14 |
| Pain Management | --- | 2 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 3 | 3 |
| Palliative Care | 2 | --- | 2 | 3 | --- | 3 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 2 |

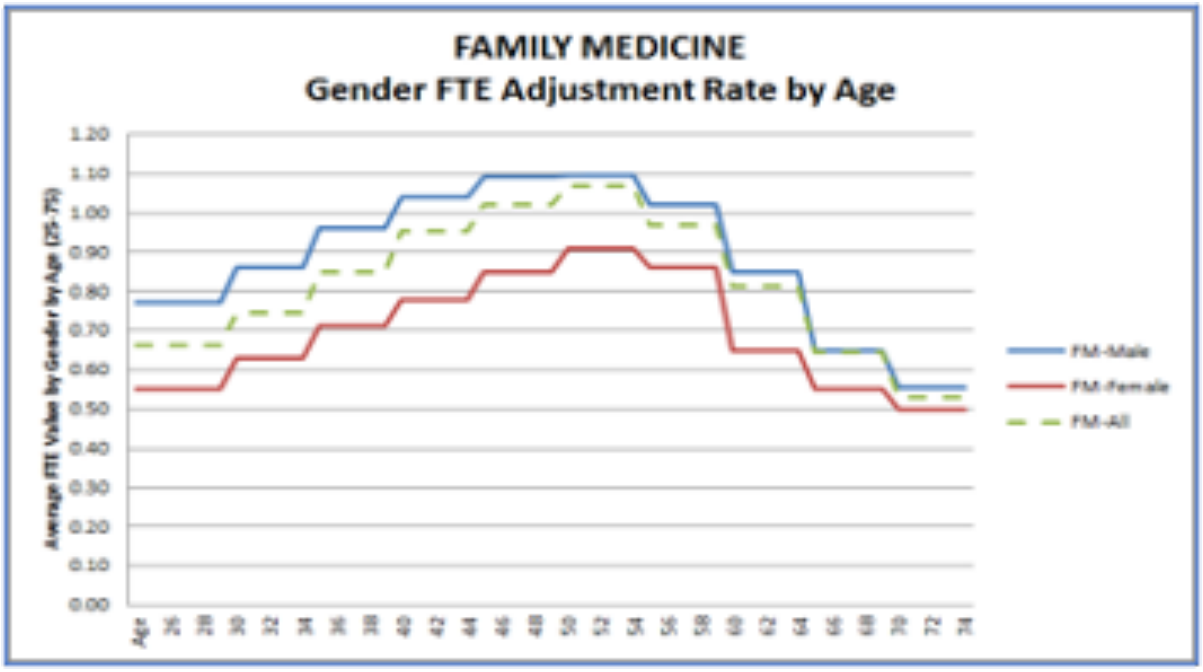
| Discipline | 2017 - 2018 | | | 2018-2019 | | | 2019-2020 | | | 2020-2021 | | | 2021-2022 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | M | T | F | M | T | F | M | T | F | M | T | F | M | T |
| Physical Medicine | --- | 2 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 3 | 3 | --- | 2 | 2 |
| Plastic Surgery | --- | 2 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 2 | 2 | --- | 3 | 3 |
| Psychiatry | 6 | 13 | 19 | 6 | 11 | 17 | 7 | 13 | 20 | 9 | 12 | 21 | 11 | 14 | 25 |
| Rad Onc Associate | 1 | --- | 1 | 3 | --- | 3 | 1 | --- | 1 | 1 | --- | 1 | 2 | --- | 2 |
| Radiation Oncology | --- | 2 | 2 | --- | 3 | 3 | --- | 1 | 1 | --- | 1 | 1 | --- | --- | --- |
| Radiology | 4 | 18 | 22 | 5 | 16 | 21 | 8 | 21 | 29 | 5 | 12 | 17 | 3 | 17 | 20 |
| Telehealth GP Maple | --- | --- | --- | --- | --- | --- | 2 | 3 | 5 | 2 | 3 | 5 | 1 | 3 | 4 |
| Therapeutic Radiation | --- | --- | --- | --- | --- | --- | --- | 2 | 2 | --- | 2 | 2 | --- | 3 | 3 |
| Urology | --- | 3 | 3 | --- | 2 | 2 | --- | 4 | 4 | --- | 5 | 5 | --- | 4 | 4 |
| TOTAL | 111 | 221 | 332 | 121 | 230 | 351 | 121 | 239 | 360 | 126 | 232 | 358 | 138 | 250 | 388 |
| % FEMALE | 33% | | | 34% | | | 34% | | | 35% | | | 36% | | |

Health PEI

The following three exhibits illustrate the FTE adjustment incorporated to the forecast model at an individual physician level by gender and age. Age is adjusted each year over the ten-year forecast.

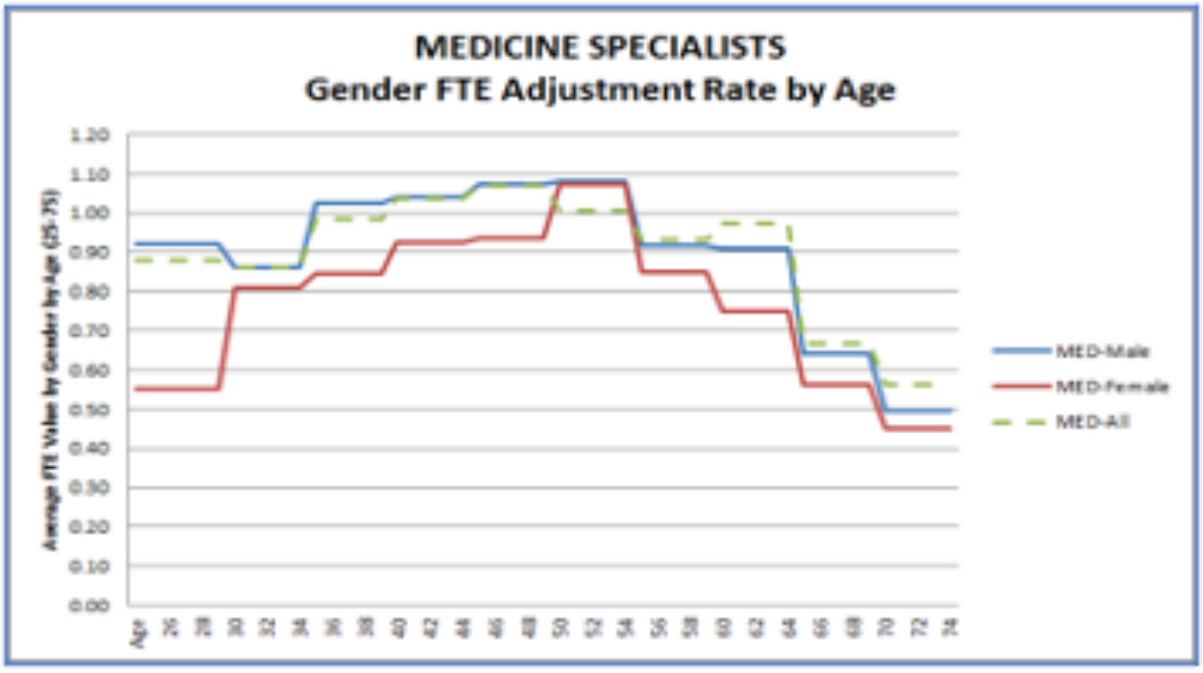
Similar gender adjustment rate data were not available for non-physician health professionals.

Exhibit 3-08
Family Medicine Gender FTE Adjustment Rate by Age



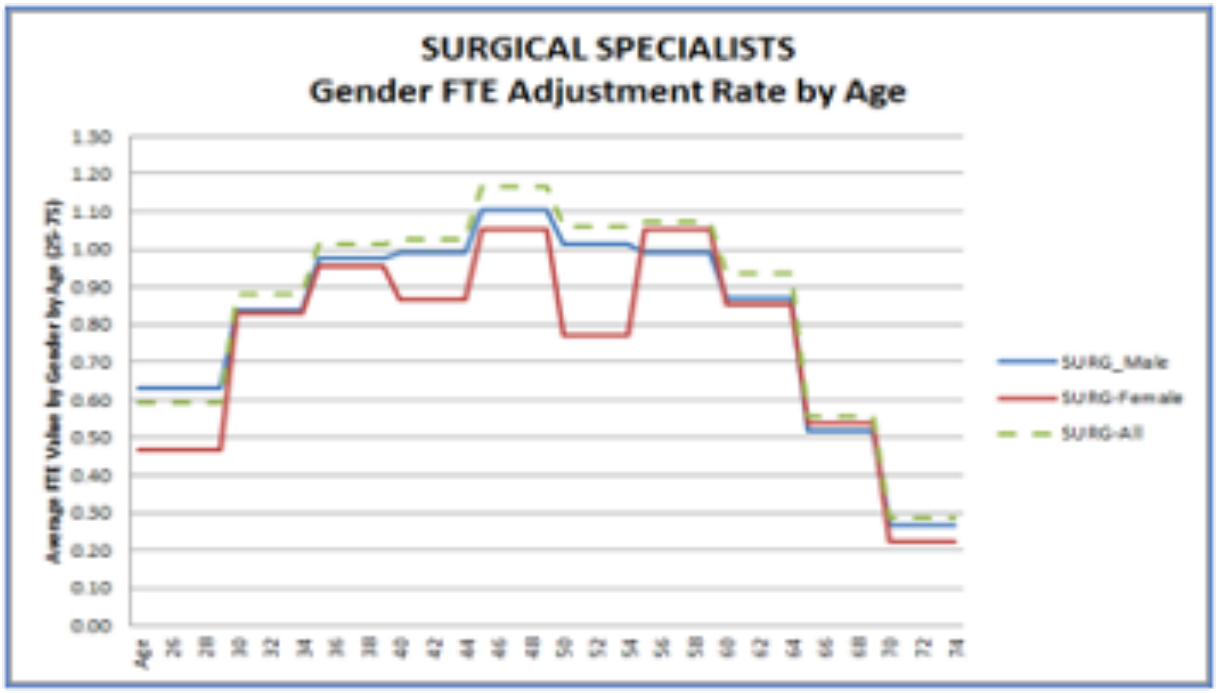

Health PEI

Exhibit 3-09
Medicine Specialists Gender FTE Adjustment Rate by Age




Health PEI

Exhibit 3-10
Surgical Specialists Gender FTE Adjustment Rate by Age




Health PEI

## 3.7 Separation Adjustment

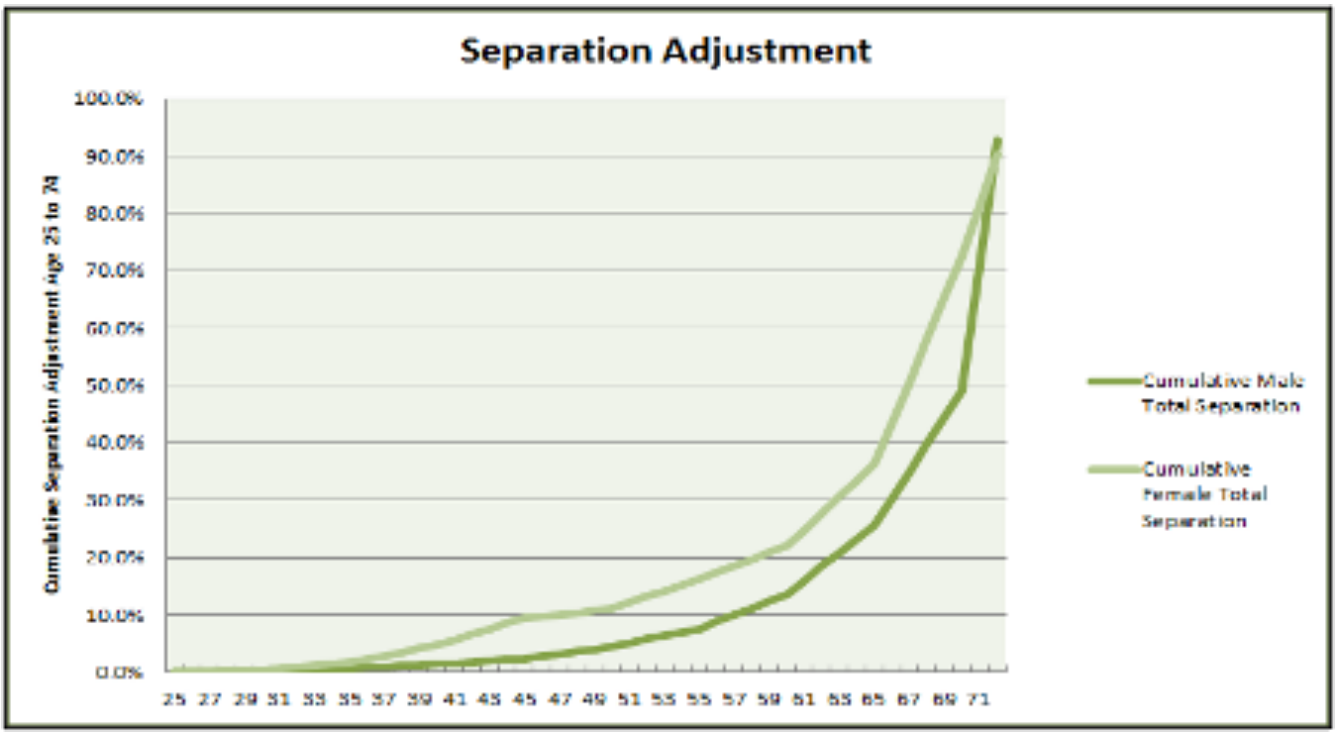
A Separation Adjustment reflects departures from the active roster due to retirement, slowing productivity, or other attrition (death, from active-clinical to active-non-clinical). Decreased productivity is measured, as a proxy, by the change in predicted FTE value by health discipline as they move from age 25 to 74 years.

Separation Adjustment is gender and age-specific from age 25 to 74 years and is applied by gender at the same age rates across all health disciplines.

In 2022, the average physician age in PEI was 49 years of age, identical to the national average physician age.

The ratio of FTE to count by age cohort, follows an upward progression from less than 30 years of age to the 55 to 59 years age cohort, before tapering off to eventual retirement from practice. This progression is consistent with other studies on workload as a health professional moves through each age cohort, eventually to full retirement. The ratios in the age cohort progression are modeled into future supply at an individual provider level, not a cohort level.

Exhibit 3-11
Cumulative Separation Adjustment for Male and Female Physicians by Age




Social Sector Metrics

The separation rate variable captures the changes in service provision that accompany changes in age. The provincial data (Exhibit 3-11) are reasonably robust in this regard and demonstrate a familiar pattern for both genders as they move through the early to middle to late career stages.

The forecast model assumes a default full retirement at age 70 years for physicians and 65 years for non-physicians in all the PEI specific FTE data analyses in this report. Individuals aged 75 years or greater in 2022 have been removed from the FTE calculations on the assumption they will not be practising actively beyond the first year or two of the ten-year forecast. There will be exceptions to this rule; however, in the interests of methodology consistency, the rule has been applied uniformly.

## 3.8 Geography and Mobility

Net Inter-provincial migration (NIPM) is the net number of human resources leaving and returning to the province annually. The five year (2017-2021) annual average inter-provincial net migration for physicians (source: CIHI) for Prince Edward Island was a positive 1.13% four physicians per annum) in the base case scenario. No data was available for non-physician human resources. The model assumes the non-physician human resources had inter-provincial migration similar to physicians at 1.13%.

- Base Case Scenario is positive 1.13%
- Low Case Scenario is positive 1.07%
- High Case Scenario is positive 1.25%

Return from abroad (RFA) is a metric for health human resources returning from abroad to work in Prince Edward Island.

The annual number of physicians returning from abroad to practice in Prince Edward Island, net of those leaving Prince Edward Island to practice abroad is negligible (1 per annum – Source: CIHI).

The combined effect of NIPM and RFA is in the range of 1.07% for the Low Case to 1.25% for the High Case increase per annum. The Base Case remains at 1.13%.

## 3.9 Practice Profiles of Family Physicians

The forecast model incorporates disaggregation of family physician full-time equivalency based on "area of special interest". An area of special interest is a subdivision of the general categorization for family physicians. A detailed analysis of payments to all family physicians was conducted in order to distinguish areas of special interest.

An "area of special interest" prefaced by "SI" is a physician who receives more than 50% of total income from the area of special interest (such as,15.21 FTE GPs have an SI in Hospitalist Medicine) where greater than 50% of total income is for SI services.

The following exhibit details family physicians, including special interest FTE by county:

Exhibit 3-12
Family Physicians Special Interest FTE by County March 31, 2022[3]

| FAMILY PHYSICIANS | Kings | Prince | Queens | Total |
|---|---|---|---|---|
| Emergency Medicine | --- | --- | --- | --- |
| Family Medicine (EM) | 1.9 | 12.0 | 19.8 | 33.6 |
| General Practice (EM) | --- | --- | --- | --- |
| Family Medicine | --- | 1.1 | --- | 1.1 |
| General Practice | 15.1 | 33.0 | 53.4 | 101.5 |
| CAC - Addiction Medicine | --- | --- | 1.0 | 1.0 |
| SI - Child and Adolescent Health | --- | --- | --- | --- |
| SI - Cancer Care | --- | --- | 2.5 | 2.5 |
| SI - Critical Care Associate | --- | --- | --- | --- |
| SI - Emergency Medicine | --- | --- | --- | --- |
| CAC - Enhanced Skills Surgery | --- | --- | --- | --- |
| CAC - Family Practice Anaesthesiology | --- | --- | --- | --- |
| SI - Family Practice Cancer Care | --- | --- | --- | --- |
| SI - Global Health | --- | --- | --- | --- |
| CAC - Care of the Elderly | --- | --- | --- | --- |
| SI - Hospitalist Medicine | --- | 4.2 | 11.0 | 15.2 |
| CAC - Obstetrical Surgical Skills | --- | --- | --- | --- |
| SI - Mental Health | --- | --- | --- | --- |
| SI - Occupational Medicine | --- | --- | --- | --- |
| CAC - Palliative Care | --- | --- | 2.0 | 2.0 |
| SI - Prison Health | --- | --- | --- | --- |
| SI - Respiratory Medicine | --- | --- | --- | --- |
| CAC - Sport and Exercise Medicine | --- | --- | --- | --- |
| FAMILY PRACTICE TOTAL | 15.1 | 38.3 | 69.9 | 123.3 |

[3] The total FTE of 123.3 FTE combines with the 33.6 FTE for family physicians (EM) totals 156.9 FTE

## 3.10 Practice Profiles of RCPSC (or equivalent) Specialists

Specialities reported by Health PEI were used as the starting point for each specialty assignment by physician in the forecast model. Review and analysis based on functional specialty led to reassignment of a very small number of physicians from a listed license specialty to a practising licensed specialty.

The forecast model uses the net reassigned counts and FTEs by practising licensed specialty to forecast future requirements.

External benchmarks for each health discipline were researched, identified, and compared to current practice in Prince Edward IslandI. Benchmarks fell into two categories:

1. Ratio of population per 1.0 FTE (not population to head count)
2. Service volume per FTE (such as, sum of major plus minor surgical cases per 1.0 FTE)

In order to be considered a valid benchmark, the source had to originate in one of a peer-reviewed specialty-specific journal article or a publication from an authoritative body, such as one or more of the following:

- Canadian Medical Association (CMA) registry of physicians master file
- Canadian Institute for Health Information (CIHI) population per FTE)
- A national workforce planning authority (such as, U.K. National Health Service, Australia Department of Health)
- Must be published after 2010

If a comparable benchmark could not be identified from one of these sources, no benchmark was cited for that specialty. Both the CMA and CIHI benchmarks are updated annually and are usually two years in arrears. Both sources provide an excellent source of benchmarks because they are Canadian-based, follow a strict process for collection and validation, and are in the public domain.

Benchmarks for non-physician professions used CIHI-sourced data, including both public and private sector providers - the benchmarks were adjusted (denominator) to reflect the HPEI public sector only.

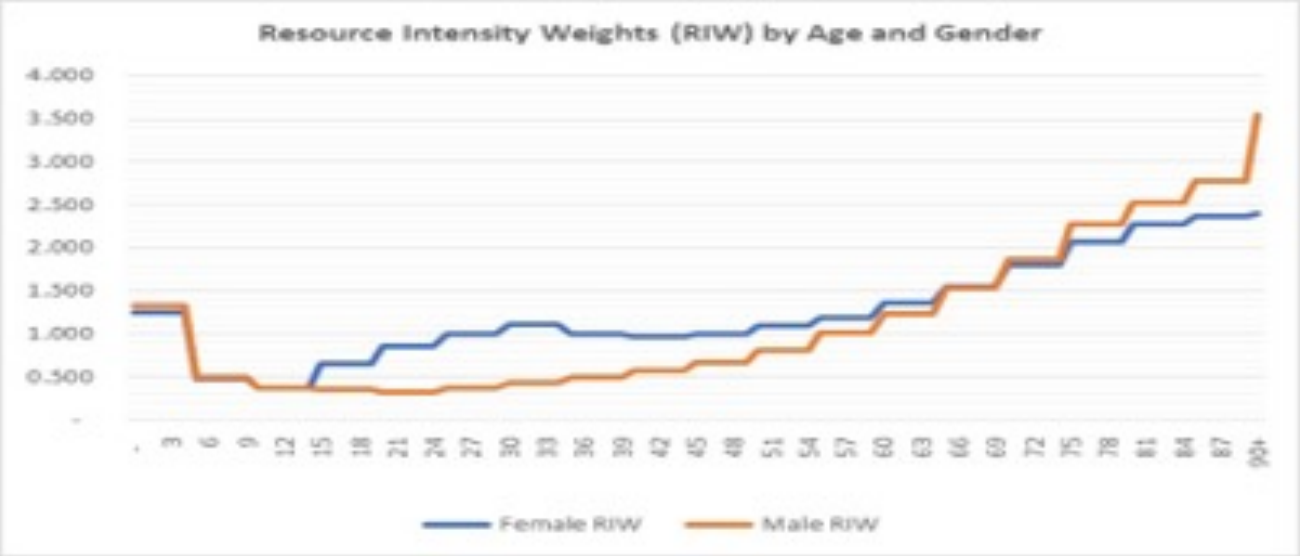
**Benchmarks must be used with caution** (by implication, it cannot be assumed that an external benchmark "got it right") . These require careful analysis and evaluation prior to application within a model. Achievement of service volume improvements cannot be allowed at the expense of quality; however a greater volume may or may not equate to improved outcomes.

It is important and necessary to update both numerator and denominator for Prince Edward Island values in comparison to applied benchmarks to ensure continued relevance (dynamic benchmarking will incorporate workload changes as they occur). Updating is recommended every three to four years.

## 3.11 Population

The forecast change in population is applied to the 10-year forecast of workforce FTE requirements to adjust for a change in population need in combination with relative burden of illness factor. The forecast population is adjusted for age and gender according to relative health resource consumption (resource intensity weights or RIWs).

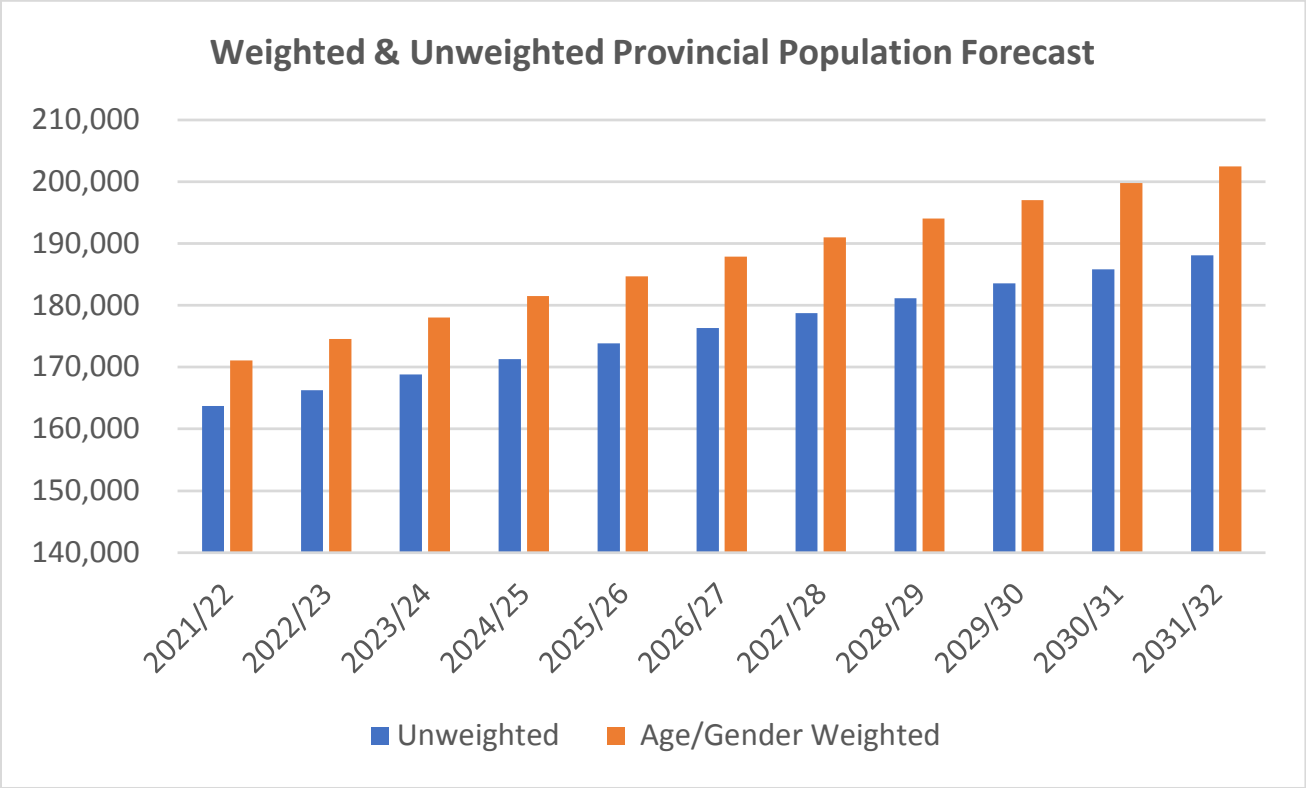
Exhibit 3-13
Resource Intensity Weights by Age and Gender in Prince Edward Island




Canadian Institute for Health Information

As demonstrated in Exhibit 3-13, the provincial medium population forecast by 2031/32 is 14,387 higher on an age- and gender- weighted basis than on an unweighted basis. This difference in population forecasts is critical when projecting future health human resource FTE requirements.

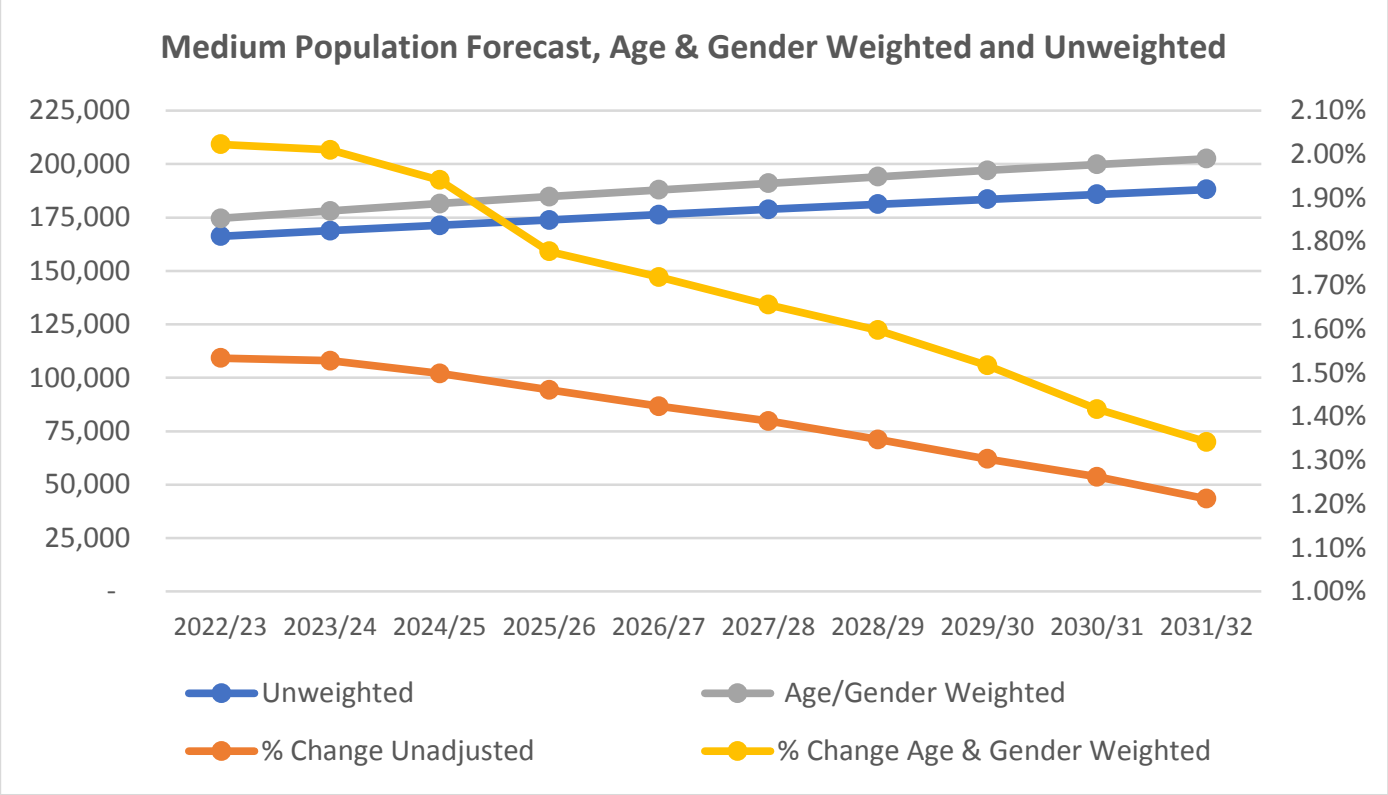
Exhibit 3-14
Weighted and Unweighted Population Forecast 2022-2023 to 2031-2032




Statistics Canada,

The rate of population medium forecast growth declines over the forecast years. The age- and gender-weighted annual percentage change declines from 2.02% in 2022/23 to 1.34% in 2031/32. The unweighted annual percentage change declines from 1.53% to 1.19% over the forecast years. This is demonstrated in Exhibit 3-14.

Exhibit 3-15
Medium Population Forecast Age- and Gender-Weighted and Unweighted 2022-2023 to 2031-2032 and Percentage Annual Change

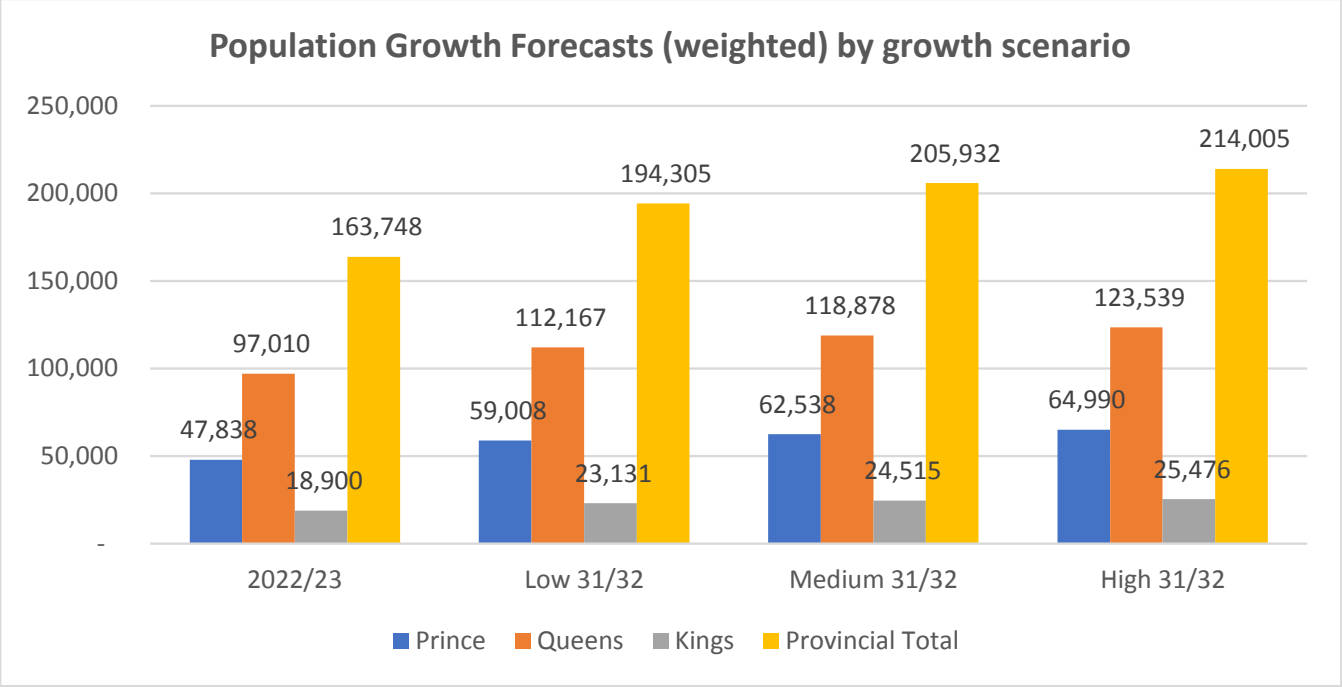



Statistics Canada,

There is some variability in population forecasts based on the low, medium, and high growth weighted scenarios. The high growth scenario (214,005 weighted, 198,800 unweighted) is 10% higher than the low growth scenario. The medium growth scenario (205,932 weighted, 191,300 unweighted) is 6% higher than the low growth scenario. The forecast model generates low, base, and high case scenarios using multiple variables including the weighted population growth scenarios.

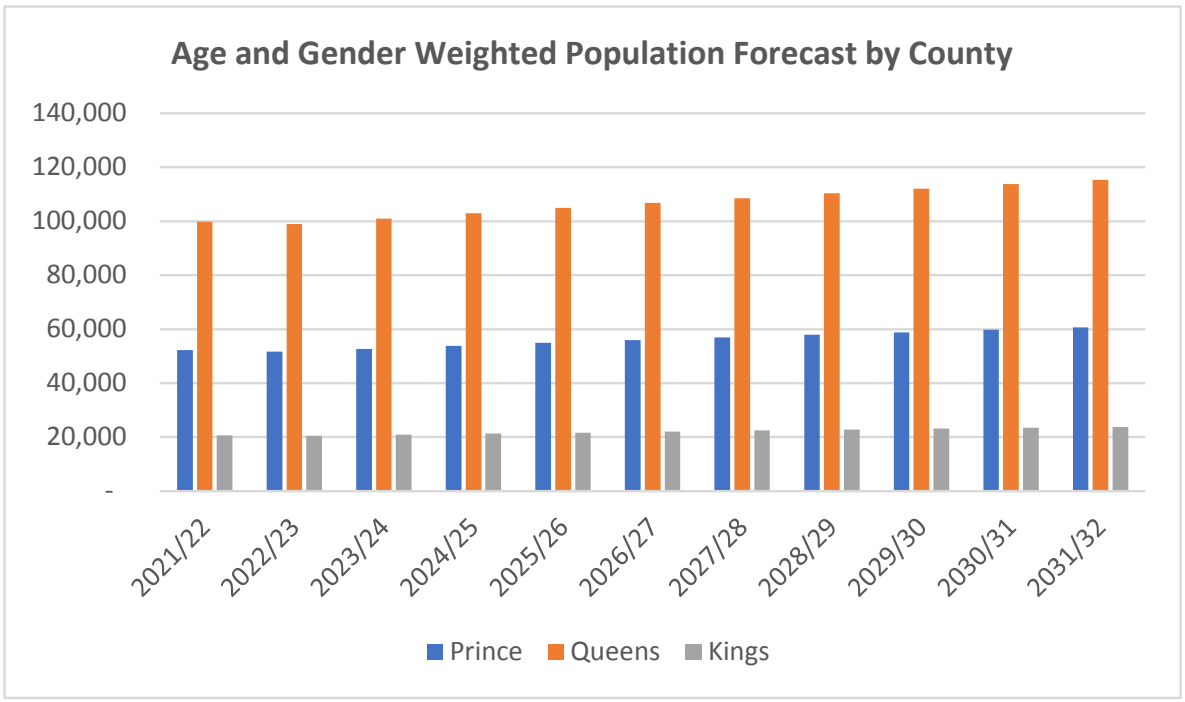
Exhibit 3-15 and Exhibit 3-16 demonstrate the population growth forecasts (weighted) by growth scenario and the population forecast by county in a medium growth scenario.

Exhibit 3-16
Population Growth Forecasts Weighted by Growth Scenario and County and Province




Statistics Canada,

Exhibit 3-17
Age- and Gender- Weighted Population Forecast by County in Medium Growth Scenario



## 3.12 Burden of Illness

By including both absolute changes in population growth and relative burden of illness, the forecast model ensures forecasts recognize and embed the changing differences in population need over time.

Burden of illness is the impact of a health problem as measured by financial cost, mortality, morbidity, or other indicators. It is often quantified in terms of a statistical measure indicating loss of years of healthy life through disabling disease in a specified population, as measured in DALYs (disability-adjusted life years) or premature mortality rates (PMRs).

Indicators that measure vital statistics related to health (deaths/PMR; PYLL, Life Expectancy (LE)) generate the same results with high correlation to health status. Measures such as self-reported health status, and PMR are all gathered from different data sources for different purposes, yet are all quite consistent in how they change over time.

Exhibit 3-18
Leading Indicators of Relative Health Status

| Potential Indicators | Provincial Average 2011 | Provincial Average 2016 |
|---|---|---|
| Premature Mortality Rate (PMR) | 3.00/1,000 < age 75 | 3.19/1,000 < age 75 |
| Potential Years of Life Lost (PYLL) - per annum | 19,915 | 20,390 |
| Life Expectancy (LE) - females | 83.0 years | 84.0 years |
| Life Expectancy (LE) - males | 79.0 years | 80.0 years |
| Self-Rated Health - excellent or very good | 63.0% | 60% (61% in 2020) |

Statistics Canada, Canadian Community Health Survey (CCHS)

The pattern for the Health Status Index scores is indistinguishable from that for PMR. Although one group of indicators measures vital statistics related to health (deaths) and another group measures the economic and social characteristics of residents, they both lead to the same results regarding the relative health status of the province. In fact, measures such as PMR and PYLL are so similar in their assessment of health status they could be considered interchangeable. In addition, together they form a very strong composite measure. Given the strong correlation between the Index and its constituent indicators, it would be much more direct to simply use one of the indicators, i.e. PMR when talking about overall health status.

The premature mortality rate is considered the best single indicator of the overall health status of a region's population and need for healthcare (Carstairs & Morris, 1991; Eyles & Birch, 1993; Eyles, Birch, Chambers, Hurley, &

Hutchison, 1991). PMR is correlated with morbidity and with self–rated health, as well as with socioeconomic indicators (Martens, Frohlich, Carriere, Derksen, & Brownell, 2002a). Populations having a high PMR are presumed to need more healthcare services than healthier populations. PMR is calculated as the number of deaths among residents under 75 years old per 1,000 residents under 75 years old, per year. In the following table average annual PMR rates are reported for 2010 to 2017 and were age and sex-adjusted to the PEI population under 75 years old. The 10-year forecast model applies the PMR relative value of 2.4% to adjust workforce FTEs for the relative health status gap.

Exhibit 3-19
Premature Mortality 2010 - 2017

**Premature and potentially avoidable mortality, Canada, provinces and territories**
**Frequency: Annual**
**Table: 13-10-0744-01 (formerly CANSIM 102-4316)**
**Release date: 2019-09-05**

| | |
|---|---|
| **Geography** | **Prince Edward Island** |
| **Sex** | **Both sexes** |
| **Indicators** | **Mortality** |
| **Characteristics** | **Number** |

| Selected causes of death | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | % Change | Annual % Change |
|---|---|---|---|---|---|---|---|---|---|---|
| **Premature mortality 3** | **425** | **455** | **495** | **480** | **450** | **440** | **450** | **495** | **16.5%** | **2.4%** |
| Potentially avoidable mortality 4 | 290 | 335 | 360 | 340 | 305 | 295 | 320 | 335 | 15.5% | 2.2% |
| Mortality from preventable causes 5 | 200 | 220 | 225 | 215 | 200 | 200 | 210 | 220 | 10.0% | 1.4% |
| Mortality from treatable causes 6 | 90 | 115 | 135 | 125 | 105 | 95 | 110 | 115 | 27.8% | 4.0% |

Footnotes:

1 Sources: Statistics Canada, Canadian Vital Statistics, Death Database and Demography Division (population estimates).
2 Mortality is the death rate, which can be measured as total mortality (all causes of death combined) or by selected cause of death. All counts and rates are calculated using the total population (all age groups).
3 Premature deaths are those of individuals who are younger than age 75.
4 Premature deaths that could potentially have been avoided through all levels of prevention (primary, secondary, tertiary).
5 Premature deaths that could potentially have been prevented through primary prevention efforts.
6 Premature deaths that could potentially have been avoided through secondary or tertiary prevention.

# 4 Interpretation Key

Following is the interpretation key relevant to the forecast tables throughout the balance of this report.

**1. Column 1 Base Year FTE – 2021/22** is the number of full-time equivalents measured in fiscal April 1, 2021 to March 31, 2022 using the CIHI income percentile methodology for physicians and full/part/casual status for non-physicians. The count of health providers by profession (n of 122 -=100 physician disciplines and 22 other named health professions) have been validated by Health PEI. The physician FTE values were calculated using the CIHI methodology (see section on Current Roster for detail description of methodology). Non-physician FTE values were assigned a value of 1.0 for full-time, 0.6 for part-time, and 0.2 FTE for casual.

**2. Column 2 +/(-) (NIPM + RFA)** is the forecast change, over the ten-year forecast period ending March 31, 2032, in number of FTE due to net interprovincial migration and return from abroad. The rates of NIPM and RFA are obtained from the CIHI Scott's Medical Database which tracks doctor movement by province each year.

NIPM – Net Inter-Provincial Migration is the net number of health professionals leaving and returning to the province annually. The five-year average annual inter-provincial net migration in Prince Edward Island was a positive 1.13% (five-year average of 4 physicians per annum). Data on non-physician inter-provincial migration was not available so the physician rate of 1.13% was applied uniformly across all health professions.

RFA - Return from Abroad is the number of physicians returning from abroad to practice in Prince Edward Island net of those having left to move abroad outside Canada. The annual number of physicians returning to practice in Prince Edward Island, net of those leaving Prince Edward Island to practice abroad, is negligible (1 per annum – Source: CIHI).

**3. Column 3 +/(-) Aging Adjustment** is the forecast change over the ten-year forecast period ending March 31, 2032 in number of FTE due to aging of the workforce. This takes into consideration the gradual tapering of FTE as they age leading up to a zero FTE value at full retirement. The model assumes full retirement at age 75 years for physicians and 65 years for non-physician health professions.

**4. Column 4 +/(-) Death Rate Adjustment** is the forecast change, over the ten-year forecast period ending March 31, 2032, in number of FTE due to forecast deaths in the workforce. Death rates are drawn from vital statistics adjusted for the income quintile of health professionals.

**5. Column 5 +/(-) Gender Adjustment** is the forecast change, over the ten-year forecast period ending March 31, 2032, in number of FTE due to forecast change in the absolute male/female gender mix of the workforce. The rate of shift from male-to-female or female-to-male by health professions is largely dependant on the current and forecast gender mix in the health education system (undergraduate education programs and postgraduate residency programs).

**6. Column 6 Subtotal Replacement Needs** is the sum of columns two through five and represents the forecast for the ten-year forecast period ending 2031/32 (F10), replacement (due to aging, death, gender, and NIPM/ RFA) FTE needs in the workforce. In the Base Case scenario this FTE replacement adjustment equals 4.22% per annum. In the Low Case scenario this adjustment is 3.98% per annum and 4.46% in the High Case scenario.

**7. Column 7 +/(-) Benchmark** is the external benchmarks for each specialty as researched, identified, and compared to current practice in Prince Edward Island.

- Benchmarks are listed by specialty in each specialty subsection
- The Base Case scenario uses the national average population per 1.0 FTE

**8. Column 8 Adjusted FTE April 1, 2022 (Col 1+Col 7)** is the sum of columns 1 and 7.

**9. Column 9 +/(-) Change in Population** Is the percentage change in the age- and gender-weighted population over the ten-year forecast period. In the Base Case scenario, this adjustment adds 1.6% per annum to the forecast FTE requirements. In the Low Case scenario this adjustment adds 1.0% per annum to the forecast FTE requirements and 2.01% in the High Case scenario.

**10. Column 10 +/(-) Relative Burden of Illness** is the relative percentage difference in burden of illness as indicated by the proxy measure, premature mortality rate (PMR). In the Base Case scenario this adjustment adds 0.45% per annum to the forecast FTE requirements. In the Low Case scenario this adjustment adds 0.20% per annum to the forecast FTE requirements and 0.69% in the High Case scenario.

**11. Column 11 PRE-MOC FTE (Col's 8+9+10)** Is the sum of columns 8, 9, and 10 and represents the cumulative forecast total by specialty prior to the application of assumptions regarding models of care (MOC).

**12. Column 12 MOC - Primary Health Care** is the adjustment to relevant health specialty FTEs based on the assumptions regarding the MOC for primary health care.

1**3. Column 13 MOC Specialty Core Services** is the FTE adjustment to specialties based on the assumptions regarding the MOC defined as 'core services'.

**14. Column 14 MOC Provincial Programs** is the FTE adjustment to health professions based on the assumptions regarding the MOC for provincial programs.

**15. Column 15 Subtotal MOCs** is the FTE subtotal of columns 12 through 14 for MOC's.

**16. Column 16 Total FTE 2031/32 (Col 11+17)** is the total forecast FTE by specialty as of March 31, 2032 and Is the sum of columns 11 (Subtotal Pre-MOC FTE) and 15 (Subtotal MOC's).

**17. Column 17 Change in FTE 2021/22 to 2031/32 (Col 16 (-) Col 1)** is the difference in FTE's between Column 1 (Base Year 2021/22 (F0) and forecast year 10 (2031/32 (F10)).

5

# Forecast Summary

The following exhibit is a ten-year summary of the low, base, and high case scenarios for health workforce planning from 2022/23 to 2031/32. The low case scenario sees an annual percentage increase in the workforce of 0.82% (Col.17), the base case annual increase is 2.66%, and the high case scenario is 3.98%. The change in age/gender weighted population growth (Col.9) is the single biggest factor in each scenario in terms of annual percentage growth; low case 1%, base case 1.6%, and high case 2.01%. The next biggest factor in each scenario is benchmarking (Col. 7) with (0.6%) in the low case, 0.39% in the base case, and 1% in the high case scenario. Another integral factor is the model of care (MOC) for primary health care (Col. 12) with an increase of 0.2% in the low case scenario, 0.22% in the base case, and 0.2% in the high case scenario.

The annual turnover in workforce due to aging, death, gender, and net interprovincial migration (NIPM) / return from abroad (RFA) is 4% in the low case, 4.22% in the base case, and 4.5% in the high case scenario. Recruitment for annual replacement needs (Col. 6) is the number of FTEs that must be recruited per annum to maintain the workforce at its current level.

Exhibit 5-01

Provincial Forecast Summary 2022-2023 (F1) to 2031-2032[4]

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| BASE CASE SCENARIO | 3,002.56 | (287.5) | 1,217.66 | 96.81 | 240.81 | 1,267.77 | 117.27 | 3,119.82 | 480.65 | 133.79 | 3,734.26 | 64.70 | 0.26 | 2.00 | 66.95 | 3,801.21 | 798.65 |
| ANNUAL % CHANGE | | | | | | 4.22% | 0.39% | | 1.60% | 0.45% | 2.44% | 0.22% | 0.00% | 0.01% | 0.22% | | 2.66% |
| LOW CASE SCENARIO | 3,002.56 | (258.8) | 1,101.97 | 87.13 | 264.89 | 1,195.23 | (169.9) | 2,832.62 | 303.86 | 55.70 | 3,192.18 | 68.34 | (14.4) | 2.00 | 56.26 | 3,248.45 | 245.89 |
| ANNUAL % CHANGE | | | | | | 4.0% | -0.6% | | 1.0% | 0.2% | 0.01 | 0.2% | 0.0% | 0.0% | 0.2% | | 0.82% |
| HIGH CASE SCENARIO | 3,002.56 | (316.3) | 1,333.35 | 106.49 | 216.73 | 1,340.30 | 301.74 | 3,304.30 | 604.82 | 208.65 | 4,117.76 | 65.89 | 11.28 | 2.00 | 79.18 | 4,196.94 | 1,194.38 |
| ANNUAL % CHANGE | | | | | | 4.5% | 1.0% | | 2.01% | 0.69% | 0.04 | 0.2% | 0.0% | 0.0% | 0.3% | | 3.98% |

[4] Please refer to Interpretation Key (section 4 of the report)

# Diagnostic and Therapeutic Services

6

## 6.1 Laboratory Medicine

The pathologists are based at QEH and also service PCH by sending one pathologist at a time, each for one week. As well, PCH uses a courier service to transport laboratory specimens to QEH.. The current system is working fairly well but could improve with the transfer of histology from PCH to QEH in order to consolidate technicians and improve the test turn-around time. Laboratory Medicine is a provincial resource with some work sent to Halifax, especially dermatology specimens. The complement of Laboratory Medicine specialists will need to increase when other specialists are recruited, particularly dermatology, plastic surgery, and gastroenterology along with an increased number of general practitioners. This approach has not been in place over time but is fundamental for diagnostic services.

The base case forecast projects a 0.6 FTE decrease in anatomical pathology due to benchmarking, the addition of 2.0 FTE general pathologists, and a 0.24 FTE increase in hematological pathology. Over the ten-year forecast, 7.05 FTE anatomical pathologists will need to be recruited

Exhibit 6-01 provides the forecast summary for laboratory medicine:

Exhibit 6-01
Forecast Summary for Laboratory Medicine

| Laboratory Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 8.2 FTE (7.2 pathology and 1.0 haematological pathology (excludes PhD staff and medical microbiology). | Population per FTE | 42,308 | 38,462 | 34,615 |
| Minimum on-call | 1 in 4 rotation | | | | |
| Scenario FTEs | Current complement is similar to base case benchmark. Five pathologists are age 60 or older so some replacement recruiting will be necessary over the 10-year forecast period. | If additional specialists and GPs are recruited, the workload will increase above benchmarks. | Status quo over the 10-year forecast period. | Increase by 1.7 FTE by fiscal year four (F4) of the forecast period. | Increase by 3.63 FTE over the 10-year forecast period. |
| Description | All scenario's assume histology is consolidated at QEH as the site for the provincial program of laboratory medicine. | | | | |
| Program status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 6.2 Diagnostic Radiology

Diagnostic Radiology is managed as a provincial program across six facilities - four rural (each with a manager with all reporting to Director of DI). QEH has one CT and one MRI while PCH has one CT. MRT staffing is adequate but requires casual staff at times. CT scan demand is increasing at 6.6% annually - but to improve the service would require another unit, radiologist, and evening technician.

Current radiologists are all based at QEH which is functioning well with a successful reporting target of 48 hours (monitored by risk and quality staff). Locums are contracted as required, including four who read mammograms and three who provide breast biopsies. The interventional portfolio includes biopsies for lung, renal, liver, thyroid, breast, and prostate, as well as injections and swallows.

Urgent requests meet national targets (< two weeks) and include an oversight process by a radiologist. On-call services overnight and weekends are provided by a Toronto group through teleradiology (VPN). There is some push to deliver a lung screening program (this would require another CT). The key question is feasibility considering the current patient flow and wait times, and would require additional funding and extended hours. Currently, approval is being sought for a CT technician to work evenings (may need two). Additional services and staff are being anticipated in two years for virtual colonoscopy and cardiac angiography. Current wait times are 1+ years for routine CT (80 weeks - worst in country), 5 - 7 months for routine MRI, 1 year for routine ultrasound, and 2 years for echocardiogram.

Exhibit 6-02
Forecast Summary for Diagnostic Radiology

| Diagnostic Radiology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 10.62 FTE<br>15,000 exams per FTE | Population per FTE<br>Exams per FTE | 21,200<br>13,000 | 16,900<br>13,500 | 14,286<br>14,500 |
| Minimum on-call | 1 in 4 | | | | |
| Scenario FTEs | Current complement is below the base case benchmark. | If additional specialists and GPs are recruited, the workload will increase above benchmarks. | Increase by 1.52 FTE over the 10-year forecast period. | Increase by 4.61 FTE over 10-year forecast period. | Increase by 7.40 FTE over the 10-year forecast period. |
| Description | All scenarios assume service to Kings County is delivered in Charlottetown. | | | | |
| Program Status | Regional service at QEH and PCH plus centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

The forecast projects an base case increase of 4.61 FTE in diagnostic radiology. Wait times (source: RISPACS) for CT scans, MRIs, and ultrasound are short of targets, as seen in the following graphs:

Exhibit 6-03
CT Wait Times Meeting Target[5]

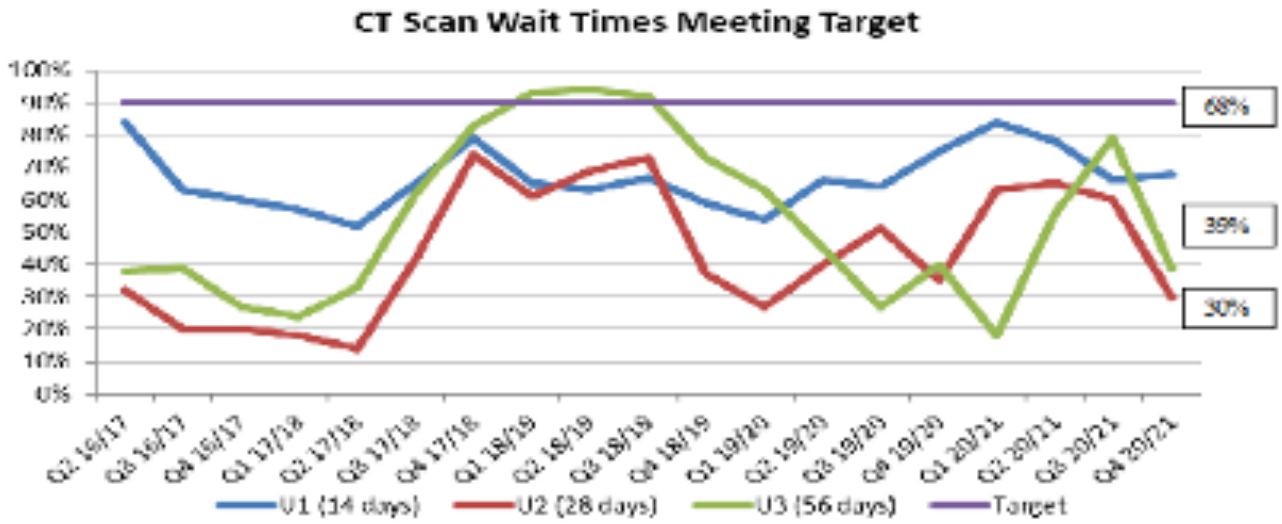
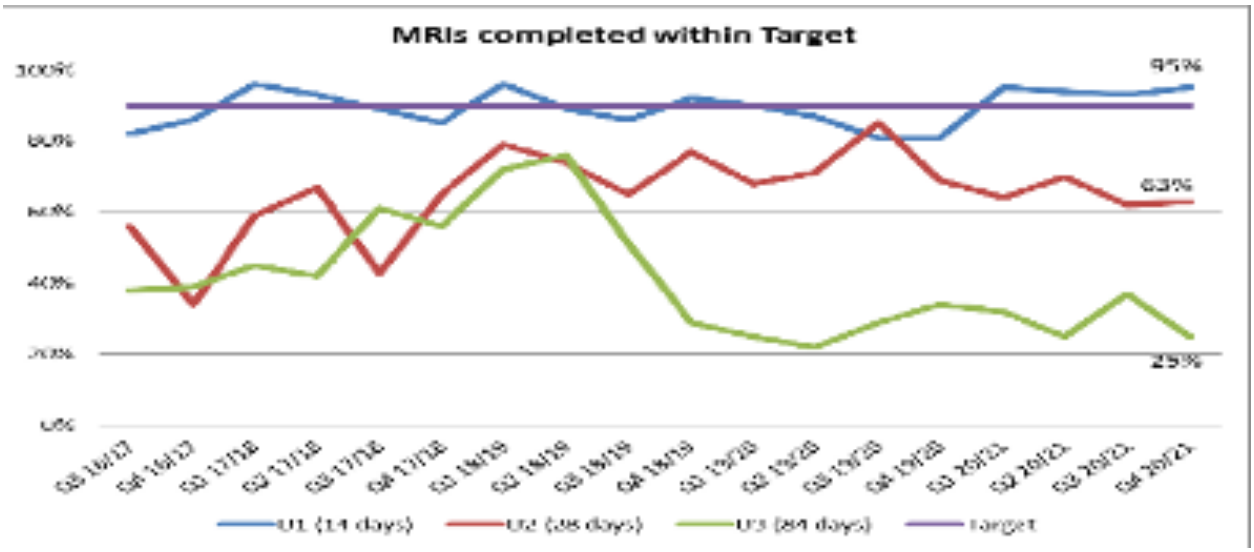


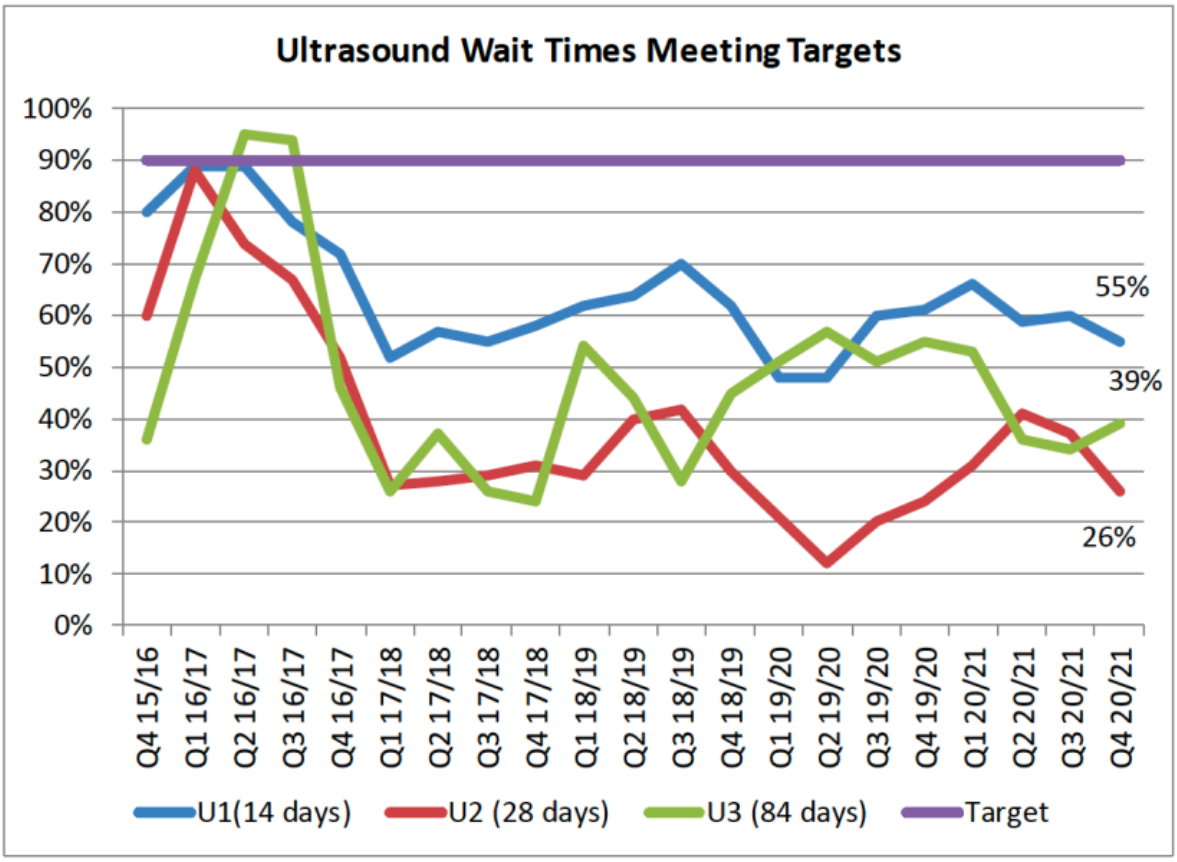

Exhibit 6-04
MRIs Completed Within Target[6]




[5] https://www.prince edwardisland.ca/en/information/health-pei/computed-tomography-ct-wait-times

[6]https://www.prince edwardisland.ca/en/information/health-pei/magnetic-resonance-imaging-mri-wait-times

Exhibit 6-05[7]
Ultrasound Wait Times Meeting Target




[7] https://www.prince edwardisland.ca/en/information/health-pei/ultrasound-wait-times

## 6.3 Radiation Oncology

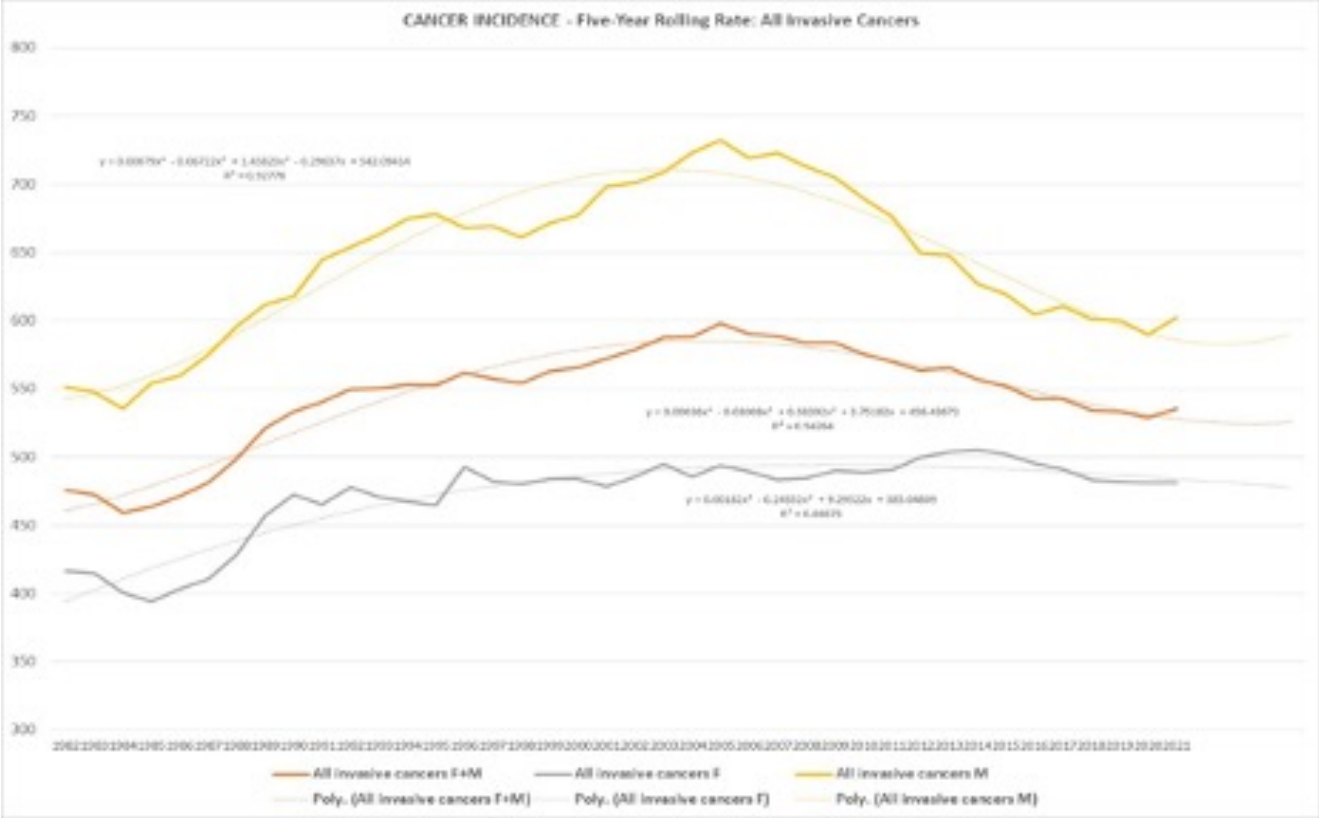
Radiation oncology is accountable to Health PEI through Executive Director of Medical Affairs and the QEH Medical Director. A multidisciplinary treatment team collaborates with the operations manager of the PEI Cancer Treatment Centre and QEH administration. This program targets the quality indicators outlined in Canadian Partnership for Quality Radiotherapy and navigates a cancer control strategy for the province, including health human resource planning. Radiation oncology is a provincial service that manages patients who typically want to stay on the island for radiation therapy

The current approved complement is 2.0 FTE (filled) plus one associate (0.7 FTE), but should be 4.0 FTE or 3.7 FTE. Medical oncology is currently 3.0 FTE and about to become 4.0 FTE. Typically, there is a need for a greater number of radiation oncologists than medical oncologists (because of the protracted patient time that includes consultation, planning, and sessions). The current complement of 5.0 FTE medical physicists is greater than necessary (that many could service 5.0 - 10.0 radiation oncologists).

At capacity, the radiation oncologists are overworked - but also need a critical mass of services. The key difference in a small province like Prince Edward Island is that the radiation oncologists treat all eligible cases of malignant disease.. In larger centres, a radiation oncologist is likely to specialize and focus on two or three different malignancies. Current wait times are good with referral-to-consultation at 9 - 10 days and ready-to-treat to onset-of-treatment at 12 days. Drivers of workload going forward are an aging population and capacity constraint.As well, there is a changing paradigm of care, in particular changing technology. The immediate need from a provincial services plan  is the addition of 1.0 FTE radiation oncologist.

Exhibit 6-06

Incidence (five-year rolling rate) of All Invasive Cancers on Prince Edward Island




PEI Cancer Registry

Exhibit 6-07

Radiation Oncology Wait Time from Referral to Consultation

**Referral Received to Consult with Radiation Oncologist†**

*** All data is reflected in days***

| Quarter | N | Mean (days) | Median (days) | Minimum (days) | Maximum (days) | 90th Percentile (days) | % seen for consult within 14 days |
|---|---|---|---|---|---|---|---|
| **2020/2021** | | | | | | | |
| **Q1 Apr-Jun** | 104 | 7.7 | 6.0 | 0 | 32 | 16.0 | 86% |
| **Q2 Jul-Sep** | 86 | 11.0 | 10.0 | 0 | 31 | 22.0 | 77% |
| **Q3 Oct-Dec** | 103 | 6.9 | 7.0 | 0 | 28 | 15.0 | 88% |
| **Q4 Jan-Mar** | 109 | 9.2 | 7.0 | 0 | 34 | 20.0 | 82% |
| **2019/2020** | | | | | | | |
| **Q1 Apr-Jun** | 97 | 10.2 | 7.0 | 0 | 40 | 24.0 | 79% |
| **Q2 Jul-Sep** | 99 | 13.7 | 11.0 | 0 | 41 | 31.2 | 67% |
| **Q3 Oct-Dec** | 80 | 13.3 | 12.0 | 0 | 38 | 26.2 | 64% |
| **Q4 Jan-Mar** | 90 | 12.3 | 11.0 | 0 | 80 | 23.0 | 67% |
| **2018/2019** | | | | | | | |
| **Q1 Apr-Jun** | 118 | 8.1 | 6.0 | 0 | 66 | 17.0 | 87% |
| **Q2 Jul-Sep** | 87 | 7.6 | 5.0 | 0 | 70 | 15.0 | 89% |
| **Q3 Oct-Dec** | 93 | 10.9 | 8.0 | 0 | 50 | 25.0 | 75% |
| **Q4 Jan-Mar** | 94 | 17.5 | 11.0 | 0 | 154 | 39.0 | 63% |
| **2017/2018** | | | | | | | |
| **Q1 Apr-Jun** | 122 | 6.1 | 4.5 | 0 | 29 | 14.0 | 90% |
| **Q2 Jul-Sep** | 113 | 8.6 | 7.0 | 0 | 29 | 17.0 | 85% |
| **Q3 Oct-Dec** | 99 | 7.1 | 5.0 | 0 | 49 | 17.0 | 86% |
| **Q4 Jan-Mar** | 83 | 5.7 | 4.0 | 0 | 27 | 12.0 | 95% |
| **2016/2017** | | | | | | | |
| **Q1 Apr-Jun** | 83 | 5.1 | 5.0 | 0 | 21 | 10.0 | 94% |
| **Q2 Jul-Sep** | 104 | 8.1 | 7.0 | 0 | 29 | 17.0 | 85% |
| **Q3 Oct-Dec** | 104 | 11.0 | 8.0 | 0 | 36 | 26.0 | 72% |
| **Q4 Jan-Mar** | 120 | 13.0 | 9.0 | 0 | 84 | 22.0 | 64% |

quarterly comparison of radiation therapy referral to consult wait time data.pdf

Exhibit 6-08

Radiation Therapy Wait Time from Ready-to-Treat to Treat

**Radiation Therapy: Ready to Treat to Treat Wait Times**

*** All data is reflected in days***

| Quarter | N | Mean (days) | Median (days) | Minimum (days) | Maximum (days) | 90th Percentile (days) | % performed within 28 days |
|---|---|---|---|---|---|---|---|
| **2020/2021** | | | | | | | |
| Q1 Apr-Jun | 130 | 11.7 | 12.0 | 0 | 50 | 20.1 | 98% |
| Q2 Jul-Sep | 110 | 11.1 | 11.5 | 0 | 29 | 20.0 | 99% |
| Q3 Oct-Dec | 120 | 9.8 | 10.0 | 0 | 28 | 20.0 | 100% |
| Q4 Jan-Mar | 123 | 11.7 | 12.0 | 0 | 27 | 22.0 | 100% |
| **2019/2020** | | | | | | | |
| Q1 Apr-Jun | 133 | 10.8 | 11.0 | 0 | 28 | 21.0 | 100% |
| Q2 Jul-Sep | 132 | 10.7 | 9.0 | 0 | 42 | 21.0 | 98% |
| Q3 Oct-Dec | 115 | 13.5 | 14.0 | 0 | 38 | 26.0 | 96% |
| Q4 Jan-Mar | 128 | 12.1 | 9.5 | 0 | 32 | 24.0 | 97% |
| **2018/2019** | | | | | | | |
| Q1 Apr-Jun | 119 | 8.0 | 7.0 | 0 | 27 | 19.0 | 100% |
| Q2 Jul-Sep | 99 | 10.6 | 10.0 | 0 | 28 | 20.0 | 100% |
| Q3 Oct-Dec | 115 | 11.4 | 11.0 | 0 | 50 | 22.0 | 97% |
| Q4 Jan-Mar | 109 | 12.1 | 11.0 | 0 | 41 | 21.6 | 95% |
| **2017/2018** | | | | | | | |
| Q1 Apr-Jun | 142 | 12.0 | 12.0 | 0 | 40 | 25 | 96% |
| Q2 Jul-Sep | 133 | 14.0 | 13.0 | 0 | 42 | 30.8 | 87% |
| Q3 Oct-Dec | 121 | 11.1 | 10.0 | 0 | 35 | 21.0 | 99% |
| Q4 Jan-Mar | 116 | 9.5 | 9.0 | 0 | 28 | 19.5 | 100% |
| **2016/2017** | | | | | | | |
| Q1 Apr-Jun | 122 | 11.5 | 13 | 0 | 33 | 24 | 98% |
| Q2 Jul-Sep | 123 | 13 | 13 | 0 | 56 | 27.2 | 90% |
| Q3 Oct-Dec | 130 | 14.5 | 15 | 0 | 43 | 20 | 91% |
| Q4 Jan-Mar | 114 | 13.9 | 10 | 0 | 46 | 27 | 90% |
| **2015/2016** | | | | | | | |
| Q1 Apr-Jun | 118 | 12.3 | 13 | 0 | 34 | 24 | 98% |
| Q2 Jul-Sep | 108 | 11.3 | 10.5 | 0 | 35 | 22.3 | 97% |
| Q3 Oct-Dec | 129 | 14.6 | 14 | 0 | 54 | 30.2 | 88% |
| Q4 Jan-Mar | 105 | 12.7 | 13 | 0 | 34 | 27 | 92% |
| **2014/2015** | | | | | | | |
| Q1 Apr-Jun | 111 | 5.5 | 6 | 0 | 36 | 13 | 94% |
| Q2 Jul-Sep | 136 | 22 | 20 | 0 | 47 | 31 | 88% |
| Q3 Oct-Dec | 121 | 11.4 | 11 | 0 | 26 | 22 | 100% |
| Q4 Jan-Mar | 112 | 14.7 | 14 | 0 | 49 | 28 | 92% |
| **2013/2014** | | | | | | | |
| Q1 Apr-Jun | 99 | 14 | 14 | 0 | 34 | 26 | 96% |
| Q2 Jul-Sep | 116 | 15.4 | 15 | 0 | 41 | 29 | 89% |
| Q3 Oct-Dec | 103 | 16.3 | 15 | 0 | 43 | 31.8 | 87% |
| Q4 Jan-Mar | 105 | 12.7 | 14 | 0 | 33 | 25 | 94% |

**Data Source: ARIA**

https://www.princeedwardisland.ca/en/information/health-pei/cancer-treatment-wait-times

Exhibit 6-09
Forecast Summary for Radiation Oncology

| Radiation Oncology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 3.0 FTE<br>1:57,000 population | Population per FTE | 100,000 | 62,250 | 62,250 |
| Minimum on-call | 1 in 3 | | | | |
| Scenario FTEs | Cancer incidence is relatively stable, but people are living longer | | Decrease of 0.8 FTE over the 10-year forecast period | Increase of 1.07 FTE by fiscal year 3 of the 10-year forecast | Increase of 1.46 FTE by fiscal year 3 of the 10-year forecast period |
| Description | All scenarios assume that the service continues as a provincial program. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 6.4 Diagnostic and Therapeutic Specialties Provincial Forecast

### Exhibit 6-10
### Provincial Forecast Summary for Diagnostic and Therapeutic Specialties 2021 - 2022 (F1) to 2031 - 2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 7.20 | (0.8) | 6.50 | 0.74 | 0.57 | 7.05 | (1.8) | 5.35 | 1.02 | 0.24 | 6.61 | 0.00 | 0.00 | 0.00 | 0.00 | 6.61 | (0.6) |
| Diagnostic Radiology | 10.62 | (1.2) | 2.04 | 0.37 | 0.98 | 2.23 | 5.26 | 15.89 | 3.06 | 0.68 | 19.62 | 0.00 | (4.4) | 0.00 | (4.4) | 15.23 | 4.61 |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.65 | 1.65 | 0.31 | 0.07 | 2.04 | 0.00 | 0.00 | 0.00 | 0.00 | 2.04 | 2.04 |
| Hematological Pathology | 1.00 | (0.1) | 0.15 | 0.03 | 0.09 | 0.15 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.20 | (0.0) | 0.02 | 0.01 | 0.02 | 0.05 | 0.00 | 0.20 | 0.04 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.05 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 3.00 | (0.3) | 0.22 | 0.06 | 0.28 | 0.23 | 0.29 | 3.29 | 0.63 | 0.15 | 4.07 | 0.00 | 0.00 | 0.00 | 0.00 | 4.07 | 1.07 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | 22.02 | (2.4) | 8.94 | 1.21 | 1.94 | 9.71 | **5.36** | **27.38** | **5.25** | **1.19** | **33.83** | **0.00** | **(4.4)** | **0.00** | **(4.4)** | **29.43** | **7.41** |

# Emergency Medicine

7

QEH is funded for 14.0 FTE emergency medicine physicians (including part-time physicians, the complement is 18.0 FTE physicians). PCH has about 2/3 of the QEH volumes and about 1/2 the number of emergency medicine physicians. KCMH is open only from 8:00 to 20:00 then closed overnight (also closes intermittently because of a nursing shortage). Western is open from 08:00 to 22:00. Currently, there is no provincial program lead.

The core problem is staffing (both nurses and GPs). Most QEH CTAS scores are 2 to 4 and, frequently, the frail and complex elderly (less trauma and less critical care). QEH can have 20 admitted patients held in ED at any one time.

The best elements of emergency department care are:

- Interprofessional relationships and support
- Interactions with consultants
- Space
- EMR for documentation
- Good general and orthopaedic surgical coverage

The most challenging elements of emergency department care are:

- Need to expand to online ordering
- Nursing shortage
- Change the culture to improve patient flow

The drivers of workload over the ten forecast years are system changes in Prince Edward Island, increasing aging and frail population, and a significant shortage of primary care providers.

A summary assessment of other disciplines interacting with emergency department care is , as follows:

- Vascular surgery (will continue to be referred off Island)
- Neurosurgery (will continue to be off Island)
- Much acute cardiac care is "drip and ship" to Saint John (90%) and Halifax (10 %)
- Obstetrics and Gynaecology is improving

- PCH struggles with many, especially General Surgery and Anesthesia
- Otolaryngology reasonable
- Plastic surgery reasonable

Two methodologies can define the model of care for the emergency department (ED) and emergency department physicians (EP), excluding other health professions such as nurse practitioners. The first is based upon the current roster of physicians as sourced from Health PEI and includes all payments (sessional, fee-for-service, on-call stipend) from which an FTE is calculated. The second uses comprehensive benchmark data from a detailed study of ED and EP workload in British Columbia, Alberta, and Saskatchewan for departments with greater than 13,400 visits per annum (equates to 1.5 visits per hour). This benchmark study yielded two key values, the number of ED visits per hour and the number of EP hours per 1.0 FTE. The benchmark of ED visits per EP paid hours of service was 2.3 visits per EP hour in the low case scenario, 2.1 visits per EP hour in the base case scenario, and 1.9 visits per EP hour in the high case scenario. The number of EP hours per 1.0 FTE was 1,440 in the low case scenario, 1,340 in the base case scenario, and 1,296 in the high case scenario. The number of hours per 1.0 EP FTE was only critical if the EP was paid by a service contract based on hours per FTE. Otherwise, the actual hours worked by EPs compensated by sessional payments varied widely.

Exhibit 7-01
Benchmarking Data for Emergency Physicians

| Criteria | Scenarios | | |
|---|---|---|---|
| | Low Case | Base Case | High Case |
| Patients per Emergency Physician Hour | 2.1 | 2.0 | 1.9 |
| Average Hours per Emergency Physician FTE | 1,440 | 1,340 | 1,296 |

These benchmarks were compared to Canadian Triage and Acuity Scale (CTAS) volumes by the emergency departments at QEH and PCH (FTE data were not available for Western and KCMH emergency departments). The QEH patients per emergency physician hour was 1.80 in 2021, which is below the three scenario benchmarks in Exhibit 7-01, so no benchmark adjustments were made.The corresponding data at PCH was 1.81 patients per emergency physician hour.

Exhibit 7-02

Emergency Department Visits by CTAS, Approved FTEs, Hours, and Visits per Hour

| Year / Facility | CTAS 1 | CTAS 2 | CTAS 3 | CTAS 4 | CTAS 5 | CTAS N/A | Total | FTE | Hours | Visits per hour |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 | | | | | | | | | | |
| QEH | 495 | 12,331 | 21,265 | 15,504 | 1,431 | 479 | 51,505 | 19.77 | 26,492 | 1.94 |
| PCH | 218 | 2,961 | 11,545 | 10,757 | 1,809 | 469 | 27,759 | 9.97 | 13,359 | 2.08 |
| WH | 6 | 610 | 3,719 | 9,653 | 514 | 316 | 14,818 | n/a | n/a | n/a |
| KCMH | 13 | 1781 | 8,304 | 10,317 | 1,496 | 499 | 22,430 | n/a | n/a | n/a |
| Total | 752 | 17,683 | 44,833 | 46,231 | 5,250 | 1,763 | 116,512 | | | |
| 2020 | | | | | | | | | | |
| QEH | 491 | 10,940 | 18,346 | 13,316 | 1,607 | 784 | 45,484 | 19.97 | 26,492 | 1.72 |
| PCH | 180 | 2,541 | 9,494 | 8,662 | 1,448 | 622 | 22,947 | 9.97 | 13,359 | 1.72 |
| WH | 2 | 605 | 3,433 | 7,505 | 665 | 675 | 12,885 | n/a | n/a | n/a |
| KCMH | 19 | 1,866 | 7,507 | 7,735 | 1,392 | 472 | 18,991 | n/a | n/a | n/a |
| Total | 692 | 15,952 | 38,780 | 37,218 | 5,112 | 2,553 | 100,307 | | | |
| 2021 | | | | | | | | | | |
| QEH | 480 | 12,053 | 19,077 | 13,917 | 1,694 | 555 | 47,776 | 19.97 | 26,492 | 1.80 |
| PCH | 209 | 2,690 | 9,685 | 9,464 | 1,701 | 441 | 24,190 | 9.97 | 13,359 | 1.81 |
| WH | 19 | 927 | 3,900 | 7,358 | 1,308 | 67 | 13,579 | n/a | n/a | n/a |
| KCMH | 49 | 2,534 | 8,735 | 8,569 | 1,647 | 298 | 21,832 | n/a | n/a | n/a |
| Total | 757 | 18,204 | 41,397 | 39,308 | 6,350 | 1,361 | 107,377 | | | |

| Year<br>Facility | CTAS 1 | CTAS 2 | CTAS 3 | CTAS 4 | CTAS 5 | CTAS N/A | Total | FTE | Hours | Visits per hour |
|---|---|---|---|---|---|---|---|---|---|---|
| Change | | | | | | | | | | |
| QEH | (3.0%) | (2.3%) | (10.3%) | (10.2%) | 18.4% | 15.9% | (7.2%) | | | |
| PCH | (4.1%) | (9.2%) | (16.1%) | (12.0%) | (6.0%) | (6.0%) | (12.9%) | | | |
| WH | 216.7% | 52.0% | 4.9% | (23.8%) | 154.5% | (78.8%) | (8.4%) | | | |
| KCMH | 48.5% | 42.3% | 5.2% | (16.9%) | 10.1% | (40.3%) | (2.7%) | | | |
| Total | 0.7% | 2.9% | (7.7%) | (15.0%) | 21.0% | (22.8%) | (7.8%) | | | |

ED Visits by CTAS: HPEI, CIS Firstnet

The difficulty with the preceding analysis is that the roster FTE of physicians, as calculated by payment data, may be over- or under-stated when compared to the actual number of EP FTE. Consequently, the shortfall (actual FTEs being less than forecast required FTE) in the forecasting model for low, base, and high case scenarios may under- or over-state the actual FTEs and therefore over- or under-state the pool of family physicians available for community family practice. The net result when pooling family practice and ED EP family practice is the same, but attempts to split the two services, as done in the forecast model, must be interpreted with the caution.

Exhibit 7-03
Forecast Summary for Emergency Medicine

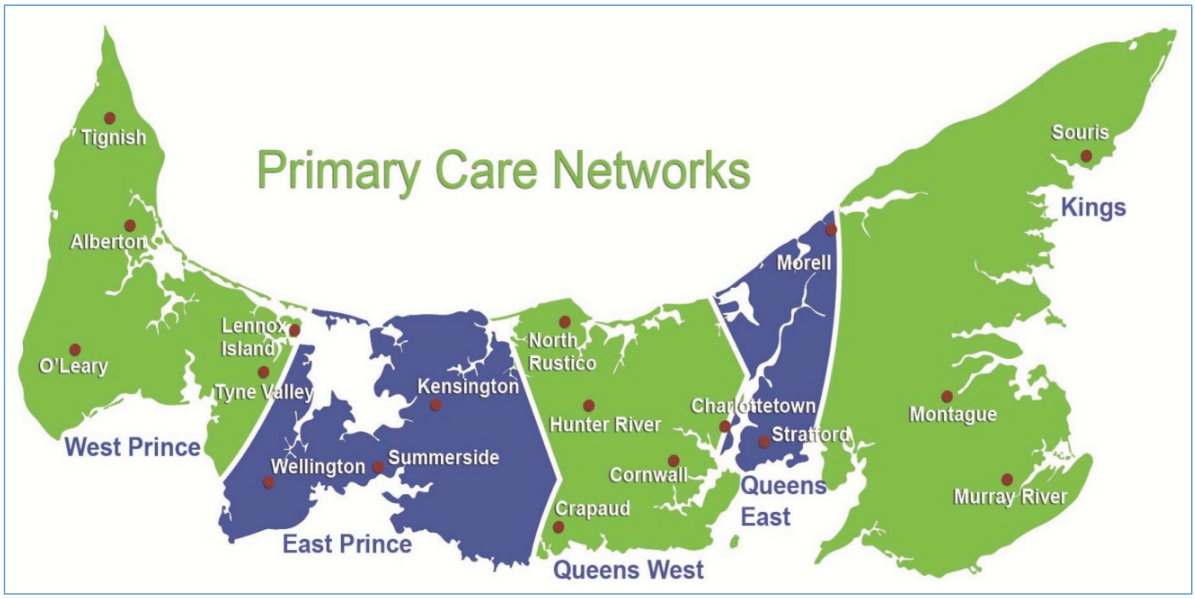
| Emergency Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 33.59 FTE | Visits per EP hour | 2.1 | 2.0 | 1.9 |
| Scenario FTEs | Current approved complement at QEH and PCH is under pressure and requires an increase in FTE per the base case | | Increase of 4.22 FTE over the 10-year forecast period | Increase of 7.33 FTE for weighted population growth and burden of illness over the 10-year forecast period | Increase of 9.77 FTE over the 10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal | | | | |
| Program Status | Provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

# 8 Primary Health Care

Exhibit 8-01
Context of Modernizing Primary Care


Modernizing Primary Care on Manitoba 2021

Exhibit 8-02
Primary Care Networks




A primary care setting is traditionally the first place that individuals seek care for their non-urgent healthcare needs. Participants in Canadian healthcare are clearly supportive of the essential role of comprehensive primary care in an effective health system. Governments, commissions, and professional associations have each contributed to the collective value systems and statements that underpin this common understanding.

In recent years, there has been a shift away from "traditional" family medicine in urban settings and the practice has become more specialized. In rural settings, however, a general practitioner still typically provides a broad, comprehensive suite of services. This is one factor among many that have posed challenges for patients accessing services in a timely manner. Governments have responded with different approaches, frequently associated under the banner of "primary care reform." These approaches have included reforms to service delivery (group practice models, integrated allied health professionals) and physician compensation, in an attempt to improve quality of and access to care.

While the College of Family Physicians of Canada (CFPC) strategic plan emphasizes access to comprehensive, continuous care in a family practice setting as the cornerstone of quality health, others have commented that, because of the fragmentation of primary care, comprehensive care as an ongoing characteristic may not be achievable or realistic.

Initiatives focused on strengthening primary care services continue to be developed and implemented across Canada. A significant challenge is posed through the implementation of new care models in parallel with the creation of new funding models. It has been observed that some care models can increase physician

compensation substantially. In some jurisdictions, however, patients' access to services has been reported by many to be in decline despite the success of programs requiring a rostering between patients and a provider.

In recent years, there has been an observed dissolution of the homogeneity of family physician practice in urban settings. The traditionally understood role of a family physician in the community has been on the decline with the emergence of more customized primary care practice models in providing comprehensive care to patients. Urban family physicians have long been withdrawing from the provision of services in an acute setting, eliminating emergency department service, surgical assisting, and the management of hospital inpatients. As models of care across the continuum evolve, so too, will the roles of primary care physicians.

In rural communities, family physicians tend to deliver a more comprehensive service offering, as the smaller populations in these communities cannot reasonably support a high number of individual physicians to meet their care needs.

It is a common refrain - "we need more family doctors." Evidence provided in the Environmental Scan demonstrates that this is not uniform across the country and is not likely to generate solutions within healthcare systems. As well, simple head counts do not reveal full-time equivalency, hours of work, or effective productivity. As well, these numbers must stand against an aging population.

There will be a much greater return on investment if the focus switches to models of care, particularly primary care collaborative centres.

## Key Points for Prince Edward Island

- Prince Edward Island's "medical home" and "medical neighbourhood" were conceptualized to emphasize the provision of accessible continuity of care through the life cycle provided in collaboration with other health, social, and community services
- The Primary Care Road Map[8] is a very solid foundation for advancing and transforming primary care
- Across Canadian jurisdictions, the aggregate rate of growth in family physicians exceeds significantly the growth in the population - this suggests that "more" is not necessarily the answer
- From 2017 to 2021, Prince Edward Island was one of five provinces where the number of family doctors per 100,000 population was lower than the Canadian average of 124:
    - Alberta 122
    - Ontario 116
    - Prince Edward Island 113

[8] Prince Edward Island 2021

  - Manitoba 109
  - Saskatchewan 106
- Of those five provinces lower than the Canadian average, Prince Edward Island was the only one that demonstrated an upswing in 2021
- The percentage of family doctors in the younger age cohorts is similar across the country
- The percentage of family doctors in the older age cohorts is greater in Prince Edward Island, New Brunswick, and Quebec

## Collaborative Team-Based Care

Key to addressing the health and social services needs of residents of Prince Edward Island are collaborative and team-based care.[9] Collaborative care is central to workforce and clinical services planning, with a substantial and sustained impact on primary care and outcomes. Collaborative care teams can be described as:

- Multiple healthcare providers that bring separate and shared knowledge together to support a comprehensive range of high quality, effective healthcare services
- Multiple healthcare providers from different professional backgrounds working together and with patients/clients, families, caregivers, and communities to deliver comprehensive health services across care settings[10]
- Healthcare teams take many forms, ranging from emergency operating teams to geographically distributed teams that provide ambulatory care; responsibilities may be focused and brief or broad and long-term; the diverse mix of professional backgrounds delivers optimal care that is based on need or the community being served; a high-performing team creates a more comprehensive, coordinated, and effective care delivery system that is patient-centred; team-based care improves the comprehensiveness, coordination, and efficiency of a practice[11]

**Collaboration is the centrepiece of most, if not all, models of care and delivery that can address many of the challenges faced in Prince Edward Island**. There is strong support for the conceptual "medical home" and multidisciplinary, collaborative care, but it has not achieved its potential - has been piecemeal and under-resourced. The main rate-limiting step is education so that providers better understand the model. There is acceptance of non-referred care where the physician is not necessarily seen first. There is a strong consensus in

[9] This has already been initiated with the Patient Medical Home and collaborative care in Prince Edward Island

[10] BC Patient Safety and Quality Council, 2022

[11] Team-Based Care in the Patient's Medical Home, College of Family Physicians of Canada, 2022

Prince Edward Island that the term "medical home" requires change as it originated at the College of Family Physicians of Canada and focuses on "medical" rather than multidisciplinary, collaborative care with a shared responsibility for quality. This risks perpetuating a medical model that is not patient-centred.

As the model evolves and expands, consideration should be given to re-naming the primary care model in Prince Edward Island as "Primary Collaborative Care Centre" (PCCC). The providers in a PCCC will vary as the model and its funding are not "cookie cutter" but will adapt to its setting. Initial support appears strongest to implement non-referred care and to include some combination of the following providers:[12]

- Navigational front-desk
- Nurse Practitioner
- Licensed Practical Nurse
- Primary Care Nurse
- Family Physician
- Physician Assistant
- Mental Health Counselor
- Physiotherapist
- Dietitian
- Diabetic Educator

[12] Less support was evident (but not absolute) to include Social Work, Clinical Psychologist, and Pharmacist - noted that Occupational Therapist is already embedded in Home Care

## 8.1 Disease Incidence and Prevalence

The incidence and prevalence of disease trends is central to the need for primary care providers. In some cases, disease incidence is declining but prevalence is increasing as the population ages and more people live longer.

**Heart disease:** The age-standardized incidence rate of acute myocardial infarction, age 20 and older, is in decline from 350 per 100,000 in 2000 to 216 per 100,000 in 2016. The age-standardized prevalence rate of heart failure per 100,000 age 40 and older is relatively constant at 3.1% in 2000 to 2.96% in 2016. Hypertension, excluding gestational hypertension, age-standardized incidence rate per 100,000 age 20 and over has been in decline from 3,600 in 2000 to 2,000 in 2016. Ischemic heart disease age-standardized prevalence rate age 20 and older has been constant at 6.1% in 2000 and 6.11% in 2016.

**Cancer:** The incidence of new cancer cases has increased from 670 in 2002 to 1,020 in 2021 for an annual increase of 2.7%.

**Diabetes:** The age-standardized prevalence of diabetes mellitus (types combined), excluding gestational diabetes, in those age 1 and older is trending upward at 5% in 2000 and 7.86% in 2016. The age-standardized incidence of diabetes mellitus (types combined), excluding gestational diabetes, in those age 1 and older is trending upward slightly at 650 per 100,000 in 2000 and 708 per 100,000 in 2016.

**Nervous system:** The age-standardized incidence rate of stroke, age 20 and older, is in decline from 500 per 100,000 in 2000 to 353 in 2016. Dementia, including Alzheimer disease, age-standardized prevalence rate, age 65 and older, is increasing from 3.9% in 2000 to 5.86% in 2016.

**Respiratory system:** The age-standardized prevalence rate of asthma, age 1 year and older, is trending upward from 7.2% in 2000 to 11.46% in 2016. The age-standardized prevalence rate of chronic obstructive pulmonary disease (COPD) is trending upward from 5.5% in 2000 to 9.92% in 2016.

**Skeletal system:** The age-standardized prevalence rate of osteoarthritis, age 20 and older, is trending upward slowly from 12% in 2000 to 12.81% in 2016. The age-standardized prevalence rate of rheumatoid arthritis, age 20 and older, is relatively constant at 0.75% in 2000 and 0.8% in 2016. The age-standardized prevalence rate of osteoporosis, age 40 and older, is trending upward from 2.5% in 2000 to 7.19% in 2016.

**Mental health:** The perceived mental health, fair/poor age-standardized rate for adults of both sexes in PEI is 6.5% which is not significantly different from the national average of 7.1%. The mood disorders age-standardized rate for adults of both sexes in PEI is 9.4% which is not significantly different from the national average of 8.9%. The use of health services for mental illness and alcohol/drug induced disorders (annual) age-standardized prevalence in PEI has been trending upward since 2000 (14%) and sits at 18.4% in 2016. The use of health services for mood and anxiety disorders (annual), age-standardized prevalence in PEI has been

trending upward since 2000 (9.8%) and sits at 12.76% in 2016. Schizophrenia prevalence has remained constant at about 0.32% of the population over the period 2000 to 2016.

**Other conditions:** the prevalence of overweight (self-reported, adjusted BMI) among those age 18 and older is 37.8% in PEI in the period 2015 to 2018 and 35.7% nationally. The obesity prevalence (self-reported, adjusted BMI) among those age 18 and older is 32.5% in PEI in the period 2015 to 2018 and 26.6% nationally. Hypertension, excluding gestational hypertension, age-standardized prevalence rate age 20 and over has been slowly trending upward from 20% in 2000 to 24.42% in 2016. Islanders perceived health status is higher than the national average and higher than most provinces.

## 8.2 Ten-Year Forecast

The following exhibit summarizes the family physician base case forecasts by special interests and expertise. General practice sees an overall increase of 39.17 FTE (col. 17) over the ten-year forecast period. This increase is net of a reduction of (27.3) FTE due to implementation of the model of care (MOC) for primary health care teams. The next subsection describes in detail what the MOC for primary health care teams entails but in general terms introduction of nurse practitioners, along with other allied health professionals, allows the primary health care system to gradually shift, over time, from a physician -centric MOC to a team-centric MOC.

Exhibit 8-03
Provincial Forecast Summary for Family Medicine2021 - 2022 (F1) to 2031 - 2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| *base CASE SCENERIO* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *WORKFORCE RESOURCE VARIABLES* | | | | *HEALTH SYSTEM PLANNING RELATED VARIABLES* | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Family Medicine | 1.08 | (0.0) | 0.10 | 0.02 | 0.10 | 0.17 | 0.00 | 1.08 | 0.21 | 0.04 | 1.33 | 0.00 | 0.00 | 0.00 | 0.00 | 1.33 | 0.25 |
| General Practice | 101.54 | (11.7) | 46.32 | 6.54 | 8.67 | 49.79 | 34.45 | 135.99 | 26.19 | 5.81 | 167.99 | (27.3) | 0.00 | 0.00 | (27.3) | 140.71 | 39.17 |
| Family Medicine (CAC)-Addiction Medici | 1.00 | (0.1) | 2.92 | 0.37 | 0.04 | 3.22 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Family Medicine (SI)-Child and Adolescer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 2.50 | (0.3) | 1.49 | 0.17 | 0.21 | 1.61 | 0.00 | 2.50 | 0.48 | 0.11 | 3.09 | 0.00 | 0.00 | 0.00 | 0.00 | 3.09 | 0.59 |
| Family Medicine (SI)-Critical Care Associa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice A | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Can | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of th | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 15.21 | (1.6) | 3.69 | 0.64 | 1.35 | 4.04 | 0.00 | 15.21 | 2.93 | 0.65 | 18.79 | 0.00 | 0.00 | 0.00 | 0.00 | 18.79 | 3.58 |
| Family Medicine (CAC)-Obstetrical Surgic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 2.00 | (0.2) | 0.87 | 0.11 | 0.18 | 0.93 | 0.00 | 2.00 | 0.38 | 0.09 | 2.47 | 0.00 | 0.00 | 0.00 | 0.00 | 2.47 | 0.47 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicir | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercis | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **123.33** | **(14.0)** | **55.39** | **7.84** | **10.54** | **59.76** | **34.45** | **157.78** | **30.38** | **6.74** | **194.91** | **(27.3)** | **0.00** | **0.00** | **(27.3)** | **167.63** | **44.30** |

## 8.3 Collaborative Care

The following figures illustrate the modeling conducted to calculate the population to be rostered with primary healthcare teams and the conversion of GP FTE's to nurse practitioners enabling the expansion of primary healthcare delivery, an increase in collaborative teams, and the integration of primary healthcare teams into each targeted community.

The MOC for primary healthcare envisages rostering by patients with a PHC team. Row 9 sees the gradual and planned increase in rostering over the ten-year base case forecast to a total of 92,250 people. Each PHC team would be responsible for 10,000 patients and each team would include 5.5 GPs (1:1,000), 6 NPs (1:750), 1 pharmacist, 1 dietitian, 0.5 social worker, and 1.0 mental health counselor. Significant forecast growth for physiotherapy and RNs (primary care nurses) allows for the addition of these professions to the MOC as each rostered PHC takes shape. The rostering and formulation of each PHC team will take time and cannot occur without the allied health professions in place from the outset of the rostering. In other jurisdictions, such as Nova Scotia, the shift to PHC teams has occurred without the essential allied health professions being in place from the outset. This has led to increased population without a primary care provider. There are approximately twelve seats per year for the Nurse Practitioner program at UPEI (confirmed with UPEI NP Program representative). As part of the Nursing Resource Strategy for New Brunswick, the University of New Brunswick recently doubled the number of seats in the NP program from ten to twenty commencing fall, 2023[1] (also confirmed with UNB NP Program representative). The Dalhousie NP Program has twenty seats per annum. PHC reform has made NP's in high demand and recruiting NP's is very competitive as a result.

The following exhibits can be interpreted as follows:

- **Row 1/2**- Forecast years from F0 (2021/22) to F10 (2031/32)
- **Row 3** – Beginning year balance of GP FTE's delivering community primary care (excludes special interest GPs)
- **Row 4** – Annual replacement (for migration, aging, gender shift, and death) FTE recruitment to maintain current FTE complement
- **Row 5** – Annual recruitment required to meet both replacements needs and growth
- **Row 6** - Impact of expanded PHC team implementation
- **Row 7** – Ending year balance of GP FTE's delivering community primary care (net of increase in NP's/ PA's)
- **Row 8** – Population per net GP FTE (excluding Special Interest GP FTE)
- **Row 9** – Annual projected population enrolment in PHC teams

- **Row 10** - General Practitioner FTE increase
- **Row 11** – Nurse Practitioner FTE cumulative increase
- **Row 12** – Pharmacist FTE cumulative increase
- **Row 13** – Dietitian FTE cumulative increase
- **Row 14** - Psychologist/Counselor FTE cumulative increase
- **Row 15** – Social Worker FTE cumulative increase
- **Row 16** – Blank
- **Row 17** – Population enrolment to PHC teams per annum
- **Row 18** – Nurse Practitioner FTE increase per annum

Exhibit 8-04

Base Case Scenario - MOC for Population Rostering to Teams and Conversion from GP to NP

**BASE CASE SCENARIO**

| | a | b | c | d | e | f | g | h | i | j | k | l | m | n |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BASE CASE - GP Physician Extender | | T0 | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | 10-Yr |
| 2 | ELEMENT | NOTE | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | Change |
| 3 | FTE | Beginning GP FTE | 102 | 102 | 103 | 106 | 109 | 112 | 115 | 119 | 124 | 129 | 135 | |
| 4 | Less: | Replacement Needs | | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (55) |
| 5 | Plus: | Recruitment *(replacement plus growth)* | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 72 |
| 6 | Less: | Impact of expanded PHC team implementation | | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 22 |
| 7 | Net: | Ending GP FTE [1] | 101.5 | 103.4 | 106.0 | 108.8 | 111.8 | 115.2 | 119.1 | 123.7 | 128.9 | 134.6 | 140.9 | 39.4 |
| 8 | | POPULATION PER NET GP FTE (excluding Special Interest GP FTE) | 1,685 | 1,688 | 1,680 | 1,668 | 1,652 | 1,631 | 1,603 | 1,603 | 1,603 | 1,603 | 1,600 | (5.3%) |
| 9 | KEY DRIVER - 1GP+1NP per 1,850 pop. | Population 'enrollment' [2] | Cummulative | 0 | 12,300 | 18,450 | 24,600 | 30,750 | 43,050 | 55,350 | 67,650 | 79,950 | 92,250 | 92,250 |
| 10 | | General Practitioner FTE | Cummulative | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 |
| 11 | | Nurse Practitioners | Cummulative | 0 | 6 | 9 | 12 | 15 | 21 | 27 | 33 | 39 | 45 | 45 |
| 12 | | Pharmacist | Cummulative | 0.0 | 1.8 | 2.7 | 3.6 | 4.5 | 6.3 | 8.1 | 9.8 | 11.6 | 13.4 | 13.4 |
| 13 | | Dietician | Cummulative | 0.0 | 1.8 | 2.7 | 3.6 | 4.5 | 6.3 | 8.1 | 9.8 | 11.6 | 13.4 | 13.4 |
| 14 | | Psychologist/Counselor | Cummulative | 0.0 | 1.8 | 2.7 | 3.6 | 4.5 | 6.3 | 8.1 | 9.8 | 11.6 | 13.4 | 13.4 |
| 15 | | Social Worker | Cummulative | 0.0 | 0.9 | 1.3 | 1.8 | 2.2 | 3.1 | 4.0 | 4.9 | 5.8 | 6.7 | 6.7 |
| 16 | | | | | | | | | | | | | | |
| 17 | Growth | Population 'enrollment' | Annual | 0 | 12,300 | 6,150 | 6,150 | 6,150 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 92,250 |
| 18 | Growth | Nurse Practitioner | Annual | 0 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 45 |
| 19 | *NOTES:* | | [1] Excludes 15.0 added FTE for benchmarking | | | | | | | | | | | |
| 20 | | | [2] Patients formally rostering with a Primary Care Collaborative Team Practice | | | | | | | | | | | |

In the Low Case Scenario (Exhibit 8-05), Row 9 reveals the gradual planned increase in rostering over the ten-year base case forecast to a total of 61,500 people and the recruitment of 30 NPs (see Row 11). In the High Case Scenario (Exhibit 8-06, Row 9 sees the gradual planned increase in rostering over the ten-year base case forecast to a total of 110,700 people with the recruitment of 54 NPs (see Row 11).

# Exhibit 8-05

## Low Case Scenario - MOC for Population Rostering to Teams and Conversion from GP to NP

**LOW CASE SCENARIO**

| | a | b | c | d | e | f | g | h | i | j | k | l | m | n |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LOW CASE - GP Physician Extender | | T0 | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | 10-Yr |
| 2 | ELEMENT | NOTE | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | Change |
| 3 | FTE | Beginning GP FTE | 102 | 102 | 104 | 107 | 110 | 112 | 115 | 117 | 120 | 122 | 125 | |
| 4 | Less: | Replacement Needs | | (5) | (5) | (5) | (5) | (5) | (5) | (5) | (5) | (5) | (5) | (49) |
| 5 | Plus: | Recruitment *(replacement plus growth)* | | 8 | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 74 |
| 6 | Less: | Impact of expanded PHC team implementation | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Net: | Ending GP FTE [1] | 101.5 | 104 | 107 | 110 | 112 | 115 | 117 | 120 | 122 | 125 | 127 | 25 |
| 8 | | POPULATION PER NET GP FTE (excluding Special Interest GP FTE) | 1,685 | 1,673 | 1,662 | 1,652 | 1,668 | 1,685 | 1,702 | 1,719 | 1,736 | 1,753 | 1,780 | 5.3% |
| 9 | KEY DRIVER - 1GP+1NP per 1,850 pop. | Population 'enrollment' [2] | Cummulative | 0 | 12,300 | 18,450 | 24,600 | 30,750 | 36,900 | 43,050 | 49,200 | 55,350 | 61,500 | 61,500 |
| 10 | | General Practitioner FTE | Cummulative | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | | Nurse Practitioners | Cummulative | 0 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 30 |
| 12 | | Pharmacist | Cummulative | 0.0 | 1.9 | 2.8 | 3.8 | 4.7 | 5.6 | 6.6 | 7.5 | 8.5 | 9.4 | 9.4 |
| 13 | | Dietician | Cummulative | 0.0 | 1.9 | 2.8 | 3.8 | 4.7 | 5.6 | 6.6 | 7.5 | 8.5 | 9.4 | 9.4 |
| 14 | | Psychologist/Counselor | Cummulative | 0.0 | 1.9 | 2.8 | 3.8 | 4.7 | 5.6 | 6.6 | 7.5 | 8.5 | 9.4 | 9.4 |
| 15 | | Social Worker | Cummulative | 0.0 | 0.9 | 1.4 | 1.9 | 2.3 | 2.8 | 3.3 | 3.8 | 4.2 | 4.7 | 4.7 |
| 16 | | | | | | | | | | | | | | |
| 17 | Growth | Population 'enrollment' | Annual | 0 | 12,300 | 6,150 | 6,150 | 6,150 | 6,150 | 6,150 | 6,150 | 6,150 | 6,150 | 61,500 |
| 18 | Growth | Nurse Practitioner | Annual | 0 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 30 |
| 19 | *NOTES:* | | [1] Excludes 15.0 added FTE for benchmarking | | | | | | | | | | | |
| 20 | | | [2] Patients formally rostering with a Primary Care Collaborative Team Practice | | | | | | | | | | | |

# Exhibit 8-06

## High Case Scenario - MOC for Population Rostering to Teams and Conversion from GP to NP

**HIGH CASE SCENARIO**

| | a | b | c | d | e | f | g | h | i | j | k | l | m | n |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HIGH CASE - GP Physician Extender | | T0 | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | 10-Yr |
| 2 | ELEMENT | NOTE | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | Change |
| 3 | FTE | Beginning GP FTE | 102 | 102 | 104 | 108 | 111 | 116 | 120 | 125 | 131 | 137 | 144 | |
| 4 | Less: | Replacement Needs | | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (6) | (55.4) |
| 5 | Plus: | Recruitment *(replacement plus growth)* | - | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 80.5 |
| 6 | Less: | Impact of expanded PHC team implementation | | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 24.0 |
| 7 | Net: | Ending GP FTE [1] | 102 | 104 | 108 | 111 | 116 | 120 | 125 | 131 | 137 | 144 | 151 | 49 |
| 8 | | POPULATION PER NET GP FTE (excluding Special Interest GP FTE) | 1,685 | 1,673 | 1,654 | 1,628 | 1,597 | 1,562 | 1,522 | 1,515 | 1,507 | 1,499 | 1,480 | (13.8%) |
| 9 | KEY DRIVER - 1GP+1NP per 1,850 pop. | Population 'enrollment' [2] | Cummulative | 0 | 12,300 | 24,600 | 36,900 | 49,200 | 61,500 | 73,800 | 86,100 | 98,400 | 110,700 | 110,700 |
| 10 | | General Practitioner FTE | Cummulative | 0 | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) | (5) | (5) |
| 11 | | Nurse Practitioners | Cummulative | 0 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 54 |
| 12 | | Pharmacist | Cummulative | 0.0 | 1.8 | 3.6 | 5.4 | 7.2 | 8.9 | 10.7 | 12.5 | 14.3 | 16.1 | 16.1 |
| 13 | | Dietician | Cummulative | 0.0 | 1.8 | 3.6 | 5.4 | 7.2 | 8.9 | 10.7 | 12.5 | 14.3 | 16.1 | 16.1 |
| 14 | | Psychologist/Counselor | Cummulative | 0.0 | 1.8 | 3.6 | 5.4 | 7.2 | 8.9 | 10.7 | 12.5 | 14.3 | 16.1 | 16.1 |
| 15 | | Social Worker | Cummulative | 0.0 | 0.9 | 1.8 | 2.7 | 3.6 | 4.5 | 5.4 | 6.3 | 7.2 | 8.1 | 8.1 |
| 16 | | | | | | | | | | | | | | |
| 17 | Growth | Population 'enrollment' | Annual | 0 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 12,300 | 110,700 |
| 18 | Growth | Nurse Practitioner | Annual | 0 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 54 |
| 19 | *NOTES:* | | [1] Excludes 15.0 added FTE for benchmarking | | | | | | | | | | | |
| 20 | | | Patients formally rostering with a Primary Care Collaborative Team Practice | | | | | | | | | | | |

# 9 Medical Services

Many internists spend half or more of their time doing a functional specialty . There are 14.0 FTE internists in Charlottetown - 2.0 FTE cardiology, 2.0 FTE respirology, 2.0 FTE gastroenterology, 7.0 FTE general internal medicine, and 1.0 FTE rheumatology. There are 3.0 FTE nephrologists but they do not take medicine on-call. There are 3.0 FTE neurologists, but they also do not take medicine on-call. One neurologist is retiring soon and one in two years. New internal medicine graduates tend not to provide critical care services, which has become a significant issue forPrince Edward Island. Consultation wait times are decent but follow-up visits are difficult to schedule. PCH is in a state of flux - currently, more and more consultations being referred to QEH. PCH has four FTE (3.0 FTE GIM and 1.0 FTE respirology). An imminent gap is the departure of the GIM/endocrinologist.

Exhibit 9-01
Hospital Beds (excluding LTC) per 1,000 Population by Province 2020 (CIHI 2020)

| | Intensive Care | Obstetrics | Paediatrics | Mental Health and Addictions | Rehab | LTC | Other Acute | Total | Beds/ 1,000 (exclude LTC) |
|---|---|---|---|---|---|---|---|---|---|
| AB | 400 | 402 | 163 | 1.355 | 501 | 2,039 | 5,973 | 10,833 | **1.99** |
| BC | 478 | 780 | 132 | 1,263 | 509 | 2,887 | 6,174 | 12,223 | **1.81** |
| MB | 165 | 181 | 15 | 335 | 446 | 233 | 2,834 | 4,209 | **2.88** |
| NB | 144 | 164 | 81 | 367 | 116 | 500 | 1,446 | 2,818 | **2.97** |
| NL | 96 | 115 | 15 | 192 | 75 | 791 | 1,089 | 2,373 | **3.03** |
| NS | 128 | 145 | 8 | 412 | 194 | 333 | 1,895 | 3,115 | **2.84** |
| NT | 4 | --- | 10 | 10 | --- | --- | 30 | 54 | **1.20** |
| ON | 1,751 | 1,313 | 502 | 4,844 | 2,676 | 4,968 | 16,229 | 32,283 | **1.85** |
| PE | 24 | 24 | 19 | 107 | 20 | --- | 295 | 489 | **3.06** |
| QC | 1,216 | 1,067 | 700 | 3,148 | 518 | --- | 13,028 | 19,677 | **2.29** |
| SK | 107 | 175 | 105 | 436 | 80 | 54 | 2,227 | 3,184 | **2.66** |
| YT | --- | --- | --- | --- | --- | --- | 67 | 67 | **1.59** |
| Total | 4,513 | 4,366 | 1,750 | 12,469 | 5,135 | 11,805 | 51,287 | 91,325 | **2.09** |

In 2020, Prince Edward Island had the highest ratio in Canada at 3.06 hospital beds per 1,000 population. As demonstrated in the following exhibit, hospitalizations and average lengths of stay in Prince Edward Island exceed the national averages.

Exhibit 9-02
Age-Sex Standardized Hospitalization Rate per 100,000 Population (CIHI 2021)

| Discharge Fiscal Year | Age-Sex-Standardized Hospitalization Rate per 100,000 Population | | | Age-Standardized Average Length-of-Stay (days) | | |
|---|---|---|---|---|---|---|
| | PEI | Canada | PEI>CDA | PEI | Canada | PEI>CDA |
| 2014-2015 | 10,086 | 8,083 | 25% | 8.7 | 6.9 | 26% |
| 2015-2016 | 9,786 | 8.054 | 22% | 8.3 | 7.0 | 19% |
| 2016-2017 | 9,774 | 7,980 | 22% | 9.0 | 7.0 | 29% |
| 2017-2018 | 9,404 | 7,944 | 18% | 9.3 | 6.8 | 37% |
| 2018-2019 | 9,204 | 7,883 | 17% | 9.1 | 6.9 | 32% |
| 2019-2020 | 8,966 | 7,699 | 16% | 9.1 | 7.0 | 30% |
| 2020-2021 | 7,758 | 6,687 | 16% | 7.8 | 7.1 | 10% |

## 9.1 Cardiology

The cardiology service anticipates the need for a third cardiologist in two or three years. The current cardiac investigations on the island include stress testing, echocardiography, transoesophageal echocardiography, and contrast studies. Prince Edward Island does not anticipate a cardiac catheterization laboratory or cardiac MRI. The greatest immediate need is CT angiography as an effective diagnostic tool that would save the province significant money that is currently spent on sending patients off-island.

Age-standardized incidence rate of acute myocardial infarction, age 20 years and older, is in decline from 350 per 100,000 population in 2000 to 216 per 100,000 population in 2016. The age-standardized prevalence rate of heart failure per 100,000 population age 40 years and older is relatively constant at 3.1% in 2000 to 2.96% in 2016. With respect to hypertension, excluding gestational hypertension, the age-standardized incidence rate per 100,000 population age 20 years and older has been in decline from 3,600 in 2000 to 2,000 in 2016. The ischemic heart disease age-standardized prevalence rate age 20 years and older has been constant at 6.1% in 2000 and 6.11% in 2016.

Exhibit 9-03
Forecast Summary for Cardiology

| Cardiology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 2.0 FTE (1.0 FTE per 86,350 population) | Population per FTE | 33,898 | 33,898 | 26,750 |
| On-Call | 1 in 6 (IM) | | | | |
| Scenario FTEs | Current complement is well below the base case benchmark | | Increase by 4.0 FTE over the 10-year forecast period | Increase by 4.47 FTE evenly over the 10-year forecast period | Increase by 6.59FTE over the 10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be decrease significantly (currently, these services account for 14% of all physician services with reciprocal billing (highest percentage). | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.2 Clinical Immunology and Allergy

At the beginning of the study period, most clinical immunology and allergy services were provided in Halifax and Moncton due the absence of this service on the island. Subsequently approval for 1.0 FTE was authorized and a successful candidate was selected. To align with the rest of the study, the following forecast summary reflects the initial state.

Exhibit 9-04
Forecast Summary for Clinical Immunology and Allergy

| Clinical Immunology and Allergy | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | No FTE | Population per FTE | 185,185 | 166,667 | 150,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | All services are provided in Halifax and Moncton | | Increase by 1.19 FTE by FY3 of the 10-year forecast period | Increase by 1.28 FTE by FY3 of the 10-year forecast period | Increase by 1.35 FTE by FY3 of the 10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be eliminated. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.3 Critical Care Medicine

Nine physicians provide critical care services in ICU, one week at a time with ten-hour shifts and on-call coverage (two nights for the physician for the week and others nights as allocated).9.0 FTE is thought to be the the correct number (and, should never go below 7 or above 10).

There are two retirements anticipated in five-to-ten years.

There are eight ICU beds at QEH and eight progressive care beds (largely cardiology and internal medicine). There are six critical care beds at PCH (but it is not a closed ICU). Progressive care at QEH is equivalent to intensive care at PCH with frequent transfers from PCH to QEH critical care (especially, neurology and dialysis). Current bed numbers are thought to be sufficient, although capacity has been full for six months.

Respiratory therapy is well-staffed currently.

Two drivers of workload will be population demographics and less critical care provided at PCH. As well, it is a significant concern that newly recruited internists tend to be hesitant to take on critical care services in addition to their subspecialty or functional specialty.. Critical care physicians see the major strengths of healthcare in PEI to be clinical and administrative leadership that is accessible and a small province with robust services provided by dedicated people, and exceptionally good technology and equipment.

## 9.4 Dermatology

Exhibit 9-05
Forecast Summary for Dermatology

| Dermatology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 1.0 FTE | Population per FTE | 84,500 | 76,923 | 62,500 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, there is significant referral off-island to Halifax and Moncton | | Increase by 1.34 FTE by FY5 of the 10-year forecast period | Increase by 1.77 FTE by FY5 of the 10-year forecast period | Increase by 2.6 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.5 Endocrinology and Metabolism

Exhibit 9-06
Forecast Summary for Endocrinology and Metabolism

| Endocrinology and Metabolism | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | No FTE | Population per FTE | 112,000 | 83,333 | 83,333 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, there is significant referral off-island to Halifax and Moncton | | Increase by 1.77 FTE by FY5 of the 10-year forecast period | Increase by 2.56 FTE by FY5 of the 10-year forecast period | Increase by 2.7 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.6 Gastroenterology

Currently two gastroenterologists are incorporated into department of medicine (therefore, their on-call services are part of internal medicine and not gastroenterology). Historically, was at 3.0 FTE with 1.0 FTE at Summerside (but left). The service need is to return to 3.00 FTE now and then gradually increase to 5.0 FTE. There are now two NPs who provide outpatient services that are exclusively inflammatory bowel disease (IBD) follow-up.

The service is definitely a provincial resource. Future needs are improved access for patients and a limited inpatient role. Although endoscopy waitlists grew during COVID, the overall impact has been manageable. Urgent and semi-urgent OPD visits are treated as priorities, but still have a waitlist (the non-urgent waitlist is two to three years.

Potential of a collaborative health record is regarded highly. Overall, on the island, the gastroenterologists have note improved governance and accountability leading to improved communications within the system (but, still would benefit from clarification of roles).

Exhibit 9-07
Forecast Summary for Gastroenterology

| Gastroenterology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 1.86 FTE (1.0 FTE per 91,400 population) | Population per FTE | 66,667 | 66,667 | 64,286 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, there is is still significant referral off-island to Halifax and Moncton | | Increase by 1.11 FTE by FY3 of the 10-year forecast period | Increase by 1.34 FTE by FY3 of the 10-year forecast period | Increase by 1.64 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.7 General Internal Medicine

Exhibit 9-08
Forecast Summary for General Internal Medicine

| General Internal Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 8.67 FTE (1.0 FTE per 19,600 population) | Population per FTE | 66,667 | 66,667 | 64,286 |
| On-Call | 1 in 6 | | | | |
| Scenario FTEs | Currently, there are services provided to ICU (including call). Also, subspecialty and functional specialty services, such as cardiology | | Increase by 1.11 FTE by FY3 of the 10-year forecast period | Increase by 1.34 FTE by FY3 of the 10-year forecast period | Increase by 1.64 FTE over the10-year forecast period |
| Description | All scenarios assume that the ICU coverage will continue and that GIM will be one of the "core" specialty services that are accessible island-wide from Charlottetown and Summerside. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.8 Haematology

Exhibit 9-09
Forecast Summary for Haematology

| Geriatric Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | No FTE | Population per FTE | 112,821 | 102,564 | 92,308 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, significant referral to Halifax and Moncton | | Increase by 1.93 FTE by FY5 of the 10-year forecast period | Increase by 2.08 FTE by FY5 of the 10-year forecast period | Increase by 2.19 FTE by FY5 of the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

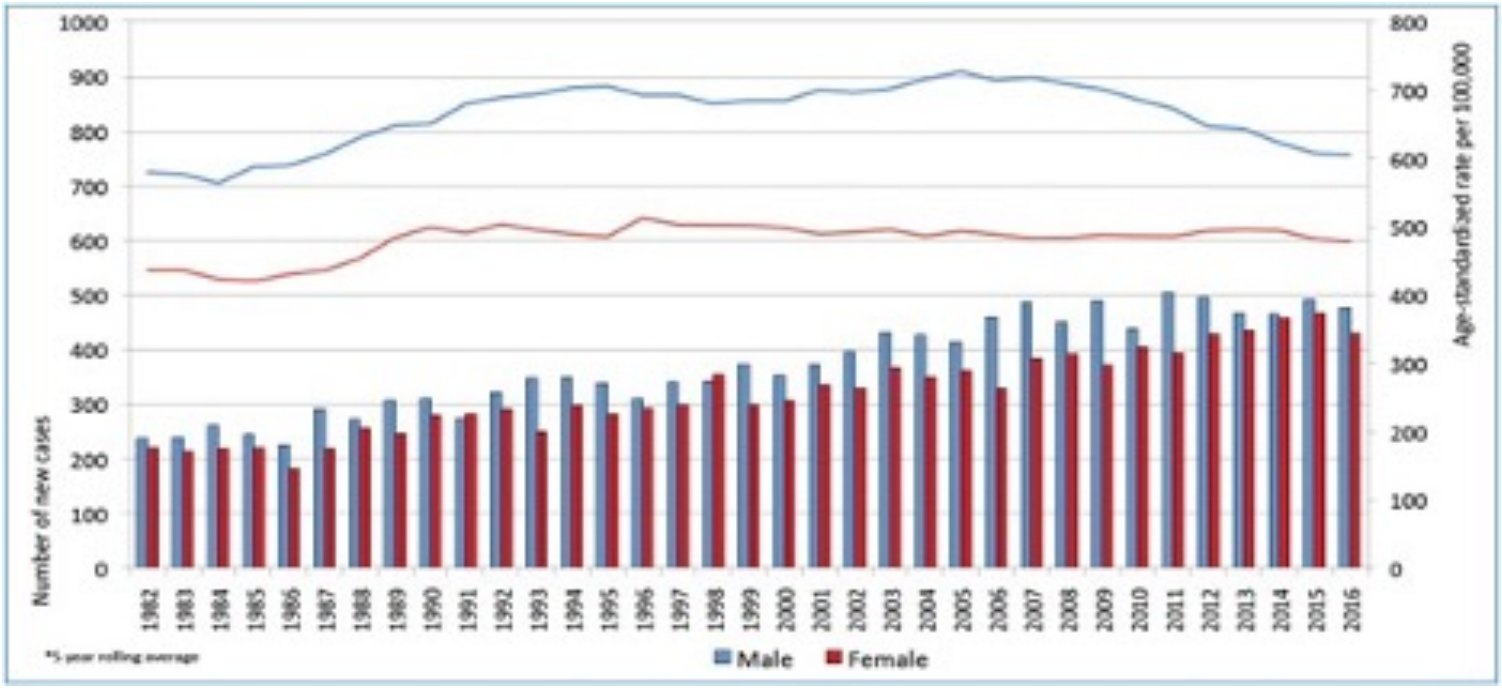
## 9.9 Infectious Diseases

Exhibit 9-10
Forecast Summary for Infectious Diseases

| Geriatric Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | No FTE | Population per FTE | 250,000 | 107,000 | 80,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, significant referral to Halifax and Moncton | | Increase by 0.79 FTE by FY5 of the 10-year forecast period | Increase by 2.0 FTE by FY5 of the 10-year forecast period | Increase by 2.8 FTE by FY7 of the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.10 Medical Oncology

Exhibit 9-11
Number of New Cancer Cases Age-Standardized Rate per 100,000 Male and Female




HPEI. 2020. Report on Cancer Statistics in Prince Edward Island: Cancer Trends: 1982-2016

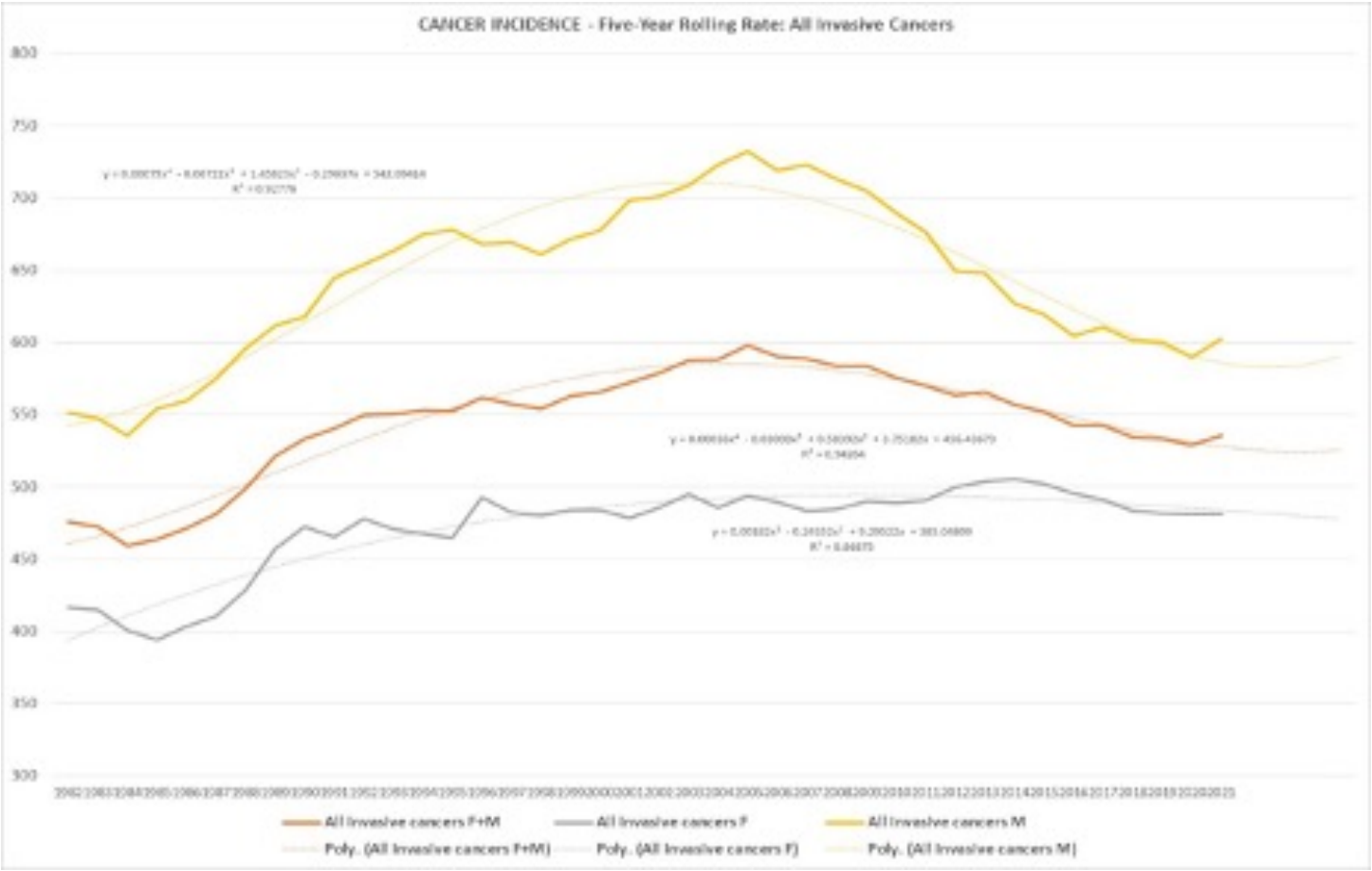
Currently there are four medical oncologists (MO) (one new, 3.15 FTE total) in Prince Edward Island and is considered to be a sufficient complement. There is need for another 1.0 FTE GP oncologist (GPO), 1.0 FTE drug navigator, and increased administrative assistance. The allied health team includes one NP, two GPOs (variable time), nurses, social workers, dietitian, and navigators.

Challenges are increased numbers of patients (and living longer) and new and complex drugs. The absence of sufficient family medicine means the MOs end up do some primary care if a GPO not available. Little is sent off island except acute leukemia. Few MOs in Canada do both solid tumours and malignant haematology.

The service requires greater pharmacy support - two now and need at least one more (especially if dedicated). The service is meeting wait time standards. Drivers of workload will be aging population, increased complications, patients living longer due to survival rates, and greater numbers of oral therapies, and changing protocols. The service access to diagnostics is good but, biomarkers are sent off island.

It is noted that MOs provide many different services that do not get picked up in shadow billing.

Exhibit 9-12
Cancer Incidence Five-Year Rolling Rate All Invasive Cancers




The age-standardized all-cancer incidence is relatively constant for females and increasing slightly for males after many years of slow decline. The incidence of new cancer cases has increased from 670 in 2002 to 1,020 in 2021 for an annual increase of 2.7%.

In the forecast model the combined effect of age- and gender-weighted population growth, benchmarking and relative burden of illness (PMR) is a 2.9% per annum increase in FTE which slightly exceeds the annual increase in cancer incidence of 2.7%.

Exhibit 9-13
Forecast Summary for Medical Oncology

| Medical Oncology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 3.15 FTE (1.0 FTE per 54,000 population) | Population per FTE | 80,604 | 52,632 | 47,368 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, medical oncology service needs on the island are being met | | Decrease by 0.7 FTE over the 10-year forecast period | Increase by 0.9 FTE by FY5 of the 10-year forecast period | Increase by 1.6 FTE by FY5 of the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.11 Nephrology

The Prince Edward Island provincial renal program as initiated in 2009 and covers both peritoneal dialysis and hemodialysis as, well as pre- and post-transplant care. There are 120 patients who are currently followed for renal replacement therapy.

The renal program team is constituted by: administrative director and secretary, three nephrologists, two dietitians, two social workers, five renal care nurses, one NP (should be two), two LPNs (one each for physicians and NPs), one renal pharmacist, one nurse educator, and three biomedical resources (water purity is main focus).

There are four renal clinics: Souris satellite with ten chairs, Charlottetown (QEH and provincial renal clinic) with 16 chairs, PCH with inpatient beds and nine chairs, and the Western satellite with ten chairs. The 2022 patient hemodialysis census was Souris (seven), QEH (60), PCH (29), and Western (six). The peritoneal dialysis census is 21 with many waiting.

The renal program is a provincial resource with 24/7 on-call (one week at a time). The only acute dialysis care is provided at QEH. Some satellite visits are also provided by nephrologists. The renal nurses in Charlottetown Charlottetown are challenged by the demands of on-call.

A previous four-year wait list for non-urgent cases was cut in half with arrival of the third nephrologist. Drivers of workload in the near and distant future are significant high acuity renal disease in PEI, pesticide exposure in water, on-call activities, education of family physicians, safety of the work environment, requirements due to standards, increased clinic visits, immigrant population, more preventive care, growing peritoneal program, and an increasing numbers of transplants.

As demonstrated in the following exhibit, the age-standardized prevalence rate of diabetes mellitus (types combined excluding gestational diabetes) in those one year of age and older is trending upward at 5% in 2000 and 7.3% in 2020. The age-standardized incidence rate of diabetes mellitus (types combined excluding gestational diabetes) in those one year of age and older is trending upwards slightly at 650 per 100,000 population in 2000 and 708 per 100,000 population in 2016. In the forecast model, the combined effect of age- and gender-weighted population growth, benchmarking, and the relative burden of illness is a 3.13% annual increase in FTEs, exceeding the annual increase in the incidence of diabetes mellitus at 1%.

Exhibit 9-14
Diabetes Mellitus Age-Standardized Incidence Rate per 100,000 population.

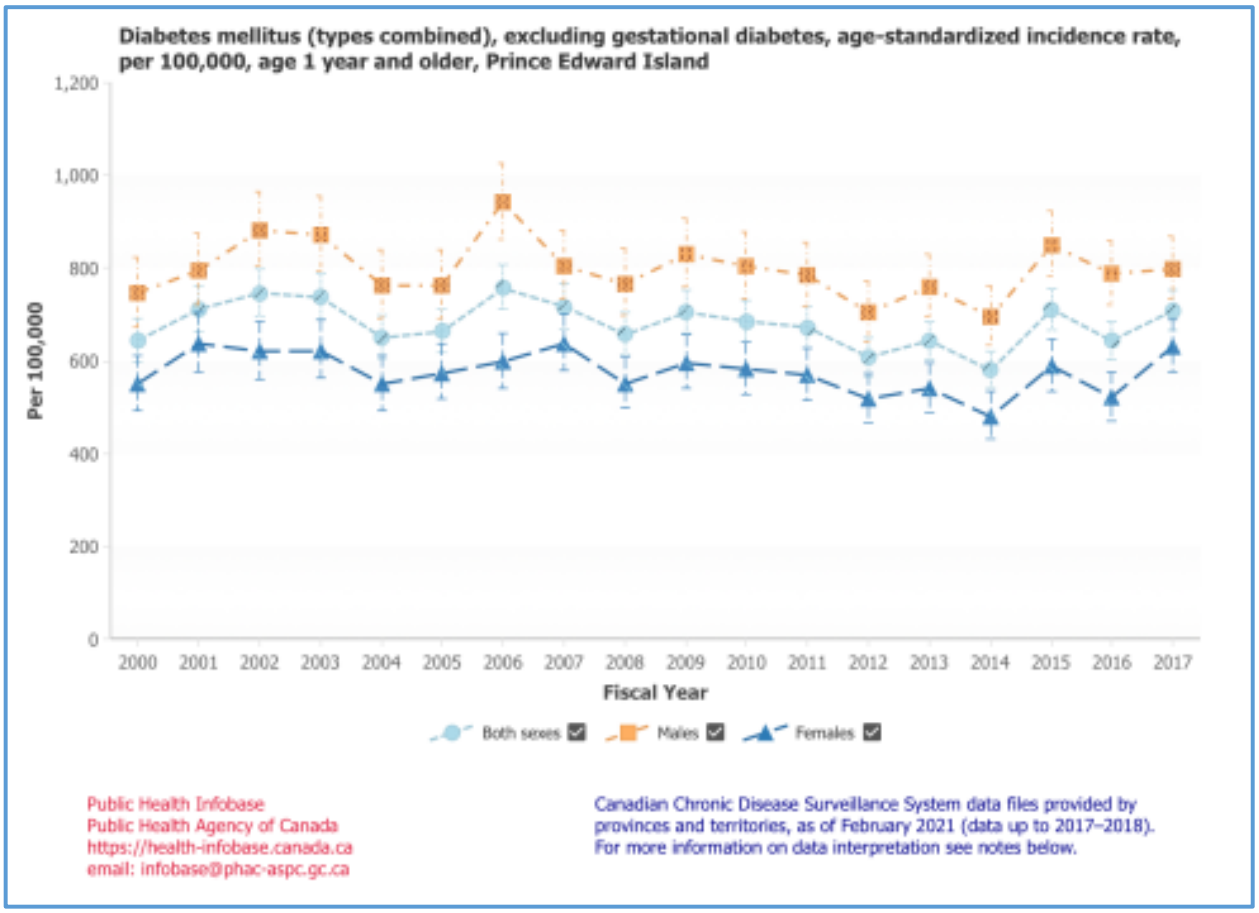


Exhibit 9-15
Forecast Summary for Nephrology

| Nephrology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 2.6 FTE (with 40 patients per FTE on renal replacement therapy) | Population per FTE<br><br>Patients on Renal Replacement Therapy per FTE | 80,604<br><br>75 | 52,632<br><br>65 | 47,368<br><br>55 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, nephrology service needs on the island are being met | | Decrease by 0.5 FTE over the 10-year forecast period | Increase by 0.81 FTE by FY3 of the 10-year forecast period | Increase by 1.4 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.12 Neurology

The age-standardized incidence rate of stroke, age 20 years and older, is in decline from 500 per 100,000 in 2000 to 353 in 2016. The age-standardized prevalence rate of dementia, including Alzheimer's disease, age 65 years and older, is increasing from 3.9% in 2000 to 5.86% in 2016. In the forecast model the combined effect of age- and gender-weighted population growth, benchmarking, and the relative burden of illness is a 5.45% annual increase in FTE which exceeds the annual increase in dementia incidence of 3%.

One neurologist is retiring soon and one in two years.

The 3.0 FTE neurologists at QEH are providing services well, as evidenced by the ability to accommodate urgent cases and the absence of on- call. The service covers stroke intervention from 08:00 to 17:00 (evenings and weekends handled by tele-stroke at Halifax). The routine wait list is two to three years; in part, this due to neurologists having to provide some primary care because of unaffiliated patients with no other means of follow-up. Two of the neurologists share electromyography and nerve conduction studies with the physiatrist - the other neurologist reads the EEGs.

Drivers of neurological workload have been identified as the aging population and unnecessary referrals. There is also an increased ability to treat more conditions (associated with increased scope of practice). The immediate need is 1.0 FTE NP (and space) with 0.5 FTE general and 0.5 FTE stroke services.

Exhibit 9-16
Age-Standardized Incidence Rate of Dementia per 100,000 Population (age 65 years and older)

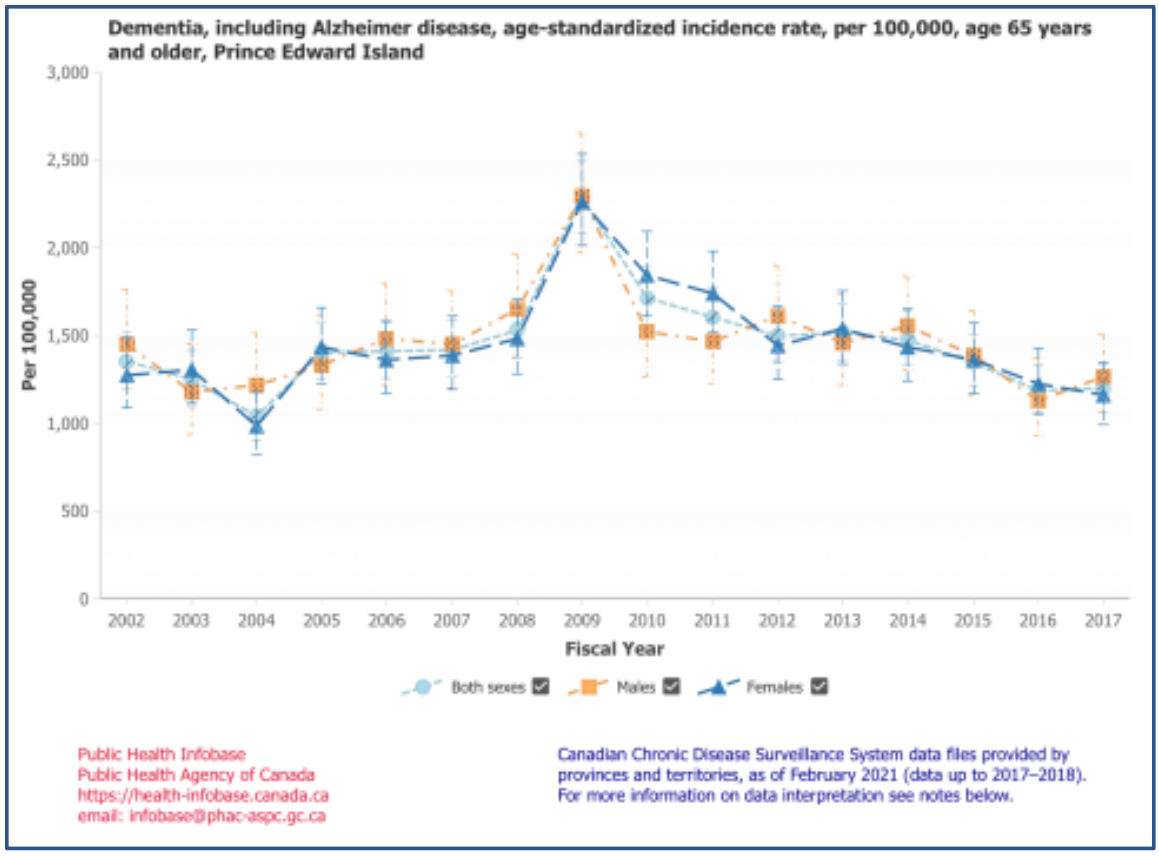


Exhibit 9-17
Forecast Summary for Neurology

| Neurology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 2.9 FTE (1.0 FTE per 58,600 population)) | Population per FTE | 47,619 | 47,619 | 43,500 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, neurology service needs on the island are being met | | Increase by 0.5 FTE by FY6 of the 10-year forecast period | Increase by 1.58 FTE by FY6 of the 10-year forecast period | Increase by 2.27 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.13 Physical Medicine and Rehabilitation

With one fairly recent retirement, there is only one Physiatrist on the island. The national benchmark goal is 1:50,000 which equates to needing three. The base case scenario (see the forecast model below) is 1:76,923 which is the national average population per FTE.

EMG is shared by a physiatrist and a neurologist.

There are three PMR teams providing care with a 20-bed unit, including three pairs of occupational therapists, a stroke unit with physiotherapy, occupational therapy, speech language pathology, and a clinical nurse. Speech language pathology has been depleted to just two - staffing for physiotherapy and occupational therapy is workable if at full strength.

Physiatrists note the strengths of healthcare in PEI as strong collaboration in a small province, less red tape, and a strong stroke program with east-west OPD teams for follow-up. Identified weaknesses are silos with an east-west divide and limited communications.There is an absolute need for a province-wide rehabilitation program with district teams that are centrally coordinated through a single governance. Unfortunately, the shortage of GPs impedes appropriate community follow-up.

Exhibit 9-18
Forecast Summary for Physical Medicine and Rehabilitation

| Physical Medicine and Rehabilitation | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 2.0 FTE in 2021-2022 | Population per FTE | 167,000 | 76,923 | 69,231 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, physical medicine and rehabilitation service needs on the island are being met | | Decrease by 0.8 FTE over the 10-year forecast period | Increase by 0.77 FTE by FY5 of the 10-year forecast period | Increase by 1.25 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.14 Public Health and Preventive Medicine[13]

Currently, there are four types of leadership positions in public health: facility medical directors (will slowly merge into medical directors), medical directors (permanent), one or two department heads (permanent) and program leads (will fluctuate over time). These leadership positions are administrative, not clinical, and are above and beyond a complement - therefore, it is fundamental to be aware of these positions, but they are not to be included in clinical FTE modeling.

There are 50 public health nurses at Health PEI who are largely involved with immunization, contact follow-ups, and food histories in the setting of an outbreak. They take direction from the three PHNs in CPHO.

There are four sections within CPHO:

- Assessment and surveillance - two PhD epidemiologists and one Masters epidemiologist - difficult to recruit - over next five years, CPHO will require two more epidemiologists
- Communicable diseases - immunization (lead is retiring in one year - run by three specialized, high-level nurses - includes emergency preparedness
- Environmental health - eight EHOs / inspectors with post-secondary degrees - two short at present - more and more work offloaded to them (meat inspection, dairy inspection, tattoo parlours, tobacco

[13] Please refer as well to the separate section on Public Health

act) - as the workload increases, the number of inspections is reduced - but, in fact, the inspections need to increase

- Health promotion - four positions (less specialized) and a manager.

See "Allied Health Professions" for ten-year forecast of epidemiologists, communicable diseases, environmental health officers, and health promotion.

Exhibit 9-19
Forecast Summary for Public Health and Preventive Medicine

| Public Health Preventive Medicine | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 2.0 FTE physicians | Population per FTE physician | 84,615 | 76,923 | 69,231 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, public health and preventive medicine needs on the island are being met | | Increase by 0.34 FTE by FY3 of the 10-year forecast period | Increase by 0.77 FTE by FY3 of the 10-year forecast period | Increase by 1.25 FTE over the10-year forecast period |
| Description | All scenarios assume the program continues to be run as an inclusive provincial program | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.15 Respirology

The age-standardized prevalence rate of asthma, age 1 year and older, is trending upward from 7.2% in 2000 to 11.46% in 2016. The age-standardized prevalence rate of chronic obstructive pulmonary disease (COPD) is trending upward from 5.5% in 2000 to 9.92% in 2016. In the forecast model, the combined effect of age- and gender-weighted population growth, benchmarking, and relative burden of illness is a 4.22% per annum increase in FTE, which exceeds the annual increase in asthma and COPD incidence of 3.7%.

Exhibit 9-20
Asthma Age-Standardized Prevalence Rate Age One Year and Older

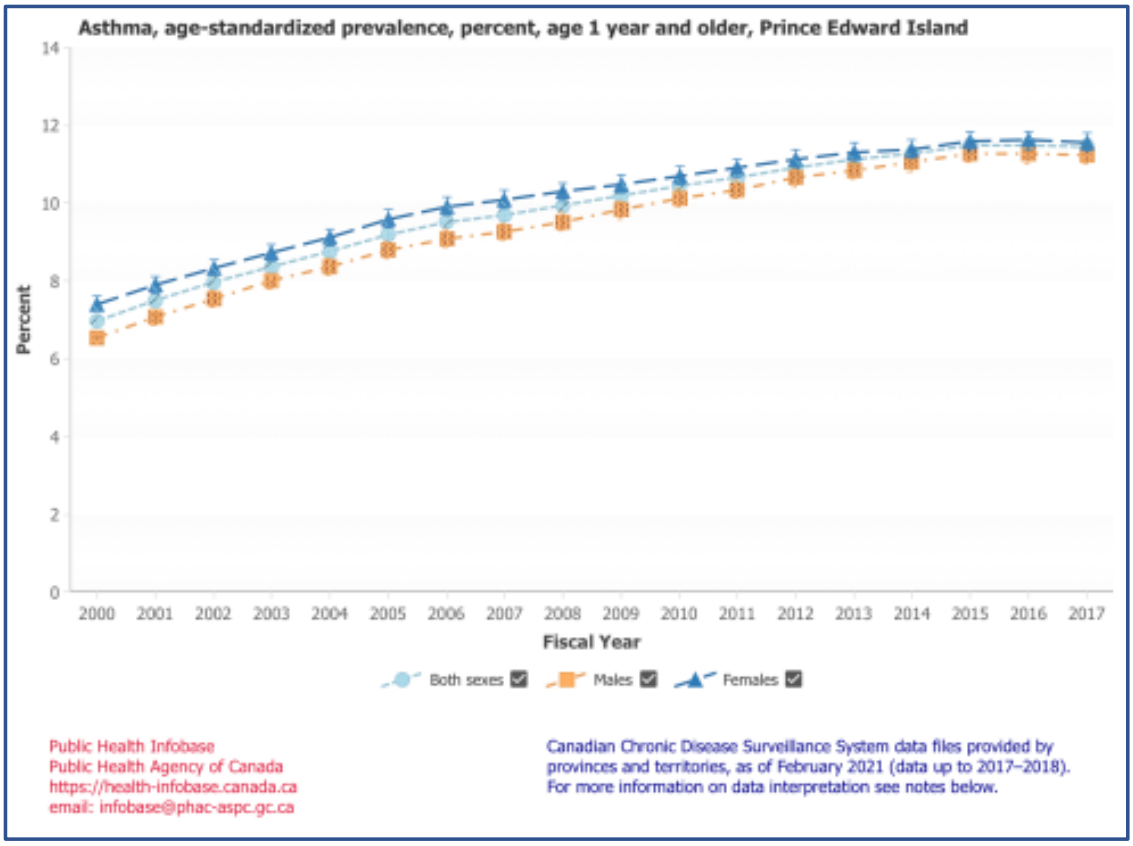


Exhibit 9-21
Forecast Summary for Respirology

| Respirology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 3.0 FTE | Population per FTE | 50,000 | 50,000 | 37,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, respirology service needs on the island are being met | | Increase by 0.95 FTE over the 10-year forecast period | Increase by 1.27 FTE over the 10-year forecast period | Increase by 3.08 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.16 Rheumatology

Age-standardized prevalence rate of osteoarthritis, age 20 and older, is trending upward slowly from 12% in 2000 to 12.81% in 2016. The age-standardized prevalence rate of rheumatoid arthritis, age 20 and older, is relatively constant at 0.75% in 2000 and 0.8% in 2016. The age-standardized prevalence rate of osteoporosis, age 40 and older, is trending upward from 2.5% in 2000 to 7.19% in 2016. In the forecast model the combined effect of age- and gender-weighted population growth, benchmarking, and relative burden of illness is a 7.33% per annum increase in FTE, which exceeds the weighted annual increase in osteoarthritis, rheumatoid arthritis, and osteoporosis of 4.3%.

Exhibit 9-22
Osteoarthritis Age-Standardized Prevalence Rate Age 20 Years and Older

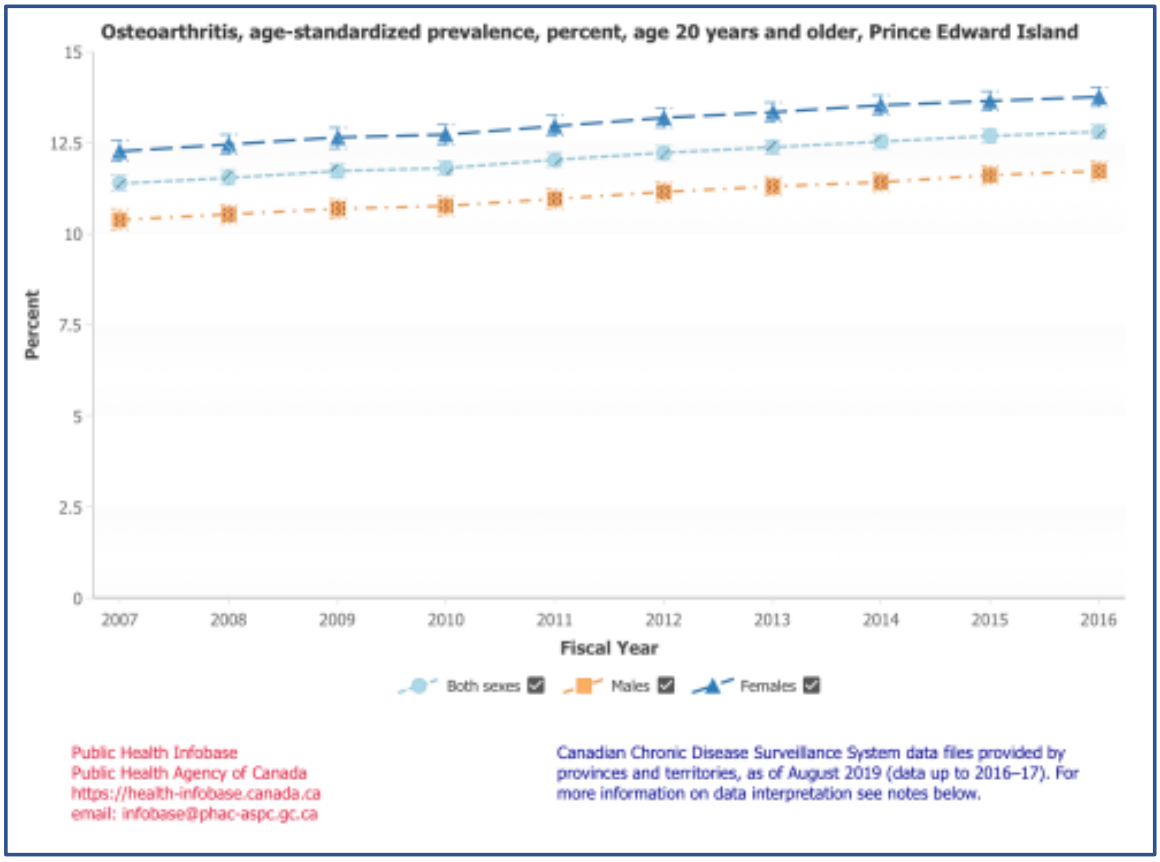


Exhibit 9-23
Forecast Summary for Rheumatology

| Rheumatology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 1.6 FTE | Population per FTE | 86,000 | 76,923 | 60,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, some referral to Halifax and Moncton | | Increase by 0.7 FTE by FY3 of the 10-year forecast period | Increase by 1.17 FTE by FY3 ofthe 10-year forecast period | Increase by 2.15 FTE over the10-year forecast period |
| Description | All scenarios assume that the reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 9.17 PROVINCE-WIDE FORECAST FOR MEDICAL SERVICES

### Exhibit 9-24
### Provincial Forecast Summary for Medical Services
### (base year 2021-2022 (F0); forecast years 2022-2023 (F1) to 2031-2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| *base CASE SCENERIO* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* | *14* | *15* | *16* | *17* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *WORKFORCE RESOURCE VARIABLES* | | | | | *HEALTH SYSTEM PLANNING RELATED VARIABLES* | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 2.00 | (0.2) | 0.17 | 0.05 | 0.19 | 0.18 | 3.23 | 5.23 | 1.00 | 0.23 | 6.47 | 0.00 | 0.00 | 0.00 | 0.00 | 6.47 | 4.47 |
| Clinical Immunology and Allergy | 0.05 | (0.0) | 0.10 | 0.01 | 0.00 | 0.12 | 0.99 | 1.04 | 0.20 | 0.05 | 1.28 | 0.00 | 0.00 | 0.00 | 0.00 | 1.28 | 1.23 |
| Clinical Pharmacology and Toxicolo | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 1.00 | (0.1) | 0.03 | 0.01 | 0.09 | 0.01 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Dermatology | 1.00 | (0.1) | 0.11 | 0.01 | 0.08 | 0.09 | 1.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 1.77 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.07 | 2.07 | 0.40 | 0.09 | 2.56 | 0.00 | 0.00 | 0.00 | 0.00 | 2.56 | 2.56 |
| Gastroenterology | 1.86 | (0.2) | 0.98 | 0.15 | 0.15 | 1.10 | 0.73 | 2.59 | 0.49 | 0.11 | 3.20 | 0.00 | 0.00 | 0.00 | 0.00 | 3.20 | 1.34 |
| General Internal Medicine (GIM) | 8.67 | (1.0) | 4.81 | 0.69 | 0.76 | 5.29 | 0.96 | 9.62 | 1.86 | 0.40 | 11.89 | 0.00 | 1.84 | 0.00 | 1.84 | 13.73 | 5.06 |
| Geriatric Medicine | 3.10 | (0.3) | 0.55 | 0.10 | 0.28 | 0.65 | 0.00 | 3.10 | 0.59 | 0.14 | 3.83 | 0.00 | 0.00 | 0.00 | 0.00 | 3.83 | 0.73 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 1.68 | 0.32 | 0.07 | 2.08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.08 | 2.08 |
| Infectious Diseases | 0.08 | (0.0) | 0.01 | 0.00 | 0.01 | 0.01 | 1.54 | 1.61 | 0.31 | 0.07 | 1.99 | 0.00 | 0.00 | 0.00 | 0.00 | 1.99 | 1.92 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 3.15 | (0.3) | 2.82 | 0.31 | 0.25 | 3.10 | 0.13 | 3.28 | 0.63 | 0.15 | 4.05 | 0.00 | 0.00 | 0.00 | 0.00 | 4.05 | 0.90 |
| Nephrology | 2.60 | (0.3) | 1.66 | 0.22 | 0.23 | 1.84 | 0.16 | 2.76 | 0.53 | 0.12 | 3.41 | 0.00 | 0.00 | 0.00 | 0.00 | 3.41 | 0.81 |
| Neurology | 2.90 | (0.3) | 0.62 | 0.10 | 0.26 | 0.71 | 0.73 | 3.63 | 0.69 | 0.16 | 4.48 | 0.00 | 0.00 | 0.00 | 0.00 | 4.48 | 1.58 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 2.12 | (0.2) | 0.67 | 0.14 | 0.21 | 0.79 | 0.00 | 2.12 | 0.41 | 0.09 | 2.62 | 0.00 | 0.00 | 0.00 | 0.00 | 2.62 | 0.50 |
| Physical Medicine and Rehabilitatio | 2.00 | (0.2) | 2.60 | 0.31 | 0.14 | 2.82 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 0.77 |
| Public Health & Preventative Medic | 2.00 | (0.2) | 0.46 | 0.09 | 0.19 | 0.51 | 0.00 | 2.00 | 0.38 | 0.09 | 2.47 | 0.00 | 0.00 | 0.00 | 0.00 | 2.47 | 0.47 |
| Respirology | 3.00 | (0.3) | 1.09 | 0.17 | 0.26 | 1.19 | 0.45 | 3.45 | 0.67 | 0.15 | 4.27 | 0.00 | 0.00 | 0.00 | 0.00 | 4.27 | 1.27 |
| Rheumatology | 1.60 | (0.2) | 1.00 | 0.16 | 0.11 | 1.11 | 0.65 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 1.17 |
| **Medical Total** | **37.12** | **(3.9)** | **17.68** | **2.53** | **3.21** | **19.52** | **14.81** | **51.94** | **9.95** | **2.27** | **64.16** | **0.00** | **1.84** | **0.00** | **1.84** | **66.00** | **28.87** |

The total change in medical specialists over the ten-year forecast period is 28.87 FTE (for a total of 66.0 FTE).

# 10 Obstetrics and Gynaecology

Currently there are distinct obstetrical services at QEH and PCH, with some cross-coverage. The service would benefit with being seen as, and managed as, a provincial service.

There is limited general practice obstetrics (GPO) at PCH - this is almost non-existent in Charlottetown, except primary prenatal care (also provided by NPs).

There are 6.0 FTE obstetricians at QEH with approval for 7.0 FTE (this may turn out to be inadequate because of on-call and maternity leave). PCH is at 3.0 FTE obstetricians moving to a complement of 4.0 FTE in late 2022 or early in 2023. There is one GPO at PCH with a second coming - prenatal care for other practices are typically provided by the obstetricians. The absence of a predictable anaesthesiology service at PCH is a further challenge to obstetrical care.

The Charlottetown wait list is 1,600 consultations. There are 1,400 deliveries per year in PEI - about 900 in Charlottetown and 500 in PCH. QEH manages about two thirds of gynaecological cases on the island.

Drivers of workload will be substantial immigration (drives OB), changes in primary care services (drives both OB and GYN), and an aging population (drives GYN, especially urogynaecology and gynaecological oncology). PCH provides urogynaecology but not gynaecological oncology (sends to Moncton or Halifax, but not to Charlottetown). Midwifery will arrive some time in 2023 with the goal of 4.0 FTE plus a program director. It is reasonable to anticipate 25 - 30 deliveries per FTE midwife annually This will not to alleviate shortages, but is supportable on the basis of patient choice.

Exhibit 10-01
Newborn Deliveries by Facility

| Facility | 2018 | | 2019 | | 2020 | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| QEH | 595 | 59.8% | 698 | 60.3% | 817 | 66.6% |
| PCH | 400 | 41.2% | 459 | 39.7% | 460 | 33.4% |
| Total | 995 | | 1,157 | | 1,227 | |

Exhibit 10-02
Pre-Term Births by Province Infants

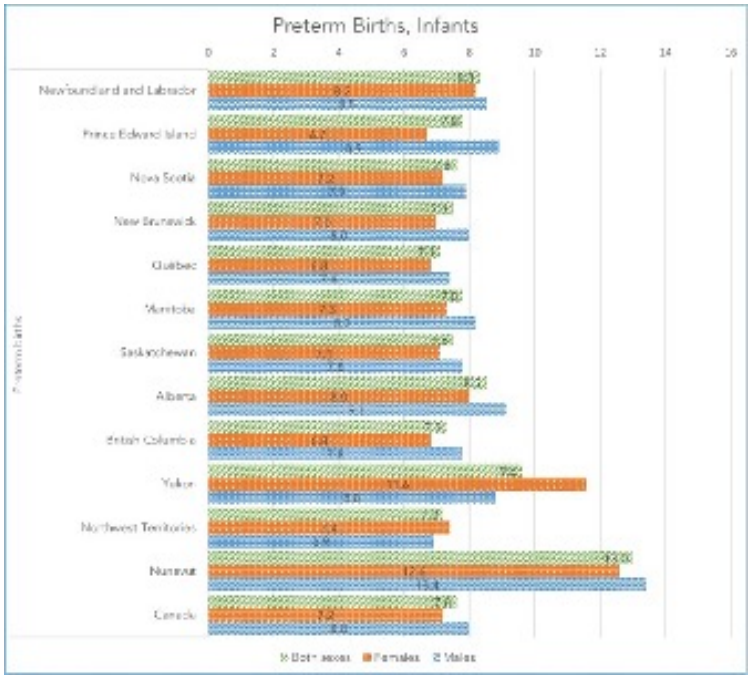
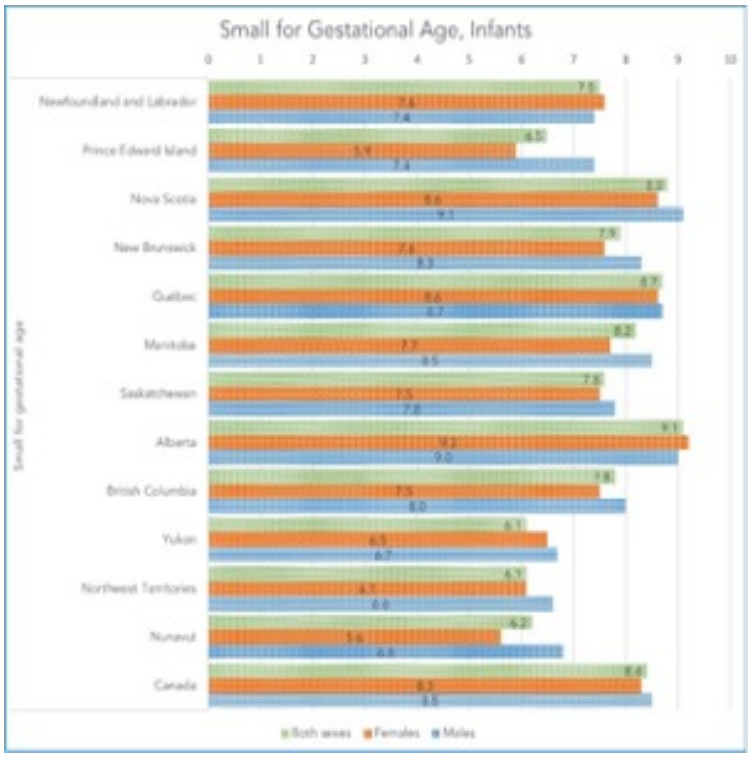



Exhibit 10-03
Small for Gestational Age by Province Infants




Canadian Chronic Disease Infobase http//infobase.phac-aspc.gc.ca

Pre-term births average 7.8% very close to the national average of 7.6%. Small for gestational age averages 7.5%, which is below the national average of 8.4%.

The NICU at QEH is a Level 2c with 1.0 FTE neonatologist. It is likely that the number of births will rise because of a young immigrant population. National benchmarking is likely not applicable due to small size of of the Prince Edward Island population. The NICU service is a balancing act between difficult on-call and the need for a critical mass.

Reciprocal billing shows 4% of total is paediatrics billing for each of last five years (not segmented further into neonatology) - surpassed by cardiology at 14%, diagnostic imaging at 9%, and family medicine at 5% (remainder at 1 - 4%).

The ten-year forecast projects 3.70 FTE replacement needs, (0.2) FTE benchmark adjustment, 2.28 FTE population and burden of illness need, and a (0.2) adjustment for the core services model of care. The net forecast increase is 1.85 FTE or 1.87% increase per annum. Subspecialty services will continue to be accessed via Halifax and Moncton.

## Exhibit 10-04
## Provincial Forecast Summary for Obstetrics and Gynaecology

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WORKFORCE RESOURCE VARIABLES | | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 9.86 | (1.1) | 3.48 | 0.46 | 0.84 | 3.70 | (0.2) | 9.67 | 1.87 | 0.41 | 11.95 | 0.00 | (0.2) | 0.00 | (0.2) | 11.70 | 1.85 |
| **Obstetrics and Gynecology Total** | **9.86** | **(1.1)** | **3.48** | **0.46** | **0.84** | **3.70** | **(0.2)** | **9.67** | **1.87** | **0.41** | **11.95** | **0.00** | **(0.2)** | **0.00** | **(0.2)** | **11.70** | **1.85** |

# Paediatric Services

11

Exhibit 11-01

Paediatric Discharges by Age, Year, Facility, and % Change

| Total Discharges | | | | | QEH Discharges | | | | | PCH Discharges | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | 2018 | 2019 | 2020 | % | Age | 2018 | 2019 | 2020 | % | Age | 2018 | 2019 | 2020 | % |
| 0 | 1,132 | 1,341 | 1,463 | 29.2% | 0 | 678 | 825 | 934 | 37.8% | 0 | 454 | 516 | 529 | 154% |
| 2 | 55 | 36 | 34 | 38.2% | 2 | 26 | 23 | 19 | 26.9% | 2 | 29 | 13 | 15 | 48.2% |
| 3 | 50 | 49 | 31 | 38.0% | 3 | 34 | 33 | 24 | 29.4% | 3 | 16 | 16 | 7 | 56.3% |
| 4 | 36 | 49 | 28 | 22.2% | 4 | 21 | 35 | 20 | 4.8% | 4 | 15 | 14 | 8 | 46.7% |
| 5 | 30 | 49 | 35 | 16.7% | 5 | 21 | 29 | 26 | 23.8% | 5 | 9 | 20 | 9 | 0.0% |
| 6 | 23 | 38 | 32 | 39.1% | 6 | 14 | 26 | 21 | 50.0% | 6 | 9 | 12 | 11 | 22.2% |
| 7 | 23 | 31 | 25 | 8.7% | 7 | 18 | 20 | 19 | 5.6% | 7 | 5 | 11 | 6 | 20.0% |
| 8 | 42 | 35 | 24 | 42.9% | 8 | 27 | 27 | 18 | 33.3% | 8 | 15 | 8 | 6 | 60.0% |
| 9 | 23 | 45 | 22 | 4.3% | 9 | 13 | 28 | 15 | 15.4% | 9 | 10 | 17 | 7 | 30.0% |
| 10 | 13 | 13 | 27 | 107.7% | 10 | 11 | 8 | 20 | 81.8% | 10 | 2 | 5 | 7 | 250.0% |
| 11 | 18 | 26 | 27 | 50.0% | 11 | 15 | 22 | 18 | 20.0% | 11 | 3 | 4 | 6 | 100.0% |
| 12 | 29 | 36 | 30 | 3.4% | 12 | 23 | 27 | 18 | 21.7% | 12 | 6 | 9 | 9 | 50.0% |
| 13 | 36 | 48 | 37 | 2.8% | 13 | 25 | 39 | 22 | 12.0% | 13 | 10 | 9 | 10 | 0.0% |
| 14 | 38 | 53 | 55 | 44.7% | 14 | 30 | 37 | 37 | 23.3% | 14 | 8 | 16 | 12 | 50.0% |
| 15 | 54 | 62 | 63 | 16.7% | 15 | 37 | 49 | 37 | 0.0% | 15 | 17 | 13 | 16 | 5.9% |
| 16 | 61 | 74 | 67 | 9.8% | 16 | 42 | 64 | 42 | 0.0% | 16 | 17 | 10 | 12 | 29.4% |
| 17 | 48 | 62 | 64 | 33.3% | 17 | 38 | 50 | 43 | 13.2% | 17 | 10 | 12 | 11 | 10.0% |
| t | 1,711 | 2,047 | 2,064 | 20.6% | t | 1,073 | 1,342 | 1,333 | 24.2% | t | 635 | 705 | 681 | 7.2% |

HPEI / CIHI, Hospital Discharge Abstract Database (DAD)

The Department Head is based at QEH where there are six general paediatricians (5.2 FTE) plus 1 neonatologist for a total of 6.2 FTE. The 3.0 FTE at PCH provides a provincial FTE total of 9.2. Earlier in 2022 3.0 FTE were locums due to three retirements in past two years making a total of 9.2 FTE at QEH. As well, the service has 2.7 FTE advanced practice RNs. The service includes support for a Level 2c NICU. The wait list for routine consultations is six months, and one year for mental and behavioural consultations. The ten-year forecast calls for the addition of 2.0 FTE child and adolescent psychiatrists to the Department of Psychiatry. As well, there is a good relationship with the child and adolescent psychiatrists at IWK hospital in Halifax.

QEH has a dedicated ambulatory care program that is well staffed with advanced care nurses. Physiotherapy and occupational therapy are not dedicated services but respond very well to requests. Currently, respiratory therapy is a gap in service access and delivery.

Paediatricians are the most responsible physician (MRP) for all paediatric inpatients. Patients are sent to Halifax for sedated imaging and MRI. The paediatric service manages all diabetes and asthma cases; inflammatory bowel disease is shared care with IWK. As well, IWK provides some traveling clinics.

The current complement for paediatrics in Prince County is 3.0 FTE (with a 1:3 on-call service. This covers consultations from PCH ER, Western ER, and from community physicians. The service also attends high risk deliveries and emergency C-sections, care for pre-mature infants born 34-weeks or later, and manages a Level 2b NICU (Special Care Nursery). Newborns at Prince County Hospital accounted for 36% of total PEI newborns.

Hospitalists and family physicians do not admit or care for paediatric patients with few exceptions. In 2022 there were 300 patients waiting for a consultation , with one-third questioning possible ADHD. The current wait time is 12-18 months for ADHD, behaviour, and learning issues. The majority of the consultations require long-term follow-up prior toy transitioning to adult care.

The service provides shared care with IWK on a regular basis for oncology patients, surgical patients, rheumatoid and Inflammatory bowel disease patients, and complex needs patients.

Exhibit 11-02
Forecast Summary for Paediatrics

| Paediatrics | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 12.2 FTE (1.0 FTE per 1,900 population less than 18 years of age) | Population less than 18 years of age per FTE | 3,385 | 3,385 | 4,600 |
| On-Call | 1 in 4 | | | | |
| Scenario FTEs | Current complement is greater than the base case benchmark | | Decrease by 3.6 FTE over the 10-year forecast period | Increase by 0.45 FTE by FY3 of the 10-year forecast period | Increase by 2.0 FTE over the10-year forecast period |
| Description | All scenarios assume that the relative workload between QEH and PCH will be unchanged. All scenarios assume that tertiary care will continue to be provided at IWK. The base case and high case scenarios anticipate 4.6 FTE at PCH. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

# Exhibit 11-03
## Provincial Forecast Summary for Paediatrics

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.03 | (0.0) | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 |
| Pediatric Clinical Immunology and A | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metab | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 12.21 | (1.3) | 6.12 | 0.74 | 0.98 | 6.52 | (3.4) | 8.84 | 1.70 | 0.38 | 10.91 | 0.00 | 1.75 | 0.00 | 1.75 | 12.67 | 0.45 |
| **Pediatric Total** | **12.24** | **(1.3)** | **6.12** | **0.74** | **0.99** | **6.53** | **(3.4)** | **8.86** | **1.70** | **0.38** | **10.95** | **0.00** | **1.75** | **0.00** | **1.75** | **12.70** | **0.46** |

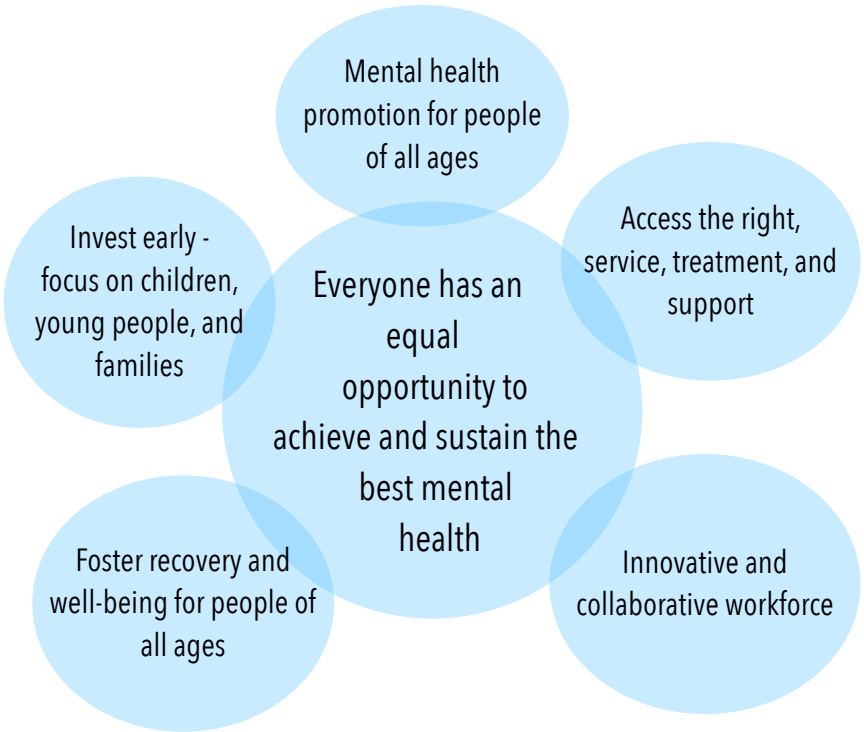
# Mental Health and Addiction Services

12

*"Mental health is a state of well-being in which the individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community."*[14]

The mental health and addictions planning and service delivery system is designed both from the top down through a provincial program(planning, integration, coordination, contracting, and performance management), and from the bottom up (PHC collaborative teams) operating in defined community clusters. Secondary care is anchored by general adult psychiatry as a core service specialty accessible to primary care through provider consultation, telehealth, and direct referral. Meeting the accessibility requirements of a designated core specialty service requires deployment of psychiatrists to Charlottetown and Summerside with Kings County accessing service from Charlottetown.

Exhibit 12-01
Five Interconnected Strategic Priorities for Mental Health and Addictions




[14]World Health Organization (2007). What is mental health? Retrieved November 1, 2016, http://www.who.int/features/factfiles/mental_health/en/

Prince Edward Island has sustained a strong focus on "community first," reflecting an increased government investment in mental health and addiction services. Under the leadership of four managers, the MHA team has achieved a great deal in domains of acute care, transitional care, adult and paediatric community programs, research, and education. These achievements have been underpinned by best practices that build on transitional services.Positive metrics include decreased inpatient acute care and a decreased length of stay. Co-location with five community health centres has been reinforced by a mobile response team, three post-addiction recovery homes, and a virtual link with IWK. As well, Hillsborough is a 64-bed dedicated to withdrawal and treatment (currently 42 beds are open).

However, challenges remain:

- Rolling out expanded programs
- Acute care with a rapid turn around time back into the community
- Access to related data
- Rolling out a new MHA EMR
- Predictable staffing
- Access to paediatric psychiatry
- Empower clinicians with respect to policy development
- MHA services can be fragmented resulting in difficult navigation for patients and families

Mental health and addictions disorders are organized by ICD coding for detailed classification and codification purposes. Applying this widely used methodology results in major groupings of organic psychoses, non-organic psychoses, non-psychotic and retardation, and suicide and attempts. This classification system aligns with disorder incidence and prevalence reporting.

The **future model of care for MHA** envisions psychiatrists with a special treatment focus on non-organic psychoses and consultation support to other mental health workers with a special focus by these professions on non-psychotic disorders and organic psychoses. This will require comprehensive and detailed provincial programming to achieve this realignment of core competency to MHA disorders. Provincial programming will be multidisciplinary with all impacted professions and organizations well represented. The provincial mandate includes resource (re)alignment, master workforce planning and direction, recruitment and retention strategies and actions, clinical practice guidelines, education and training, and oversight to local providers and performance management.

Telehealth is working well for MHA, including ED consultations in community hospitals. There are 10.0 FTE psychiatrists (QEH 6.0 FTE and PCH 4.0 FTE); however, the complement is 20.0 FTE.

Characteristics of Prince Edward Island psychiatric care can be summarized:

- Two psychiatrists are retiring over next year
- Three to five psychiatrists provide telehealth services to Prince Edward Island
- Two to three psychiatrists provide one-off consultations
- Inpatients are covered well and outpatients much less well
- On-call coverage is provincial while paediatric psychiatry is largely telehealth
- Geriatric psychiatry is only 1.0 FTE
- MHA has a centralized triage with wait lists of three to four months.
- Essentially no GP psychotherapy and minimal use of clinical psychologists.
- Addictions are handled largely by GPs - it has been argued that psychiatry should be more involved
- Drivers of workload are new programs (intensive day program and short stay room in ED), increasing population, psychosocial stressors, especially economic strain

Exhibit 12-02
Forecast Summary for Psychiatry

| Psychiatry | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 16.55 FTE (1.0 FTE per 10,400 population) | Population per FTE | 10,823 | 9,406 | 8,929 |
| On-Call | 1 in 4 | | | | |
| Scenario FTEs | Current complement is below the base case benchmark | | Decrease by 1.0 FTE over the 10-year forecast period | Increase by 7.8 FTE over the 10-year forecast period | Increase by 12.2 FTE over the10-year forecast period |
| Description | All scenarios assume an integrated collaborative team-based model of care where GPs and mental health counselors/psychologists act as the primary care front line and psychiatrists deliver secondary and tertiary level complex care, in particular for non-organic psychoses (schizophrenia, bipolar disorder, and psychotic depression). Two psychiatrists will have a special focus/interest in geriatric psychiatry. Two child and adolescent psychiatrists should be prioritized for recruitment. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

The following exhibit presents workload benchmarks that suggest a ratio of 2,178 detailed treatment visits per 1.0 FTE psychiatrist (row 9, column 19) and a projected 57,013 total detailed treatment visits (row 8, column 19) annually in the province. This equates to a projected psychiatrist requirement of 26.3 FTE (row 10, column 19) based on the estimated (source: CHS Statistics Canada and MCHP 2004) incidence and prevalence of mental and addiction disorders in the population. The model also estimates the percentage of cases seen by psychiatrists (row 6). In a collaborative shared care model of care, a further 20.84 FTE psychologists/mental health counselors (see Allied Health Professions) would be employed over the ten-year forecast to address the incremental need in a revised model of care with strong linkage/embedding with primary healthcare.

## Exhibit 12-03
## Mental Health and Addictions Epidemiology-Based Workforce FTE Requirements from 2022-2023 to2031-2032

| | | PREDOMINANT DISORDER GROUPINGS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1 | DATA | MOOD | | | ANXIETY | | | | Schizophrenia | EATING DISORDER | Problematic Substance Abuse | | DEVELOPMENTAL (age 0-14) | | | PERSONALITY & COGNITIVE | | | | TOTAL |
| 2 | % Prevalence - PEI Canadian Community Health Survey; Manitoba (Source Patterns of Regional Mental Illness Disorder Diagnoses and Service Use in Manitoba: A Population-Based Study- 2004) | 5.28% | 1.9% | 0.7% | 0.38% | 0.68% | 0.14% | 0.14% | 0.3% | 1.1% | 4.8% | 1.0% | 9.0% | 0.9% | 5.0% | ** | 8.0% | ** | 4.0% | 23% |
| 3 | DISORDERS | *Depressive (296.2, 296.3)* | *Other Affective psychoses (296.2, 296.3)* | *Bi-polar (296.4-296.8)* | *Panic, OCD* | *Social* | *PTSD* | *Generalized e.g. Psycho somatic* | | | *Alcohol* | *Drugs, Gambling, Other* | *Learning & Other* | *Pervasive (e.g. Autism spectrum)* | *ADHD* | *Borderline* | *Dementia (age>64) (Source: Cdn Study Health & Aging, 1994,* | *Antisocial* | *Alzheimer (age>64)* | ALL |
| 4 | Prevalence/ 100000 | 5,280 | 1,880 | 700 | 383 | 684 | 137 | 137 | 320 | 1,100 | 4,800 | 1,000 | 9,000 | 900 | 5,000 | | 8,000 | | 4,000 | 43,320 |
| 5 | Total prevalence | 9,973 | 3,551 | 1,322 | 723 | 1,291 | 258 | 258 | 604 | 2,078 | 9,066 | 1,889 | 1,802 | 180 | 1,001 | | 6,848 | | 3,424 | 44,268 |
| 6 | % Seen by Psychiatrist | *20%* | *25%* | *100%* | *25%* | *20%* | *25%* | *15%* | *100%* | *25%* | *30%* | *30%* | *10%* | *75%* | *75%* | | *25%* | | *25%* | 29% |
| 7 | Psychiatrist Consults per/yr/ Patient Seen | *4.0* | *2.0* | *6.0* | *3.0* | *1.0* | *3.0* | *1.00* | *6.0* | *6.0* | *6.0* | *6.0* | *4.0* | *3.0* | *4.0* | | *3.0* | | *3.0* | 4.46 |
| 8 | Psychiatrist Consultations per Year (@50 hour work week, 44 weeks) | 7,978 | 1,775 | 7,933 | 542 | 258 | 194 | 39 | 3,626 | 3,116 | 16,319 | 3,400 | 721 | 405 | 3,003 | | 5,136 | | 2,568 | 57,013 |
| 9 | Consultations/FTE per Year | *[based upon two detail studies, study 1 - California 2002, Alberta 2006 i.e. 1.25 consultations/hour, 6.5 consultation hours/day, 44 weeks per year]* | | | | | | | | | | | | | | | | | | 2,178 |
| 10 | FTE and Forecast Pop. Need | *3.7* | *0.8* | *3.6* | *0.2* | *0.1* | *0.1* | *0.0* | *1.7* | *1.4* | *7.5* | *1.6* | *0.3* | *0.2* | *1.4* | - | *2.4* | - | *1.2* | 26 FTE |
| 11 | PLUS: Hospitalization (880/100000) | | | | | | | | | | | | | | | ** Embedded within other disorders | | | | |
| 12 | Population 2031/32 age 10 and older is 189,000 (age/gender weighted) | | | | | | | | | | | | | | | FTE DISTRIBUTION | | | | |
| 13 | | | | | | | | | | | | | | | | PSYCHIATRISTS | | | | 26.3 |

## Exhibit 12-04
## Annual Use of Health Services for Mental Illness and Alcohol/Drug-Induced Disorders

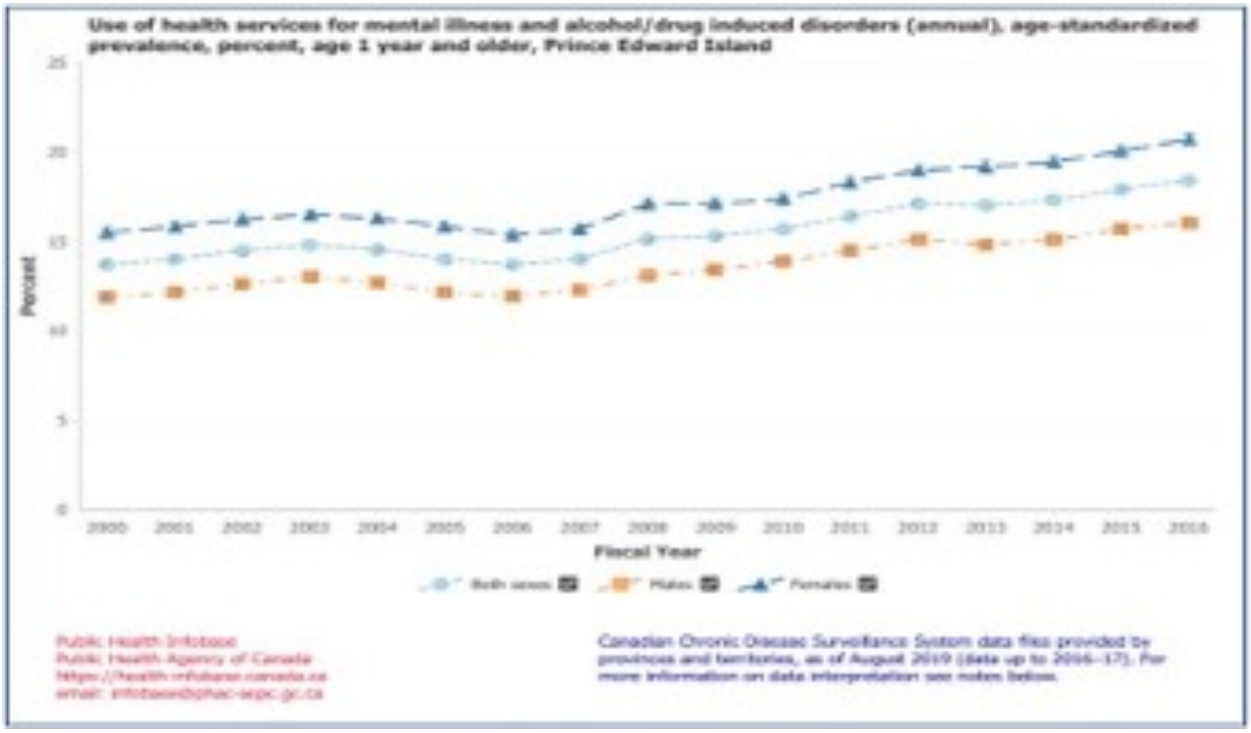


Exhibit 12-05
Mental Health or Addictions Lengths of Stay 2019-2020

**Table 4 Lengths of Stay (median, average, 0.5% trimmed average, total) for Mental Health or Addiction**
**By Hospital Type, PEI and Canada, 2019–2020**

| | | Organic disorders included | | | | Organic disorders excluded | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hospital type | Province/ territory | Median length of stay (days) | Average length of stay (days) | 0.5% trimmed average (days) | Total length of stay (days) | Median length of stay (days) | Average length of stay (days) | 0.5% trimmed average (days) | Total length of stay (days) |
| General hospitals | PEI | 8 | 21.89 | 20.13 | 29,530 | 7 | 13.64 | 12.25 | 15,480 |
| | Canada | 7 | 16.41 | 14.83 | 3,786,442 | 5 | 13.00 | 11.80 | 2,488,029 |
| Psychiatric hospitals | PEI | 20 | 28.58 | 28.10 | 3,887 | 20 | 26.92 | 26.39 | 3,499 |
| | Canada | 20 | 65.25 | 51.65 | 1,953,362 | 18 | 60.07 | 46.93 | 1,717,235 |
| General and psychiatric hospitals | PEI | 9 | 22.50 | 20.72 | 33,417 | 7 | 15.00 | 13.70 | 18,979 |
| | Canada | 7 | 22.02 | 17.94 | 5,739,804 | 6 | 19.11 | 15.10 | 4,205,264 |

**Notes:** * Organic disorders: Organic mental disorders are conditions that are caused by the decrease in the functioning of the brain due to disease, trauma or injury. Included in this category, for example, are various forms of dementia.
The 0.5% trimmed average removes the highest 0.5% and lowest 0.5% of values and then computes the average. The 0.5% trimmed average reduces the effect of extreme values on the average.
— No value or not applicable.
**Source:** Hospital Mental Health Database, 2019–2020, Canadian Institute for Health Information.

The perceived mental health, fair/poor age-standardized rate for adults of both sexes in PEI is 6.5% which is not significantly different from the national average of 7.1%. The mood disorders age-standardized rate for adults of both sexes in PEI is 9.4% which is not significantly different from the national average of 8.9%. The use of health services for mental illness and alcohol/drug induced disorders (annual) age-standardized prevalence in PEI has been trending upward since 2000 (14%) and sat at 18.4% in 2016. The use of health services for mood and anxiety disorders (annual), age-standardized prevalence in PEI has been trending upward since 2000 (9.8%) and sat at 12.76% in 2016. Schizophrenia prevalence has remained constant at about 0.32% of the population over the period 2000 to 2016.

As revealed in the following exhibit, the ten-year forecast calls for an annual 5.9% increase in psychiatry FTEs. Total general psychiatry FTE increase over the ten-year forecast is 7.78 FTE plus a provincial child and adolescent psychiatry program of 2.0 FTE.

# Exhibit 12-06
## Provincial Forecast Summary for Psychiatry 2022-2023 (F1) to 2031-2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 16.55 | (1.8) | 9.19 | 1.28 | 1.41 | 10.13 | 4.14 | 20.68 | 3.99 | 0.88 | 25.55 | 0.00 | (1.2) | 0.00 | (1.2) | 24.33 | 7.78 |
| **Psychiatry Total** | **16.55** | **(1.8)** | **9.19** | **1.28** | **1.41** | **10.13** | **4.14** | **20.68** | **3.99** | **0.88** | **25.55** | **0.00** | **(1.2)** | **2.00** | **0.78** | **26.33** | **9.78** |

# Public Health[15]

*Public health is defined as the organized efforts of society to keep people healthy and prevent injury, illness and premature death. It is a combination of programs, services and policies that protect and promote the health of all Canadians.*[16]

From project outset a top priority has been placed by leadership on health prevention, promotion, and protection as essential to achieving a sustainable health care system that manages costs effectively while optimizing outcomes for all.

Central to a thriving community, a productive society, and flourishing economic and social systems, is a healthy population. While it was once thought that healthy populations were largely determined by a strong healthcare system responding to health needs, we now understand that the health of a population is predominantly driven by various social factors that shape the conditions in which people, families, and communities live, work, learn and play. These factors are collectively called the social determinants of health.

The social determinants of health are the non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems. The social determinants of health have an important influence on health inequities - the unfair and avoidable differences in health status seen within countries. In countries at all levels of income, health and illness follow a social gradient: the lower the socioeconomic position, the worse the health. Taking action on social determinants of health has the greatest potential to improve population health outcomes and to address the root causes of illness and injury before they occur.

Public health is the organized effort to foster health through a combination of programs, services, and policies that ultimately protect and promote population health. By using a population health approach, the response shifts from individuals to improving health of an entire population and reducing health inequities among groups. Health inequities are differences in the distribution of the social determinants of health which lead to differences in health outcomes that are systemic, unfair, and avoidable. When public health interventions are grounded in a health equity perspective, their impacts can be powerful at the individual level due to the broad

[15] Please also refer to Public Health and Preventive Medicine in section 9.14

[16] http://www.phac-aspc.gc.ca/cphorsphc-respcacsp/2008/fr-rc/cphorsphc-respcacsp05a-eng.php

changes and powerful ripple effects that occur at the societal level. Addressing structural, cross-cutting, and intermediary determinants of health creates the conditions for good health for everyone.

Much of the health burden in Prince Edward Island is caused by four chronic diseases: cancer, cardiovascular disease, chronic pulmonary disease, and diabetes. Islanders have unsatisfactory health outcomes compared to the rest of Canada for many disease conditions; and, health inequity exists within the population, as Islanders with the lowest household income face greater health risk factors and worse health outcomes. The health system has traditionally addressed such challenges by hiring more health care staff, building better hospitals and facilities, adopting new technologies, and providing more services. While these are important strategies, it is critical to prevent disease and injury before it occurs, and consider that health is an individual's overall physical, mental, and social well-being and not merely the absence of disease or injury.

Exhibit 13-01

Provincial Public Health and Preventive Medicine Base Case Forecast from 2022-2023 (F1) to2031-2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Public Health & Preventative Medic | 2.00 | (0.2) | 0.46 | 0.09 | 0.19 | 0.51 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 0.77 |
| Epidemiologist | 3.00 | (0.3) | 0.35 | 0.05 | 0.26 | 0.32 | 0.00 | 3.00 | 0.57 | 0.13 | 3.71 | 0.00 | 0.00 | 0.00 | 0.00 | 3.71 | 0.71 |
| Emergency Prep./Communicable Di | 1.00 | (0.1) | 0.13 | 0.02 | 0.09 | 0.12 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Environmental Health Officer | 9.40 | (1.0) | 1.31 | 0.20 | 0.78 | 1.26 | 0.00 | 9.40 | 1.80 | 0.42 | 11.61 | 0.00 | 0.00 | 0.00 | 0.00 | 11.61 | 2.21 |
| Health Promoter | 5.00 | (0.6) | 0.72 | 0.08 | 0.41 | 0.64 | 0.00 | 5.00 | 0.96 | 0.22 | 6.18 | 0.00 | 0.00 | 0.00 | 0.00 | 6.18 | 1.18 |
| Registered Nurse | 3.20 | (0.3) | 2.63 | 0.16 | 0.27 | 2.72 | 0.00 | 3.20 | 0.61 | 0.14 | 3.95 | 0.00 | 0.00 | 0.00 | 0.00 | 3.95 | 0.75 |

The ten-year forecast calls for an increase to all provincial public health positions. 0.77 FTE increase (col. 17) to MD positions, 0.71 FTE epidemiologist, 0.24 FTE emergency preparedness/communicable diseases, 2.21 FTE environmental health officers, 1.18 FTE health promoter, and 0.75 FTE registered nurses.

Note that an estimated 50 public health nurses are employed by HPEI and are included in the registered nurse specialty of the forecast.

# Surgical Services

14

The Head at QEH is an Otolaryngologist and epidemiologist, who also spends one day per month at PCH. QEH has 32 surgeons running five rooms daily (wants to open a sixth in a room currently used for storage). Actual surgical FTEs at both sites, as measured by the CIHI methodology, vary due to the use of locums.

The QEH surgical complements are, as follows:

- Ophthalmology 4.0 FTE plus 2.0 FTE non-operating
- Orthopaedic surgery 6.0 FTE (also day surgery at PCH)
- General surgery 5.0 FTE
- Otolaryngology 2.0 FTE (with a provincial call system would be 3.0 FTE)
- Plastic surgery 2.0 FTE
- Maxillo-facial surgery 2.0 FTE
- Urology 3.0 FTE

The PCH surgical complements are, as follows:

- General surgery 3.0 FTE
- Otolaryngology 1.0 FTE
- Obstetrics and Gynaecology 4.0 FTE (but, not part of department of surgery)
- Anaesthesiology shortage has created conflict in getting OR time (in addition to nursing and physiotherapy shortages)

Five of nine operating rooms at QEH are open in addition to two eye suites. There are five funded operating rooms plus the two eye suites Monday to Thursday, and on Friday is funded for 4 operating rooms plus 2 eye suites. In addition, one room is utilized each day so orthopaedic surgery can alternate between two rooms, and there is one room utilized for C-Sections when the need arises. One of the nine rooms is currently used for storage. PCH has three operating rooms (but is funded for two). There is currently a major shortage of anesthesiology resources at PCH, and often only one room is utilized due to this constraint.

Surgical day procedures have declined for most specialties between 2018-2020 although COVID would have impacted 2020 numbers

Exhibit 14-01
Surgical Day Procedures

| Discipline | 2018 | 2019 | 2020 | % change |
|---|---|---|---|---|
| Anaesthesiology | 123 | 152 | 88 | 28.5% |
| Dentistry | 240 | 233 | 169 | 29.6% |
| Family / General Practice | 202 | 228 | 252 | 24.8% |
| Gastroenterology | - - - | 658 | 827 | 25.7% |
| General Surgery | 8,797 | 6,997 | 5,762 | 34.5% |
| Internal Medicine | 2,598 | 2,210 | 2,013 | 22.5% |
| N/A | 15,947 | 14,506 | 13,669 | 14.3% |
| Obstetrics and Gynaecology | 1,196 | 865 | 707 | 40.9% |
| Ophthalmology | 2,852 | 3,088 | 2,880 | 1.0% |
| Oral Surgery | 61 | 58 | 15 | 75.4% |
| Orthopaedic Surgery | 1,217 | 1,043 | 1,097 | 9.9% |
| Otolaryngology | 549 | 549 | 402 | 26.8% |
| Paediatrics | 14 | 19 | 28 | 100.0% |
| Plastic Surgery | 515 | 415 | 277 | 46.2% |
| Nurse Practitioner | 16 | - - - | - - - | 100.0% |
| Psychiatry | 25 | 23 | 47 | 88.0% |
| Registered Nurse | 19 | 2 | 5 | 73.7% |
| Urology | 2,445 | 2,263 | 2,207 | 9.7% |
| TOTAL | 36,816 | 33,313 | 30,452 | -17.3% |

HPEI / CIHI, National Ambulatory Care Reporting System (NACRS)

There is consensus that OR management in the areas of staffing issues and cancelations requires improvement.

Every surgical service is requesting more operating time - wait times for cataracts and major joint replacement are about one year.

Governance but would improve through the recruitment of a Director of Surgical Services reporting to the Head of Surgery.

## 14.1 Anaesthesiology

Anesthesiology is led by a provincial Chief.

QEH has 6.4 FTE with a complement of 9.0 FTE and is no longer able to assist with the shortage at PCH (0.0 FTE with a complement of 3.0). QEH makes use of locums to keep funded ORs fully functioning. One anesthesiologist has additional training in obstetrical anaesthesiology.

There are no pain clinics at this time (trying to recruit - one GP has interest). The anesthesiologist in the eye suite is available for urgent care in the emergency department or delivery room. A well-trained GP anaesthesiologist would be most welcome at PCH, but is difficult to recruit. Anesthesiologist assistants (AA) probably have a future role - but current circumstances would keep AA under scope.Nurse anaesthesiologists are not anticipated.

If QEH was able to achieve 9.5 FTE, the current state would function well but would be deficient again in five years. Anesthesiologist recruitment is challenge across all provinces and territories. There are 3.0 FTE relatively new in practice - but attrition / retirement will likely remove 3.0 FTE over the next short while. The current horizon has 1.0 FTE just signed on, another planning on coming next summer, and another in three years.. Surgical volumes are always high and anaesthesiology is at its limits - cases frequently are canceled in advance. Anaesthesiology does not have a significant role in ICU, as it is a closed unit.

Exhibit 14-02
Forecast Summary for Anaesthesiology

| Anaesthesiology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 14.7 FTE | FTE per surgeon | 0.34 FTE per 1.0 FTE surgeon | 0.42 FTE per 1.0 FTE surgeon | 0.47 FTE per 1.0 FTE surgeon |
| On-Call | 1 in 4 | | | | |
| Scenario FTEs | Current operating room time is fully allocated with most surgical disciplines seeking additional time | | Decrease by 2.0 FTE over the 10-year forecast period | Increase by 8.89 FTE over the 10-year forecast period | Increase by 9.96 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.2 Cardiac Surgery

All cardiac surgery is referred off island with no foreseeable change anticipated.

## 14.3 General Surgery

Exhibit 14-03
Numbers of General Surgery Cases

| Admission | 2018 | 2019 | 2020 | % change |
|---|---|---|---|---|
| Clinic | 8 | 3 | 2 | 75.0% |
| Day Surgery | 32 | 43 | 55 | 71.9% |
| Direct | 230 | 246 | 278 | 20.9% |
| Emergency Department | 486 | 594 | 667 | 37.2% |
| TOTAL | 756 | 886 | 1,002 | 32.5% |

HPEI / CIHI, DAD

General surgical cases have increased 32.5% between 2018 and 2020. Anesthesiologist constraint at PCH needs to be resolved so the second OR can by fully utilized. General Surgery is part of the Core Specialties Model of Care detailed later in the report.

Exhibit 14-04
Forecast Summary for General Surgery

| General Surgery | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 9.67 FTE (1.0 FTE per 17,700 population) | Population per FTE | 24,080 | 16,393 | 15,600 |
| On-Call | 1 in 4 | | | | |
| Scenario FTEs | Currently, no outside referrals - key constraint is OR time | | Increase by 1.02 FTE over the 10-year forecast period | Increase by 5.51cFTE over the 10-year forecast period | Increase by 6.83 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.4 Neurosurgery

All neurosurgery is referred off island with no foreseeable change anticipated.

## 14.5 Ophthalmology

Only 16% of cataract surgeries in Prince Edward Island met the national benchmark in 2020 (CIHI). There are two dedicated eye suites at QEH.

### Exhibit 14-05

National and Provincial Benchmarks for Cataract Surgeries 2012 2020 (CIHI)

| Indicator | Cataract Surgery | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Province** | **Unit of measurement** | **Metric** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Newfoundland and Labrador | Days | 50th percentile | 35 | 39 | 40 | 65 | 63 | 85 | 95 | 264 |
| | | 90th percentile | 103 | 95 | 97 | 112 | 118 | 153 | 209 | 474 |
| | Number of cases | Volume | 1,278 | 1,479 | 1,761 | 2,053 | 1,610 | 1,493 | 1,263 | 527 |
| | Proportion | % meeting benchmark | 95 | 96 | 96 | 90 | 87 | 77 | 63 | 33 |
| **Prince Edward Island** | **Days** | **50th percentile** | **98** | **118** | **57** | **71** | **99** | **118** | **167** | **230** |
| | | **90th percentile** | **241** | **190** | **183** | **118** | **167** | **302** | **356** | **467** |
| | **Number of cases** | **Volume** | **539** | **532** | **554** | **486** | **577** | **603** | **753** | **628** |
| | **Proportion** | **% meeting benchmark** | **53** | **46** | **82** | **89** | **60** | **48** | **28** | **16** |
| Nova Scotia | Days | 50th percentile | 93 | 85 | 93 | 92 | 90 | 76 | 92 | 185 |
| | | 90th percentile | 265 | 206 | 220 | 214 | 211 | 229 | 250 | 394 |
| | Number of cases | Volume | 4,089 | 3,865 | 3,637 | 4,004 | 4,047 | 3,795 | 3,702 | 2,031 |
| | Proportion | % meeting benchmark | 62 | 65 | 64 | 65 | 66 | 68 | 60 | 32 |
| New Brunswick | Days | 50th percentile | 25 | 43 | 48 | 64 | 55 | 58 | 70 | 98 |
| | | 90th percentile | 134 | 137 | 161 | 194 | 218 | 230 | 226 | 292 |
| | Number of cases | Volume | 5,214 | 5,320 | 5,362 | 5,310 | 5,682 | 5,678 | 5,908 | 4,540 |
| | Proportion | % meeting benchmark | 88 | 86 | 80 | 68 | 73 | 67 | 66 | 53 |
| Quebec | Days | 50th percentile | 31 | 32 | 35 | 55 | 41 | 41 | 42 | 99 |
| | | 90th percentile | 126 | 129 | 126 | 130 | 139 | 151 | 145 | 248 |
| | Number of cases | Volume | 48,965 | 46,829 | 45,079 | 45,716 | 45,660 | 46,767 | 47,769 | 20,890 |
| | Proportion | % meeting benchmark | 88 | 88 | 88 | 86 | 85 | 83 | 82 | 54 |
| Ontario | Days | 50th percentile | 50 | 50 | 62 | 65 | 67 | 65 | 63 | 152 |
| | | 90th percentile | 153 | 157 | 182 | 208 | 229 | 222 | 223 | 303 |
| | Number of cases | Volume | 65,873 | 65,160 | 64,098 | 66,098 | 64,142 | 68,522 | 69,587 | 29,199 |
| | Proportion | % meeting benchmark | 81 | 81 | 74 | 70 | 69 | 70 | 72 | 40 |
| Manitoba | Days | 50th percentile | 86 | 78 | 122 | 148 | 155 | 167 | 162 | 214 |
| | | 90th percentile | 247 | 205 | 239 | 289 | 409 | 378 | 422 | 448 |
| | Number of cases | Volume | 4,975 | 4,292 | 3,173 | 2,915 | 3,076 | 2,962 | 3,769 | 2,646 |
| | Proportion | % meeting benchmark | 62 | 63 | 41 | 34 | 32 | 29 | 33 | 21 |
| Saskatchewan | Days | 50th percentile | 67 | 40 | 35 | 60 | 59 | 81 | 85 | 142 |
| | | 90th percentile | 179 | 119 | 92 | 142 | 175 | 203 | 235 | 314 |
| | Number of cases | Volume | 3,573 | 3,850 | 3,567 | 3,509 | 3,783 | 3,981 | 4,091 | 2,624 |
| | Proportion | % meeting benchmark | 70 | 88 | 96 | 79 | 77 | 62 | 61 | 40 |
| Alberta | Days | 50th percentile | 79 | 73 | 87 | 92 | 99 | 116 | 131 | 183 |
| | | 90th percentile | 212 | 202 | 224 | 243 | 260 | 320 | 356 | 396 |
| | Number of cases | Volume | 10,514 | 11,348 | 11,145 | 11,770 | 11,389 | 11,684 | 13,302 | 10,355 |
| | Proportion | % meeting benchmark | 66 | 71 | 64 | 58 | 56 | 49 | 44 | 34 |
| British Columbia | Days | 50th percentile | 41 | 60 | 72 | 74 | 78 | 70 | 66 | 104 |
| | | 90th percentile | 154 | 212 | 249 | 243 | 251 | 253 | 231 | 306 |
| | Number of cases | Volume | 25,140 | 25,397 | 26,757 | 28,155 | 29,701 | 31,978 | 32,738 | 23,027 |
| | Proportion | % meeting benchmark | 83 | 70 | 64 | 66 | 63 | 64 | 69 | 53 |
| **Canada** | **Days** | **50th percentile** | **47** | **49** | **58** | **68** | **66** | **65** | **67** | **133** |
| | | **90th percentile** | **154** | **161** | **179** | **194** | **211** | **218** | **219** | **309** |
| | **Number of cases** | **Volume** | **170,160** | **168,072** | **165,133** | **170,016** | **169,667** | **177,463** | **182,882** | **96,467** |
| | **Proportion** | **% meeting benchmark** | **81** | **80** | **76** | **73** | **71** | **70** | **71** | **45** |

Canadian Institute for Health Information. Wait Times for Priority Procedures in Canada – Data Tables. 2021:

Exhibit 14-06
Forecast Summary for Ophthalmology

| Ophthalmology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 5.3 FTE (1.0 FTE per 32,300 population) | Population per FTE | 86,000 | 76,923 | 60,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, some outside referrals to Halifax and Moncton | | Decrease by 0.3 FTE over the 10-year forecast period | Increase by 1.2 FTE over the 10-year forecast period | Increase by 2.7 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.6 Orthopaedic Surgery

Exhibit 14-07
Age-Standardized Hospitalization Rates for Hip Replacements in Prince Edward Island and Canada

| Hip Replacements 2015-2016 to 2019-2020 | | | | | | |
|---|---|---|---|---|---|---|
| Jurisidction | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | % Change |
| PEI | 277 | 253 | 280 | 293 | 336 | 21.3% |
| Age-Standardized Rate of Hospitalizations | | | | | | |
| PEI | 202 | 195 | 198 | 197 | 221 | 9.4% |
| Canada | 170 | 175 | 178 | 184 | 186 | 9.4% |
| PEI:Canada | 18.8% | 11.4% | 11.2% | 7.1% | 18.8% | - - - |

Discharge Abstract Database, Hospital Morbidity Database and National Ambulatory Care Reporting System, 2015–2016 to 2019–2020, Canadian Institute for Health Information. Canadian Institute for Health Information. Hip and Knee Replacements in Canada: CJRR Quick Stats, 2019–2020. Ottawa, ON: CIHI; 2021

Exhibit 14-08
Age-Standardized Hospitalization Rates for Knee Replacements in Prince Edward Island and Canada

| Knee Replacements 2015-2016 to 2019-2020 | | | | | | |
|---|---|---|---|---|---|---|
| Jurisidction | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | % Change |
| PEI | 295 | 305 | 330 | 360 | 373 | 26.4% |
| Age-Standardized Rate of Hospitalizations | | | | | | |
| PEI | 213 | 213 | 227 | 236 | 243 | 14.1% |
| Canada | 205 | 209 | 214 | 222 | 217 | 5.9% |
| PEI:Canada | 3.9% | 1.9% | 6.1% | 6.3% | 12.0% | - - - |

Discharge Abstract Database, Hospital Morbidity Database and National Ambulatory Care Reporting System, 2015–2016 to 2019–2020, Canadian Institute for Health Information. Canadian Institute for Health Information. Hip and Knee Replacements in Canada: CJRR Quick Stats, 2019–2020. Ottawa, ON: CIHI; 2021

There are 6.0 FTE (previously 7.0 FTE) orthopaedic surgeons - all at QEH. The Charlottetown group also provides day surgery at PCH twice weekly. Spine cases go to Moncton while some paediatric reconstruction, musculoskeletal tumours, and complex trauma, such as pelvic, go to Halifax. Orthopaedic Intervention Clinic was initially established by HPEI and then the orthopaedic surgeons got involved - supported by a specialty-trained NP on salary with HPEI to assess, diagnose, and manage referrals from primary care providers and allied

health. The orthopaedic service could absorb paediatrics and sports medicine if better organized. Number of orthopaedic surgeons should go back to 7.0 FTE - the newest orthopaedic surgeon started two years ago and already has long wait times. The Canadian Orthopaedic Association benchmark is 1.0 FTE:25,000 population, but due to limited OR time and ambulatory care suggests 7.0 FTE is unlikely to work. Wait times for hips and knees (provided by four surgeons) vary between 12 and 18 months due to strained resources and beds. Drivers of workload over next 3-5-10 years will be:

- Aging population (most hips and knees are in the retired + age cohorts (2:1 hips:knees)
- Obesity
- Increased wrist and hip procedures
- Technology (permits arthroplasties in younger patients due to longevity of prostheses)
- Increased geriatric trauma, especially fractured hips and osteoporotic fractures

## Exhibit 14-09
## National and Provincial Benchmarks for Hip Replacement Surgery 2013 2020 (CIHI)

| Indicator | Hip Replacement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Province** | **Unit of measurement** | **Metric** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Newfoundland and Labrador | Days | 50th percentile | 82 | 86 | 83 | 100 | 81 | 92 | 113 | 204 |
| | | 90th percentile | 177 | 161 | 173 | 241 | 225 | 187 | 229 | 380 |
| | Number of cases | Volume | 243 | 248 | 245 | 252 | 304 | 279 | 303 | 163 |
| | Proportion | % meeting benchmark | 92 | 96 | 94 | 77 | 84 | 88 | 76 | 45 |
| **Prince Edward Island** | **Days** | **50th percentile** | **121** | **56** | **92** | **133** | **182** | **190** | **138** | **156** |
| | | **90th percentile** | **252** | **228** | **245** | **281** | **258** | **305** | **333** | **463** |
| | **Number of cases** | **Volume** | **78** | **101** | **83** | **86** | **76** | **109** | **106** | **119** |
| | **Proportion** | **% meeting benchmark** | **80** | **81** | **85** | **67** | **50** | **49** | **66** | **56** |
| Nova Scotia | Days | 50th percentile | 181 | 179 | 173 | 152 | 179 | 186 | 158 | 190 |
| | | 90th percentile | 534 | 569 | 611 | 606 | 665 | 568 | 442 | 474 |
| | Number of cases | Volume | 523 | 532 | 575 | 600 | 670 | 684 | 798 | 390 |
| | Proportion | % meeting benchmark | 50 | 51 | 52 | 56 | 51 | 49 | 59 | 47 |
| New Brunswick | Days | 50th percentile | 109 | 127 | 134 | 164 | 162 | 170 | 195 | 268 |
| | | 90th percentile | 336 | 383 | 456 | 406 | 386 | 406 | 378 | 547 |
| | Number of cases | Volume | 389 | 366 | 424 | 505 | 508 | 509 | 532 | 446 |
| | Proportion | % meeting benchmark | 69 | 65 | 62 | 55 | 56 | 55 | 48 | 29 |
| Quebec | Days | 50th percentile | 85 | 83 | 82 | 83 | 93 | 97 | 105 | 163 |
| | | 90th percentile | 239 | 229 | 218 | 214 | 215 | 238 | 249 | 342 |
| | Number of cases | Volume | 3,021 | 3,093 | 3,264 | 3,381 | 3,373 | 3,756 | 3,756 | 2,193 |
| | Proportion | % meeting benchmark | 81 | 84 | 85 | 85 | 83 | 80 | 76 | 56 |
| Ontario | Days | 50th percentile | 70 | 71 | 75 | 80 | 82 | 77 | 77 | 141 |
| | | 90th percentile | 188 | 202 | 197 | 210 | 242 | 230 | 234 | 321 |
| | Number of cases | Volume | 7,093 | 7,323 | 7,700 | 7,953 | 8,217 | 8,723 | 8,823 | 5,281 |
| | Proportion | % meeting benchmark | 89 | 88 | 87 | 85 | 83 | 84 | 85 | 64 |
| Manitoba | Days | 50th percentile | 119 | 104 | 118 | 136 | 169 | 186 | 163 | 196 |
| | | 90th percentile | 299 | 248 | 339 | 348 | 414 | 413 | 368 | 389 |
| | Number of cases | Volume | 628 | 660 | 633 | 697 | 710 | 748 | 842 | 719 |
| | Proportion | % meeting benchmark | 68 | 71 | 69 | 66 | 53 | 49 | 55 | 47 |
| Saskatchewan | Days | 50th percentile | 99 | 63 | 53 | 84 | 98 | 117 | 194 | 236 |
| | | 90th percentile | 243 | 158 | 128 | 225 | 280 | 322 | 381 | 482 |
| | Number of cases | Volume | 782 | 738 | 794 | 708 | 762 | 800 | 874 | 462 |
| | Proportion | % meeting benchmark | 77 | 93 | 100 | 80 | 76 | 66 | 47 | 40 |
| Alberta | Days | 50th percentile | 108 | 90 | 93 | 91 | 121 | 129 | 141 | 187 |
| | | 90th percentile | 252 | 204 | 209 | 218 | 251 | 265 | 273 | 379 |
| | Number of cases | Volume | 1,865 | 1,890 | 1,895 | 2,043 | 2,024 | 2,250 | 2,319 | 1,578 |
| | Proportion | % meeting benchmark | 80 | 87 | 83 | 82 | 73 | 70 | 64 | 49 |
| British Columbia | Days | 50th percentile | 91 | 126 | 140 | 141 | 133 | 120 | 96 | 158 |
| | | 90th percentile | 230 | 310 | 359 | 341 | 330 | 321 | 281 | 329 |
| | Number of cases | Volume | 2,396 | 2,581 | 2,589 | 2,929 | 2,830 | 3,614 | 3,576 | 2,459 |
| | Proportion | % meeting benchmark | 80 | 67 | 61 | 61 | 62 | 67 | 76 | 58 |
| **Canada** | **Days** | **50th percentile** | **88** | **89** | **93** | **98** | **105** | **105** | **106** | **165** |
| | | **90th percentile** | **231** | **237** | **246** | **255** | **277** | **275** | **271** | **355** |
| | **Number of cases** | **Volume** | **17,018** | **17,532** | **18,202** | **19,154** | **19,474** | **21,472** | **21,929** | **13,810** |
| | **Proportion** | **% meeting benchmark** | **82** | **82** | **81** | **78** | **76** | **75** | **75** | **56** |

Canadian Institute for Health Information. Wait Times for Priority Procedures in Canada – Data Tables. Ottawa, ON: CIHI; 2021

## Exhibit 14-10
## National and Provincial Benchmarks for Knee Replacement Surgery 2013 2020 (CIHI)

| Indicator | Knee Replacement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Province** | **Unit of measurement** | **Metric** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Newfoundland and Labrador | Days | 50th percentile | 77 | 98 | 99 | 127 | 145 | 132 | 133 | 286 |
| | | 90th percentile | 170 | 176 | 186 | 269 | 291 | 248 | 280 | 461 |
| | Number of cases | Volume | 439 | 402 | 447 | 498 | 527 | 521 | 546 | 229 |
| | Proportion | % meeting benchmark | 93 | 92 | 87 | 70 | 66 | 75 | 72 | 21 |
| **Prince Edward Island** | **Days** | **50th percentile** | **148** | **126** | **112** | **146** | **195** | **242** | **246** | **315** |
| | | **90th percentile** | **324** | **300** | **229** | **251** | **312** | **368** | **341** | **503** |
| | **Number of cases** | **Volume** | **173** | **153** | **139** | **145** | **145** | **176** | **176** | **185** |
| | **Proportion** | **% meeting benchmark** | **61** | **70** | **83** | **67** | **46** | **26** | **28** | **32** |
| Nova Scotia | Days | 50th percentile | 272 | 251 | 271 | 260 | 283 | 194 | 195 | 270 |
| | | 90th percentile | 632 | 734 | 727 | 764 | 740 | 581 | 531 | 652 |
| | Number of cases | Volume | 846 | 922 | 934 | 1,001 | 968 | 1,244 | 1,331 | 545 |
| | Proportion | % meeting benchmark | 36 | 37 | 36 | 38 | 34 | 47 | 47 | 31 |
| New Brunswick | Days | 50th percentile | 143 | 188 | 161 | 180 | 201 | 209 | 197 | 296 |
| | | 90th percentile | 352 | 480 | 400 | 480 | 451 | 510 | 485 | 568 |
| | Number of cases | Volume | 682 | 731 | 841 | 925 | 903 | 935 | 938 | 650 |
| | Proportion | % meeting benchmark | 60 | 48 | 55 | 50 | 46 | 43 | 44 | 25 |
| Quebec | Days | 50th percentile | 96 | 88 | 94 | 97 | 101 | 116 | 118 | 202 |
| | | 90th percentile | 258 | 237 | 247 | 243 | 228 | 244 | 269 | 354 |
| | Number of cases | Volume | 4,766 | 4,852 | 5,081 | 5,329 | 5,200 | 5,380 | 5,297 | 2,408 |
| | Proportion | % meeting benchmark | 78 | 81 | 80 | 80 | 80 | 77 | 72 | 43 |
| Ontario | Days | 50th percentile | 79 | 75 | 80 | 86 | 92 | 85 | 85 | 163 |
| | | 90th percentile | 216 | 209 | 211 | 241 | 275 | 285 | 281 | 372 |
| | Number of cases | Volume | 12,499 | 12,480 | 13,031 | 13,880 | 13,801 | 15,183 | 15,647 | 7,612 |
| | Proportion | % meeting benchmark | 85 | 86 | 86 | 81 | 78 | 79 | 80 | 56 |
| Manitoba | Days | 50th percentile | 157 | 112 | 138 | 160 | 203 | 230 | 203 | 238 |
| | | 90th percentile | 344 | 274 | 363 | 412 | 435 | 451 | 418 | 463 |
| | Number of cases | Volume | 1,127 | 1,058 | 1,000 | 1,084 | 1,148 | 1,258 | 1,372 | 1,150 |
| | Proportion | % meeting benchmark | 58 | 71 | 64 | 58 | 43 | 37 | 46 | 37 |
| Saskatchewan | Days | 50th percentile | 128 | 70 | 62 | 109 | 142 | 168 | 255 | 302 |
| | | 90th percentile | 354 | 193 | 130 | 240 | 310 | 355 | 410 | 514 |
| | Number of cases | Volume | 1,501 | 1,417 | 1,202 | 1,139 | 1,289 | 1,310 | 1,358 | 643 |
| | Proportion | % meeting benchmark | 66 | 89 | 99 | 73 | 61 | 56 | 39 | 28 |
| Alberta | Days | 50th percentile | 127 | 99 | 106 | 113 | 143 | 131 | 148 | 217 |
| | | 90th percentile | 294 | 238 | 237 | 253 | 280 | 298 | 315 | 429 |
| | Number of cases | Volume | 2,962 | 2,922 | 3,108 | 3,174 | 3,035 | 3,287 | 3,174 | 2,073 |
| | Proportion | % meeting benchmark | 72 | 81 | 79 | 77 | 67 | 66 | 62 | 39 |
| British Columbia | Days | 50th percentile | 118 | 160 | 197 | 192 | 196 | 152 | 123 | 183 |
| | | 90th percentile | 258 | 341 | 382 | 381 | 395 | 358 | 323 | 384 |
| | Number of cases | Volume | 3,407 | 3,588 | 3,800 | 4,232 | 4,295 | 5,457 | 5,333 | 3,557 |
| | Proportion | % meeting benchmark | 71 | 57 | 47 | 47 | 46 | 59 | 66 | 50 |
| **Canada** | **Days** | **50th percentile** | **105** | **101** | **110** | **118** | **129** | **122** | **121** | **197** |
| | | **90th percentile** | **264** | **259** | **265** | **291** | **311** | **317** | **314** | **405** |
| | **Number of cases** | **Volume** | **28,402** | **28,525** | **29,583** | **31,407** | **31,311** | **34,751** | **35,172** | **19,052** |
| | **Proportion** | **% meeting benchmark** | **77** | **78** | **77** | **72** | **68** | **69** | **70** | **47** |

CIHI Wait Times for Priority Procedures in Canada – Data Tables. Ottawa, ON: CIHI; 2021

66% of hip replacements met national benchmark in 2019 compared to national average of 75%.

28% of knee replacements met national benchmark in 2019 compared to national average of 70%. .

Exhibit 14-11
Forecast Summary for Orthopaedic Surgery

| Orthopaedic Surgery | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 6.95 FTE (1.0 FTE per 24,600 population) | Population per FTE | 24,400 | 24,400 | 21,429 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, constrained by access to OR time. The current FTE meets the base case benchmark (Canadian average) | | Increase by 1.25 FTE over the 10-year forecast period | Increase by 2.23 FTE over the 10-year forecast period | Increase by 4.36 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.7 Otolaryngology

Exhibit 14-12
Forecast Summary for Otolaryngology

| Otolaryngology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 3.0 FTE (1.0 FTE per 57,000 population) | Population per FTE | 52,632 | 52,632 | 42,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, constrained by access to OR time. | | Increase by 0.72 FTE over the 10-year forecast period | Increase by 1.26 FTE over the 10-year forecast period | Increase by 2.85 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.8 Plastic Surgery

The 2.0 FTE plastic surgeons at QEH require the addition of another 1.0 FTE (and, currently, across Canada, there is a surplus of plastic surgery residents). Wait times reflect the backlog of available OR time whereby each plastic surgeon has two OR days available monthly (in addition to clinic procedures). Virtually no cosmetic procedures are performed on the island.

Plastic surgery that goes off island are cosmetic and breast reconstruction (starting slow process of repatriation, but still difficult because of limited OR time).. The key challenges facing plastic surgery are the lack of available OR time and accessible primary care. The additional required 1.0 FTE plastic surgeon should also be augmented by occupational therapy for hand trauma.

Drivers of workload will be new demands and the repatriation of breast reconstruction.

Exhibit 14-13
Forecast Summary for Plastic Surgery

| Plastic Surgery | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 1.8 FTE (1.0 FTE per 95,000 population) | Population per FTE | 80,000 | 62,500 | 62,500 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Currently, constrained by access to OR time. | | Increase by 1.0 FTE by FY5 over the 10-year forecast period | Increase by 2.0 FTE over the 10-year forecast period | Increase by 2.66 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be minimal. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.9 Urology

There are 3.0 FTE urologists at QEH - all are busy and 1.0 FTE will be retiring in two years. The previous frequent visits to PCH have been curtailed; there is no urology presence in the east-west clinics. A fourth FTE urologist appears to be justified, although the underpinning evidence for the increase requires a more thorough long -term examination.

Wait times vary by acuity - can be six weeks between consultation and operation - renal colic and bladder cancer sometimes waits longer. Anesthesiology shortages and OR / RR nursing shortages have resulted in OR cancelations.

Urology sent off island is typically reconstructive (urethroplasty), slings, cystectomy, and some oncology. An additional urologist ideally would be reconstructive (not to shorten the waiting list but to be able to provide care close to home). Another option would be a urologist with additional oncology training - but still to be considered is a general urologist in terms of service provision. Drivers of workload will be a growing and aging population, expanded skillsets and services, standards of care, and patient expectations.

Exhibit 14-14
Forecast Summary for Urology

| Urology | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 3.35 FTE (1.0 FTE per 51,000 population) | Population per FTE | 78,000 | 60,000 | 50,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Referral to Moncton and Halifax typically for reconstructive surgery, slings, cystectomy, and some oncology. | | Decrease by 0.2 FTE over the 10-year forecast period | Increase by 0.87 FTE over the 10-year forecast period | Increase by 2.2 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be limited to those services noted above. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.10 Thoracic Surgery

All thoracic surgery is referred off island with no foreseeable change anticipated.

## 14.11 Vascular Surgery

Currently, some vascular surgery is provided on the island by an itinerant surgeon from Halifax.

Exhibit 14-15
Forecast Summary for Vascular Surgery

| Vascular Surgery | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 0.6 FTE | Population per FTE | 166,000 | 166,000 | 149,000 |
| On-Call | Not applicable | | | | |
| Scenario FTEs | Significant referral to Moncton and Halifax | | Increase by 0.74 FTE by FY5 of the 10-year forecast period | Increase by 0.93 FTE by FY5 of the 10-year forecast period | Increase by 1.27 FTE over the10-year forecast period |
| Description | All scenarios assume reciprocal billing for outsourced services will be significant. | | | | |
| Program Status | Centralized service with provincial oversight for resource management, recruitment and retention strategies and actions, clinical practice guidelines, education, training, performance management, and quality assurance. | | | | |

## 14.12 PROVINCE-WIDE FORECAST FOR SURGICAL SERVICES

The ten-year province-wide surgical specialty FTE base case forecast to March 31, 2032 projects an overall annual increase of 5.0% per annum and increases for all specialties over the forecast period. The most significant increases are in general surgery (2.29 FTE), orthopaedic surgery (2.23 FTE), and plastic surgery (2.02 FTE). The base case scenario projects a need for 11.17 FTE more over the 10-year forecast period. Two variables are predominantly driving this additional FTE need; benchmarks (Col.7, 7.85 FTE) and change in age/gender weighted population (Col.9, 10.27 FTE). In the base case scenario, the benchmarks against which Prince Edward Island is compared are the national average population per 1.0 FTE for each discipline.

Exhibit 14-16
Provincial Forecast Summary for Surgical Services
(base year 2021-2022 (F0); forecast years 2022-2023 (F1) to 2031-2032 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| *base CASE SCENERIO* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* | *14* | *15* | *16* | *17* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *WORKFORCE RESOURCE VARIABLES* | | | | *HEALTH SYSTEM PLANNING RELATED VARIABLES* | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anesthesiology | 14.77 | (1.4) | 11.84 | 1.57 | 1.25 | 13.24 | 3.22 | 17.99 | 3.47 | 0.77 | 22.23 | 0.00 | (7.1) | 0.00 | (7.1) | 15.14 | 0.36 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 9.67 | (1.1) | 6.84 | 0.90 | 0.79 | 7.46 | 1.73 | 11.41 | 2.20 | 0.48 | 14.09 | 0.00 | (2.1) | 0.00 | (2.1) | 11.96 | 2.29 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 5.30 | (0.6) | 4.16 | 0.50 | 0.43 | 4.50 | (0.0) | 5.26 | 1.02 | 0.22 | 6.50 | 0.00 | 0.00 | 0.00 | 0.00 | 6.50 | 1.20 |
| Orthopedic Surgery | 6.95 | (0.8) | 1.93 | 0.35 | 0.64 | 2.07 | 0.49 | 7.44 | 1.44 | 0.31 | 9.18 | 0.00 | 0.00 | 0.00 | 0.00 | 9.18 | 2.23 |
| Otolaryngology - Head and Neck Su | 3.00 | (0.3) | 0.71 | 0.16 | 0.29 | 0.83 | 0.45 | 3.45 | 0.67 | 0.15 | 4.26 | 0.00 | 0.00 | 0.00 | 0.00 | 4.26 | 1.26 |
| Plastic Surgery | 1.80 | (0.2) | 3.14 | 0.37 | 0.11 | 3.42 | 1.29 | 3.09 | 0.59 | 0.14 | 3.82 | 0.00 | 0.00 | 0.00 | 0.00 | 3.82 | 2.02 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 3.35 | (0.4) | 0.71 | 0.15 | 0.31 | 0.75 | 0.08 | 3.43 | 0.66 | 0.15 | 4.24 | 0.00 | 0.00 | 0.00 | (0.0) | 4.22 | 0.87 |
| Vascular Surgery | 0.60 | (0.0) | 0.10 | 0.03 | 0.06 | 0.14 | 0.64 | 1.24 | 0.24 | 0.05 | 1.53 | 0.00 | 0.00 | 0.00 | 0.00 | 1.53 | 0.93 |
| **Surgical Total** | **45.45** | **(4.9)** | **29.43** | **4.03** | **3.88** | **32.41** | **7.85** | **53.30** | **10.27** | **2.27** | **65.84** | **0.00** | **(9.2)** | **0.00** | **(9.2)** | **56.61** | **11.17** |

# Core Physician Services

15

The Council on Graduate Medical Education (COGME) in the United States has noted the decline in interest in most of the generalist specialties, especially in the context of declining postgraduate matching in family medicine, general internal medicine, and general paediatrics. The shortage of generalists in Canada is less acute due to the expansion of residency positions across all generalist disciplines. Generalism is seen, by most, as a central piece of improved access, core services, and patient-centred care.

Access to certain core physician services is defined from the city level down to, and including, rural and remote levels and related catchment areas. The consensus practice in Canada is to include the following as core physician services:

- Comprehensive family practice
- Emergency medicine
- General internal medicine
- General surgery (and corresponding anaesthesiology services)
- General psychiatry
- General paediatrics
- Obstetrics and gynaecology
- Supported by general laboratory (specimen collection and transport, ECG) and diagnostic imaging (screening, routine diagnostic and imaging, x-ray) services

Conceptually, core services are uncomplicated, noted to be an evidence-based understanding of population health service needs that carry expectations of timely and efficient access. At a level of detail, the application of core services can be a challenge. The concept of "core services" has been implemented in different ways in a number of provinces. A key objective is to enable timely access for all residents to a defined range of primary and secondary care services, and to refer patients for tertiary and quaternary services. Canadian experience with defining and implementing core services has been demonstrated well in British Columbia, Ontario, Manitoba, and Nova Scotia.

There are many aspects to consider in designing and implementing a core services model. Detailed clinical service planning across all services is required to successfully implement a core service model. Some of the key determinants include:

1. Definition of reasonable access time ("x" minutes driving time to a hospital staffed with secondary care specialists). Importantly, residents of PEI are within a one-hour commute of either Charlottetown or Summerside.
2. Criteria for rurality/remoteness and determinants of a service delivery model that is unique to remote communities (air ambulance, fly-in primary health care (PHC)). Remoteness is not applicable to Prince Edward Island geography.
3. Balancing need for appropriate access with factors such as maintenance of competency and affordability in lower volume situations. Concentrating core specialty services in both Summerside and Charlottetown mitigates this factor.
4. Critical mass of a given specialty to function in a sustainable manner. Can a single specialist function reasonably in a sustainable manner or is there a minimum number of specialists required in a given catchment area? The answer is a single specialist cannot function in isolation in a sustainable manner; however, this is not necessary in Prince Edward Island where specialists can be based out of PCH Summerside and QEH Charlottetown.

The following table illustrates how core services are distributed in the forecast model. A check mark indicates the physical presence of the service within a given community category (such as, Town-Med 2,000-2,999 population) with primary health care (PHC) in the community. Commute times to the community from surrounding rural areas are plotted using geographical, population, and travel route data. Concentric circles of increasing distance/time to access are drawn outward from a given community to establish catchment areas and, therefore, service population and, ultimately, the number and type of physician disciplines required.

## Exhibit 15-01
## Distribution of Core Physician Services in the Forecast Model

| Community Category | PHC | EM | GIM | GS and AN | General PS | General PA | OBGYN | Diagnostics |
|---|---|---|---|---|---|---|---|---|
| Remote | | | | | | | | |
| Rural | | | | | | | | |
| Hamlet <250 | | | | | | | | |
| Village 250-999 | | | | | | | | |
| Town small 1,000 -1,999 | (1) | (2) | | | | | | (3) |
| Town medium 2,000-2,999 | ✓ | ✓ | | | | | | * |
| Town large 3,000-4,999 | ✓ | ✓ | | | | | | * |
| Urban small 5,000-9,999 | ✓ | ✓ | | | | | | * |
| Urban large 10,000 + | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

(1) Based on identified needs, communities in the 1,000-1,999 category receive primary health services from either visiting PHC providers or from PHC providers located in the community

(2) Prince Edward Island is improving stability and access to health care services through new initiatives such as medical homes, medical neighbourhoods. and collaborative care teams. Medical homes offer expanded access to primary health care providers and the assurance that 24/7 emergency service is available for patients.

(3) Includes laboratory technologists conducting specimen collection, transport, and results reporting and diagnostic Imaging technologists performing general radiology exams.

The configuration of core services has a direct material impact on workforce planning and forecasting. A core services model is not a requirement or prerequisite of workforce planning in any way. In the absence of a core service model, the workforce plan is merely required to make assumptions, make them clear and transparent, prior to generating a workforce planning model and forecast. The following exhibit identifies the key assumptions driving the number of core service specialists required under the low, base, and high case scenarios.

Exhibit 15-02
Discipline-Specific Assumptions for Core Services

| SPECIALTY | NOTES | LOW CASE | BASE CASE | HIGH CASE |
|---|---|---|---|---|
| Comprehensive family practice in context of Collaborative Primary Health Care Teams | Based upon the experience in the United Kingdom Primary Care Trust, USA Veterans Administration health network, Ontario and Manitoba health systems, and CFPC advice on panel size. Also target ratio in Saskatchewan and Nova Scotia. Parallel growth in NPs is an essential prerequisite, as part of PHC teams roll outs, to achieving a population of 1,850 per 1.0 FTE GP. | | 1,850 per 1.0 FTE general practitioner | |
| General Internal Medicine | 1.0 FTE is 16 weeks inpatient ward attending physician, 14 weeks hospital consultation and outpatient clinic service. 14 wks private office practice. | 18,333 per 1.0 FTE | 16,667 per 1.0 FTE | 16,333 per 1.0 FTE |
| General Pediatrics | 1.0 FTE averages 1 service per year per resident less than age 18 years 5,100 total services per year | 4,000 under age 18 per 1.0 FTE | 3,385 under age 18 per 1.0 FTE | 3,385 under age 18 per 1.0 FTE |
| Psychiatry | 1.0 FTE averages 2,178 consultations | 10,823 per 1.0 FTE | 9,406 per 1.0 FTE | 8,929 per 1.0 FTE |

| | | | | |
|---|---|---|---|---|
| Obstetrics and Gynaecology – normal newborn | Family Medicine was the most responsible doctor service for 75% of newborns in PEI in 2021, Pediatrics 25%. O&G was the second most responsible doctor service in 23% of newborns.<br><br>About 11%-13% of newborns require admission to a NICU (Level 2 or 3) post-partum.<br><br>1.0 FTE can average 270 newborn deliveries (normal and c-section) per year. | 26,786 per 1.0 FTE or 4,286 female age 15 to 44 per 1.0 FTE.<br><br>75% of newborns delivered by Family Medicine with special interest/training in "Maternity and Newborn Care". 25% O&G assistance. | 22,000 per 1.0 FTE or 3,520 female age 15 to 44 per 1.0 FTE.<br><br>75% of newborns delivered by Family Medicine with special interest/training in "Maternity and Newborn Care". 25% O&G assistance. | 17,857 per 1.0 FTE or 2,857 female age 15 to 44 per 1.0 FTE.<br><br>Maintain current state with 75% of deliveries done by Family Medicine. 40% of all newborns are normal, 20% with c-section, and remaining 40% are induced or with ventouse or forceps. |
| General Surgery | Benchmark: 1.0 FTE averages 120 inpatient and 540 outpatient procedures per year. 640 operating room hours per year or 14 hours per week for 46 weeks. | 24,080 pop. per 1.0 FTE | 16,949 pop. per 1.0 FTE | 15,600 per 1.0 FTE pop. |
| Diagnostic Imaging | 13,500 to 14,500 examinations and readings per 1.0 FTE. Current 10.6 FTE do 15,000 exams/readings per 1.0 FTE. | 21,200 pop. per 1.0 FTE | 16,900 per 1.0 FTE | 14,286 per 1.0 FTE |
| General Pathology | | Specimen collection, transport, and reporting with one central site (Charlottetown) in a hub and spoke model of service . | No change in current service delivery model | No change in current service delivery model |

The following three exhibits identify the FTE specialist impact of applying a core specialist service model to the core service community. Core specialists under Kings County Souris/Montague will be based out of Charlottetown since Kings County does not have a large enough community to support a team of core specialists. Radiology technologists and medical laboratory technologists will be based in Souris and Montague to deliver basic radiology exams and specimen collection and transport.

In the base and low case scenarios, core specialist FTEs decrease in some specialties due to economies of scale; however, when the fully integrated 10-year forecast is made, the total FTE need for each core specialty still increases overall when the other need variables, weighted population, premature mortality rates, and benchmarks are factored into the forecast.

Exhibit 15-03
Base Case Forecast Model of Care Core Services by County

| BASE CASE -FORECAST - MODEL OF CARE - CORE SERVICES | | | | | 2028/29 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| Queens County | Charlottetown | 98,987 | 118,878 | 7.9 | 7.3 | 14.0 | 6.8 | 13.7 | 8.8 | 8.8 | 67.3 |
| Prince County | Summerside | 51,671 | 62,538 | 4.2 | 3.8 | 7.4 | 3.6 | 7.2 | 4.6 | 4.6 | 35.4 |
| Kings County | Souris/Montague | 20,420 | 24,515 | 1.6 | 1.5 | 2.9 | 1.4 | 2.8 | 1.8 | 1.8 | 13.9 |
| CORE SERVICE FORECAST | TOTAL | 171,077 | 205,932 | 13.7 | 12.7 | 24.3 | 11.7 | 23.7 | 15.2 | 15.2 | 116.5 |
| ACTUAL SPECIALIST FTE | TOTAL | | | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |
| VARIANCE - ACTUAL TO FORECAST | | | | 1.8 | 1.8 | (1.2) | (0.2) | 1.4 | 1.1 | (4.4) | 0.3 |

| PRE-MODEL OF CARE - CORE SERVICES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| - Queens County | Charlottetown | 98,987 | 118,878 | 7.3 | 8.5 | 17.3 | 8.4 | 16.2 | 9.5 | 15.1 | 82.3 |
| - Prince County | Summerside | 51,671 | 62,538 | 4.6 | 2.4 | 8.2 | 3.5 | 5.98 | 4.6 | 4.6 | 33.9 |
| - Kings County | Souris/Montague | 20,420 | 24,515 | - | - | - | - | - | - | - | - |
| | TOTAL | 171,077 | 205,932 | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |

| VARIANCE - PRE-MOC TO FORECAST 2028/29 - MODEL OF CARE - CORE SERVICES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| - Queens County | Charlottetown | 98,987 | 118,878 | 0.7 | (1.2) | (3.3) | (1.7) | (2.6) | (0.8) | (6.3) | (15.1) |
| - Prince County | Summerside | 51,671 | 62,538 | (0.5) | 1.4 | (0.8) | 0.0 | 1.2 | 0.1 | 0.1 | 1.5 |
| - Kings County | Souris/Montague | 20,420 | 24,515 | 1.6 | 1.5 | 2.9 | 1.4 | 2.8 | 1.8 | 1.8 | 13.9 |
| | TOTAL | 171,077 | 205,932 | 1.8 | 1.8 | (1.2) | (0.2) | 1.4 | 1.1 | (4.4) | 0.3 |
| | % Change per Year | | | 1.5% | 1.6% | (0.5%) | (0.2%) | 0.6% | 0.8% | (2.2%) | 0.0% |

The base case scenario implies an increase of 0.3 FTE (forecast of 116.5 versus actual of 116.2 FTE) to achieve the desired population per FTE ratio by county.

Exhibit 15-04

Low Case Forecast Model of Care Core Services by County

| LOW CASE -FORECAST - MODEL OF CARE - CORE SERVICES | | | | 2028/29 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| Queens County | Charlottetown | 98,987 | 118,878 | 7.2 | 7.7 | 12.2 | 5.5 | 12.9 | 6.2 | 7.0 | 58.8 |
| Prince County | Summerside | 51,671 | 62,538 | 3.8 | 4.1 | 6.4 | 2.9 | 6.8 | 3.2 | 3.7 | 30.9 |
| Kings County | Souris/Montague | 20,420 | 24,515 | 1.5 | 1.6 | 2.5 | 1.1 | 2.7 | 1.3 | 1.4 | 12.1 |
| CORE SERVICE FORECAST | TOTAL | 171,077 | 205,932 | 12.5 | 13.4 | 21.1 | 9.6 | 22.3 | 10.7 | 12.1 | 101.8 |
| ACTUAL SPECIALIST FTE | TOTAL | | | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |
| VARIANCE - ACTUAL TO FORECAST | | | | 0.6 | 2.5 | (4.4) | (2.3) | 0.1 | (3.4) | (7.5) | (14.4) |

| PRE-MODEL OF CARE - CORE SERVICES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| Queens County | Charlottetown | 98,987 | 118,878 | 7.3 | 8.5 | 17.3 | 8.4 | 16.2 | 9.5 | 15.1 | 82.3 |
| Prince County | Summerside | 51,671 | 62,538 | 4.6 | 2.4 | 8.2 | 3.5 | 6.0 | 4.6 | 4.6 | 33.9 |
| Kings County | Souris/Montague | 20,420 | 24,515 | - | - | - | - | - | - | - | - |
| | TOTAL | 171,077 | 205,932 | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |

| VARIANCE - PRE-MOC TO FORECAST 2028/29 - MODEL OF CARE - CORE SERVICES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| Queens County | Charlottetown | 98,987 | 118,878 | (0.0) | (0.7) | (5.1) | (2.9) | (3.4) | (3.4) | (8.0) | (23.6) |
| Prince County | Summerside | 51,671 | 62,538 | (0.8) | 1.6 | (1.8) | (0.6) | 0.8 | (1.3) | (0.9) | (3.0) |
| Kings County | Souris/Montague | 20,420 | 24,515 | 1.5 | 1.6 | 2.5 | 1.1 | 2.7 | 1.3 | 1.4 | 12.1 |
| | TOTAL | 171,077 | 205,932 | 0.6 | 2.5 | (4.4) | (2.3) | 0.1 | (3.4) | (7.5) | (14.4) |
| | % Change per Year | | | 0.5% | 2.3% | (1.7%) | (2.0%) | 0.0% | (2.4%) | (3.8%) | (1.2%) |

The low case scenario requires a decrease of 14.4 FTE to achieve the desired population per FTE ratio by county.

## Exhibit 15-05
## High Case Forecast Model of Care Core Services by County

| HIGH CASE -FORECAST - MODEL OF CARE - CORE SERVICES | | | | 2028/29 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| - | Queens County | Charlottetown | 98,987 | 118,878 | 8.1 | 8.2 | 14.8 | 8.3 | 14.3 | 9.5 | 10.4 | 73.6 |
| - | Prince County | Summerside | 51,671 | 62,538 | 4.3 | 4.3 | 7.8 | 4.4 | 7.5 | 5.0 | 5.5 | 38.7 |
| - | Kings County | Souris/Montague | 20,420 | 24,515 | 1.7 | 1.7 | 3.1 | 1.7 | 2.9 | 2.0 | 2.1 | 15.2 |
| CORE SERVICE FORECAST | | TOTAL | 171,077 | 205,932 | 14.0 | 14.2 | 25.6 | 14.4 | 24.7 | 16.5 | 18.0 | 127.5 |
| ACTUAL SPECIALIST FTE | | TOTAL | | | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |
| VARIANCE - ACTUAL TO FORECAST | | | | | 2.1 | 3.3 | 0.1 | 2.5 | 2.5 | 2.4 | (1.6) | 11.3 |

| PRE-MODEL OF CARE - CORE SERVICES | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| - | Queens County | Charlottetown | 98,987 | 118,878 | 7.3 | 8.5 | 17.3 | 8.4 | 16.2 | 9.5 | 15.1 | 82.3 |
| - | Prince County | Summerside | 51,671 | 62,538 | 4.6 | 2.4 | 8.2 | 3.5 | 6.0 | 4.6 | 4.6 | 33.9 |
| - | Kings County | Souris/Montague | 20,420 | 24,515 | - | - | - | - | - | - | - | - |
| | | TOTAL | 171,077 | 205,932 | 11.9 | 10.9 | 25.5 | 12.0 | 22.2 | 14.1 | 19.6 | 116.2 |

| VARIANCE - PRE-MOC TO FORECAST 2028/29 - MODEL OF CARE - CORE SERVICES | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area Name | Core Service Community | Population 2022/23 | Population 2032/33 | GIM | Paediatrics | Psychiatry | O&G | Anaesthesia | General Surgery | Diagnostic Radiology | Total |
| - | Queens County | Charlottetown | 98,987 | 118,878 | 0.8 | (0.3) | (2.5) | (0.1) | (2.0) | (0.0) | (4.7) | (8.7) |
| - | Prince County | Summerside | 51,671 | 62,538 | (0.4) | 1.9 | (0.4) | 0.9 | 1.5 | 0.5 | 0.9 | 4.8 |
| - | Kings County | Souris/Montague | 20,420 | 24,515 | 1.7 | 1.7 | 3.1 | 1.7 | 2.9 | 2.0 | 2.1 | 15.2 |
| | | TOTAL | 171,077 | 205,932 | 2.1 | 3.3 | 0.1 | 2.5 | 2.5 | 2.4 | (1.6) | 11.3 |
| | | % Change per Year | | | 1.8% | 3.0% | 0.0% | 2.1% | 1.1% | 1.7% | (0.8%) | 1.0% |

The high case scenario requires an additional 11.3 FTE to achieve the desired population per FTE ratio by county.

### Notes to Core Services

The base, low, and high case scenarios for core services are exclusive of subspecialties in paediatrics, psychiatry, and obstetrics and gynaecology, such as paediatric gastroenterology, child and adolescent psychiatry, and gynaecologic oncology.

The geographic proximity of the Kings County population to Charlottetown means the MOC for core specialist services for Kings County can be delivered effectively from Charlottetown. The MOC must have a sustainable call rota, achieve greater cross specialty integration, reduce professional isolation, increase medical education opportunities, and promote longer term sustainability of core specialty services.

The forecast model adjusts the number of physicians by specialty to ensure a sustainable on-call rotation. The adjustment is sensitized to the "service" more so than the specialty (such as, tertiary intensive care first call is generally not sustainable at a frequency of less than one week in five, whereas rheumatology on-call service is sustainable at one week in two given the low frequency and urgency of calls).

# Allied Health Professions

16

## Exhibit 16-01
## Allied Health Professions Base Case Scenario 10-Year Forecast to 2031-2032

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Occupational Therapist | 58.20 | (6.0) | 15.17 | 1.21 | 4.63 | 14.99 | 5.31 | 63.51 | 9.50 | 2.72 | 75.73 | 0.00 | 0.00 | 0.00 | 0.00 | 75.73 | 17.53 |
| Physiotherapist | 44.20 | (4.3) | 11.98 | 1.01 | 3.57 | 12.27 | 10.53 | 54.73 | 8.19 | 2.35 | 65.26 | 0.00 | 0.00 | 0.00 | 0.00 | 65.26 | 21.06 |
| Respiratory Therapist | 27.20 | (2.7) | 10.34 | 0.84 | 2.20 | 10.65 | 10.58 | 37.78 | 5.65 | 1.62 | 45.05 | 0.00 | 0.00 | 0.00 | 0.00 | 45.05 | 17.85 |
| Speech Language Pathologist | 19.20 | (2.0) | 7.99 | 0.55 | 1.59 | 8.17 | 10.82 | 30.02 | 4.49 | 1.29 | 35.80 | 0.00 | 0.00 | 0.00 | 0.00 | 35.80 | 16.60 |
| Regulated Nurses - LPN | 409.20 | (36.4) | 171.84 | 12.32 | 32.62 | 180.43 | (11.1) | 398.12 | 59.55 | 17.06 | 474.73 | 0.00 | 0.00 | 0.00 | 0.00 | 474.73 | 65.53 |
| Regulated Nurses - NP | 46.60 | (5.3) | 5.41 | 0.66 | 3.88 | 4.69 | (5.9) | 40.72 | 6.09 | 1.75 | 48.56 | 45.00 | 0.00 | 0.00 | 45.00 | 93.56 | 46.96 |
| Regulated Nurses - RN | 1,122.20 | (108.1) | 422.97 | 29.79 | 88.34 | 433.03 | 4.53 | 1,126.73 | 168.52 | 48.29 | 1,343.55 | 0.00 | 0.00 | 0.00 | 0.00 | 1,343.55 | 221.35 |
| Epidemiologist | 3.00 | (0.3) | 0.35 | 0.05 | 0.26 | 0.32 | 0.00 | 3.00 | 0.44 | 0.13 | 3.57 | 0.00 | 0.00 | 0.00 | 0.00 | 3.57 | 0.57 |
| Emergency Prep./Communicable Disease | 1.00 | (0.1) | 0.13 | 0.02 | 0.09 | 0.12 | 0.00 | 1.00 | 0.15 | 0.04 | 1.19 | 0.00 | 0.00 | 0.00 | 0.00 | 1.19 | 0.19 |
| Environmental Health Officer | 9.40 | (1.0) | 1.31 | 0.20 | 0.78 | 1.26 | 0.00 | 9.40 | 1.38 | 0.42 | 11.20 | 0.00 | 0.00 | 0.00 | 0.00 | 11.20 | 1.80 |
| Health Promoter | 5.00 | (0.6) | 0.72 | 0.08 | 0.41 | 0.64 | 0.00 | 5.00 | 0.73 | 0.22 | 5.96 | 0.00 | 0.00 | 0.00 | 0.00 | 5.96 | 0.96 |
| Registered Nurse | 3.20 | (0.3) | 2.63 | 0.16 | 0.27 | 2.72 | 0.00 | 3.20 | 0.47 | 0.14 | 3.81 | 0.00 | 0.00 | 0.00 | 0.00 | 3.81 | 0.61 |
| Home Support Worker | 105.00 | (9.7) | 75.94 | 4.89 | 8.73 | 79.86 | 0.00 | 105.00 | 15.58 | 4.56 | 125.14 | 0.00 | 0.00 | 0.00 | 0.00 | 125.14 | 20.14 |
| Patient Care Worker | 81.80 | (6.6) | 37.94 | 2.87 | 6.69 | 40.93 | 0.00 | 81.80 | 12.27 | 3.49 | 97.56 | 0.00 | 0.00 | 0.00 | 0.00 | 97.56 | 15.76 |
| Resident Care Worker | 411.20 | (34.2) | 177.00 | 12.48 | 33.06 | 188.36 | 7.87 | 419.07 | 62.68 | 17.96 | 499.72 | 0.00 | 0.00 | 0.00 | 0.00 | 499.72 | 88.52 |
| Dietitian | 31.40 | (3.2) | 11.38 | 0.79 | 2.58 | 11.53 | 1.87 | 33.27 | 4.98 | 1.43 | 39.68 | 13.42 | 0.00 | 0.00 | 13.42 | 53.10 | 21.70 |
| Medical Laboratory Technologist | 74.00 | (7.9) | 30.53 | 2.13 | 5.86 | 30.57 | 1.47 | 75.47 | 11.29 | 3.23 | 89.99 | 0.00 | 0.00 | 0.00 | 0.00 | 89.99 | 15.99 |
| Pharmacist | 42.00 | (4.1) | 15.89 | 1.27 | 3.66 | 16.68 | 5.36 | 47.36 | 7.08 | 2.03 | 56.48 | 13.42 | 0.00 | 0.00 | 13.42 | 69.90 | 27.90 |
| Pharmacy Technician | 42.40 | (4.4) | 16.58 | 1.03 | 3.39 | 16.56 | 1.58 | 43.98 | 6.58 | 1.89 | 52.45 | 0.00 | 0.00 | 0.00 | 0.00 | 52.45 | 10.05 |
| Psychologist | 12.60 | (1.4) | 6.29 | 0.46 | 1.10 | 6.45 | 6.84 | 19.44 | 2.91 | 0.83 | 23.18 | 13.42 | 0.00 | 0.00 | 13.42 | 36.61 | 24.01 |
| Radiology Technologist | 56.20 | (5.4) | 13.74 | 1.30 | 4.60 | 14.24 | 9.52 | 65.72 | 9.83 | 2.82 | 78.37 | 0.00 | 0.00 | 0.00 | 0.00 | 78.37 | 22.17 |
| Social Worker | 97.40 | (10.4) | 34.09 | 2.28 | 6.82 | 32.83 | (6.1) | 91.31 | 13.66 | 3.91 | 108.88 | 6.71 | 0.00 | 0.00 | 6.71 | 115.60 | 18.20 |
| **Allied Health Professions-Total** | **2,702.40** | **(254.4)** | **1,070.22** | **76.37** | **215.13** | **1,107.30** | 53.25 | 2,755.65 | **412.01** | **118.19** | **3,285.85** | **91.98** | **0.00** | **0.00** | **91.98** | **3,377.83** | **675.43** |

The base case scenario forecast for public sector allied health professions is a 2.50% (Col.17-675.43 FTE to 3,377.83 FTE from 2,702.4 FTE) increase in FTE per annum until 2031/32. The forecast also projects a 4.1% per annum replacement recruitment requirement per annum Col.6-1,107.3 FTE over 10-years) for the public sector. A significant private sector exists for many allied health professions and it is likely the public sector will recruit from both the private sector (or contract with) and educational institutions to meet workforce planning requirements. Because of the private sector it is recommended that Health PEI use the range between low and base case scenarios as their target recruitment plan rather than focus solely on the base case scenario. The subsequent subsections examine each allied health profession in more detail.

## 16.1 Occupational Therapists

Exhibit 16-02
Forecast Summary for Occupational Therapists

| Occupational Therapists | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 58.2 FTE (with shortfall in Kings and Prince Counties) | Population per FTE | 3,281 | 3,243 | 3,182 |
| Scenario FTEs | Current public sector complement is slightly below (5.31 FTE) the base case benchmark | | Increase by 8.43 FTE over the 10-year forecast period | Increase by 17.53 FTE over the 10-year forecast period | Increase by 25.13 FTE over the 10-year forecast period |
| Description | Occupational therapists work with individuals and groups of people who may have physical, mental, or intellectual challenges that may compromise their ability to participate in the routines of daily living. The goal of occupational therapy is to minimize or prevent the effects of these challenges on people's lives, enabling them to carry out their roles as independently as possible.<br><br>The Prince Edward Island College of Occupational Therapists lists 97 members with 60% (58.2) being employed by Health PEI and 38.8 working in the private sector. Occupational therapists must be registered with the Prince Edward Island College of Occupational Therapists in order to legally practice and use the title "occupational therapist".<br><br>https://www.peiot.org/list-of-registered-occupational-therapists-in-PEI | | | | |

## 16.2 Physiotherapists

Exhibit 16-03
Forecast Summary for Physiotherapists

| Physiotherapists | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 44.2 FTE | Population per FTE | 4,136 | 3,763 | 3,710 |
| Scenario FTEs | Current public sector complement is below (10.5 FTE) the base case benchmark | | Increase by 8.66 FTE over the 10-year forecast period | Increase by 21.0 FTE over the 10-year forecast period | Increase by 27.28 FTE over the 10-year forecast period |
| Description | Physiotherapists study the science of movement. They learn how to pinpoint an injury's root causes. Physiotherapy is treatment to restore, maintain, and make the most of a patient's mobility, function, and well-being. Physiotherapy helps through physical rehabilitation, injury prevention, and health and fitness. Physiotherapists get you involved in your own recovery.<br><br>The Prince Edward Island College of Physiotherapists lists 114 members with 39% (44.2) being employed by Health PEI and 69.8 working in the private sector. Physiotherapists must be registered and licensed with the Prince Edward Island College of Physiotherapists in order to legally practice and use the title "physiotherapist".<br><br>https://www.peicpt.com/ | | | | |

## 16.3 Respiratory Therapists

Exhibit 16-04
Forecast Summary for Respiratory Therapists

| Respiratory Therapists | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 27.2 FTE | Population per FTE | 5,521 | 5,451 | 5,335 |
| Scenario FTEs | Current complement is significantly below (10.58 FTE) the base case benchmark | | Increase by 12.4 FTE over the 10-year forecast period | Increase by 17.85 FTE over the 10-year forecast period | Increase by 22.51 FTE over the 10-year forecast period |
| Description | Respiratory therapy is the health profession in which a person applies particular knowledge, skills and judgment in:<br>• Providing diagnostic, assessment, and therapeutic modalities to assist in the management of cardiorespiratory and related disorders and to achieve optimal respiratory health, wellness, and functional performance<br>• Conducting research, education, management or administrative activities incidental to the above<br><br>The Prince Edward Island College of Allied Health Professionals lists 47 members with 58% (27) being employed by Health PEI and 20 working in the private sector. Respiratory therapists must be registered with the Prince Edward Island College of Allied Health Professionals in order to legally practice and use the title "respiratory therapist".<br><br>https://www.cahppei.ca/members-list | | | | |

## 16.4 Speech Language Pathologists

Exhibit 16-05
Forecast Summary for Speech Language Pathologists

| Speech Language Pathologists | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 19.2 FTE | Population per FTE | 7,419 | 6,859 | 6,472 |
| Scenario FTEs | Current public sector complement is significantly below (10.82 FTE) the base case benchmark | | Increase by 10.27 FTE over the 10-year forecast period | Increase by 16.6 FTE over the 10-year forecast period | Increase by 21.78 FTE over the 10-year forecast period |
| Description | Speech language pathologists (SLP) assess, diagnose, and develop a treatment plan to maximize the communication potential of the people under their care, and may also refer them to other professionals or agencies. Speech language Pathologists also work to support people with chewing and swallowing difficulties. Such work will involve direct contact with people with communication and swallowing difficulties, as well as significant others in their lives.<br><br>The Prince Edward Island Speech and Hearing Association lists 10 members working in the private sector and 67% (20) being employed by HPEI. SLPs do not have to be members of the Association in order to legally practice and use the title "speech-language pathologist" - consequently the total number of SLPs may be understated.<br><br>https://www.peispeechhearing.ca/ | | | | |

## 16.5 Licensed Practical Nurses

Exhibit 16-06
Forecast Summary for Licensed Practical Nurses

| Licensed Practical Nurses | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 409.2 FTE (1.0 FTE per 418 population) | Population per FTE | 528 | 517 | 515 |
| Scenario FTEs | Current complement is slightly above (11.1 FTE) the base case benchmark | | Increase by 10.27 FTE over the 10-year forecast period | Increase by 16.6 FTE over the 10-year forecast period | Increase by 21.78 FTE over the 10-year forecast period |
| Description | Provides basic nursing care necessary for the comfort and well-being of the patient; performs various treatment procedures; provide nursing care for patients and families (such as, provide treatments, medications and perform procedures), participates in the development and implementation of the nursing care plan; applies infection control techniques; and performs other related and allied duties which contribute to the orderly and efficient operation of the departments. These duties are provided under the supervision of a registered nurse.<br>• Participate in education programs and staff meetings<br>• Act as a preceptor to students, beginning practitioners and practicing nurses by sharing specialized nursing experiences<br>• Recognize and respond to situations where other members of the health care team require assistance<br>• Participate, and effectively communicate with the nursing and allied health care team<br><br>Any individual who wishes to practice as a Licensed Practical Nurse in PEI must be registered with the College of Licensed Practical Nurses of Prince Edward Island (CLPNPEI). Licensed Practical Nurses are:<br>• Educated in the theory and practice of nursing<br>• Registered, following confirmation that they meet the CLPNPEI requirements for professional practice<br>• Bound by standards of practice and code of ethics<br>• Accountable for maintaining and building their professional nursing competence throughout their career | | | | |

A detailed staffing model was used to project the LPN hours per patient day (HPPD, 1.9 hours), LPN Total FTE (190.8), and LPN Total Count (259). Beds occupied, day patient ratios, night patient ratios, and LPN worked hours per year (1,727) were all calculated and input to the model. The model was informed by targeted literature research and client interview.

## Exhibit 16-07
## Licensed Practical Nurses Hospital Staffing Ratios and Hours per Patient Day (HPPD)

| Hospital | Hospital/Unit | Description | Budgeted Bed | % Occupancy | Beds Occupied | LPN Day Patient Ratio | LPN Night Patient Ratio | LPN Day Hrs. per Day | LPN Night Hrs. per Day | LPN Day per Year | LPN Night per Year | LPN Day Hrs. per Year | LPN Night Hrs. per Year | LPN Worked Hrs. per Year | LPN Day FTE | LPN Night FTE | LPN Total FTE | LPNRN Count/ FTE | LPN Total Count | LPN HPPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QEH | ED | Stretchers | 38 | 90.0% | 34.2 | 8.0 | 24.0 | 4.3 | 1.4 | 1,560 | 520 | 18,725 | 6,242 | 1,727 | 10.8 | 3.6 | 14.5 | 1.36 | 19.6 | 2.0 |
| QEH | ICU QEH | ICU | 8 | 90.0% | 7.2 | - | - | - | - | - | - | - | - | 1,727 | - | - | - | 1.36 | - | - |
| QEH | PCU QEH | Progressive Care Unit | 8 | 95.0% | 7.6 | 8.0 | 24.0 | 1.0 | 0.3 | 347 | 116 | 4,161 | 1,387 | 1,727 | 2.4 | 0.8 | 3.2 | 1.36 | 4.4 | 2.0 |
| QEH | PSU QEH | Stroke Unit | 10 | 90.0% | 9.0 | 8.0 | 24.0 | 1.1 | 0.4 | 411 | 137 | 4,928 | 1,643 | 1,727 | 2.9 | 1.0 | 3.8 | 1.36 | 5.2 | 2.0 |
| QEH | Unit 1 QEH | Orthopedic / Oncology / Medical | 32 | 95.0% | 30.4 | 8.0 | 24.0 | 3.8 | 1.3 | 1,387 | 462 | 16,644 | 5,548 | 1,727 | 9.6 | 3.2 | 12.9 | 1.36 | 17.5 | 2.0 |
| QEH | Unit 2 QEH | General Surgical / Medical | 36 | 95.0% | 34.2 | 8.0 | 24.0 | 4.3 | 1.4 | 1,560 | 520 | 18,725 | 6,242 | 1,727 | 10.8 | 3.6 | 14.5 | 1.36 | 19.6 | 2.0 |
| QEH | Unit 3 QEH | Medical | 36 | 95.0% | 34.2 | 8.0 | 24.0 | 4.3 | 1.4 | 1,560 | 520 | 18,725 | 6,242 | 1,727 | 10.8 | 3.6 | 14.5 | 1.36 | 19.6 | 2.0 |
| QEH | Unit 4 QEH | Maternity | 14 | 90.0% | 12.6 | 8.0 | 24.0 | 1.6 | 0.5 | 575 | 192 | 6,899 | 2,300 | 1,727 | 4.0 | 1.3 | 5.3 | 1.36 | 7.2 | 2.0 |
| QEH | NEONATAL QEH | NICU | 9 | 90.0% | 8.1 | - | - | - | - | - | - | - | - | 1,727 | - | - | - | 1.36 | - | - |
| QEH | Unit 5 QEH | Pediatric | 12 | 85.0% | 10.2 | 8.0 | 24.0 | 1.3 | 0.4 | 465 | 155 | 5,585 | 1,862 | 1,727 | 3.2 | 1.1 | 4.3 | 1.36 | 5.9 | 2.0 |
| QEH | Unit 7 QEH | Rehab | 20 | 95.0% | 19.0 | 8.0 | 24.0 | 2.4 | 0.8 | 867 | 289 | 10,403 | 3,468 | 1,727 | 6.0 | 2.0 | 8.0 | 1.36 | 10.9 | 2.0 |
| QEH | Unit 8 QEH | Medical | 30 | 95.0% | 28.5 | 8.0 | 24.0 | 3.6 | 1.2 | 1,300 | 433 | 15,604 | 5,201 | 1,727 | 9.0 | 3.0 | 12.0 | 1.36 | 16.4 | 2.0 |
| QEH | Unit 9 QEH | Mental Health | 12 | 80.0% | 9.6 | 12.0 | 24.0 | 0.8 | 0.4 | 292 | 146 | 3,504 | 1,752 | 1,727 | 2.0 | 1.0 | 3.0 | 1.36 | 4.1 | 1.5 |
| PCH | ED | Stretchers | 19 | 90.0% | 17.1 | 8.0 | 24.0 | 2.1 | 0.7 | 780 | 260 | 9,362 | 3,121 | 1,727 | 5.4 | 1.8 | 7.2 | 1.36 | 9.8 | 2.0 |
| PCH | ICU/IMCU | ICU | 6 | 90.0% | 5.4 | - | - | - | - | - | - | - | - | 1,727 | - | - | - | 1.36 | - | - |
| PCH | Maternal Child | Maternity | 12 | 90.0% | 10.8 | 8.0 | 24.0 | 1.4 | 0.5 | 493 | 164 | 5,913 | 1,971 | 1,727 | 3.4 | 1.1 | 4.6 | 1.36 | 6.2 | 2.0 |
| PCH | MED | Medical / Palliative | 34 | 90.0% | 30.6 | 8.0 | 24.0 | 3.8 | 1.3 | 1,396 | 465 | 16,754 | 5,585 | 1,727 | 9.7 | 3.2 | 12.9 | 1.36 | 17.6 | 2.0 |
| PCH | MH | Mental Health | 14 | 90.0% | 12.6 | 8.0 | 24.0 | 1.6 | 0.5 | 575 | 192 | 6,899 | 2,300 | 1,727 | 4.0 | 1.3 | 5.3 | 1.36 | 7.2 | 2.0 |
| PCH | REST | Restorative | 10 | 90.0% | 9.0 | 8.0 | 24.0 | 1.1 | 0.4 | 411 | 137 | 4,928 | 1,643 | 1,727 | 2.9 | 1.0 | 3.8 | 1.36 | 5.2 | 2.0 |
| PCH | SCN | Special Care Nursery | 2 | 90.0% | 1.8 | - | - | - | - | - | - | - | - | 1,727 | - | - | - | 1.36 | - | - |
| PCH | SURG | General Surgical / Medical | 20 | 90.0% | 18.0 | 8.0 | 24.0 | 2.3 | 0.8 | 821 | 274 | 9,855 | 3,285 | 1,727 | 5.7 | 1.9 | 7.6 | 1.36 | 10.3 | 2.0 |
| KCMH | ED | Stretchers | 11 | 80.0% | 8.8 | 8.0 | 24.0 | 1.1 | 0.4 | 402 | 134 | 4,818 | 1,606 | 1,727 | 2.8 | 0.9 | 3.7 | 1.36 | 5.1 | 2.0 |
| KCMH | MED | Medical | 30 | 90.0% | 27.0 | 8.0 | 24.0 | 3.4 | 1.1 | 1,232 | 411 | 14,783 | 4,928 | 1,727 | 8.6 | 2.9 | 11.4 | 1.36 | 15.5 | 2.0 |
| SH | MED | Medical | 17 | 90.0% | 15.3 | 8.0 | 24.0 | 1.9 | 0.6 | 698 | 233 | 8,377 | 2,792 | 1,727 | 4.9 | 1.6 | 6.5 | 1.36 | 8.8 | 2.0 |
| WH | ED | Stretchers | 7 | 80.0% | 5.6 | 8.0 | 24.0 | 0.7 | 0.2 | 256 | 85 | 3,066 | 1,022 | 1,727 | 1.8 | 0.6 | 2.4 | 1.36 | 3.2 | 2.0 |
| WH | MED | Medical | 25 | 90.0% | 22.5 | 8.0 | 24.0 | 2.8 | 0.9 | 1,027 | 342 | 12,319 | 4,106 | 1,727 | 7.1 | 2.4 | 9.5 | 1.36 | 12.9 | 2.0 |
| CHO | MED | Medical | 11 | 90.0% | 9.9 | 8.0 | 24.0 | 1.2 | 0.4 | 452 | 151 | 5,420 | 1,807 | 1,727 | 3.1 | 1.0 | 4.2 | 1.36 | 5.7 | 2.0 |
| CHO | PAL | Palliative | 4 | 90.0% | 3.6 | 8.0 | 24.0 | 0.5 | 0.2 | 164 | 55 | 1,971 | 657 | 1,727 | 1.1 | 0.4 | 1.5 | 1.36 | 2.1 | 2.0 |
| HH | MH | Mental Health | 42 | 80.0% | 33.6 | 8.0 | 24.0 | 4.2 | 1.4 | 1,533 | 511 | 18,396 | 6,132 | 1,727 | 10.7 | 3.6 | 14.2 | 1.36 | 19.3 | 2.0 |
| | | **TOTAL** | **529.0** | **90.1%** | **476.4** | | | | | **20,563** | **6,903** | **246,758** | **82,837** | | **142.9** | **48.0** | **190.8** | **1.36** | **259.3** | **1.9** |
| | | **TOTAL ex. Stretchers/ED** | **454.0** | | | | | | | | | | | | | | | | | |

The hospital inpatient, emergency department, and long-term care (from the preceding 3 tables) combined to total 352.27 FTE LPN and a count of 479 LPNs. See registered nurses and patient/resident support – resident care workers for further analysis of long-term care hours per resident day.

## 16.6 Nurse Practitioners

Nurse practitioners (NP) are integral to primary healthcare reform and the constitution of primary healthcare teams. In Prince Edward Island, NPs have a full scope of practice with the exception of hospital privileges and independently managing labour and delivery.

### Exhibit 16-08
### Nurse Practitioners Scope of Practice Provincial Summary 2020

**Table 1** Scopes of practice for nurse practitioners in Canada, by province/territory, 2020

| Categories | Scopes of practice for NPs | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | N.W.T. and Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Independent therapeutic management** | Conduct advanced health assessment and diagnosis | Full | Full | Full | Full | Restricted | Full | Full | Full | Full | Full | Full |
| | Order and interpret diagnostic tests | Restricted | Full | Full | Full | Full | Restricted | Full | Restricted | Full | Full | Full |
| | Communicate diagnoses and test results to patients | Full | Full | Full | Full | Restricted | Full | Full | Full | Full | Full | Full |
| | Consult with and refer to other health care professionals | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Practise autonomously (collaborative clinic) | Full | Full | Full | Restricted | Out of scope | Full | Full | Full | Full | Full | Full |
| | Manage NP-led clinics | Full | Restricted | Full | Full | Out of scope | Full | Full | Restricted | Full | Full | Full |
| | Monitor client outcomes and do follow-up visits | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Roster and manage patients | Full | Full | Full | Full | Restricted | Restricted | Full | Full | Full | Full | — |
| **Pharmacotherapy** | Prescribe pharmacotherapy | Full | Full | Full | Full | Full | Full | Full | Full | Full | Restricted | Full |
| | Prescribe controlled substances | Full | Full | Full | Restricted | Restricted | Full | Full | Full | Restricted | Full | Full |
| | Prescribe opioid agonist treatment | Restricted | Full | Full | Full | Full | Full | Full | Restricted | Full | Full | Full |
| | Prescribe vaccines | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Prescribe radiopharmaceuticals | Full | Full | Full | Full | Full | Restricted | Restricted | Full | Full | Full | Full |
| | Prescribe Mifegymiso for medical abortion | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| **Treatment/advanced interventions** | Perform advanced physical examination | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Perform procedures below dermis | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Order blood and blood products | Full | Full | Full | Full | Full | Full | Restricted | Full | Full | Full | Full |
| | Order and/or apply any form of radiation | Full | Full | Full | Full | Full | Restricted | Restricted | Restricted | Full | Restricted | Full |
| | Order and/or apply a form of energy | Full | Full | Full | Full | Full | Restricted | Restricted | Full | Full | Restricted | Full |
| | Order physical therapy (massage, physiotherapy, etc.) | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Prescribe medical supplies | Full | Full | Full | Full | Full | Restricted | Full | Restricted | Full | Full | Full |
| | Set fractures and reduce dislocations | Full | Full | Full | Full | Full | Full | Full | Full | Full | Restricted | Full |
| | Order and/or apply cosmetic treatments like Botox | Full | Full | Full | Restricted | Out of scope | Full | Full | Restricted | Full | Restricted | Full |
| | Provide psychotherapy for mental health | Full | Full | Full | Full | Restricted | Full | Full | Full | Full | Full | Full |
| | Support medical assistance in dying | Full | Full | Full | Full | Out of scope | Full | Full | Full | Full | Full | Full |
| | Inject cortisone into joints and tissues | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| | Insert intrauterine devices | Restricted | Full | Full | Full | Full | Full | Full | Full | Full | Full | Full |
| **Other advanced scope activities** | Have full hospital privileges | Restricted | Restricted | Restricted | Restricted | Out of scope | Full | Full | Restricted | Restricted | Full | Full |
| | Admit to and discharge from hospital | Restricted | Restricted | Restricted | Restricted | Out of scope | Full | Full | Restricted | Restricted | Full | Full |
| | Independently manage labour and delivery | Restricted | Out of scope | Restricted | Full | Restricted | Out of scope | Full | Full | Full | Restricted | Full |
| | Pronounce death | Full | Full | Full | Full | Out of scope | Full | Full | Full | Full | Full | Full |
| | Certify death (i.e., complete death certificate) | Full | Full | Full | Full | Out of scope | Restricted | Full | Full | Restricted | Full | Full |
| | Conduct driver's medical examination | Full | Full | Restricted | Full | Out of scope | Full | Full | Full | Restricted | Full | Full |
| | Complete federal disability forms | Restricted | Full | Full | Full | Restricted | Full | Full | Full | Full | Full | Full |
| | Complete provincial/territorial medical forms | Full | Full | Restricted | Full | Restricted | Full | Full | Full | Restricted | Restricted | Full |
| | Sign disabled person placard forms | Full | Full | Restricted | Full | Full | Full | Full | Full | Full | Full | Full |
| | Admit to long-term care facilities | Restricted | Full | Full | Full | Out of scope | Out of scope | Full | Restricted | Restricted | Full | Full |
| | Complete Form 1 for involuntary admission to hospital | Full | Full | Restricted | Out of scope | Out of scope | Out of scope | Restricted | Restricted | Restricted | Out of scope | Full |

**Notes**
— Data is not available or not applicable.
Data from Yukon was not available.
This publication includes status of scopes of practice for nurse practitioners (NPs) in each province and territory as of March 2020. Any updates made to scopes after March 2020 are not reflected.
*Full* scope of practice refers to legislation allowing NPs to perform the identified activity without any constraints.
*Restricted* scope of practice refers to legislation or regulatory policy limiting the ability of NPs to perform the identified activity. Restricted scope also includes reduced scope responses.
*Out of scope* refers to legislation prohibiting an NP from performing the identified activity.
**Sources**
Regulatory bodies and professional associations for NPs in each province and territory in Canada.

Exhibit 16-09
Forecast Summary for Nurse Practitioners

| Nurse Practitioners | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 46.6 FTE (1.0 FTE per 3,670 population) | Population per FTE | 5,071 | 5,057 | 5,057 |
| Scenario FTEs | Current complement is slightly above (5.9 FTE) the base case benchmark | | Increase by 26.51 FTE over the 10-year forecast period (includes 30.0 FTE for primary Healthcare collaborative teams) | Increase by 47.0 FTE over the 10-year forecast period (includes 45.0 FTE for primary Healthcare collaborative teams) | Increase by 59.84 FTE over the 10-year forecast period (includes 54.0 FTE for primary Healthcare collaborative teams) |
| Description | Nurse Practitioners (NPs) are registered nurses (RNs) with graduate degrees and advanced knowledge and skills. They are trained to assess, diagnose, treat, order diagnostic tests, prescribe medications, make referrals to specialists and manage overall care. Nurse practitioners often work closely with physicians and other health professions as part of a team. Some NPs work independently and manage their own clinics.<br><br>Examples of services delivered include:<br>• Holistically identify issues affecting a patient's health and quality of life<br>• Diagnose and treat common health conditions<br>• Diagnose and treat minor injuries<br>• Order and interpret laboratory tests<br>• Prescribe medication<br>• Make referrals to specialists<br>• Can be a primary care provider | | | | |

The base (45 FTE), low (30 FTE), and high (54 FTE) case scenario FTE increases over the ten-year forecast are due to implementation of primary healthcare collaborative teams, where NPs are integral to the successful implementation. Recruitment and training programs will be major challenges to meet the NP FTE need and will require sustainable strategies going forward over the ten-year forecast period.

There are approximately 12 seats per year for the Nurse Practitioner program at UPEI (confirmed with UPEI NP Program representative). As part of the Nursing Resource Strategy for New Brunswick, the University of New

Brunswick recently doubled the number of seats in the NP program from 10 to 20 commencing fall 2023[17] (also confirmed with UNB NP Program representative). The Dalhousie NP Program has 20 seats annually (confirmation outstanding/in-progress).

**Primary healthcare reform has placed NPs in high demand, resulting in a very competitive recruitment environment.**

[17] https://www2.gnb.ca/content/gnb/en/news/news_release.2022.04.0188.html

## 16.7 Registered Nurses

Exhibit 16-10
Forecast Summary for Registered Nurses

| Registered Nurses | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 1,122.2 FTE | Population per FTE | 185 | 183 | 181 |
| Scenario FTEs | Current complement is slightly below (4.53 FTE) the base case benchmark | | Increase by 26.51 FTE over the 10-year forecast period | Increase by 221.0 FTE over the 10-year forecast period | Increase by 341.18 FTE (3% per year) over the 10-year forecast period |
| Description | A Registered Nurse (RN) is a nursing professional who directly cares for individuals, families, groups, and communities to be healthy and well. A registered nurse will coordinate patient care as part of a team with physicians and other healthcare providers. Some areas of responsibility include:<br>• Coordinate nursing care based on physical, mental, emotional, and spiritual needs to promote, maintain or restore health<br>• Provide direct nursing care (e.g. treatments, medications and procedures)<br>• Develop and deliver health education programs<br>• Teach nursing theory and practice<br><br>Settings where RNs work include:<br>• Health Clinics<br>• Hospital or Healthcare Centre<br>• Doctor's Offices<br>• Home Care<br>• Long-Term Care Facilities<br>• Community<br>• Schools | | | | |

The FTE increase forecast in the base and high case scenarios is sufficient if RNs are also introduced to the primary healthcare collaborative teams.

A detailed staffing model was used to project the hospital RN hours per patient day (HPPD, 5.6 hours), RN total FTE (567.8) and RN total count (772). Beds occupied, day patient ratios, night patient ratios and RN worked hours per year (1,727) were all calculated and input to the model. The model was informed by targeted literature research and client interview.

## Exhibit 16-11
## Registered Nurses Hospital Staffing Ratios and Hours per Patient Day (HPPD)

| Hospital | Hospital/Unit | Description | Budgeted Bed | % Occupancy | Beds Occupied | RN Day Patient Ratio | RN Night Patient Ratio | RN Day Hrs. per Day | RN Night Hrs. per Day | RN Day per Year | RN Night per Year | RN Day Hrs. per Year | RN Night Hrs. per Year | RN Worked Hrs. per Year | RN Day FTE | RN Night FTE | RN Total FTE | RN Count/ FTE | RN Total Count | RN HPPD [3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QEH | ED [1] | Stretchers [2] | 38 | 90.0% | 34.2 | 4.0 | 4.0 | 8.6 | 8.6 | 3,121 | 3,121 | 37,449 | 37,449 | 1,727 | 21.7 | 21.7 | 43.4 | 1.36 | 58.9 | 6.0 |
| QEH | ICU QEH | ICU | 8 | 90.0% | 7.2 | 1.0 | 2.0 | 7.2 | 3.6 | 2,628 | 1,314 | 31,536 | 15,768 | 1,727 | 18.3 | 9.1 | 27.4 | 1.36 | 37.2 | 18.0 |
| QEH | PCU QEH | Progressive Care Unit | 8 | 95.0% | 7.6 | 4.0 | 6.0 | 1.9 | 1.3 | 694 | 462 | 8,322 | 5,548 | 1,727 | 4.8 | 3.2 | 8.0 | 1.36 | 10.9 | 5.0 |
| QEH | PSU QEH | Stroke Unit | 10 | 90.0% | 9.0 | 4.0 | 6.0 | 2.3 | 1.5 | 821 | 548 | 9,855 | 6,570 | 1,727 | 5.7 | 3.8 | 9.5 | 1.36 | 12.9 | 5.0 |
| QEH | Unit 1 QEH | hopedic / Oncology / Medi | 32 | 95.0% | 30.4 | 4.0 | 6.0 | 7.6 | 5.1 | 2,774 | 1,849 | 33,288 | 22,192 | 1,727 | 19.3 | 12.9 | 32.1 | 1.36 | 43.6 | 5.0 |
| QEH | Unit 2 QEH | General Surgical / Medical | 36 | 95.0% | 34.2 | 4.0 | 6.0 | 8.6 | 5.7 | 3,121 | 2,081 | 37,449 | 24,966 | 1,727 | 21.7 | 14.5 | 36.1 | 1.36 | 49.1 | 5.0 |
| QEH | Unit 3 QEH | Medical | 36 | 95.0% | 34.2 | 4.0 | 6.0 | 8.6 | 5.7 | 3,121 | 2,081 | 37,449 | 24,966 | 1,727 | 21.7 | 14.5 | 36.1 | 1.36 | 49.1 | 5.0 |
| QEH | Unit 4 QEH | Maternity | 14 | 90.0% | 12.6 | 2.0 | 4.0 | 6.3 | 3.2 | 2,300 | 1,150 | 27,594 | 13,797 | 1,727 | 16.0 | 8.0 | 24.0 | 1.36 | 32.6 | 9.0 |
| QEH | NEONATAL QEH | NICU | 9 | 90.0% | 8.1 | 1.0 | 2.0 | 8.1 | 4.1 | 2,957 | 1,478 | 35,478 | 17,739 | 1,727 | 20.5 | 10.3 | 30.8 | 1.36 | 41.9 | 18.0 |
| QEH | Unit 5 QEH | Pediatric | 12 | 85.0% | 10.2 | 4.0 | 6.0 | 2.6 | 1.7 | 931 | 621 | 11,169 | 7,446 | 1,727 | 6.5 | 4.3 | 10.8 | 1.36 | 14.6 | 5.0 |
| QEH | Unit 7 QEH | Rehab | 20 | 95.0% | 19.0 | 6.0 | 8.0 | 3.2 | 2.4 | 1,156 | 867 | 13,870 | 10,403 | 1,727 | 8.0 | 6.0 | 14.1 | 1.36 | 19.1 | 3.5 |
| QEH | Unit 8 QEH | Medical | 30 | 95.0% | 28.5 | 4.0 | 6.0 | 7.1 | 4.8 | 2,601 | 1,734 | 31,208 | 20,805 | 1,727 | 18.1 | 12.0 | 30.1 | 1.36 | 40.9 | 5.0 |
| QEH | Unit 9 QEH | Mental Health | 12 | 80.0% | 9.6 | 6.0 | 8.0 | 1.6 | 1.2 | 584 | 438 | 7,008 | 5,256 | 1,727 | 4.1 | 3.0 | 7.1 | 1.36 | 9.6 | 3.5 |
| PCH | ED | Stretchers | 19 | 90.0% | 17.1 | 4.0 | 4.0 | 4.3 | 4.3 | 1,560 | 1,560 | 18,725 | 18,725 | 1,727 | 10.8 | 10.8 | 21.7 | 1.36 | 29.5 | 6.0 |
| PCH | ICU/IMCU | ICU | 6 | 90.0% | 5.4 | 1.0 | 2.0 | 5.4 | 2.7 | 1,971 | 986 | 23,652 | 11,826 | 1,727 | 13.7 | 6.8 | 20.5 | 1.36 | 27.9 | 18.0 |
| PCH | Maternal Child | Maternity | 12 | 90.0% | 10.8 | 2.0 | 4.0 | 5.4 | 2.7 | 1,971 | 986 | 23,652 | 11,826 | 1,727 | 13.7 | 6.8 | 20.5 | 1.36 | 27.9 | 9.0 |
| PCH | MED | Medical / Palliative | 34 | 90.0% | 30.6 | 4.0 | 6.0 | 7.7 | 5.1 | 2,792 | 1,862 | 33,507 | 22,338 | 1,727 | 19.4 | 12.9 | 32.3 | 1.36 | 43.9 | 5.0 |
| PCH | MH | Mental Health | 14 | 90.0% | 12.6 | 6.0 | 8.0 | 2.1 | 1.6 | 767 | 575 | 9,198 | 6,899 | 1,727 | 5.3 | 4.0 | 9.3 | 1.36 | 12.7 | 3.5 |
| PCH | REST | Restorative | 10 | 90.0% | 9.0 | 6.0 | 8.0 | 1.5 | 1.1 | 548 | 411 | 6,570 | 4,928 | 1,727 | 3.8 | 2.9 | 6.7 | 1.36 | 9.0 | 3.5 |
| PCH | SCN | Special Care Nursery | 2 | 90.0% | 1.8 | 2.0 | 4.0 | 0.9 | 0.5 | 329 | 164 | 3,942 | 1,971 | 1,727 | 2.3 | 1.1 | 3.4 | 1.36 | 4.7 | 9.0 |
| PCH | SURG | General Surgical / Medical | 20 | 90.0% | 18.0 | 4.0 | 6.0 | 4.5 | 3.0 | 1,643 | 1,095 | 19,710 | 13,140 | 1,727 | 11.4 | 7.6 | 19.0 | 1.36 | 25.8 | 5.0 |
| KCMH | ED | Stretchers | 11 | 80.0% | 8.8 | 4.0 | 4.0 | 2.2 | 2.2 | 803 | 803 | 9,636 | 9,636 | 1,727 | 5.6 | 5.6 | 11.2 | 1.36 | 15.2 | 6.0 |
| KCMH | MED | Medical | 30 | 90.0% | 27.0 | 4.0 | 6.0 | 6.8 | 4.5 | 2,464 | 1,643 | 29,565 | 19,710 | 1,727 | 17.1 | 11.4 | 28.5 | 1.36 | 38.8 | 5.0 |
| SH | MED | Medical | 17 | 90.0% | 15.3 | 4.0 | 6.0 | 3.8 | 2.6 | 1,396 | 931 | 16,754 | 11,169 | 1,727 | 9.7 | 6.5 | 16.2 | 1.36 | 22.0 | 5.0 |
| WH | ED | Stretchers | 7 | 80.0% | 5.6 | 4.0 | 4.0 | 1.4 | 1.4 | 511 | 511 | 6,132 | 6,132 | 1,727 | 3.6 | 3.6 | 7.1 | 1.36 | 9.6 | 6.0 |
| WH | MED | Medical | 25 | 90.0% | 22.5 | 4.0 | 6.0 | 5.6 | 3.8 | 2,053 | 1,369 | 24,638 | 16,425 | 1,727 | 14.3 | 9.5 | 23.8 | 1.36 | 32.3 | 5.0 |
| CHO | MED | Medical | 11 | 90.0% | 9.9 | 4.0 | 6.0 | 2.5 | 1.7 | 903 | 602 | 10,841 | 7,227 | 1,727 | 6.3 | 4.2 | 10.5 | 1.36 | 14.2 | 5.0 |
| CHO | PAL | Palliative | 4 | 90.0% | 3.6 | 6.0 | 8.0 | 0.6 | 0.5 | 219 | 164 | 2,628 | 1,971 | 1,727 | 1.5 | 1.1 | 2.7 | 1.36 | 3.6 | 3.5 |
| HH | MH | Mental Health | 42 | 80.0% | 33.6 | 6.0 | 8.0 | 5.6 | 4.2 | 2,044 | 1,533 | 24,528 | 18,396 | 1,727 | 14.2 | 10.7 | 24.9 | 1.36 | 33.8 | 3.5 |
| | | TOTAL | 529.0 | 90.1% | 476.4 | | | | | 48,779 | 32,935 | 585,351 | 395,222 | | 338.9 | 228.8 | 567.8 | 1.36 | 771.4 | 5.6 |
| | | TOTAL ex. Stretchers/ED | 454.0 | | | | | | | | | | | | | | | | | |

[1] Nurse Staffing Calculation in the Emergency Department - Performance-Oriented Calculation Based on the Manchester Triage System at the University Hospital Bonn, Ingo Gräff, Bernd Goldschmidt, Procula lien, Sophia Klockner,5 Felix Erdfelder,2 Jennifer Ly

[2] Reconciled ED Stretchers RN:Patient RN HPPD ratio to CTAS Time Weighted scale

[3] California Legislated RN-to-Patient staffing ratios; https://www.wolterskluwer.com/en/expert-insights/the-importance-of-the-optimal-nursetopatient-ratio

[4] Association between the bed-to-nurse ratio and 30-day post-discharge mortality in patients undergoing surgery: a cross-sectional analysis using Korean administrative data Yunmi Kim,1 Hyun-Young Kim, and Eunyoung Cho3

A detailed staffing model was used to project the long-term care RN hours per patient day (HPPD, 0.9 hours), RN total FTE (118.4), and RN total count (161). Beds occupied, day patient ratios, night patient ratios and RN worked hours per year (1,727) were all calculated and input to the model. The model was informed by targeted literature research and client interview.

See Patient/Resident Support – Resident Care Workers for further analysis of long-term care hours per resident day.

## Exhibit 16-12
## Registered Nurses Long-Term Care Staffing Ratios and Hours per Patient Day (HPPD)

| Hospital | Hospital/Unit | Description | Budgeted Bed | % Occupancy | Beds Occupied | RN Day Patient Ratio | RN Night Patient Ratio | RN Day Hrs. per Day | RN Night Hrs. per Day | RN Day per Year | RN Night per Year | RN Day Hrs. per Year | RN Night Hrs. per Year | RN Worked Hrs. per Year | RN Day FTE | RN Night FTE | RN Total FTE | RN Count/ FTE | RN Total Count | RN HPPD [1,2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTC | Maplewood Manor | | 48 | 100.0% | 48.0 | 18.0 | 48.0 | 2.7 | 1.0 | 973 | 365 | 11,680 | 4,380 | 1,727 | 6.8 | 2.5 | 9.3 | 1.36 | 12.6 | 0.9 |
| LTC | Margaret Stewart Ellis Home | | 40 | 100.0% | 40.0 | 18.0 | 48.0 | 2.2 | 0.8 | 811 | 304 | 9,733 | 3,650 | 1,727 | 5.6 | 2.1 | 7.7 | 1.36 | 10.5 | 0.9 |
| LTC | Stewart Memorial | | 22 | 100.0% | 22.0 | 18.0 | 48.0 | 1.2 | 0.5 | 446 | 167 | 5,353 | 2,008 | 1,727 | 3.1 | 1.2 | 4.3 | 1.36 | 5.8 | 0.9 |
| LTC | Summerset Manor | | 80 | 100.0% | 80.0 | 18.0 | 48.0 | 4.4 | 1.7 | 1,622 | 608 | 19,467 | 7,300 | 1,727 | 11.3 | 4.2 | 15.5 | 1.36 | 21.1 | 0.9 |
| LTC | Wedgewood Manor | | 77 | 100.0% | 77.0 | 18.0 | 48.0 | 4.3 | 1.6 | 1,561 | 586 | 18,737 | 7,026 | 1,727 | 10.8 | 4.1 | 14.9 | 1.36 | 20.3 | 0.9 |
| LTC | Prince Edward Home | | 120 | 100.0% | 120.0 | 18.0 | 48.0 | 6.7 | 2.5 | 2,433 | 913 | 29,200 | 10,950 | 1,727 | 16.9 | 6.3 | 23.2 | 1.36 | 31.6 | 0.9 |
| LTC | Beach Grove Home | | 123 | 100.0% | 123.0 | 18.0 | 48.0 | 6.8 | 2.6 | 2,494 | 935 | 29,930 | 11,224 | 1,727 | 17.3 | 6.5 | 23.8 | 1.36 | 32.4 | 0.9 |
| LTC | Riverview Manor | | 49 | 100.0% | 49.0 | 18.0 | 48.0 | 2.7 | 1.0 | 994 | 373 | 11,923 | 4,471 | 1,727 | 6.9 | 2.6 | 9.5 | 1.36 | 12.9 | 0.9 |
| LTC | Colville Manor | | 52 | 100.0% | 52.0 | 18.0 | 48.0 | 2.9 | 1.1 | 1,054 | 395 | 12,653 | 4,745 | 1,727 | 7.3 | 2.7 | 10.1 | 1.36 | 13.7 | 0.9 |
| | RN | TOTAL | 611.0 | 100.0% | 611.0 | | | | | 12,390 | 4,646 | 148,677 | 55,754 | | 86.1 | 32.3 | 118.4 | 12.2 | 160.8 | 0.9 |

[1] Staffing levels in not-for-profit and for-profit long-term care facilities: Does type of ownership matter?, CMAJ • MAR. 1, 2005; 172 (5)
Margaret J. McGregor, Marcy Cohen, Kimberlyn McGrail, Anne Marie Broemeling,Reva N. Adler, Michael Schulzer, Lisa Ronald, Yuri Cvitkovich, Mary Beck

[2] Staffing ratios in retirement homes and long-term care homes, 2022-02-03, LES CONSEILLERS EN RÉSIDENCES DU QUÉBEC

In surgical theatres, the standard is one RN per patient. Health PEI runs five operating rooms at QEH and two at PCH, equating to 10.1 FTE RN and a head count of 13.8 (14).

## Exhibit 16-13
## Registered Nurses Surgical Theatres Staffing Ratios and Hours per Patient Day (HPPD)

| Hospital | Hospital/Unit | Description | Budgeted Bed | % Occupancy | Beds Occupied | RN Day Patient Ratio | RN Night Patient Ratio | RN Day Hrs. per Day | RN Night Hrs. per Day | RN Day per Year | RN Night per Year | RN Day Hrs. per Year | RN Night Hrs. per Year | RN Worked Hrs. per Year | RN Day FTE | RN Night FTE | RN Total FTE | RN Count/ FTE | RN Total Count | RN HPPD [1,2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ORs | QEH | Five functioning ORs | 5 | 100.0% | 5.0 | 1.0 | - | 5.0 | - | 1,250 | - | 12,500 | - | 1,727 | 7.2 | - | 7.2 | 1.36 | 9.8 | 10.0 |
| ORs | PCH | Two functioning ORs | 2 | 100.0% | 2.0 | 1.0 | - | 2.0 | - | 500 | - | 5,000 | - | 1,727 | 2.9 | - | 2.9 | 1.36 | 3.9 | 10.0 |
| | | TOTAL | 7.0 | 100.0% | 7.0 | | | | | 1,750 | | 17,500 | | | 10.1 | - | 10.1 | 1.36 | 13.8 | 10.0 |

The hospital inpatient, emergency department, long-term care, and operating rooms (from the preceding 3 exhibits) combined total 696.3 RN FTE and a head count of 946 RNs.

## 16.8 Home Support Worker

Exhibit 16-14
Forecast Summary for Home Support Worker

| Hone Support Worker | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 105 FTE | Population per FTE | n/a | n/a | n/a |
| Scenario FTEs | Current complement has increased by 20.14 FTE over the 10-year forecast period to adjust for weighted population growth and relative burden of illness | | Increase by 13.08 FTE over the 10-year forecast period | Increase by 20.14 FTE over the 10-year forecast period | Increase by 25.02 FTE over the 10-year forecast period |
| Description | • Administer bedside and personal care<br>• Administer medications<br>• Assist clients with bathing and other aspects of personal hygiene<br>• Assist in regular exercise, such as walking<br>• Change non-sterile dressings<br>• Feed or assist in feeding<br>• Launder clothing and household linens<br>• Perform light housekeeping and cleaning duties<br>• Provide companionship<br>• Provide personal care<br>• Prepare and serve nutritious meals | | | | |

## 16.9 Patient Care Worker

Exhibit 16-15
Forecast Summary for Patient Care Worker

| Patient Care Worker | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 81.8 FTE | Population per FTE | n/a | n/a | n/a |
| Scenario FTEs | Current complement has increased by 15.76 FTE over the 10-year forecast period to adjust for weighted population growth and relative burden of illness | | Increase by 10.25 FTE over the 10-year forecast period | Increase by 15.76 FTE over the 10-year forecast period | Increase by 19.58 FTE over the 10-year forecast period |
| Description | • Administer bedside and personal care<br>• Administer medications<br>• Assist clients with bathing and other aspects of personal hygiene<br>• Assist in regular exercise, such as walking<br>• Change non-sterile dressings<br>• Feed or assist in feeding<br>• Launder clothing and household linens<br>• Perform light housekeeping and cleaning duties<br>• Provide companionship<br>• Provide personal care | | | | |

## 16.10 Resident Care Worker

In 2021, Prince Edward Island had more long-term care beds per 1,000 population at 38.9 compared to the national average of 29.0. While this is a favourable inventory of beds compared to other provinces, the ongoing population aging will continue to drive the need for more long-term care beds.

Exhibit 16-16

Number of Long-Term Care Homes, Beds, and Beds /1,000 Population (age 65 years and older) March 31, 2022

**Number of long-term care (LTC) homes, beds and beds per 1,000 population age 65 and older, Canada, as of March 31, 2021***

| Jurisdiction | Number of LTC homes | Number of LTC beds | Number of LTC beds per 1,000 population age 65 and older | Population age 65 and older |
|---|---|---|---|---|
| Newfoundland and Labrador | 40 | 3,014 | 25.9 | 116,228 |
| **Prince Edward Island** | **19** | **1,244** | **38.9** | **31,957** |
| Nova Scotia | 84 | 6,842 | 32.8 | 208,825 |
| New Brunswick | 70 | 4,925 | 28.8 | 171,262 |
| Quebec | 440 | 40,823 | 24.1 | 1,691,483 |
| Ontario | 627 | 78,902 | 30.4 | 2,594,358 |
| Manitoba | 125 | 9,765 | 44.1 | 221,666 |
| Saskatchewan | 161 | 8,924 | 46.7 | 191,020 |
| Alberta | 186 | 15,762 | 25.8 | 610,974 |
| British Columbia | 308 | 27,478 | 27.8 | 986,936 |
| Yukon | 4 | 312 | 55.6 | 5,611 |
| Northwest Territories | 9 | 201 | 50.6 | 3,975 |
| Nunavut | 3 | 28 | 17.8 | 1,571 |
| Canada total | 2,076 | 198,220 | 29 | 6,835,866 |

**Notes**

*Data for all jurisdictions is as of March 31, 2021, except Quebec (as of April 1, 2021) and Alberta (as of February 28, 2021).

LTC homes, also referred to as nursing homes, continuing care facilities and residential care homes, provide a wide range of health and personal care services for Canadians with medical or physical needs who require access to 24-hour nursing care, personal care and other therapeutic and support services.

Jurisdictional health care delivery models (which include long-term care, assisted living, home care and other types of care) influence decisions about the number of LTC beds in any given jurisdiction; comparisons should therefore be interpreted with caution.

**Sources**

Newfoundland and Labrador Department of Health and Community Services. Prince Edward Island Department of Health and Wellness.

Nova Scotia Department of Health and Wellness. New Brunswick Department of Health.

Quebec ministère de la Santé et des Services sociaux. Ontario Ministry of Long-Term Care.

Manitoba Health, Seniors and Active Living. Saskatchewan Ministry of Health.

Alberta Ministry of Health. British Columbia Ministry of Health.

Yukon Department of Health and Social Services. Northwest Territories Department of Health and Social Services.
Nunavut Department of Health.

Statistics Canada. Table 17-10-0005-01: Population estimates on July 1st, by age and sex. Accessed January 31, 2021.

Exhibit 16-17
Forecast Summary for Resident Care Worker

| Resident Care Worker | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 411.2 FTE | Population per FTE | 502 | 491 | 489 |
| Scenario FTEs | Current complement is slightly below (7.87 FTE) the base case benchmark | | Increase by 24.31 FTE over the 10-year forecast period | Increase by 88.52 FTE over the 10-year forecast period | Increase by 130.78 FTE (3.18% per year) over the 10-year forecast period |
| Description | A resident care worker will assist, under supervision of a registered nurse or designate, with the basic nursing care of residents in a long-term care setting. The resident care worker is the personal care provider for residents within the long-term care setting. The purpose of their position is to provide professional, high quality, holistic care in a manner that considers the resident's physical, emotional, psychological and spiritual needs. A primary responsibility is to deliver person-centred care. | | | | |

A detailed staffing worksheet was used to project the long-term care RCW hours per patient day (HPPD, 2.6 hours), RCW total FTE (354.8) and RCW total count (482). Beds occupied, day patient ratios, night patient ratios and RN worked hours per year (1,727) were all calculated and input to the model. The model was informed by targeted literature research and client interview.

The following exhibit also includes the totals for LPN and RN coverage in long-term care settings. The total hours per patient day is 4.8 which is above the benchmark of 4.0 HPPD set by Ontario Health in December, 2020[18]. The staff proportions are consistent with the Ontario benchmark, namely, 25% LPN, 20% RN, 55% RCW.

The average required hours of direct care per resident day will vary depending on the LTC home's resident population, the complexity of their needs, and workforce composition. Evidence indicates that LTC home residents require a minimum of 4.1 hours of direct care per day. Higher staffing levels improve quality of care, especially as residents' care needs become more complex[19].

[18] A better place to live, a better place to work Ontario's Long-Term Care Staffing Plan (2021-2025), Ontario Health, December 2020

[19] HSO Long-Term Care Services, NATIONAL STANDARD OF CANADA CAN/HSO 21001:2023 (E), January 31, 2023

# Exhibit 16-18
## Long-Term Care Staffing Ratios and Hours per Patient Day (HPPD)

| Hospital | Hospital/Unit | Description | Budgeted Bed | % Occupancy | Beds Occupied | RCW Day Patient Ratio | RCW Night Patient Ratio | RCW Day Hrs. per Day | RCW Night Hrs. per Day | RCW Day per Year | RCW Night per Year | RCW Day Hrs. per Year | RCW Night Hrs. per Year | RCW Worked Hrs. per Year | RCW Day FTE | RCW Night FTE | RCW Total FTE | RCW Count/ FTE | RCW Total Count | RCW HPPD [1,2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTC | Maplewood Manor | | 48 | 100.0% | 48.0 | 6.0 | 24.0 | 8.0 | 2.00 | 2,920 | 730 | 35,040 | 8,760 | 1,727 | 20.3 | 5.1 | 25.4 | 1.36 | 34.5 | 2.5 |
| LTC | Margaret Stewart Ellis Home | | 40 | 100.0% | 40.0 | 6.0 | 24.0 | 6.7 | 1.67 | 2,433 | 608 | 29,200 | 7,300 | 1,727 | 16.9 | 4.2 | 21.1 | 1.36 | 28.7 | 2.5 |
| LTC | Stewart Memorial | | 22 | 100.0% | 22.0 | 6.0 | 24.0 | 3.7 | 0.92 | 1,338 | 335 | 16,060 | 4,015 | 1,727 | 9.3 | 2.3 | 11.6 | 1.36 | 15.8 | 2.5 |
| LTC | Summerset Manor | | 80 | 100.0% | 80.0 | 6.0 | 24.0 | 13.3 | 3.33 | 4,867 | 1,217 | 58,400 | 14,600 | 1,727 | 33.8 | 8.5 | 42.3 | 1.36 | 57.4 | 2.5 |
| LTC | Wedgewood Manor | | 77 | 100.0% | 77.0 | 6.0 | 24.0 | 12.8 | 3.21 | 4,684 | 1,171 | 56,210 | 14,053 | 1,727 | 32.5 | 8.1 | 40.7 | 1.36 | 55.3 | 2.5 |
| LTC | Prince Edward Home | | 120 | 100.0% | 120.0 | 6.0 | 24.0 | 20.0 | 5.00 | 7,300 | 1,825 | 87,600 | 21,900 | 1,727 | 50.7 | 12.7 | 63.4 | 1.36 | 86.1 | 2.5 |
| LTC | Beach Grove Home | | 123 | 100.0% | 123.0 | 6.0 | 24.0 | 20.5 | 5.13 | 7,483 | 1,871 | 89,790 | 22,448 | 1,727 | 52.0 | 13.0 | 65.0 | 1.36 | 88.3 | 2.5 |
| LTC | Riverview Manor | | 49 | 100.0% | 49.0 | 6.0 | 24.0 | 8.2 | 2.04 | 2,981 | 745 | 35,770 | 8,943 | 1,727 | 20.7 | 5.2 | 25.9 | 1.36 | 35.2 | 2.5 |
| LTC | Colville Manor | | 52 | 100.0% | 52.0 | 6.0 | 24.0 | 8.7 | 2.17 | 3,163 | 791 | 37,960 | 9,490 | 1,727 | 22.0 | 5.5 | 27.5 | 1.36 | 37.3 | 2.5 |
| MH | Hillsborough Hospital | Mental Health | 42 | 80.0% | 33.6 | 4.0 | 8.0 | 8.4 | 4.20 | 3,066 | 1,533 | 36,792 | 18,396 | 1,727 | 21.3 | 10.7 | 32.0 | 1.36 | 43.4 | 4.5 |
| **RCW TOTAL** | | | **653.0** | **98.7%** | **645** | | | | | **40,235** | **10,825** | **482,822** | **129,904** | | **279.6** | **75.2** | **354.8** | **13.6** | **482.0** | **2.6** |
| **LPN TOTAL** | | | **611** | **100%** | **611** | | | | | **18,585** | **4,646** | **223,015** | **55,754** | **-** | **129** | **32** | **161** | **12** | **219** | **1.25** |
| **RN TOTAL** | | | **611** | **100%** | **611** | | | | | **12,390** | **4,646** | **148,677** | **55,754** | **-** | **86** | **32** | **118** | **12** | **161** | **0.92** |
| **GRAND TOTAL [3]** | | | | | | | | | | | | | | | | | **634.6** | **1.36** | **862.2** | **4.8** |

[1] Staffing levels in not-for-profit and for-profit long-term care facilities: Does type of ownership matter?, CMAJ • MAR. 1, 2005; 172 (5)
Margaret J. McGregor, Marcy Cohen, Kimberlyn McGrail, Anne Marie Broemeling,Reva N. Adler, Michael Schulzer, Lisa Ronald, Yuri Cvitkovich, Mary Beck

[2] Staffing ratios in retirement homes and long-term care homes, 2022-02-03, LES CONSEILLERS EN RÉSIDENCES DU QUÉBEC

[3] A better place to live, a better place to work Ontario's Long-Term Care Staffing Plan (2021-2025), Ontario Health, December 2020

## 16.11 Dietitian

Exhibit 16-19
Forecast Summary for Dietitian

| Dietitian | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 74.0 FTE | Population per FTE | 9,554 | 6,189 | 5,934 |
| Scenario FTEs | Current complement is slightly below (1.87 FTE) the base case benchmark | | Increase by 0.88 FTE over the 10-year forecast period | Increase by 21.7 FTE over the 10-year forecast period | Increase by 29.39 FTE over the 10-year forecast period |
| Description | Registered dietitians are health care professionals who are trained to provide advice about diet, food, and nutrition. Dietitians use scientific evidence to help people make healthy food choices, separating fact from fiction, and distinguishing healthy eating plans from those that do not provide optimal nourishment.<br><br>Dietitians play a major role in health care, industry, government, and education. They influence policy development, direct nutrition programs, manage quality food services, and conduct nutrition research.<br><br>The Prince Edward Island College of Dietitians lists 96 members with 33% (31) being employed by Health PEI and 65 working in the private sector. Dietitians must be registered with the Prince Edward Island College of Dietitians in order to legally practice and use the title "dietitian."<br><br>https://www.peidietitians.ca/ | | | | |

The majority (13.42 FTE) of the base, low, and high case FTE increase over the ten-year forecast is due to implementation of primary healthcare teams in collaborative practices.

## 16.12 Medical Laboratory Technologist

Exhibit 16-20
Forecast Summary for Medical Laboratory Technologist

| Medical Laboratory Technologist | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 74.0 FTE | Population per FTE | 2,729 | 2,729 | 2,371 |
| Scenario FTEs | Current complement is slightly below (1.47 FTE) the base case benchmark | | Increase by 6.12 FTE over the 10-year forecast period | Increase by 16.0 FTE over the 10-year forecast period | Increase by 37.87 FTE over the 10-year forecast period |
| Description | Medical laboratory technology is the health profession in which a person applies particular knowledge, skills and judgment in:<br>• Performing laboratory investigations on the human body or specimens taken from the human body,<br>• Interpreting and evaluating quality control data to verify the accuracy and precision of the results of laboratory investigations<br>• Conducting research, education, management or administrative activities incidental to performing the above-mentioned services<br><br>The Prince Edward Island College of Allied Health Professionals lists 105 members with 70% (74) being employed by Health PEI and 31 working in the private sector. Medical Laboratory Technologists must be registered with the Prince Edward Island College of Allied Health Professionals in order to legally practice and use the title "medical laboratory technologist."<br><br>https://www.cahppei.ca/members-list | | | | |

## 16.13 Pharmacist

Exhibit 16-21

Annual Growth Rate of Active Beneficiaries and Public Drug Program Spending by Jurisdiction 2017-2020

**Table 8 Annual growth rate of active beneficiaries and public drug program spending, by jurisdiction, 2017 to 2020**

| | Annual growth rate (%) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Active beneficiaries | | | | Total program spending | | | |
| Jurisdiction * | 2017 | 2018 | 2019 | 2020 | 2017 | 2018 | 2019 | 2020 |
| N.L. | -1.0 | -0.2 | 0.6 | -1.6 | -1.7 | 1.7 | 3.4 | 3.2 |
| **P.E.I.** | **5.5** | **5.0** | **4.2** | **1.6** | **5.3** | **8.1** | **7.6** | **12.0** |
| N.S. | 2.4 | 2.0 | 1.9 | 0.9 | 6.2 | 2.2 | 7.8 | 8.1 |
| N.B. | 2.2 | 1.1 | 0.6 | -2.5 | 5.5 | 3.7 | 6.8 | 7.3 |
| Que. | 1.4 | 0.8 | 0.5 | 4.4 | 4.6 | 2.4 | 3.2 | 6.5 |
| Ont.† | 2.8 | 66.0 | -9.9 | -13.4 | 6.4 | 11.7 | 2.2 | 4.3 |
| Man. | 0.6 | 0.7 | 0.2 | -4.8 | 1.3 | 0.8 | 2.5 | 5.7 |
| Sask. | 1.4 | 3.2 | 1.8 | -2.7 | 7.1 | 12.9 | 5.8 | 5.2 |
| Alta. | 3.5 | 3.7 | 4.0 | -0.6 | 6.8 | 4.6 | 7.9 | 5.8 |
| B.C. | 1.1 | 0.6 | 1.4 | -4.1 | 1.5 | 6.7 | 1.5 | -2.2 |
| Y.T. | 5.2 | 4.5 | 5.4 | 41.7 | 7.3 | 2.3 | 10.4 | -8.7 |
| **Total** | **1.8** | **18.9** | **-3.0** | **-5.2** | **5.2** | **7.3** | **3.1** | **4.6** |

**Notes**

* Differences in jurisdictional growth rates should be interpreted with caution as they can be influenced by data limitations. For example, spending on hepatitis C drugs is not included in NPDUIS in all jurisdictions.

† The change in public drug program spending and number of active beneficiaries is largely due to OHIP+, which was introduced in January 2018 and extended the Ontario Drug Benefit Program to cover residents age 24 and younger. On April 1, 2019, the program was redesigned to cover only those who are not covered by a private plan.

Data from Indigenous Services Canada was excluded from this analysis because data was not available after 2019.

The Northwest Territories and Nunavut do not currently submit data to NPDUIS.

**Sources**

National Prescription Drug Utilization Information System, Canadian Institute for Health Information.

Banque médicaments, Régie de l'assurance maladie du Québec.

Total public drug program spending increased substantially between 2017 and 2020, namely 12% in 2020 alone in Prince Edward Island, well above the other Canadian jurisdictions.

Exhibit 16-22
Forecast Summary for Pharmacist

| Pharmacist | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 42.0 FTE | Population per FTE | 4,371 | 4,378 | 4,262 |
| Scenario FTEs | Current complement is below (5.36 FTE) the base case benchmark | | Increase by 17.42 FTE over the 10-year forecast period | Increase by 27.9 FTE over the 10-year forecast period | Increase by 36.33 FTE over the 10-year forecast period |
| Description | Pharmacists are trained in medication management as part of the healthcare team. They collaborate with patients, their families, and other health care providers to benefit the health of patients. The pharmacist's traditional scope is expanding, including medication reviews, chronic disease management, immunization services, and wellness programs. Pharmacists remain accountable and responsible for the therapeutic/clinical appropriateness of all new and refill prescriptions, and all therapeutic consultation. Most provincial governments have approved pharmacist prescribing with varying scopes of authority, a service that complements the care provided by a physician or nurse practitioner and can result in more convenient refills, less time spent dealing with prescription changes, and collaborative medication management.<br><br>The PEI College of Pharmacists lists 212 active members with 20% (42) being employed by HPEI and 170 working in the private sector. Pharmacists must be registered with the PEI College of Pharmacists in order to legally practice and use the title "pharmacist."<br><br>https://peicp.portalca.thentiacloud.net/webs/portal/#/ | | | | |

## 16.14 Pharmacy Technician

Exhibit 16-23
Forecast Summary for Pharmacy Technician

| Pharmacy Technician | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 42.4 FTE | Population per FTE | 6,719 | 4,682 | 4,294 |
| Scenario FTEs | Current complement is slightly below (1.58 FTE) the base case benchmark | | Decrease by 9.9 FTE over the 10-year forecast period | Increase by 10.5 FTE over the 10-year forecast period | Increase by 19.36 FTE over the 10-year forecast period |
| Description | Pharmacy technicians are accountable and responsible for the technical aspects of both new and refill prescriptions, (correct patient, drug dosage form/route, dose, doctor) (Successful Integration of Pharmacy Technicians, Centric Health and Canadian Pharmacist Assoc., January 2014) Pharmacy technicians transcribe new medication therapy orders, changes or refills into patient files, and fill, prepare, and/or package the medications. Many technicians compound sterile products and may prepare specialty items such as epidurals, chemotherapy and investigational drugs.<br><br>The Prince Edward Island College of Pharmacists lists 80 active pharmacy technician members with 53% (42) being employed by Health PEI and 38 working in the private sector. Pharmacy technicians are not required to register with the Prince Edward Island College of Pharmacists in order to legally practice and use the title "pharmacy technician". The total active members (80) may be significantly understated.<br><br>https://peicp.portalca.thentiacloud.net/webs/portal/#/ | | | | |

## 16.15 Clinical Psychologist[20]

Exhibit 16-24
Forecast Summary for Clinical Psychologist

| Clinical Psychologist | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 12.6 FTE | Population per FTE | 11,751 | 10,592 | 8,247 |
| Scenario FTEs | Current complement is below (6.84 FTE) the base case benchmark | | Increase by 9.9 FTE over the 10-year forecast period | Increase by 15.4 FTE over the 10-year forecast period | Increase by 35.56 FTE over the 10-year forecast period |

[20] It is noted that mental health counselors are referenced by title and role in Prince Edward Island

| | |
|---|---|
| Description | A clinical psychologist studies how we think, feel and behave from a scientific viewpoint and applies this knowledge to help people understand, explain and change their behaviour. Psychologists engage in research, practice and teaching across a wide range of topics having to do with how people think, feel and behave. Their work can involve individuals, groups, families and as well as larger organizations in government and industry. Some of the kinds of topics where psychologists focus their research and practice:<br>• Mental health problems such as depression, anxiety, phobias<br>• Neurological, genetic, psychological and social determinants of behaviour;<br>• Psychological determinants of health and psychological factors that contribute to health and disease management<br>• Rehabilitation and adjustment to disability and chronic illness<br>• Brain injury, degenerative brain diseases<br>• Perception and management of pain<br>• Relationship between psychological factors and physical conditions and illness (such as, diabetes, heart disease, stroke)<br>• Management of psychological aspects of terminal illnesses and end-of-life care<br>• Cognitive functions (e.g., learning, memory, problem solving, intellectual ability)<br>• Developmental and behavioural abilities and problems across the lifespan;<br>• criminal behaviour, crime prevention, and services for victims and perpetrators of criminal activity<br>• Addictions, substance use and abuse (such as, smoking, alcohol, prescription and recreational drugs)<br>• Stress, anger and other aspects of lifestyle management<br>• Court consultations on the role of psychological factors in legal matters (such as, accidents and injury, parental capacity, competence to manage one's personal affairs)<br>• Marital and family relationships and problems<br>• Psychological factors related to performance at/in work, school, recreation and sport<br><br>The Prince Edward Island Psychologist Registration Board lists 69 members with 18% (13) being employed by Health PEI and 56 working in the private sector.<br>Psychologists must be registered with the Prince Edward Island Psychologist Registration Board in order to legally practice and use the title "psychologist."<br><br>https://www.peipsychology.org/peiprb/ and https://papei.org/ |

The majority (13.42 FTE) of the base, low, and high case FTE increase over the ten-year forecast is due to implementation of primary healthcare teams in collaborative practices.. Mental health counselors can substitute for psychologists in primary healthcare teams at local discretion and based on the specific needs of the roster of patients.

## 16.16 Medical Radiology Technologist

Exhibit 16-25
Forecast Summary for Medical Radiology Technologist

| Medical Radiology Technologist | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 56.2 FTE | Population per FTE | 3,133 | 3,133 | 3,092 |
| Scenario FTEs | Current complement is below (9.52 FTE) the base case benchmark | | Increase by 13.57 FTE over the 10-year forecast period | Increase by 22.17 FTE over the 10-year forecast period | Increase by 29.58 FTE over the 10-year forecast period |
| Description | Medical radiation technology is the health profession in which a person applies particular knowledge, skills, and judgment in:<br>• Using ionizing and non-ionizing radiation, magnetic fields, high-frequency sound waves and other energy forms in the provision of diagnostic and therapeutic modalities<br>• Conducting research, education, management or administrative activities incidental to the above<br><br>The Prince Edward Island College of Allied Health Professionals lists 112 members with 50% (56) being employed by Health PEI and 56 working in the private sector. Radiology Technologists must be registered with the Prince Edward Island College of Allied Health Professionals in order to legally practice and use the title "medical radiology technologist."<br><br>https://www.cahppei.ca/members-list | | | | |

## 16.17 Social Worker

Exhibit 16-26
Forecast Summary for Social Worker

| Social Worker | Current State (31/03/2022) | BENCHMARK | LOW CASE (Scenario) | BASE CASE (Scenario) | HIGH CASE (Scenario) |
|---|---|---|---|---|---|
| FTEs | 97.4 FTE | Population per FTE | 3,002 | 2,255 | 2,061 |
| Scenario FTEs | Current complement is slightly below (2.52 FTE) the base case benchmark | | Decrease by 12.6 FTE over the 10-year forecast period | Increase by 18.2 FTE over the 10-year forecast period | Increase by 31.76 FTE over the 10-year forecast period |
| Description | A social worker (Social work education and workforce planning and development in the England, Europe, the United States and Canada, Churchill Memorial Trust, Australia, April 22, 2013) assists patients and their families with navigating systems that provide resources and services. A clinical social worker will counsel patients and their families to cope with their unique situation. They will be involved in a patient's care plan or discharge plan including:<br>• Connect patients with community supports and resources<br>• Empower patients to cope and problem solve during or after injury, disease or illness<br>• Seek to improve a patient's quality of life and well-being<br>• Counsel patients and their families<br>• Work in Community clinics, Home care, Hospitals or health care centres, and Long-term care facilities<br><br>The Prince Edward Island Social Work Registration Board lists 417 members with 23% (97) being employed by Health PEI and 320 working in the private sector. The profession is guided within the framework of mandatory regulations through the Prince Edward Island Social Work Act. As a self-regulated profession, specific standards for accredited education and qualifications to practice have been established to allow practitioners to use the title "social worker."<br><br>http://socialworkpei.ca/ | | | | |

13 vacancies in the existing complement are being recruited for at present. A significant number (6.71 FTE in base case) of the base, low, and high case FTE increase over the ten-year forecast is due to implementation of primary healthcare teams in collaborative practices.

# 17 Physician Extenders

Physician extenders (PEs) see the same types of patients as a physician but, generally, patients seen by a PE require more routine and straightforward care. Physician extenders perform generic tasks, such as taking medical histories, conducting physical examinations, diagnosing and treating illnesses, ordering and interpreting tests, counseling on preventive health care, assisting in surgery, making referrals, and, in many cases, writing prescriptions. Specialized procedures (insertion of central access lines and chest tubes, invasive diagnostic procedures, ambulatory surgery) performed by PEs are specific to a particular clinical field or setting, not unlike those undertaken by physicians and are commensurate with formal or informal postgraduate training. A physician extender may, by training, come from a number of professional backgrounds but is most often either a physician assistant (PA), advance practice nurse (APN), or nurse practitioner (NP).

Physician assistants are reviewed in detail in the Environmental Scan to set the context for Prince Edward Island. The Canadian Medical Association (CMA) describes physician assistants as, highly skilled healthcare professionals who work alongside physicians to improve access to care, reduce wait times, and enhance the quality of care.

PAs only work within the scope of the supervising MD. A PA may come from a variety of training backgrounds including nursing, nurse practitioner, psychologist, or physiotherapist. The PA profession has expanded fairly rapidly in Canada since 2005. PAs in Canada work for physician(s) under their supervision in semiautonomous roles, delivering delegated medical services. As such, a PA scope of practice mirrors that of the supervising licensed physician, providing greater service capability for the physician. In Manitoba, the PA program has grown from three PA's to 123 as of 2020 with about 108 working in Winnipeg, plus another 15 in rural areas. Currently, there are approximately 765 PAs working in Canada, mostly in Manitoba (123) and Ontario (506), with another 160 students enrolled in PA programs. Alberta Health Services has launched a two-year demonstration PA program placing PAs in select facilities across the province. The Alberta Ministry of Health is amending its Health Professions Act to include PAs.

The Canadian Association of Physician Assistants is the governing body for physician assistants. Physician assistant training programs in Canada are currently offered at McMaster University (BSc.), University of Toronto/ Northern Ontario Medical School (BScPA), and the University of Manitoba (Masters PA).

Nurse practitioners (NPs) are increasing in numbers in Canada. To date, they work most frequently either independently (solo practice in remote or northern communities), or independently within a team with a separate patient roster. Primary healthcare reform founded on collaborative care teams where NPs play a central role is increasing greatly the demand for NPs. Expansion of NP education programs in context of this projected sharp increase in demand will be essential.

Advance practice nurses have additional training beyond their undergraduate education and training. A nurse endoscopist, as discussed later, provides a good example. These individuals work under the direction of a physician with a defined scope of practice and extend the physician's expertise and resources by performing specific tasks.

The following table describes where physician extenders could be used as part of provincial recruiting initiatives.

Exhibit 17-01
Examples of Physician Extenders Incorporated into Clinical Medicine

| Specialty | Notes | Low Case | Base Case | High Case |
|---|---|---|---|---|
| RCPCSC SPECIALTIES | | | | |
| Gastroenterology - screening | Nurse endoscopists in supervised roles in larger centres | Nurse endoscopists in supervised roles at QEH with a 30% reduction in gastroenterologist endoscopy time | Nurse endoscopists in supervised roles at QEH with a 20% reduction in gastroenterologist endoscopy time | Nurse endoscopists in supervised roles at QEH with a 10% reduction in gastroenterologist endoscopy time |
| Nephrology - end-stage renal disease | GPs as clinical associates can double the capacity of each nephrologist | Ratio of 125 patients on renal replacement therapy per 1.0 FTE nephrologist and 0.8 FTE GP | Mid-range ratio of 100 patients on renal replacement therapy per 1.0 FTE nephrologist and 0.6 FTE GP | High ratio of 60 patients on renal replacement therapy per 1.0 FTE |

| Specialty | Notes | Low Case | Base Case | High Case |
|---|---|---|---|---|
| Psychiatry | National average is 1.0 FTE per 9,406 population - PEI is 1.0 FTE per 10,438 population (the averages include subspecialty areas, such as child, forensic, and geriatric | Move focus of psychiatry to acute care and sub-specialized adult psychiatry focused on nonorganic psychoses. Augment the workforce with clinical psychologists, mental health counselors, and collaborative PHC teams. | Increase by 7.78 FTE from 1.0 FTE per 10, 438 population to 1.0 FTE per 8,465 population by 2032 with focus on nonorganic psychoses. Augment the workforce with clinical psychologists, mental health counselors, and collaborative primary healthcare teams. teams. | Increase by 9.08 FTE to achieve 1.0 FTE per 8,036 population with no change in the model of care and no integration of other professions or with primary healthcare teams. |
| Urology - chronic disease management | A percentage of patients seen by a urologist could be evaluated and/or treated by a PA or NP | 30% to 40% with two physician extenders working in the physician practice. Physician extender will see an average of 50-60 patients over a four-day clinic week. | 20% with one physician extender working in the physician practice. Physician extender will see an average of 20-30 patients over a four-day clinic week. | 0% with no physician extenders |
| FAMILY MEDICINE SPECIAL INTERESTS | Extend capacity through linkages of GP SIs to different subspecialties | Implement GP SI to subspecialty integration with 30% impact, as follows:<br>• Cardiology - SI care of the older adult<br>• Endocrinology and Metabolism - SI care of the older adult<br>• Nephrology - SI care of the older adult<br>• Neurology -SI care of the older adult<br>• Psychiatry - SI mental health and addictions<br>• Respirology - SI respiratory medicine (clinical associate in ICU) | Implement GP SI to subspecialty integration with 20% impact, as follows:<br>• Cardiology - SI care of the older adult<br>• Endocrinology and Metabolism - SI care of the older adult<br>• Nephrology - SI care of the older adult<br>• Neurology -SI care of the older adult<br>• Psychiatry - SI mental health and addictions<br>• Respirology - SI respiratory medicine (clinical associate in ICU) | Implement GP SI to subspecialty integration with 10% impact, as follows:<br>• Cardiology - SI care of the older adult<br>• Endocrinology and Metabolism - SI care of the older adult<br>• Nephrology - SI care of the older adult<br>• Neurology -SI care of the older adult<br>• Psychiatry - SI mental health and addictions<br>• Respirology - SI respiratory medicine (clinical associate in ICU) |

Benefits of physician extenders include:

- Work directly as part of a collaborative care team or for a physician or physician group practice setting (thereby, enhancing accountability)
- As a regulated licensed profession (ON, NB, and pending in MB and AB), can obtain independent liability insurance
- Motivations, interests, skills, and continuing professional development align with the needs of the physician
- The capacity of each service, physician, and physician group is expanded since the physician extender performs controlled delegated acts
- The capacity of each service, physician, and physician group is expanded into areas of unmet need (such as, triage, counseling, and prevention)
- Improved access to services without compromise to quality
- Improve subspecialty recruitment and retention
- Lower cost of physician services with improved access

# 18 Provincial Programs

## 18.1 Provincial Program Network

A Provincial Program Network (PPN) is a provincial subspecialty service based at a single site (QEH) with appropriate outreach services and provincial oversight by a program lead supported by a single entity or committee.

One specialty example is child and adolescent psychiatry where a relatively small patient population is best served by a provincial program that maintains critical mass (quality) and intra-specialty support and on-call programs. In the future, academic oversight to this specialty can be provided by an academic infrastructure that includes a provincial training program, not achievable in co-existence with a second site. The ideal service delivery model includes:

- Coordinated continuum of care
- Best practice guidelines
- Specialized team (itinerant and/or on site)
- Network of care
- Interdisciplinary support
- Health promotion and disease prevention
- Acute care with hub and spoke model (tertiary – large secondary – small community – mental health hospital)

The related mental health program includes common intake and referral processes, system navigation and patient portals, seamless information management, and triage.

A subspecialty PPN example is geriatric team-based care that incorporates a team-based point of entry, care that is internal to the team, and a navigation responsibility whereby the team or the team-based geriatrician (or GP with specialized training in care of the older adult) processes subsequent referrals to other specialists. It could be anticipated that increased resources would be required in the areas of geriatric psychiatry and neurology, and

fewer in other medical subspecialties.[21] A geriatric team could be anticipated to require increased primary care resources and decreased subspecialty resources by 10% (for the geriatric population).

Our final recommendations will include that Provincial Program Network (PPN) oversight be adopted for each major clinical service stream (core services, diagnostic, medical, mental health and addictions, paediatric, primary health care, and surgical) and include a provincial lead.

PPNs are contemplated, as follows:

- Diagnostic and therapeutic services
- Medical Services and subspecialty medicine
- Mental health and addictions
- Obstetrics and gynaecology
- Paediatrics and subspecialty paediatrics
- Primary care services
- Surgical services and subspecialty surgery

The core functions of PPNs include:

- Workforce resource planning
  - To manage recruitment and retention of workforce resources in accordance with the approved provincial workforce plan
  - To ensure that identification, recruitment, training, and deployment of physician extenders occurs in accordance with the approved provincial workforce plan
  - To liaise with educational institutions to develop alignment with WRP needs
- Quality
  - To develop, disseminate, train, and monitor clinical best practice guidelines
  - To ensure education and training programs are delivered of high quality to local staff, such as clinical practice guidelines and core competency enhancement
- Planning
  - To conduct model of care planning across the province

[21] Hogan DB, Borrie M, Basran JFS et al. Specialist physicians in geriatrics – report of the Canadian Geriatrics Society Physician Resource Work Group. Can Ger J; 2012: 15 (3): 68-79

    - To conduct detailed planning in a manner consistent with stakeholder high level strategic plans
- Service delivery
    - To ensure services are delivered consistent with defined models of care
    - To ensure itinerant teams are appropriately resourced, deployed, and managed
- Communications and engagement
    - To create a provincial service management committee constituted by key stakeholders to ensure both a bottom-up and top-down integration of planning, communication, and engagement
- Accountability
    - Accountable to Health PEI for all areas of responsibility - this will ensure communication is effective, planning is consistent, and service delivery reflects best practices
    - Accountable for defined metrics for outputs and outcomes consistent with the model of care

## 18.2 Designated Sub-Specialized Centre

Within a PPN, a designated sub-specialized centre provides, from a single site, specialized service(s) province-wide for patients with low volume, complex (multiple comorbid conditions, multiple specialty consultations), and sometimes severe (acute), conditions. A designated sub-specialized centre is staffed by a small, critical mass of subspecialists and highly skilled allied health professionals. Oversight is provided by a single committee or entity. Outreach and province-wide follow up are also attributes of this model.

One example of what should evolve in Prince Edward Island is medical subspecialty services based in Charlottetown at the QEH. This medical sub-specialty program is an example where improved outcomes would be seen with a single site of delivery, to include shared clinical care and problem-solving, in addition to improved on-call demands. Recruitment and retention of medical subspecialists would be based at the QEH in Charlottetown.

The greater the degree of generalism, the more likely the service will also be provided at PCH, such as general internal medicine. The greater the degree of subspecialty care, such as gastroenterology and cardiology, the less likely the service will be provided elsewhere in the province. The direct benefit to workforce planning is the focus on services that are provincial rather than duplicated regionally. Other benefits that will accrue are improved outcomes, increased research, and focused education when not distributed.

Designated sub-specialized centres benefits include:

- Improved clinical outcomes
- Improved access times and follow-up
- Improved on-call demands
- More efficient use of sub-specialized human resources for health
- Concentrated resources, leading to improved opportunity for research and education
- Robust multi-disciplinary team functioning

Non-subspecialist medical services include a list of common medical conditions often dealt with in a non-specialized centre (such as, chronic diseases, including hypertension, diabetes, and chronic obstructive pulmonary disease). When disease processes become advanced, general internists consult other specialists as needed. Such medical services can be safely performed outside a designated specialized centre.

# 19 Forecasts

## 19.1 PROVINCE-WIDE FORECAST

### 19.1.1 Summary - Base Case Scenario

The base case ten-year forecast scenario to March 31, 2032 calls for an increase of 798.65 FTE (2.66% per annum growth) across all health disciplines and across all counties. The base case forecast increase of 798.65 FTE is contingent upon continued and accelerated reform in primary health care, hinging on deepening and broadening the penetration of PHC collaborative teams. If no progress is made on PHC reform, then the forecast FTE increase increases by 27.3 GP FTEs. Implementation of PHC collaborative teams with rostered patients reduces the already high need for additional GP FTE.

The forecast turnover due to retirement, migration out of province, gender shift, and death rate is 1,267.77 FTE or 127.0 FTE per annum (4.22% per annum). Forecast turnover is simply the number of FTE expected to retire, relocate out of province, and shift to female from male for incoming recruitments. The province must recruit 80 growth FTE per annum plus replace 127.0 FTE per annum.

County level forecasts are provided in a subsequent subsection.

The base case scenario forecast tables are provided in the following exhibits.

# Exhibit 19-01
## Province-Wide Base Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 7.20 | (0.8) | 6.50 | 0.74 | 0.57 | 7.05 | (1.8) | 5.35 | 1.02 | 0.24 | 6.61 | 0.00 | 0.00 | 0.00 | 0.00 | 6.61 | (0.6) |
| Diagnostic Radiology | 10.62 | (1.2) | 2.04 | 0.37 | 0.98 | 2.23 | 5.26 | 15.89 | 3.06 | 0.68 | 19.62 | 0.00 | (4.4) | 0.00 | (4.4) | 15.23 | 4.61 |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.65 | 1.65 | 0.31 | 0.07 | 2.04 | 0.00 | 0.00 | 0.00 | 0.00 | 2.04 | 2.04 |
| Hematological Pathology | 1.00 | (0.1) | 0.15 | 0.03 | 0.09 | 0.15 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.20 | (0.0) | 0.02 | 0.01 | 0.02 | 0.05 | 0.00 | 0.20 | 0.04 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.05 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 3.00 | (0.3) | 0.22 | 0.06 | 0.28 | 0.23 | 0.29 | 3.29 | 0.63 | 0.15 | 4.07 | 0.00 | 0.00 | 0.00 | 0.00 | 4.07 | 1.07 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | 22.02 | (2.4) | 8.94 | 1.21 | 1.94 | 9.71 | **5.36** | **27.38** | **5.25** | **1.19** | **33.83** | **0.00** | **(4.4)** | **0.00** | **(4.4)** | **29.43** | **7.41** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 33.59 | (3.7) | 17.20 | 2.34 | 2.86 | 18.70 | 0.71 | 34.30 | 5.17 | 1.45 | 40.93 | 0.00 | 0.00 | 0.00 | 0.00 | 40.93 | 7.33 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **33.59** | **(3.7)** | **17.20** | **2.34** | **2.86** | **18.70** | **0.71** | **34.30** | **5.17** | **1.45** | **40.93** | **0.00** | **0.00** | **0.00** | **0.00** | **40.93** | **7.33** |
| Family Medicine | 1.08 | (0.0) | 0.10 | 0.02 | 0.10 | 0.17 | 0.00 | 1.08 | 0.21 | 0.04 | 1.33 | 0.00 | 0.00 | 0.00 | 0.00 | 1.33 | 0.25 |
| General Practice | 101.54 | (11.7) | 46.32 | 6.54 | 8.67 | 49.79 | 34.45 | 135.99 | 26.19 | 5.81 | 167.99 | (27.3) | 0.00 | 0.00 | (27.3) | 140.71 | 39.17 |
| Family Medicine (CAC)-Addiction Medicir | 1.00 | (0.1) | 2.92 | 0.37 | 0.04 | 3.22 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Family Medicine (SI)-Child and Adolescer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 2.50 | (0.3) | 1.49 | 0.17 | 0.21 | 1.61 | 0.00 | 2.50 | 0.48 | 0.11 | 3.09 | 0.00 | 0.00 | 0.00 | 0.00 | 3.09 | 0.59 |
| Family Medicine (SI)-Critical Care Associa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills Su | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice A | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Can | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of th | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 15.21 | (1.6) | 3.69 | 0.64 | 1.35 | 4.04 | 0.00 | 15.21 | 2.93 | 0.65 | 18.79 | 0.00 | 0.00 | 0.00 | 0.00 | 18.79 | 3.58 |
| Family Medicine (CAC)-Obstetrical Surgic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 2.00 | (0.2) | 0.87 | 0.11 | 0.18 | 0.93 | 0.00 | 2.00 | 0.38 | 0.09 | 2.47 | 0.00 | 0.00 | 0.00 | 0.00 | 2.47 | 0.47 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicir | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercis | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **123.33** | **(14.0)** | **55.39** | **7.84** | **10.54** | **59.76** | **34.45** | **157.78** | **30.38** | **6.74** | **194.91** | **(27.3)** | **0.00** | **0.00** | **(27.3)** | **167.63** | **44.30** |

PROVINCE WIDE SUMMARY - FORECAST  Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 2.00 | (0.2) | 0.17 | 0.05 | 0.19 | 0.18 | 3.23 | 5.23 | 1.00 | 0.23 | 6.47 | 0.00 | 0.00 | 0.00 | 0.00 | 6.47 | 4.47 |
| Clinical Immunology and Allergy | 0.05 | (0.0) | 0.10 | 0.01 | 0.00 | 0.12 | 0.99 | 1.04 | 0.20 | 0.05 | 1.28 | 0.00 | 0.00 | 0.00 | 0.00 | 1.28 | 1.23 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 1.00 | (0.1) | 0.03 | 0.01 | 0.09 | 0.01 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Dermatology | 1.00 | (0.1) | 0.11 | 0.01 | 0.08 | 0.09 | 1.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 1.77 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.07 | 2.07 | 0.40 | 0.09 | 2.56 | 0.00 | 0.00 | 0.00 | 0.00 | 2.56 | 2.56 |
| Gastroenterology | 1.86 | (0.2) | 0.98 | 0.15 | 0.15 | 1.10 | 0.73 | 2.59 | 0.49 | 0.11 | 3.20 | 0.00 | 0.00 | 0.00 | 0.00 | 3.20 | 1.34 |
| General Internal Medicine (GIM) | 8.67 | (1.0) | 4.81 | 0.69 | 0.76 | 5.29 | 0.96 | 9.62 | 1.86 | 0.40 | 11.89 | 0.00 | 1.84 | 0.00 | 1.84 | 13.73 | 5.06 |
| Geriatric Medicine | 3.10 | (0.3) | 0.55 | 0.10 | 0.28 | 0.65 | 0.00 | 3.10 | 0.59 | 0.14 | 3.83 | 0.00 | 0.00 | 0.00 | 0.00 | 3.83 | 0.73 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 1.68 | 0.32 | 0.07 | 2.08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.08 | 2.08 |
| Infectious Diseases | 0.08 | (0.0) | 0.01 | 0.00 | 0.01 | 0.01 | 1.54 | 1.61 | 0.31 | 0.07 | 1.99 | 0.00 | 0.00 | 0.00 | 0.00 | 1.99 | 1.92 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 3.15 | (0.3) | 2.82 | 0.31 | 0.25 | 3.10 | 0.13 | 3.28 | 0.63 | 0.15 | 4.05 | 0.00 | 0.00 | 0.00 | 0.00 | 4.05 | 0.90 |
| Nephrology | 2.60 | (0.3) | 1.66 | 0.22 | 0.23 | 1.84 | 0.16 | 2.76 | 0.53 | 0.12 | 3.41 | 0.00 | 0.00 | 0.00 | 0.00 | 3.41 | 0.81 |
| Neurology | 2.90 | (0.3) | 0.62 | 0.10 | 0.26 | 0.71 | 0.73 | 3.63 | 0.69 | 0.16 | 4.48 | 0.00 | 0.00 | 0.00 | 0.00 | 4.48 | 1.58 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 2.12 | (0.2) | 0.67 | 0.14 | 0.21 | 0.79 | 0.00 | 2.12 | 0.41 | 0.09 | 2.62 | 0.00 | 0.00 | 0.00 | 0.00 | 2.62 | 0.50 |
| Physical Medicine and Rehabilitation | 2.00 | (0.2) | 2.60 | 0.31 | 0.14 | 2.82 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 0.77 |
| Public Health & Preventative Medicine | 2.00 | (0.2) | 0.46 | 0.09 | 0.19 | 0.51 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 0.77 |
| Respirology | 3.00 | (0.3) | 1.09 | 0.17 | 0.26 | 1.19 | 0.45 | 3.45 | 0.67 | 0.15 | 4.27 | 0.00 | 0.00 | 0.00 | 0.00 | 4.27 | 1.27 |
| Rheumatology | 1.60 | (0.2) | 1.00 | 0.16 | 0.11 | 1.11 | 0.65 | 2.25 | 0.43 | 0.10 | 2.77 | 0.00 | 0.00 | 0.00 | 0.00 | 2.77 | 1.17 |
| **Medical Total** | **37.12** | **(3.9)** | **17.68** | **2.53** | **3.21** | **19.52** | **15.06** | **52.18** | **10.00** | **2.28** | **64.46** | **0.00** | **1.84** | **0.00** | **1.84** | **66.30** | **29.18** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 9.86 | (1.1) | 3.48 | 0.46 | 0.84 | 3.70 | (0.2) | 9.67 | 1.87 | 0.41 | 11.95 | 0.00 | (0.2) | 0.00 | (0.2) | 11.70 | 1.85 |
| **Obstetrics and Gynecology Total** | **9.86** | **(1.1)** | **3.48** | **0.46** | **0.84** | **3.70** | **(0.2)** | **9.67** | **1.87** | **0.41** | **11.95** | **0.00** | **(0.2)** | **0.00** | **(0.2)** | **11.70** | **1.85** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.03 | (0.0) | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 12.21 | (1.3) | 6.12 | 0.74 | 0.98 | 6.52 | (3.4) | 8.84 | 1.70 | 0.38 | 10.91 | 0.00 | 1.75 | 0.00 | 1.75 | 12.67 | 0.45 |
| **Pediatric Total** | **12.24** | **(1.3)** | **6.12** | **0.74** | **0.99** | **6.53** | **(3.4)** | **8.86** | **1.70** | **0.38** | **10.95** | **0.00** | **1.75** | **0.00** | **1.75** | **12.70** | **0.46** |

PROVINCE WIDE SUMMARY - FORECAST  Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 16.55 | (1.8) | 9.19 | 1.28 | 1.41 | 10.13 | 4.14 | 20.68 | 3.99 | 0.88 | 25.55 | 0.00 | (1.2) | 0.00 | (1.2) | 24.33 | 7.78 |
| **Psychiatry Total** | **16.55** | **(1.8)** | **9.19** | **1.28** | **1.41** | **10.13** | **4.14** | **20.68** | **3.99** | **0.88** | **25.55** | **0.00** | **(1.2)** | **2.00** | **0.78** | **26.33** | **9.78** |
| Anesthesiology | 14.77 | (1.4) | 11.84 | 1.57 | 1.25 | 13.24 | 3.22 | 17.99 | 3.47 | 0.77 | 22.23 | 0.00 | 1.43 | 0.00 | 1.43 | 23.66 | 8.89 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 9.67 | (1.1) | 6.84 | 0.90 | 0.79 | 7.46 | 1.73 | 11.41 | 2.20 | 0.48 | 14.09 | 0.00 | 1.10 | 0.00 | 1.10 | 15.19 | 5.51 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 5.30 | (0.6) | 4.16 | 0.50 | 0.43 | 4.50 | (0.0) | 5.26 | 1.02 | 0.22 | 6.50 | 0.00 | 0.00 | 0.00 | 0.00 | 6.50 | 1.20 |
| Orthopedic Surgery | 6.95 | (0.8) | 1.93 | 0.35 | 0.64 | 2.07 | 0.49 | 7.44 | 1.44 | 0.31 | 9.18 | 0.00 | 0.00 | 0.00 | 0.00 | 9.18 | 2.23 |
| Otolaryngology - Head and Neck Surgery | 3.00 | (0.3) | 0.71 | 0.16 | 0.29 | 0.83 | 0.45 | 3.45 | 0.67 | 0.15 | 4.26 | 0.00 | 0.00 | 0.00 | 0.00 | 4.26 | 1.26 |
| Plastic Surgery | 1.80 | (0.2) | 3.14 | 0.37 | 0.11 | 3.42 | 1.29 | 3.09 | 0.59 | 0.14 | 3.82 | 0.00 | 0.00 | 0.00 | 0.00 | 3.82 | 2.02 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 3.35 | (0.4) | 0.71 | 0.15 | 0.31 | 0.75 | 0.08 | 3.43 | 0.66 | 0.15 | 4.24 | 0.00 | 0.00 | 0.00 | (0.0) | 4.22 | 0.87 |
| Vascular Surgery | 0.60 | (0.0) | 0.10 | 0.03 | 0.06 | 0.14 | 0.64 | 1.24 | 0.24 | 0.05 | 1.53 | 0.00 | 0.00 | 0.00 | 0.00 | 1.53 | 0.93 |
| **Surgical Total** | **45.45** | **(4.9)** | **29.43** | **4.03** | **3.88** | **32.41** | **7.85** | **53.30** | **10.27** | **2.27** | **65.84** | **0.00** | **2.53** | **0.00** | **2.52** | **68.36** | **22.91** |
| Occupational Therapist | 58.20 | (6.0) | 15.17 | 1.21 | 4.63 | 14.99 | 5.31 | 63.51 | 9.50 | 2.72 | 75.73 | 0.00 | 0.00 | 0.00 | 0.00 | 75.73 | 17.53 |
| Physiotherapist | 44.20 | (4.3) | 11.98 | 1.01 | 3.57 | 12.27 | 10.53 | 54.73 | 8.19 | 2.35 | 65.26 | 0.00 | 0.00 | 0.00 | 0.00 | 65.26 | 21.06 |
| Respiratory Therapist | 27.20 | (2.7) | 10.34 | 0.84 | 2.20 | 10.65 | 10.58 | 37.78 | 5.65 | 1.62 | 45.05 | 0.00 | 0.00 | 0.00 | 0.00 | 45.05 | 17.85 |
| Speech Language Pathologist | 19.20 | (2.0) | 7.99 | 0.55 | 1.59 | 8.17 | 10.82 | 30.02 | 4.49 | 1.29 | 35.80 | 0.00 | 0.00 | 0.00 | 0.00 | 35.80 | 16.60 |
| Regulated Nurses - LPN | 409.20 | (36.4) | 171.84 | 12.32 | 32.62 | 180.43 | (11.1) | 398.12 | 59.55 | 17.06 | 474.73 | 0.00 | 0.00 | 0.00 | 0.00 | 474.73 | 65.53 |
| Regulated Nurses - NP | 46.60 | (5.3) | 5.41 | 0.66 | 3.88 | 4.69 | (5.9) | 40.72 | 6.09 | 1.75 | 48.56 | 45.00 | 0.00 | 0.00 | 45.00 | 93.56 | 46.96 |
| Regulated Nurses - RN | 1,122.20 | (108.1) | 422.97 | 29.79 | 88.34 | 433.03 | 4.53 | 1,126.73 | 168.52 | 48.29 | 1,343.55 | 0.00 | 0.00 | 0.00 | 0.00 | 1,343.55 | 221.35 |
| Epidemiologist | 3.00 | (0.3) | 0.35 | 0.05 | 0.26 | 0.32 | 0.00 | 3.00 | 0.44 | 0.13 | 3.57 | 0.00 | 0.00 | 0.00 | 0.00 | 3.57 | 0.57 |
| Emergency Prep./Communicable Disease | 1.00 | (0.1) | 0.13 | 0.02 | 0.09 | 0.12 | 0.00 | 1.00 | 0.15 | 0.04 | 1.19 | 0.00 | 0.00 | 0.00 | 0.00 | 1.19 | 0.19 |
| Environmental Health Officer | 9.40 | (1.0) | 1.31 | 0.20 | 0.78 | 1.26 | 0.00 | 9.40 | 1.38 | 0.42 | 11.20 | 0.00 | 0.00 | 0.00 | 0.00 | 11.20 | 1.80 |
| Health Promoter | 5.00 | (0.6) | 0.72 | 0.08 | 0.41 | 0.64 | 0.00 | 5.00 | 0.73 | 0.22 | 5.96 | 0.00 | 0.00 | 0.00 | 0.00 | 5.96 | 0.96 |
| Registered Nurse | 3.20 | (0.3) | 2.63 | 0.16 | 0.27 | 2.72 | 0.00 | 3.20 | 0.47 | 0.14 | 3.81 | 0.00 | 0.00 | 0.00 | 0.00 | 3.81 | 0.61 |
| Home Support Worker | 105.00 | (9.7) | 75.94 | 4.89 | 8.73 | 79.86 | 0.00 | 105.00 | 15.58 | 4.56 | 125.14 | 0.00 | 0.00 | 0.00 | 0.00 | 125.14 | 20.14 |
| Patient Care Worker | 81.80 | (6.6) | 37.94 | 2.87 | 6.69 | 40.93 | 0.00 | 81.80 | 12.27 | 3.49 | 97.56 | 0.00 | 0.00 | 0.00 | 0.00 | 97.56 | 15.76 |
| Resident Care Worker | 411.20 | (34.2) | 177.00 | 12.48 | 33.06 | 188.36 | 7.87 | 419.07 | 62.68 | 17.96 | 499.72 | 0.00 | 0.00 | 0.00 | 0.00 | 499.72 | 88.52 |
| Dietitian | 31.40 | (3.2) | 11.38 | 0.79 | 2.58 | 11.53 | 1.87 | 33.27 | 4.98 | 1.43 | 39.68 | 13.42 | 0.00 | 0.00 | 13.42 | 53.10 | 21.70 |
| Medical Laboratory Technologist | 74.00 | (7.9) | 30.53 | 2.13 | 5.86 | 30.57 | 1.47 | 75.47 | 11.29 | 3.23 | 89.99 | 0.00 | 0.00 | 0.00 | 0.00 | 89.99 | 15.99 |
| Pharmacist | 42.00 | (4.1) | 15.89 | 1.27 | 3.66 | 16.68 | 5.36 | 47.36 | 7.08 | 2.03 | 56.48 | 13.42 | 0.00 | 0.00 | 13.42 | 69.90 | 27.90 |
| Pharmacy Technician | 42.40 | (4.4) | 16.58 | 1.03 | 3.39 | 16.56 | 1.58 | 43.98 | 6.58 | 1.89 | 52.45 | 0.00 | 0.00 | 0.00 | 0.00 | 52.45 | 10.05 |
| Psychologist | 12.60 | (1.4) | 6.29 | 0.46 | 1.10 | 6.45 | 6.84 | 19.44 | 2.91 | 0.83 | 23.18 | 13.42 | 0.00 | 0.00 | 13.42 | 36.61 | 24.01 |
| Radiology Technologist | 56.20 | (5.4) | 13.74 | 1.30 | 4.60 | 14.24 | 9.52 | 65.72 | 9.83 | 2.82 | 78.37 | 0.00 | 0.00 | 0.00 | 0.00 | 78.37 | 22.17 |
| Social Worker | 97.40 | (10.4) | 34.09 | 2.28 | 6.82 | 32.83 | (6.1) | 91.31 | 13.66 | 3.91 | 108.88 | 6.71 | 0.00 | 0.00 | 6.71 | 115.60 | 18.20 |
| **Allied Health Professions-Total** | **2,702.40** | **(254.4)** | **1,070.22** | **76.37** | **215.13** | **1,107.30** | 53.25 | 2,755.65 | **412.01** | **118.19** | **3,285.85** | **91.98** | **0.00** | **0.00** | **91.98** | **3,377.83** | **675.43** |
| **TOTAL** | **3,002.56** | **(287.5)** | **1,217.66** | **96.81** | **240.81** | **1,267.77** | **117.27** | **3,119.82** | **480.65** | **133.79** | **3,734.26** | **64.70** | **0.26** | **2.00** | **66.95** | **3,801.21** | **798.65** |
| **% Change per Annum** | | | | | | **4.22%** | **0.39%** | | **1.60%** | **0.45%** | **2.44%** | **0.2%** | **0.00%** | **0.01%** | **0.22%** | | **2.66%** |

The following section and exhibit provides information on program assumptions (columns19-21) and the recruitment timing (column 23) for the growth in FTEs (column 18) .

## 19.1.2 Base Case Scenario - Program Assumptions and Recruitment Timing

### Exhibit 19-02
### Base Case Scenario Assumptions and Timing 2022-2023 (F1) to 2031-2031 (F10)

PROVINCE WIDE SUMMARY - FORECAST, Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENARIO | 1 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|
| | | | | ASSUMPTIONS - Program Design/Delivery | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) | BASE | LOW | HIGH | PROVINCIAL PROGRAM/Notes | RECRUITMENT TIMING RECOMMENDATIONS (for Col 18 FTE) |
| Anatomical Pathology | 7.20 | 6.61 | (0.6) | No Change in service model; BM's Canada | No Change in service model; BM's Canada | No Change in service model; BM's Canada | | |
| Diagnostic Radiology | 10.62 | 15.23 | 4.61 | No Change in service model; BM's U.K., Canada | No Change in service model; BM's U.K., Canada | No Change in service model; BM's U.K., Canada | | Within 10 years |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| General Pathology | 0.00 | 2.04 | 2.04 | No Change in service model; BM's Canada | No Change in service model; BM's Canada | No Change in service model; BM's Canada | | BY Fy4 |
| Hematological Pathology | 1.00 | 1.24 | 0.24 | No Change in service model; BM's Canada | No Change in service model; BM's Canada | No Change in service model; BM's Canada | | |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| Medical Microbiology | 0.20 | 0.25 | 0.05 | Province-wide Resource; based out of one site | Province-wide Resource; based out of one site | Province-wide Resource; based out of one site | | by FY4 |
| Neuropathology | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| Neuroradiology | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| Radiation Oncology | 3.00 | 4.07 | 1.07 | No Change in service model; BM's Ireland, Australia, Canada | No Change in service model; BM's Ireland, Australia, Canada | No Change in service model; BM's Ireland, Australia, Canada | | BY FY3 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | Purchased service NB or NS | Purchased service NB or NS | Purchased service NB or NS | | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| **Diagnostic/Therapeutic Total** | 22.02 | 29.43 | 7.41 | | | | | |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (EM) | 33.59 | 40.93 | 7.33 | Volume increase 1%-2%/yr; but no expansion in number ER Sites | Volume increase 1%-2%/yr; but no expansion in number ER Sites | Volume increase 1%-2%/yr; but no expansion in number ER Sites | 1,340 hours per FTE | Within 10 years |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | | | | | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| **Emergency Medicine Total** | 33.59 | 40.93 | 7.33 | | | | | |
| Family Medicine | 1.08 | 1.33 | 0.25 | | | | | |
| General Practice | 101.54 | 140.71 | 39.17 | Population aging/growth, see also 'MOC PHC' | Population aging/growth, see also 'MOC PHC' | Population aging/growth, see also 'MOC PHC' | | by FY3 |
| Family Medicine (CAC)-Addiction Medicine | 1.00 | 1.24 | 0.24 | | | | | |
| Family Medicine (SI)-Child and Adolescent H | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Cancer Care | 2.50 | 3.09 | 0.59 | | | | | by FY3 |
| Family Medicine (SI)-Critical Care Associate | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Emergency Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (CAC)-Enhanced Skills Surg | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (CAC)-Family Practice Anes | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Family Practice Cancer | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (CAC)-Health Care of the E | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Hospital Medicine | 15.21 | 18.79 | 3.58 | | | | | Within 10 years |
| Family Medicine (CAC)-Obstetrical Surgical | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Occupational Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (CAC)-Palliative Care | 2.00 | 2.47 | 0.47 | | | | | by FY3 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (SI)-Respiratory Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Family Medicine (CAC)-Sport and Exercise M | 0.00 | 0.00 | 0.00 | | | | | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| **Family Practice Total** | 123.33 | 167.63 | 44.30 | | | | | |

PROVINCE WIDE SUMMARY - FORECAST, Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| BASE CASE SCENARIO | 1 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|
| | | | | ASSUMPTIONS - Program Design/Delivery | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) | BASE | LOW | HIGH | PROVINCIAL PROGRAM/Notes | RECRUITMENT TIMING RECOMMENDATIONS (for Col 18 FTE) |
| Cardiology | 2.00 | 6.47 | 4.47 | Presence in Queens County, BM's Canada, U.K., Australia | Presence in Queens County, BM's Canada, U.K., Australia | Presence in Queens County, BM's Canada, U.K., Australia | | Within 10 years |
| Clinical Immunology and Allergy | 0.05 | 1.28 | 1.23 | Minimum 1.0 Provincially | Minimum 1.0 Provincially | Minimum 1.0 Provincially | | BY F3 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | | | | | |
| Critical Care Medicine | 1.00 | 1.24 | 0.24 | No expansion in number of ICU's | No expansion in number of ICU's | No expansion in number of ICU's | | BY F5 |
| Dermatology | 1.00 | 2.77 | 1.77 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | by FY 5 |
| Endocrinology and Metabolism | 0.00 | 2.56 | 2.56 | New service model, BM's Canada, U.K., USA | New service model, BM's Canada, U.K., USA | New service model, BM's Canada, U.K., USA | | By FY5 |
| Gastroenterology | 1.86 | 3.20 | 1.34 | Expand service model, BM's Canada, U.K., Australia | Expand service model, BM's Canada, U.K., Australia | Expand service model, BM's Canada, U.K., Australia | | By F3 |
| General Internal Medicine (GIM) | 8.67 | 13.73 | 5.06 | Expand service model, BM's Canada | No change service model, BM's Canada | Expand service model, BM's Canada | | Within 10 years |
| Geriatric Medicine | 3.10 | 3.83 | 0.73 | No change service model, BM's Canada | No change service model, BM's Canada | No change service model, BM's Canada | | By F5 |
| Hematology | 0.00 | 2.08 | 2.08 | New service model, BM's Canada, U.K., USA | New service model, BM's Canada, U.K., USA | New service model, BM's Canada, U.K., USA | | BY F5 |
| Infectious Diseases | 0.08 | 1.99 | 1.92 | Expanded service model, BM's Canada | Expanded service model, BM's Canada | Expanded service model, BM's Canada | | BY FY5 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Medical Oncology | 3.15 | 4.05 | 0.90 | No change service model, BM's Canada | No change service model, BM's Canada | No change service model, BM's Canada | | BY FY5 |
| Nephrology | 2.60 | 3.41 | 0.81 | No change service model, BM's Canada, U.K. 100 patients on RRT per 1.0 FTE | Enhanced PHC scope practice, BM's Canada, U.K. 75 patients on RRT per 1.0 FTE | Enhanced PHC scope practice, BM's Canada, U.K. 75 patients on RRT per 1.0 FTE | | BY FY3 |
| Neurology | 2.90 | 4.48 | 1.58 | No change service model, BM's Canada | Enhanced PHC scope practice, BM's Canada, U.K. | No change service model, BM's Canada | | BY FY6 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Pain Medicine | 2.12 | 2.62 | 0.50 | | | | | BY FY3 |
| Physical Medicine and Rehabilitation | 2.00 | 2.77 | 0.77 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | BY FY5 |
| Public Health & Preventative Medicine | 2.00 | 2.77 | 0.77 | No change service model | No change service model | No change service model | | BY FY3 |
| Respirology | 3.00 | 4.27 | 1.27 | No change in service model, BM's Canada, U.K. | No change in service model, BM's Canada, U.K. | No change in service model, BM's Canada, U.K. | | BY FY5 |
| Rheumatology | 1.60 | 2.77 | 1.17 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | FY3 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| | 0.00 | 0.00 | 0.00 | | | | | |
| **Medical Total** | 37.12 | 66.30 | 29.18 | | | | | |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Gynecologic Reproductive Endocrinology & | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Obstetrics and Gynecology | 9.86 | 11.70 | 1.85 | No change service model, BM's Canada, Australia | Enhanced PHC scope practice, BM's Canada, U.K. | No change service model, BM's Canada, Australia | | by FY3 |
| | 0.00 | 0.00 | 0.00 | | | | | |
| **Obstetrics and Gynecology Total** | 9.86 | 11.70 | 1.85 | | | | | |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | Visiting specialist from NS | Visiting specialist from NS | Visiting specialist from NS | | |
| Medical Genetics | 0.00 | 0.00 | 0.00 | Refer-out to NS | Refer-out to NS | Refer-out to NS | | |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | Delivered by Dept. Anesthesia | Delivered by Dept. Anesthesia | Delivered by Dept. Anesthesia | | |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Cardiology | 0.03 | 0.03 | 0.01 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | | | | | |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | | | | | |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | | | | | |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | | | | | |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Pediatrics | 12.21 | 12.67 | 0.45 | No change in service model, BM's Canada, U.K. | No change in service model, BM's Canada, U.K. | No change in service model, BM's Canada, U.K. | | BY FY3 |

PROVINCE WIDE SUMMARY - FORECAST, Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 17 | 18 | 19 | 20 | 21 | 22 | 2 |
|---|---|---|---|---|---|---|---|---|
| | | | | ASSUMPTIONS - Program Design/Delivery | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) | BASE | LOW | HIGH | PROVINCIAL PROGRAM/Notes | RECRU TIM RECOMME (for Co |
| Child and Adolescent Psychiatry | 0.00 | 2.00 | 2.00 | Provincial resource and program | Provincial resource and program | Provincial resource and program | Minimum 2.0 FTE | By F5 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | | | | | |
| Psychiatry | 16.55 | 24.33 | 7.78 | Integrated to multi-disciplinary model of care. BM Canada and Ireland | Integrated to multi-disciplinary model of care. BM Canada and Ireland | Integrated to multi-disciplinary model of care. BM Canada and Ireland | | Within 10 ye |
| **Psychiatry Total** | 16.55 | 26.33 | 9.78 | | | | | |
| Anesthesiology | 14.77 | 23.66 | 8.89 | 0.34 FTE per Surgeon | 0.42 FTE per Surgeon | 0.47 FTE per surgeon | Need to fill vacancies at PCH in FY1 | Within 10 ye |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| General Surgery | 9.67 | 15.19 | 5.51 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | Opening 2 more OR's will be necessary by FY3 | Evenly over |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | Identify general surgeons subspecializing in surgical oncology | Identify general surgeons subspecializing in surgical oncology | Identify general surgeons subspecializing in surgical oncology | 1 Site (QEH) for Province | |
| Neurosurgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Ophthalmology | 5.30 | 6.50 | 1.20 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | Within 10 ye |
| Orthopedic Surgery | 6.95 | 9.18 | 2.23 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | By FY6 |
| Otolaryngology - Head and Neck Surgery | 3.00 | 4.26 | 1.26 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | Within 10 ye |
| Plastic Surgery | 1.80 | 3.82 | 2.02 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | by FY5 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | No change in purchased service MOC | No change in purchased service MOC | No change in purchased service MOC | | |
| Urology | 3.35 | 4.22 | 0.87 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | | Within 10 ye |
| Vascular Surgery | 0.60 | 1.53 | 0.93 | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | No change service model, BM's Canada, U.K. | QEH based provincial service | BY F5 |
| **Surgical Total** | 45.45 | 68.36 | 22.91 | | | | | |
| Occupational Therapist | 58.20 | 75.73 | 17.53 | | | | | Evenly over |
| Physiotherapist | 44.20 | 65.26 | 21.06 | | | | | Evenly over |
| Respiratory Therapist | 27.20 | 45.05 | 17.85 | | | | | Evenly over |
| Speech Language Pathologist | 19.20 | 35.80 | 16.60 | | | | | Evenly over |
| Regulated Nurses - LPN | 409.20 | 474.73 | 65.53 | | | | | Evenly over |
| Regulated Nurses - NP | 46.60 | 93.56 | 46.96 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| Regulated Nurses - RN | 1,122.20 | 1,343.55 | 221.35 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| Epidemiologist | 3.00 | 3.57 | 0.57 | | | | | By FY3 |
| Emergency Prep./Communicable Diseases | 1.00 | 1.19 | 0.19 | | | | | By FY3 |
| Environmental Health Officer | 9.40 | 11.20 | 1.80 | | | | | By FY3 |
| Health Promoter | 5.00 | 5.96 | 0.96 | | | | | By FY3 |
| Registered Nurse | 3.20 | 3.81 | 0.61 | | | | | By FY3 |
| Home Support Worker | 105.00 | 125.14 | 20.14 | | | | | Evenly over |
| Patient Care Worker | 81.80 | 97.56 | 15.76 | | | | | Evenly over |
| Resident Care Worker | 411.20 | 499.72 | 88.52 | | | | | Evenly over |
| Dietitian | 31.40 | 53.10 | 21.70 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| Medical Laboratory Technologist | 74.00 | 89.99 | 15.99 | | | | | Evenly over |
| Pharmacist | 42.00 | 69.90 | 27.90 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| Pharmacy Technician | 42.40 | 52.45 | 10.05 | | | | | Evenly over |
| Psychologist | 12.60 | 36.61 | 24.01 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| Radiology Technologist | 56.20 | 78.37 | 22.17 | | | | | Evenly over |
| Social Worker | 97.40 | 115.60 | 18.20 | 5 PHC rostered patient teams | 9 PHC rostered patient teams | 11 PHC rostered patient teams | | Evenly over |
| **Allied Health Professions Total** | 2,702.40 | 3,377.83 | 675.43 | | | | | |
| **TOTAL** | **3,002.56** | **3,801.21** | **798.65** | | | | | |
| **% Change per Annum** | | | **2.66%** | | | | | |

### 19.1.3 Summary - Low Case Scenario

The low case ten-year forecast scenario to March 31, 2032 calls for an increase of 245.89 FTE (0.82% per annum increase) across all health disciplines and across all counties. The low case forecast increase of 245.89 FTE includes 68.34 FTE (Col. 12) for primary healthcare collaborative team members and assumes a slower implementation of primary healthcare reform than in the base and high case scenarios.

The forecast turnover due to retirement, migration out of province, gender shift, and death rate is 1,195.23 FTE or 120.0 FTE per annum (4% per annum). Forecast turnover is simply the number of FTE expected to retire, relocate out of province, and shift to female from male for incoming recruits. The province must recruit 25.0 FTE per annum plus replace 120.0 FTE per annum.

# Exhibit 19-03
## Province-Wide Low Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| LOW CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 7.20 | (0.7) | 5.53 | 0.67 | 0.63 | 6.14 | (2.6) | 4.59 | 0.57 | 0.10 | 5.26 | 0.00 | 0.00 | 0.00 | 0.00 | 5.26 | (1.9) |
| Diagnostic Radiology | 10.62 | (1.0) | 1.74 | 0.33 | 1.08 | 2.10 | 1.49 | 12.12 | 1.52 | 0.24 | 13.87 | 0.00 | (7.5) | 0.00 | (7.5) | 6.39 | (4.2) |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.41 | 1.41 | 0.17 | 0.03 | 1.62 | 0.00 | 0.00 | 0.00 | 0.00 | 1.62 | 1.62 |
| Hematological Pathology | 1.00 | (0.1) | 0.13 | 0.02 | 0.10 | 0.15 | 0.00 | 1.00 | 0.12 | 0.02 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 1.14 | 0.14 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.20 | (0.0) | 0.02 | 0.01 | 0.02 | 0.04 | 0.00 | 0.20 | 0.02 | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.03 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 3.00 | (0.3) | 0.19 | 0.06 | 0.31 | 0.25 | (1.1) | 1.94 | 0.24 | 0.04 | 2.22 | 0.00 | 0.00 | 0.00 | 0.00 | 2.22 | (0.8) |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | **22.02** | **(2.1)** | **7.60** | **1.09** | **2.14** | **8.68** | **(0.8)** | **21.26** | **2.65** | **0.43** | **24.34** | **0.00** | **(7.5)** | **0.00** | **(7.5)** | **16.86** | **(5.2)** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 33.59 | (3.3) | 14.62 | 2.11 | 3.15 | 16.55 | 0.00 | 33.59 | 3.58 | 0.64 | 37.81 | 0.00 | 0.00 | 0.00 | 0.00 | 37.81 | 4.22 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **33.59** | **(3.3)** | **14.62** | **2.11** | **3.15** | **16.55** | **0.00** | **33.59** | **3.58** | **0.64** | **37.81** | **0.00** | **0.00** | **0.00** | **0.00** | **37.81** | **4.22** |
| Family Medicine | 1.08 | (0.0) | 0.08 | 0.02 | 0.11 | 0.17 | 0.00 | 1.08 | 0.14 | 0.02 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.16 |
| General Practice | 101.54 | (10.6) | 39.37 | 5.88 | 9.54 | 44.23 | 5.24 | 106.78 | 13.37 | 2.08 | 122.23 | 5.46 | 0.00 | 0.00 | 5.46 | 127.69 | 26.15 |
| Family Medicine (CAC)-Addiction Medici | 1.00 | (0.1) | 2.48 | 0.33 | 0.04 | 2.76 | 0.00 | 1.00 | 0.12 | 0.02 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 1.14 | 0.14 |
| Family Medicine (SI)-Child and Adolescer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 2.50 | (0.2) | 1.26 | 0.15 | 0.23 | 1.42 | 0.00 | 2.50 | 0.31 | 0.05 | 2.86 | 0.00 | 0.00 | 0.00 | 0.00 | 2.86 | 0.36 |
| Family Medicine (SI)-Critical Care Associa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills Su | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice A | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Can | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of th | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 15.21 | (1.5) | 3.14 | 0.57 | 1.48 | 3.72 | 0.00 | 15.21 | 1.91 | 0.29 | 17.42 | 0.00 | 0.00 | 0.00 | 0.00 | 17.42 | 2.20 |
| Family Medicine (CAC)-Obstetrical Surgic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 2.00 | (0.2) | 0.74 | 0.10 | 0.19 | 0.83 | 0.00 | 2.00 | 0.25 | 0.04 | 2.29 | 0.00 | 0.00 | 0.00 | 0.00 | 2.29 | 0.29 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicir | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercis | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **123.33** | **(12.6)** | **47.08** | **7.06** | **11.60** | **53.12** | **5.24** | **128.57** | **16.10** | **2.51** | **147.18** | **5.46** | **0.00** | **0.00** | **5.46** | **152.64** | **29.31** |

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**LOW CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 2.00 | (0.2) | 0.15 | 0.04 | 0.21 | 0.20 | 3.23 | 5.23 | 0.65 | 0.11 | 5.99 | 0.00 | 0.00 | 0.00 | 0.00 | 5.99 | 3.99 |
| Clinical Immunology and Allergy | 0.05 | (0.0) | 0.09 | 0.01 | 0.00 | 0.10 | 0.99 | 1.04 | 0.13 | 0.02 | 1.19 | 0.00 | 0.00 | 0.00 | 0.00 | 1.19 | 1.14 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 1.00 | (0.1) | 0.02 | 0.01 | 0.10 | 0.03 | 0.00 | 1.00 | 0.12 | 0.02 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 1.14 | 0.14 |
| Dermatology | 1.00 | (0.1) | 0.10 | 0.01 | 0.09 | 0.09 | 1.04 | 2.04 | 0.25 | 0.04 | 2.34 | 0.00 | 0.00 | 0.00 | 0.00 | 2.34 | 1.34 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.54 | 1.54 | 0.19 | 0.03 | 1.77 | 0.00 | 0.00 | 0.00 | 0.00 | 1.77 | 1.77 |
| Gastroenterology | 1.86 | (0.2) | 0.83 | 0.14 | 0.17 | 0.97 | 0.73 | 2.59 | 0.32 | 0.05 | 2.97 | 0.00 | 0.00 | 0.00 | 0.00 | 2.97 | 1.11 |
| General Internal Medicine (GIM) | 8.67 | (0.9) | 4.09 | 0.62 | 0.83 | 4.67 | (0.3) | 8.34 | 1.05 | 0.15 | 9.55 | 0.00 | 0.59 | 0.00 | 0.59 | 10.14 | 1.47 |
| Geriatric Medicine | 3.10 | (0.3) | 0.47 | 0.09 | 0.31 | 0.61 | 0.00 | 3.10 | 0.38 | 0.07 | 3.55 | 0.00 | 0.00 | 0.00 | 0.00 | 3.55 | 0.45 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 1.68 | 0.21 | 0.04 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 1.93 | 1.93 |
| Infectious Diseases | 0.08 | (0.0) | 0.00 | 0.00 | 0.01 | 0.01 | 0.62 | 0.69 | 0.09 | 0.01 | 0.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.79 | 0.72 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 3.15 | (0.3) | 2.39 | 0.28 | 0.28 | 2.70 | (1.0) | 2.14 | 0.27 | 0.05 | 2.45 | 0.00 | 0.00 | 0.00 | 0.00 | 2.45 | (0.7) |
| Nephrology | 2.60 | (0.2) | 1.41 | 0.20 | 0.25 | 1.62 | (0.8) | 1.82 | 0.23 | 0.04 | 2.08 | 0.00 | 0.00 | 0.00 | 0.00 | 2.08 | (0.5) |
| Neurology | 2.90 | (0.2) | 0.53 | 0.09 | 0.29 | 0.66 | 0.73 | 3.63 | 0.45 | 0.08 | 4.15 | 0.00 | 0.00 | 0.00 | 0.00 | 4.15 | 1.25 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 2.12 | (0.2) | 0.57 | 0.13 | 0.23 | 0.72 | 0.00 | 2.12 | 0.26 | 0.04 | 2.43 | 0.00 | 0.00 | 0.00 | 0.00 | 2.43 | 0.31 |
| Physical Medicine and Rehabilitation | 2.00 | (0.2) | 2.21 | 0.28 | 0.15 | 2.44 | (1.0) | 1.03 | 0.13 | 0.02 | 1.18 | 0.00 | 0.00 | 0.00 | 0.00 | 1.18 | (0.8) |
| Public Health & Preventative Medicine | 2.00 | (0.2) | 0.39 | 0.08 | 0.21 | 0.47 | 0.04 | 2.04 | 0.25 | 0.04 | 2.34 | 0.00 | 0.00 | 0.00 | 0.00 | 2.34 | 0.34 |
| Respirology | 3.00 | (0.3) | 0.93 | 0.16 | 0.29 | 1.07 | 0.45 | 3.45 | 0.43 | 0.07 | 3.95 | 0.00 | 0.00 | 0.00 | 0.00 | 3.95 | 0.95 |
| Rheumatology | 1.60 | (0.1) | 0.85 | 0.15 | 0.12 | 0.97 | 0.41 | 2.01 | 0.25 | 0.04 | 2.30 | 0.00 | 0.00 | 0.00 | 0.00 | 2.30 | 0.70 |
| **Medical Total** | **37.12** | **(3.5)** | **15.03** | **2.28** | **3.53** | **17.33** | **8.38** | **45.51** | **5.66** | **0.93** | **52.10** | **0.00** | **0.59** | **0.00** | **0.59** | **52.69** | **15.57** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 9.86 | (1.0) | 2.96 | 0.42 | 0.93 | 3.33 | (2.8) | 7.06 | 0.89 | 0.13 | 8.08 | 0.00 | (2.3) | 0.00 | (2.3) | 5.74 | (4.1) |
| **Obstetrics and Gynecology Total** | **9.86** | **(1.0)** | **2.96** | **0.42** | **0.93** | **3.33** | **(2.8)** | **7.06** | **0.89** | **0.13** | **8.08** | **0.00** | **(2.3)** | **0.00** | **(2.3)** | **5.74** | **(4.1)** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.03 | (0.0) | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 12.21 | (1.2) | 5.20 | 0.67 | 1.08 | 5.76 | (5.2) | 7.06 | 0.88 | 0.14 | 8.08 | 0.00 | 2.51 | 0.00 | 2.51 | 10.59 | (1.6) |
| **Pediatric Total** | **12.24** | **(1.2)** | **5.21** | **0.67** | **1.09** | **5.77** | **(5.2)** | **7.08** | **0.89** | **0.14** | **8.11** | **0.00** | **2.51** | **0.00** | **2.51** | **10.61** | **(1.6)** |

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

| LOW CASE SCENERIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 16.55 | (1.6) | 7.81 | 1.15 | 1.56 | 8.94 | 0.86 | 17.41 | 2.19 | 0.33 | 19.93 | 0.00 | (4.4) | 0.00 | (4.4) | 15.52 | (1.0) |
| **Psychiatry Total** | **16.55** | **(1.6)** | **7.81** | **1.15** | **1.56** | **8.94** | **0.86** | **17.41** | **2.19** | **0.33** | **19.93** | **0.00** | **(4.4)** | **2.00** | **(2.4)** | **17.52** | **0.98** |
| Anesthesiology | 14.77 | (1.3) | 10.06 | 1.42 | 1.37 | 11.57 | (3.2) | 11.62 | 1.46 | 0.22 | 13.30 | 0.00 | 0.10 | 0.00 | 0.10 | 13.40 | (1.4) |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 9.67 | (1.0) | 5.82 | 0.81 | 0.87 | 6.53 | (3.4) | 6.23 | 0.79 | 0.12 | 7.13 | 0.00 | (3.4) | 0.00 | (3.4) | 3.73 | (5.9) |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 5.30 | (0.5) | 3.54 | 0.45 | 0.47 | 3.93 | (0.9) | 4.37 | 0.55 | 0.08 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | (0.3) |
| Orthopedic Surgery | 6.95 | (0.8) | 1.64 | 0.31 | 0.70 | 1.90 | 0.21 | 7.16 | 0.90 | 0.13 | 8.20 | 0.00 | 0.00 | 0.00 | 0.00 | 8.20 | 1.25 |
| Otolaryngology - Head and Neck Surgery | 3.00 | (0.3) | 0.61 | 0.15 | 0.32 | 0.77 | 0.25 | 3.25 | 0.41 | 0.06 | 3.72 | 0.00 | 0.00 | 0.00 | 0.00 | 3.72 | 0.72 |
| Plastic Surgery | 1.80 | (0.2) | 2.66 | 0.33 | 0.12 | 2.94 | 0.63 | 2.43 | 0.30 | 0.05 | 2.78 | 0.00 | 0.00 | 0.00 | 0.00 | 2.78 | 0.98 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 3.35 | (0.4) | 0.60 | 0.14 | 0.34 | 0.70 | (0.9) | 2.49 | 0.31 | 0.05 | 2.85 | 0.00 | 0.00 | 0.00 | 0.34 | 3.20 | (0.2) |
| Vascular Surgery | 0.60 | (0.0) | 0.08 | 0.02 | 0.07 | 0.14 | 0.57 | 1.17 | 0.14 | 0.02 | 1.34 | 0.00 | 0.00 | 0.00 | 0.00 | 1.34 | 0.74 |
| **Surgical Total** | **45.45** | **(4.4)** | **25.01** | **3.63** | **4.26** | **28.48** | **(6.7)** | **38.72** | **4.86** | **0.75** | **44.32** | **0.00** | **(3.3)** | **0.00** | **(3.0)** | **41.37** | **(4.1)** |
| Occupational Therapist | 58.20 | (5.4) | 13.67 | 1.09 | 5.09 | 14.44 | 1.02 | 59.22 | 6.25 | 1.16 | 66.63 | 0.00 | 0.00 | 0.00 | 0.00 | 66.63 | 8.43 |
| Physiotherapist | 44.20 | (3.9) | 10.75 | 0.91 | 3.93 | 11.73 | 2.78 | 46.98 | 4.96 | 0.92 | 52.86 | 0.00 | 0.00 | 0.00 | 0.00 | 52.86 | 8.66 |
| Respiratory Therapist | 27.20 | (2.5) | 9.33 | 0.75 | 2.42 | 10.05 | 8.00 | 35.20 | 3.71 | 0.69 | 39.60 | 0.00 | 0.00 | 0.00 | 0.00 | 39.60 | 12.40 |
| Speech Language Pathologist | 19.20 | (1.8) | 7.39 | 0.49 | 1.75 | 7.87 | 6.99 | 26.19 | 2.76 | 0.51 | 29.47 | 0.00 | 0.00 | 0.00 | 0.00 | 29.47 | 10.27 |
| Regulated Nurses - LPN | 409.20 | (32.7) | 156.87 | 11.09 | 35.88 | 171.12 | (41.5) | 367.73 | 38.78 | 7.22 | 413.73 | 0.00 | 0.00 | 0.00 | 0.00 | 413.73 | 4.53 |
| Regulated Nurses - NP | 46.60 | (4.7) | 4.60 | 0.59 | 4.27 | 4.73 | (8.3) | 38.32 | 4.04 | 0.75 | 43.11 | 30.00 | 0.00 | 0.00 | 30.00 | 73.11 | 26.51 |
| Regulated Nurses - RN | 1,122.20 | (97.3) | 385.36 | 26.81 | 97.18 | 412.08 | (72.6) | 1,049.63 | 110.70 | 20.62 | 1,180.95 | 0.00 | 0.00 | 0.00 | 0.00 | 1,180.95 | 58.75 |
| Epidemiologist | 3.00 | (0.3) | 0.30 | 0.04 | 0.28 | 0.32 | 0.00 | 3.00 | 0.31 | 0.06 | 3.37 | 0.00 | 0.00 | 0.00 | 0.00 | 3.37 | 0.37 |
| Emergency Prep./Communicable Disease | 1.00 | (0.1) | 0.11 | 0.02 | 0.09 | 0.12 | 0.00 | 1.00 | 0.10 | 0.02 | 1.12 | 0.00 | 0.00 | 0.00 | 0.00 | 1.12 | 0.12 |
| Environmental Health Officer | 9.40 | (0.9) | 1.11 | 0.18 | 0.86 | 1.23 | 0.00 | 9.40 | 0.97 | 0.20 | 10.56 | 0.00 | 0.00 | 0.00 | 0.00 | 10.56 | 1.16 |
| Health Promoter | 5.00 | (0.5) | 0.61 | 0.07 | 0.45 | 0.62 | 0.00 | 5.00 | 0.51 | 0.11 | 5.62 | 0.00 | 0.00 | 0.00 | 0.00 | 5.62 | 0.62 |
| Registered Nurse | 3.20 | (0.3) | 2.42 | 0.14 | 0.30 | 2.55 | 0.00 | 3.20 | 0.33 | 0.07 | 3.60 | 0.00 | 0.00 | 0.00 | 0.00 | 3.60 | 0.40 |
| Home Support Worker | 105.00 | (8.7) | 69.64 | 4.40 | 9.60 | 74.92 | 0.00 | 105.00 | 10.95 | 2.13 | 118.08 | 0.00 | 0.00 | 0.00 | 0.00 | 118.08 | 13.08 |
| Patient Care Worker | 81.80 | (5.9) | 34.62 | 2.58 | 7.36 | 38.64 | 0.00 | 81.80 | 8.66 | 1.59 | 92.05 | 0.00 | 0.00 | 0.00 | 0.00 | 92.05 | 10.25 |
| Resident Care Worker | 411.20 | (30.8) | 162.84 | 11.23 | 36.36 | 179.68 | (24.1) | 387.08 | 40.83 | 7.60 | 435.51 | 0.00 | 0.00 | 0.00 | 0.00 | 435.51 | 24.31 |
| Dietitian | 31.40 | (2.9) | 10.37 | 0.71 | 2.84 | 11.01 | (11.1) | 20.34 | 2.14 | 0.40 | 22.88 | 9.40 | 0.00 | 0.00 | 9.40 | 32.28 | 0.88 |
| Medical Laboratory Technologist | 74.00 | (7.1) | 27.87 | 1.91 | 6.44 | 29.08 | (2.8) | 71.21 | 7.51 | 1.40 | 80.12 | 0.00 | 0.00 | 0.00 | 0.00 | 80.12 | 6.12 |
| Pharmacist | 42.00 | (3.7) | 14.59 | 1.14 | 4.02 | 16.03 | 2.46 | 44.46 | 4.69 | 0.87 | 50.02 | 9.40 | 0.00 | 0.00 | 9.40 | 59.42 | 17.42 |
| Pharmacy Technician | 42.40 | (4.0) | 15.23 | 0.92 | 3.73 | 15.89 | (13.5) | 28.92 | 3.05 | 0.57 | 32.54 | 0.00 | 0.00 | 0.00 | 0.00 | 32.54 | (9.9) |
| Psychologist | 12.60 | (1.3) | 5.80 | 0.41 | 1.21 | 6.16 | 3.93 | 16.53 | 1.74 | 0.32 | 18.60 | 9.40 | 0.00 | 0.00 | 9.40 | 28.00 | 15.40 |
| Radiology Technologist | 56.20 | (4.9) | 12.10 | 1.17 | 5.06 | 13.47 | 5.81 | 62.01 | 6.54 | 1.22 | 69.77 | 0.00 | 0.00 | 0.00 | 0.00 | 69.77 | 13.57 |
| Social Worker | 97.40 | (9.3) | 31.08 | 2.05 | 7.51 | 31.31 | (26.2) | 71.21 | 7.51 | 1.40 | 80.12 | 4.70 | 0.00 | 0.00 | 4.70 | 84.82 | (12.6) |
| **Allied Health Professions-Total** | **2,702.40** | **(229.0)** | **976.64** | **68.74** | **236.64** | **1,053.04** | **(169.0)** | **2,533.42** | **267.05** | **49.84** | **2,850.31** | **62.88** | **0.00** | **0.00** | **62.88** | **2,913.19** | **210.79** |
| **TOTAL** | **3,002.56** | **(258.8)** | **1,101.97** | **87.13** | **264.89** | **1,195.23** | **(169.9)** | **2,832.62** | **303.86** | **55.70** | **3,192.18** | **68.34** | **(14.4)** | **2.00** | **56.26** | **3,248.45** | **245.89** |
| **% Change per Annum** | | | | | | **3.98%** | **(0.57%)** | | **1.01%** | **0.19%** | **0.63%** | **0.2%** | **(0.05%)** | **0.01%** | **0.19%** | | **0.82%** |

### 19.1.3 Summary - High Case Scenario

The high case ten-year forecast scenario to March 31, 2032 calls for an increase of 1,194.38 FTE (3.98% per annum increase) across all health disciplines and across all counties. The high case forecast increase of 1,194.38 FTE assumes continued and accelerated reform in primary health care hinging upon deepening and broadening the penetration of PHC collaborative teams.

The forecast turnover due to retirement, migration out of province, gender shift, and death rate is 1,340.3 FTE or 134.0 FTE per annum (4.5% per annum). Forecast turnover is simply the number of FTE expected to retire, relocate out of province, and shift to female from male for incoming recruits.

# Exhibit 19-04
## Province-Wide High Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**HIGH CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 7.20 | (0.8) | 7.48 | 0.82 | 0.52 | 7.97 | (1.0) | 6.18 | 1.47 | 0.40 | 8.05 | 0.00 | 0.00 | 0.00 | 0.00 | 8.05 | 0.85 |
| Diagnostic Radiology | 10.62 | (1.3) | 2.35 | 0.41 | 0.88 | 2.36 | 8.73 | 19.36 | 4.63 | 1.22 | 25.21 | 0.00 | (1.6) | 0.00 | (1.6) | 23.61 | 12.98 |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.90 | 1.90 | 0.45 | 0.12 | 2.48 | 0.00 | 0.00 | 0.00 | 0.00 | 2.48 | 2.48 |
| Hematological Pathology | 1.00 | (0.1) | 0.18 | 0.03 | 0.08 | 0.16 | 0.00 | 1.00 | 0.24 | 0.06 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 1.30 | 0.30 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.20 | (0.0) | 0.03 | 0.01 | 0.02 | 0.05 | 0.00 | 0.20 | 0.05 | 0.01 | 0.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 | 0.06 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 3.00 | (0.4) | 0.26 | 0.07 | 0.25 | 0.21 | 0.42 | 3.42 | 0.81 | 0.22 | 4.46 | 0.00 | 0.00 | 0.00 | 0.00 | 4.46 | 1.46 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | **22.02** | **(2.6)** | **10.29** | **1.33** | **1.75** | **10.74** | **10.05** | **32.07** | **7.65** | **2.04** | **41.76** | **0.00** | **(1.6)** | **0.00** | **(1.6)** | **40.15** | **18.13** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 33.59 | (4.1) | 19.78 | 2.58 | 2.58 | 20.86 | 1.38 | 34.97 | 6.21 | 2.18 | 43.36 | 0.00 | 0.00 | 0.00 | 0.00 | 43.36 | 9.77 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **33.59** | **(4.1)** | **19.78** | **2.58** | **2.58** | **20.86** | **1.38** | **34.97** | **6.21** | **2.18** | **43.36** | **0.00** | **0.00** | **0.00** | **0.00** | **43.36** | **9.77** |
| Family Medicine | 1.08 | (0.0) | 0.11 | 0.02 | 0.09 | 0.18 | 0.00 | 1.08 | 0.26 | 0.06 | 1.41 | 0.00 | 0.00 | 0.00 | 0.00 | 1.41 | 0.33 |
| General Practice | 101.54 | (12.9) | 53.27 | 7.19 | 7.80 | 55.36 | 48.67 | 150.21 | 35.95 | 9.46 | 195.62 | (44.5) | 0.00 | 0.00 | (44.5) | 151.14 | 49.60 |
| Family Medicine (CAC)-Addiction Medici | 1.00 | (0.1) | 3.36 | 0.41 | 0.03 | 3.68 | 0.00 | 1.00 | 0.24 | 0.06 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 1.30 | 0.30 |
| Family Medicine (SI)-Child and Adolescer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 2.50 | (0.3) | 1.71 | 0.19 | 0.19 | 1.80 | 0.00 | 2.50 | 0.59 | 0.16 | 3.26 | 0.00 | 0.00 | 0.00 | 0.00 | 3.26 | 0.76 |
| Family Medicine (SI)-Critical Care Associa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice A | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Can | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of th | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 15.21 | (1.8) | 4.25 | 0.70 | 1.21 | 4.36 | 0.00 | 15.21 | 3.64 | 0.96 | 19.81 | 0.00 | 0.00 | 0.00 | 0.00 | 19.81 | 4.60 |
| Family Medicine (CAC)-Obstetrical Surgic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medic | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 2.00 | (0.2) | 1.00 | 0.12 | 0.16 | 1.03 | 0.00 | 2.00 | 0.48 | 0.13 | 2.60 | 0.00 | 0.00 | 0.00 | 0.00 | 2.60 | 0.60 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicir | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercis | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **123.33** | **(15.4)** | **63.70** | **8.62** | **9.49** | **66.40** | **48.67** | **172.01** | **41.16** | **10.84** | **224.01** | **(44.5)** | **0.00** | **0.00** | **(44.5)** | **179.53** | **56.19** |

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**HIGH CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 2.00 | (0.2) | 0.20 | 0.05 | 0.17 | 0.17 | 4.60 | 6.60 | 1.57 | 0.42 | 8.59 | 0.00 | 0.00 | 0.00 | 0.00 | 8.59 | 6.59 |
| Clinical Immunology and Allergy | 0.05 | (0.0) | 0.12 | 0.01 | 0.00 | 0.13 | 0.99 | 1.04 | 0.25 | 0.07 | 1.35 | 0.00 | 0.00 | 0.00 | 0.00 | 1.35 | 1.30 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 1.00 | (0.1) | 0.03 | 0.01 | 0.08 | (0.0) | 0.00 | 1.00 | 0.24 | 0.06 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 1.30 | 0.30 |
| Dermatology | 1.00 | (0.1) | 0.13 | 0.01 | 0.07 | 0.09 | 1.76 | 2.76 | 0.66 | 0.18 | 3.60 | 0.00 | 0.00 | 0.00 | 0.00 | 3.60 | 2.60 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.07 | 2.07 | 0.49 | 0.13 | 2.70 | 0.00 | 0.00 | 0.00 | 0.00 | 2.70 | 2.70 |
| Gastroenterology | 1.86 | (0.2) | 1.13 | 0.17 | 0.14 | 1.23 | 1.02 | 2.88 | 0.68 | 0.19 | 3.75 | 0.00 | 0.00 | 0.00 | 0.00 | 3.75 | 1.89 |
| General Internal Medicine (GIM) | 8.67 | (1.1) | 5.53 | 0.76 | 0.68 | 5.90 | 1.24 | 9.91 | 2.38 | 0.62 | 12.91 | 0.00 | 2.12 | 0.00 | 2.12 | 15.03 | 6.36 |
| Geriatric Medicine | 3.10 | (0.3) | 0.63 | 0.12 | 0.25 | 0.69 | 0.00 | 3.10 | 0.74 | 0.20 | 4.04 | 0.00 | 0.00 | 0.00 | 0.00 | 4.04 | 0.94 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 1.68 | 0.40 | 0.11 | 2.19 | 0.00 | 0.00 | 0.00 | 0.00 | 2.19 | 2.19 |
| Infectious Diseases | 0.08 | (0.0) | 0.01 | 0.00 | 0.01 | 0.01 | 2.08 | 2.16 | 0.51 | 0.14 | 2.81 | 0.00 | 0.00 | 0.00 | 0.00 | 2.81 | 2.74 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 3.15 | (0.3) | 3.24 | 0.34 | 0.23 | 3.50 | 0.50 | 3.65 | 0.87 | 0.23 | 4.75 | 0.00 | 0.00 | 0.00 | 0.00 | 4.75 | 1.60 |
| Nephrology | 2.60 | (0.3) | 1.91 | 0.24 | 0.21 | 2.07 | 0.47 | 3.07 | 0.73 | 0.20 | 4.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 1.40 |
| Neurology | 2.90 | (0.3) | 0.71 | 0.11 | 0.24 | 0.76 | 1.07 | 3.97 | 0.94 | 0.26 | 5.17 | 0.00 | 0.00 | 0.00 | 0.00 | 5.17 | 2.27 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 2.12 | (0.3) | 0.77 | 0.16 | 0.18 | 0.86 | 0.00 | 2.12 | 0.50 | 0.14 | 2.76 | 0.00 | 0.00 | 0.00 | 0.00 | 2.76 | 0.64 |
| Physical Medicine and Rehabilitation | 2.00 | (0.2) | 3.00 | 0.34 | 0.12 | 3.21 | 0.49 | 2.49 | 0.59 | 0.16 | 3.25 | 0.00 | 0.00 | 0.00 | 0.00 | 3.25 | 1.25 |
| Public Health & Preventative Medicine | 2.00 | (0.2) | 0.53 | 0.10 | 0.17 | 0.54 | 0.49 | 2.49 | 0.59 | 0.16 | 3.25 | 0.00 | 0.00 | 0.00 | 0.00 | 3.25 | 1.25 |
| Respirology | 3.00 | (0.4) | 1.26 | 0.19 | 0.24 | 1.31 | 1.67 | 4.67 | 1.12 | 0.30 | 6.08 | 0.00 | 0.00 | 0.00 | 0.00 | 6.08 | 3.08 |
| Rheumatology | 1.60 | (0.2) | 1.15 | 0.18 | 0.10 | 1.25 | 1.28 | 2.88 | 0.68 | 0.19 | 3.75 | 0.00 | 0.00 | 0.00 | 0.00 | 3.75 | 2.15 |
| **Medical Total** | **37.12** | **(4.3)** | **20.34** | **2.79** | **2.89** | **21.71** | **21.42** | **58.54** | **13.95** | **3.74** | **76.24** | **0.00** | **2.12** | **0.00** | **2.12** | **78.36** | **41.23** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 9.86 | (1.2) | 4.00 | 0.51 | 0.76 | 4.08 | 3.10 | 12.96 | 3.10 | 0.82 | 16.87 | 0.00 | 2.46 | 0.00 | 2.46 | 19.34 | 9.48 |
| **Obstetrics and Gynecology Total** | **9.86** | **(1.2)** | **4.00** | **0.51** | **0.76** | **4.08** | **3.10** | **12.96** | **3.10** | **0.82** | **16.87** | **0.00** | **2.46** | **0.00** | **2.46** | **19.34** | **9.48** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.03 | (0.0) | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 12.21 | (1.5) | 7.04 | 0.82 | 0.89 | 7.28 | (3.0) | 9.18 | 2.20 | 0.58 | 11.96 | 0.00 | 3.30 | 0.00 | 3.30 | 15.26 | 3.05 |
| **Pediatric Total** | **12.24** | **(1.5)** | **7.04** | **0.82** | **0.89** | **7.29** | **(3.0)** | **9.21** | **2.20** | **0.58** | **11.99** | **0.00** | **3.30** | **0.00** | **3.30** | **15.29** | **3.06** |

PROVINCE WIDE SUMMARY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**HIGH CASE SCENERIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| SPECIALTY | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 16.55 | (1.9) | 10.57 | 1.41 | 1.27 | 11.32 | 5.47 | 22.02 | 5.28 | 1.38 | 28.68 | 0.00 | 0.08 | 0.00 | 0.08 | 28.75 | 12.21 |
| **Psychiatry Total** | **16.55** | **(1.9)** | **10.57** | **1.41** | **1.27** | **11.32** | **5.47** | **22.02** | **5.28** | **1.38** | **28.68** | **0.00** | **0.08** | **2.00** | **2.08** | **30.76** | **14.21** |
| Anesthesiology | 14.77 | (1.6) | 13.62 | 1.73 | 1.12 | 14.91 | 4.30 | 19.07 | 4.56 | 1.20 | 24.84 | 0.00 | 2.51 | 0.00 | 2.51 | 27.34 | 12.57 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 9.67 | (1.2) | 7.87 | 0.99 | 0.71 | 8.39 | 3.62 | 13.29 | 3.19 | 0.83 | 17.31 | 0.00 | 2.41 | 0.00 | 2.41 | 19.72 | 10.05 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 5.30 | (0.6) | 4.79 | 0.55 | 0.39 | 5.08 | 0.84 | 6.14 | 1.47 | 0.38 | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.00 | 2.70 |
| Orthopedic Surgery | 6.95 | (0.9) | 2.22 | 0.38 | 0.58 | 2.25 | 1.73 | 8.68 | 2.08 | 0.54 | 11.31 | 0.00 | 0.00 | 0.00 | 0.00 | 11.31 | 4.36 |
| Otolaryngology - Head and Neck Surgery | 3.00 | (0.4) | 0.82 | 0.18 | 0.26 | 0.89 | 1.49 | 4.49 | 1.08 | 0.28 | 5.85 | 0.00 | 0.00 | 0.00 | 0.00 | 5.85 | 2.85 |
| Plastic Surgery | 1.80 | (0.2) | 3.61 | 0.40 | 0.10 | 3.90 | 1.41 | 3.21 | 0.76 | 0.21 | 4.18 | 0.00 | 0.00 | 0.00 | 0.00 | 4.18 | 2.38 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 3.35 | (0.5) | 0.81 | 0.17 | 0.28 | 0.80 | 0.93 | 4.28 | 1.02 | 0.28 | 5.57 | 0.00 | 0.00 | 0.00 | 0.00 | 5.57 | 2.22 |
| Vascular Surgery | 0.60 | (0.0) | 0.11 | 0.03 | 0.05 | 0.15 | 0.83 | 1.43 | 0.34 | 0.09 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 1.87 | 1.27 |
| **Surgical Total** | **45.45** | **(5.4)** | **33.84** | **4.43** | **3.49** | **36.35** | **15.15** | **60.60** | **14.50** | **3.82** | **78.92** | **0.00** | **4.92** | **0.00** | **4.92** | **83.84** | **38.39** |
| Occupational Therapist | 58.20 | (6.6) | 16.66 | 1.33 | 4.17 | 15.54 | 9.05 | 67.25 | 11.84 | 4.25 | 83.33 | 0.00 | 0.00 | 0.00 | 0.00 | 83.33 | 25.13 |
| Physiotherapist | 44.20 | (4.7) | 13.20 | 1.12 | 3.21 | 12.81 | 13.49 | 57.69 | 10.16 | 3.64 | 71.48 | 0.00 | 0.00 | 0.00 | 0.00 | 71.48 | 27.28 |
| Respiratory Therapist | 27.20 | (3.0) | 11.35 | 0.92 | 1.98 | 11.25 | 12.91 | 40.11 | 7.06 | 2.53 | 49.71 | 0.00 | 0.00 | 0.00 | 0.00 | 49.71 | 22.51 |
| Speech Language Pathologist | 19.20 | (2.2) | 8.59 | 0.60 | 1.43 | 8.47 | 13.87 | 33.07 | 5.82 | 2.09 | 40.98 | 0.00 | 0.00 | 0.00 | 0.00 | 40.98 | 21.78 |
| Regulated Nurses - LPN | 409.20 | (40.0) | 186.82 | 13.56 | 29.36 | 189.74 | 6.30 | 415.50 | 73.15 | 26.23 | 514.88 | 0.00 | 0.00 | 0.00 | 0.00 | 514.88 | 105.68 |
| Regulated Nurses - NP | 46.60 | (5.8) | 6.22 | 0.72 | 3.49 | 4.65 | (4.3) | 42.32 | 7.45 | 2.67 | 52.44 | 54.00 | 0.00 | 0.00 | 54.00 | 106.44 | 59.84 |
| Regulated Nurses - RN | 1,122.20 | (118.9) | 460.59 | 32.77 | 79.51 | 453.98 | 58.72 | 1,180.92 | 207.91 | 74.54 | 1,463.38 | 0.00 | 0.00 | 0.00 | 0.00 | 1,463.38 | 341.18 |
| Epidemiologist | 3.00 | (0.4) | 0.41 | 0.05 | 0.23 | 0.32 | 0.00 | 3.00 | 0.52 | 0.19 | 3.71 | 0.00 | 0.00 | 0.00 | 0.00 | 3.71 | 0.71 |
| Emergency Prep./Communicable Disease | 1.00 | (0.1) | 0.14 | 0.02 | 0.08 | 0.12 | 0.00 | 1.00 | 0.17 | 0.06 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 1.24 | 0.24 |
| Environmental Health Officer | 9.40 | (1.1) | 1.50 | 0.22 | 0.71 | 1.30 | 0.00 | 9.40 | 1.63 | 0.61 | 11.63 | 0.00 | 0.00 | 0.00 | 0.00 | 11.63 | 2.23 |
| Health Promoter | 5.00 | (0.6) | 0.83 | 0.08 | 0.37 | 0.66 | 0.00 | 5.00 | 0.87 | 0.32 | 6.19 | 0.00 | 0.00 | 0.00 | 0.00 | 6.19 | 1.19 |
| Registered Nurse | 3.20 | (0.4) | 2.85 | 0.18 | 0.25 | 2.89 | 0.00 | 3.20 | 0.55 | 0.21 | 3.96 | 0.00 | 0.00 | 0.00 | 0.00 | 3.96 | 0.76 |
| Home Support Worker | 105.00 | (10.7) | 82.23 | 5.37 | 7.85 | 84.80 | 0.00 | 105.00 | 18.36 | 6.69 | 130.05 | 0.00 | 0.00 | 0.00 | 0.00 | 130.05 | 25.05 |
| Patient Care Worker | 81.80 | (7.2) | 41.26 | 3.15 | 6.02 | 43.21 | 0.00 | 81.80 | 14.44 | 5.15 | 101.38 | 0.00 | 0.00 | 0.00 | 0.00 | 101.38 | 19.58 |
| Resident Care Worker | 411.20 | (37.6) | 191.16 | 13.72 | 29.75 | 197.04 | 26.17 | 437.37 | 77.00 | 27.61 | 541.98 | 0.00 | 0.00 | 0.00 | 0.00 | 541.98 | 130.78 |
| Dietitian | 31.40 | (3.5) | 12.40 | 0.86 | 2.32 | 12.05 | 4.66 | 36.06 | 6.35 | 2.28 | 44.69 | 16.11 | 0.00 | 0.00 | 16.11 | 60.79 | 29.39 |
| Medical Laboratory Technologist | 74.00 | (8.7) | 33.18 | 2.34 | 5.27 | 32.06 | 16.28 | 90.28 | 15.89 | 5.70 | 111.87 | 0.00 | 0.00 | 0.00 | 0.00 | 111.87 | 37.87 |
| Pharmacist | 42.00 | (4.6) | 17.19 | 1.40 | 3.29 | 17.33 | 8.21 | 50.21 | 8.84 | 3.17 | 62.22 | 16.11 | 0.00 | 0.00 | 16.11 | 78.33 | 36.33 |
| Pharmacy Technician | 42.40 | (4.9) | 17.93 | 1.13 | 3.05 | 17.23 | 7.44 | 49.84 | 8.77 | 3.15 | 61.76 | 0.00 | 0.00 | 0.00 | 0.00 | 61.76 | 19.36 |
| Psychologist | 12.60 | (1.5) | 6.78 | 0.51 | 0.99 | 6.74 | 13.35 | 25.95 | 4.57 | 1.64 | 32.16 | 16.11 | 0.00 | 0.00 | 16.11 | 48.26 | 35.66 |
| Radiology Technologist | 56.20 | (5.9) | 15.38 | 1.43 | 4.14 | 15.02 | 13.02 | 69.22 | 12.19 | 4.37 | 85.78 | 0.00 | 0.00 | 0.00 | 0.00 | 85.78 | 29.58 |
| Social Worker | 97.40 | (11.4) | 37.10 | 2.51 | 6.14 | 34.35 | 0.33 | 97.73 | 17.21 | 6.17 | 121.11 | 8.05 | 0.00 | 0.00 | 8.05 | 129.16 | 31.76 |
| **Allied Health Professions-Total** | **2,702.40** | **(279.9)** | **1,163.79** | **84.01** | **193.61** | **1,161.55** | 199.53 | 2,901.93 | **510.76** | **183.25** | **3,595.94** | **110.37** | **0.00** | **0.00** | **110.37** | **3,706.31** | **1,003.91** |
| **TOTAL** | **3,002.56** | **(316.3)** | **1,333.35** | **106.49** | **216.73** | **1,340.30** | **301.74** | **3,304.30** | **604.82** | **208.65** | **4,117.76** | **65.89** | **11.28** | **2.00** | **79.18** | **4,196.94** | **1,194.38** |
| **% Change per Annum** | | | | | | **4.46%** | **1.00%** | | **2.01%** | **0.69%** | **3.71%** | **0.2%** | **0.04%** | **0.01%** | **0.26%** | | **3.98%** |

## 19.2 BASE CASE FORECAST SCENARIOS BY COUNTY - Queens County

### Exhibit 19-05
### Queens County Base Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

QUEENS COUNTY FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENARIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 7.20 | (0.8) | 6.50 | 0.74 | 0.57 | 7.05 | (1.8) | 5.35 | 1.02 | 0.24 | 6.61 | | | 0.00 | 0.00 | 6.61 | (0.6) |
| Diagnostic Radiology | 10.62 | (1.2) | 2.04 | 0.37 | 0.98 | 2.23 | 1.56 | 12.19 | 2.33 | 0.54 | 15.05 | | (6.3) | | (6.3) | 8.79 | (1.8) |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.65 | 1.65 | 0.31 | 0.07 | 2.04 | | | | 0.00 | 2.04 | 2.04 |
| Hematological Pathology | 1.00 | (0.1) | 0.15 | 0.03 | 0.09 | 0.15 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | | | | 0.00 | 1.24 | 0.24 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.20 | (0.0) | 0.02 | 0.01 | 0.02 | 0.05 | 0.00 | 0.20 | 0.04 | 0.01 | 0.25 | | | | 0.00 | 0.25 | 0.05 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 3.00 | (0.3) | 0.22 | 0.06 | 0.28 | 0.23 | 0.29 | 3.29 | 0.63 | 0.15 | 4.07 | | | 0.00 | 0.00 | 4.07 | 1.07 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | **22.02** | **(2.4)** | **8.94** | **1.21** | **1.94** | **9.71** | **1.66** | **23.68** | **4.52** | **1.05** | **29.25** | **0.00** | **(6.3)** | **0.00** | **(6.3)** | **22.99** | **0.97** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 19.77 | (2.1) | 7.59 | 1.07 | 1.70 | 8.23 | 0.00 | 19.77 | 2.90 | 0.87 | 23.55 | | | | 0.00 | 23.55 | 3.78 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **19.77** | **(2.1)** | **7.59** | **1.07** | **1.70** | **8.23** | **0.00** | **19.77** | **2.90** | **0.87** | **23.55** | **0.00** | **0.00** | **0.00** | **0.00** | **23.55** | **3.78** |
| Family Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| General Practice | 53.40 | (6.0) | 15.41 | 2.42 | 4.74 | 16.56 | 19.23 | 72.64 | 13.88 | 3.21 | 89.73 | (15.4) | | | (15.4) | 74.30 | 20.89 |
| Family Medicine (CAC)-Addiction Medicine | 1.00 | (0.1) | 2.92 | 0.37 | 0.04 | 3.22 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | 0.00 | | | 0.00 | 1.24 | 0.24 |
| Family Medicine (SI)-Child and Adolescent H | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 2.50 | (0.3) | 1.49 | 0.17 | 0.21 | 1.61 | 0.00 | 2.50 | 0.48 | 0.11 | 3.09 | | | | 0.00 | 3.09 | 0.59 |
| Family Medicine (SI)-Critical Care Associate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills Surg | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice Anes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Cancer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of the E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 10.99 | (1.1) | 2.57 | 0.40 | 0.95 | 2.77 | 0.00 | 10.99 | 2.10 | 0.49 | 13.57 | | | | 0.00 | 13.57 | 2.58 |
| Family Medicine (CAC)-Obstetrical Surgical | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medicin | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 2.00 | (0.2) | 0.87 | 0.11 | 0.18 | 0.93 | 0.00 | 2.00 | 0.38 | 0.09 | 2.47 | | | | 0.00 | 2.47 | 0.47 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercise M | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **69.89** | **(7.7)** | **23.26** | **3.47** | **6.11** | **25.09** | **19.23** | **89.12** | **17.03** | **3.94** | **110.09** | **(15.4)** | **0.00** | **0.00** | **(15.4)** | **94.66** | **24.77** |

QUEENS COUNTY FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 2.00 | (0.2) | 0.17 | 0.05 | 0.19 | 0.18 | 3.23 | 5.23 | 1.00 | 0.23 | 6.47 | | | 0.00 | 0.00 | 6.47 | 4.47 |
| Clinical Immunology and Allergy | 0.05 | (0.0) | 0.10 | 0.01 | 0.00 | 0.12 | 0.99 | 1.04 | 0.20 | 0.05 | 1.28 | | | 0.00 | 0.00 | 1.28 | 1.23 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 1.00 | (0.1) | 0.03 | 0.01 | 0.09 | 0.01 | 0.00 | 1.00 | 0.19 | 0.04 | 1.24 | | | 0.00 | 0.00 | 1.24 | 0.24 |
| Dermatology | 1.00 | (0.1) | 0.11 | 0.01 | 0.08 | 0.09 | 1.25 | 2.25 | 0.43 | 0.10 | 2.77 | | | 0.00 | 0.00 | 2.77 | 1.77 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.07 | 2.07 | 0.40 | 0.09 | 2.56 | | | 0.00 | 0.00 | 2.56 | 2.56 |
| Gastroenterology | 1.86 | (0.2) | 0.98 | 0.15 | 0.15 | 1.10 | 0.73 | 2.59 | 0.49 | 0.11 | 3.20 | | | 0.00 | 0.00 | 3.20 | 1.34 |
| General Internal Medicine (GIM) | 4.18 | (0.5) | 2.37 | 0.39 | 0.38 | 2.64 | 1.69 | 5.87 | 1.12 | 0.26 | 7.25 | | 0.67 | 0.00 | 0.67 | 7.93 | 3.75 |
| Geriatric Medicine | 3.10 | (0.3) | 0.55 | 0.10 | 0.28 | 0.65 | 0.00 | 3.10 | 0.59 | 0.14 | 3.83 | | | 0.00 | 0.00 | 3.83 | 0.73 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.68 | 1.68 | 0.32 | 0.07 | 2.08 | | | 0.00 | 0.00 | 2.08 | 2.08 |
| Infectious Diseases | 0.08 | (0.0) | 0.01 | 0.00 | 0.01 | 0.01 | 1.54 | 1.61 | 0.31 | 0.07 | 1.99 | | | 0.00 | 0.00 | 1.99 | 1.92 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 3.15 | (0.3) | 2.82 | 0.31 | 0.25 | 3.10 | 0.13 | 3.28 | 0.63 | 0.15 | 4.05 | | | 0.00 | 0.00 | 4.05 | 0.90 |
| Nephrology | 2.60 | (0.3) | 1.66 | 0.22 | 0.23 | 1.84 | 0.16 | 2.76 | 0.53 | 0.12 | 3.41 | | | 0.00 | 0.00 | 3.41 | 0.81 |
| Neurology | 2.90 | (0.3) | 0.62 | 0.10 | 0.26 | 0.71 | 0.73 | 3.63 | 0.69 | 0.16 | 4.48 | | | 0.00 | 0.00 | 4.48 | 1.58 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 2.12 | (0.2) | 0.67 | 0.14 | 0.21 | 0.79 | 0.00 | 2.12 | 0.41 | 0.09 | 2.62 | | | 0.00 | 0.00 | 2.62 | 0.50 |
| Physical Medicine and Rehabilitation | 2.00 | (0.2) | 2.60 | 0.31 | 0.14 | 2.82 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | | | 0.00 | 0.00 | 2.77 | 0.77 |
| Public Health & Preventative Medicine | 2.00 | (0.2) | 0.46 | 0.09 | 0.19 | 0.51 | 0.25 | 2.25 | 0.43 | 0.10 | 2.77 | | | 0.00 | 0.00 | 2.77 | 0.77 |
| Respirology | 2.00 | (0.2) | 0.97 | 0.15 | 0.18 | 1.07 | 0.45 | 2.45 | 0.47 | 0.11 | 3.03 | | | 0.00 | 0.00 | 3.03 | 1.03 |
| Rheumatology | 1.60 | (0.2) | 1.00 | 0.16 | 0.11 | 1.11 | 0.65 | 2.25 | 0.43 | 0.10 | 2.77 | | | 0.00 | 0.00 | 2.77 | 1.17 |
| **Medical Total** | **31.63** | **(3.3)** | **15.12** | **2.21** | **2.75** | **16.76** | **15.80** | **47.43** | **9.06** | **2.10** | **58.59** | **0.00** | **0.67** | **0.00** | **0.67** | **59.26** | **27.63** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology & | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 7.33 | (0.8) | 1.36 | 0.19 | 0.63 | 1.43 | (0.5) | 6.83 | 1.31 | 0.30 | 8.44 | | (1.7) | 0.00 | (1.7) | 6.75 | (0.6) |
| **Obstetrics and Gynecology Total** | **7.33** | **(0.8)** | **1.36** | **0.19** | **0.63** | **1.43** | **(0.5)** | **6.83** | **1.31** | **0.30** | **8.44** | **0.00** | **(1.7)** | **0.00** | **(1.7)** | **6.75** | **(0.6)** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.03 | (0.0) | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.03 | | | 0.00 | 0.00 | 0.03 | 0.01 |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 7.62 | (0.8) | 3.58 | 0.40 | 0.64 | 3.80 | (0.8) | 6.86 | 1.31 | 0.30 | 8.48 | | (1.2) | 0.00 | (1.2) | 7.31 | (0.3) |
| **Pediatric Total** | **7.64** | **(0.8)** | **3.58** | **0.40** | **0.64** | **3.81** | **(0.8)** | **6.89** | **1.32** | **0.30** | **8.51** | **0.00** | **(1.2)** | **0.00** | **(1.2)** | **7.34** | **(0.3)** |

QUEENS COUNTY FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 2.00 | 2.00 | 2.00 | 2.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 12.22 | (1.2) | 7.73 | 1.04 | 1.03 | 8.59 | 1.82 | 14.03 | 2.68 | 0.62 | 17.34 | | (3.3) | 0.00 | (3.3) | 14.04 | 1.82 |
| **Psychiatry Total** | **12.22** | **(1.2)** | **7.73** | **1.04** | **1.03** | **8.59** | **1.82** | **14.03** | **2.68** | **0.62** | **17.34** | **0.00** | **(3.3)** | **2.00** | **(1.3)** | **16.05** | **3.83** |
| Anesthesiology | 10.11 | (1.1) | 6.68 | 0.95 | 0.89 | 7.38 | 3.04 | 13.15 | 2.51 | 0.58 | 16.25 | | (2.6) | 0.00 | (2.6) | 13.66 | 3.55 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 5.24 | (0.7) | 4.00 | 0.57 | 0.45 | 4.37 | 2.48 | 7.72 | 1.47 | 0.34 | 9.53 | | (0.8) | 0.00 | (0.8) | 8.77 | 3.53 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 5.30 | (0.6) | 4.16 | 0.50 | 0.43 | 4.50 | (1.9) | 3.45 | 0.66 | 0.15 | 4.26 | | | 0.00 | 0.00 | 4.26 | (1.0) |
| Orthopedic Surgery | 6.95 | (0.8) | 1.93 | 0.35 | 0.64 | 2.07 | (2.1) | 4.87 | 0.93 | 0.22 | 6.02 | | | 0.00 | 0.00 | 6.02 | (0.9) |
| Otolaryngology - Head and Neck Surgery | 2.00 | (0.2) | 0.39 | 0.09 | 0.19 | 0.45 | 0.26 | 2.26 | 0.43 | 0.10 | 2.79 | | | 0.00 | 0.00 | 2.79 | 0.79 |
| Plastic Surgery | 1.80 | (0.2) | 3.14 | 0.37 | 0.11 | 3.42 | 1.29 | 3.09 | 0.59 | 0.14 | 3.82 | | | 0.00 | 0.00 | 3.82 | 2.02 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 3.35 | (0.4) | 0.71 | 0.15 | 0.31 | 0.75 | 0.08 | 3.43 | 0.66 | 0.15 | 4.24 | | | 0.00 | (0.0) | 4.22 | 0.87 |
| Vascular Surgery | 0.60 | (0.0) | 0.10 | 0.03 | 0.06 | 0.14 | 0.64 | 1.24 | 0.24 | 0.05 | 1.53 | | | 0.00 | 0.00 | 1.53 | 0.93 |
| **Surgical Total** | **35.35** | **(4.1)** | **21.10** | **3.00** | **3.08** | **23.08** | **3.86** | **39.21** | **7.49** | **1.73** | **48.44** | **0.00** | **(3.4)** | **0.00** | **(3.4)** | **45.06** | **9.72** |
| Occupational Therapist | 36.60 | (3.8) | 9.68 | 0.82 | 2.92 | 9.66 | 0.06 | 36.66 | 5.38 | 1.62 | 43.67 | | | | 0.00 | 43.67 | 7.07 |
| Physiotherapist | 29.00 | (2.8) | 8.30 | 0.72 | 2.35 | 8.58 | 2.59 | 31.59 | 4.64 | 1.40 | 37.63 | | | | 0.00 | 37.63 | 8.63 |
| Respiratory Therapist | 20.80 | (2.1) | 7.68 | 0.56 | 1.73 | 7.86 | 1.01 | 21.81 | 3.20 | 0.96 | 25.98 | | | | 0.00 | 25.98 | 5.18 |
| Speech Language Pathologist | 13.40 | (1.3) | 4.25 | 0.28 | 1.09 | 4.27 | 3.93 | 17.33 | 2.54 | 0.77 | 20.64 | | | | 0.00 | 20.64 | 7.24 |
| Regulated Nurses - LPN | 245.00 | (22.4) | 100.34 | 7.59 | 19.69 | 105.19 | (15.2) | 229.82 | 33.74 | 10.17 | 273.73 | | | | 0.00 | 273.73 | 28.73 |
| Regulated Nurses - NP | 24.00 | (2.7) | 2.89 | 0.36 | 2.00 | 2.52 | (0.5) | 23.51 | 3.45 | 1.04 | 28.00 | 30.00 | | | 30.00 | 58.00 | 34.00 |
| Regulated Nurses - RN | 702.60 | (68.6) | 257.87 | 18.19 | 55.54 | 262.97 | (52.2) | 650.43 | 95.49 | 28.78 | 774.69 | 0.00 | | | 0.00 | 774.69 | 72.09 |
| Epidemiologist | 3.00 | (0.3) | 0.35 | 0.05 | 0.26 | 0.32 | 0.00 | 3.00 | 0.44 | 0.13 | 3.57 | | | | 0.00 | 3.57 | 0.57 |
| Emergency Prep./Communicable Diseases | 1.00 | (0.1) | 0.13 | 0.02 | 0.09 | 0.12 | 0.00 | 1.00 | 0.15 | 0.04 | 1.19 | | | | 0.00 | 1.19 | 0.19 |
| Environmental Health Officer | 9.40 | (1.0) | 1.31 | 0.20 | 0.78 | 1.26 | 0.00 | 9.40 | 1.38 | 0.42 | 11.20 | | | | 0.00 | 11.20 | 1.80 |
| Health Promoter | 5.00 | (0.6) | 0.72 | 0.08 | 0.41 | 0.64 | 0.00 | 5.00 | 0.73 | 0.22 | 5.96 | | | | 0.00 | 5.96 | 0.96 |
| Registered Nurse | 3.20 | (0.3) | 2.63 | 0.16 | 0.27 | 2.72 | 0.00 | 3.20 | 0.47 | 0.14 | 3.81 | | | | 0.00 | 3.81 | 0.61 |
| Home Support Worker | 53.60 | (5.1) | 39.79 | 2.46 | 4.58 | 41.77 | 0.00 | 53.60 | 7.87 | 2.37 | 63.84 | | | | 0.00 | 63.84 | 10.24 |
| Patient Care Worker | 43.00 | (3.4) | 20.39 | 1.65 | 3.55 | 22.16 | 0.00 | 43.00 | 6.31 | 1.90 | 51.22 | | | | 0.00 | 51.22 | 8.22 |
| Resident Care Worker | 189.80 | (15.8) | 93.83 | 6.39 | 15.37 | 99.81 | 52.12 | 241.92 | 35.51 | 10.70 | 288.14 | | | | 0.00 | 288.14 | 98.34 |
| Dietitian | 19.20 | (1.9) | 6.81 | 0.50 | 1.59 | 7.02 | 0.01 | 19.21 | 2.82 | 0.85 | 22.88 | 8.95 | | | 8.95 | 31.83 | 12.63 |
| Medical Laboratory Technologist | 59.80 | (6.4) | 27.41 | 1.87 | 4.77 | 27.61 | (16.2) | 43.57 | 6.40 | 1.93 | 51.89 | | | | 0.00 | 51.89 | (7.9) |
| Pharmacist | 34.00 | (3.4) | 11.69 | 0.99 | 2.95 | 12.21 | (6.7) | 27.34 | 4.01 | 1.21 | 32.56 | 8.95 | | | 8.95 | 41.51 | 7.51 |
| Pharmacy Technician | 32.20 | (3.5) | 14.46 | 0.91 | 2.60 | 14.50 | (6.8) | 25.39 | 3.73 | 1.12 | 30.24 | | | | 0.00 | 30.24 | (2.0) |
| Psychologist | 11.60 | (1.3) | 6.06 | 0.42 | 1.01 | 6.21 | (0.4) | 11.22 | 1.65 | 0.50 | 13.37 | 8.95 | | | 8.95 | 22.32 | 10.72 |
| Radiology Technologist | 37.80 | (3.5) | 10.12 | 0.96 | 3.11 | 10.68 | 0.14 | 37.94 | 5.57 | 1.68 | 45.19 | | | | 0.00 | 45.19 | 7.39 |
| Social Worker | 53.00 | (5.7) | 20.73 | 1.34 | 3.64 | 20.04 | (0.3) | 52.71 | 7.74 | 2.33 | 62.78 | 4.47 | | | 4.47 | 67.26 | 14.26 |
| **Allied Health Professions-Total** | **1,627.00** | **(156.1)** | **647.44** | **46.53** | **130.30** | **668.12** | **(38.3)** | **1,588.65** | **233.22** | **70.29** | **1,892.17** | **61.32** | **0.00** | **0.00** | **61.32** | **1,953.48** | **326.48** |
| **TOTAL** | **1,832.85** | **(178.6)** | **736.13** | **59.13** | **148.19** | **764.81** | **2.77** | **1,835.62** | **279.53** | **81.22** | **2,196.36** | **45.89** | **(15.1)** | **2.00** | **32.79** | **2,229.16** | **396.31** |
| **% Change per Annum** | | | | | | **4.17%** | **0.02%** | | **1.53%** | **0.44%** | | **0.3%** | **(0.08%)** | **0.01%** | **0.18%** | | **2.16%** |

## 19.3 BASE CASE FORECAST SCENARIOS BY COUNTY - Prince County

### Exhibit 19-06
### Prince County Base Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

PRINCE COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENARIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Diagnostic Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.70 | 3.70 | 0.73 | 0.14 | 4.57 | | 0.05 | | 0.05 | 4.63 | 4.63 |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Hematological Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.70** | **3.70** | **0.73** | **0.14** | **4.57** | **0.00** | **0.05** | **0.00** | **0.05** | **4.63** | **4.63** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 11.97 | (1.4) | 9.47 | 1.26 | 1.01 | 10.35 | 0.71 | 12.68 | 2.01 | 0.49 | 15.18 | | | | 0.00 | 15.18 | 3.21 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **11.97** | **(1.4)** | **9.47** | **1.26** | **1.01** | **10.35** | **0.71** | **12.68** | **2.01** | **0.49** | **15.18** | **0.00** | **0.00** | **0.00** | **0.00** | **15.18** | **3.21** |
| Family Medicine | 1.08 | (0.0) | 0.10 | 0.02 | 0.10 | 0.17 | 0.00 | 1.08 | 0.21 | 0.04 | 1.33 | | | | 0.00 | 1.33 | 0.25 |
| General Practice | 33.02 | (3.9) | 22.87 | 3.05 | 2.62 | 24.66 | 12.50 | 45.51 | 8.97 | 1.74 | 56.22 | (17.1) | | | (17.1) | 39.09 | 6.07 |
| Family Medicine (CAC)-Addiction Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Child and Adolescent Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Critical Care Associate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice Anesthesia | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Cancer Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of the Elderly | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 4.23 | (0.5) | 1.13 | 0.24 | 0.40 | 1.26 | 0.00 | 4.23 | 0.83 | 0.16 | 5.22 | 0.00 | | | 0.00 | 5.22 | 0.99 |
| Family Medicine (CAC)-Obstetrical Surgical Skills | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercise Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **38.32** | **(4.4)** | **24.09** | **3.31** | **3.11** | **26.10** | **12.50** | **50.82** | **10.01** | **1.94** | **62.78** | **(17.1)** | **0.00** | **0.00** | **(17.1)** | **45.64** | **7.32** |

PRINCE COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Dermatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Internal Medicine (GIM) | 4.49 | (0.5) | 2.44 | 0.30 | 0.38 | 2.64 | (0.7) | 3.75 | 0.74 | 0.14 | 4.64 | | (0.5) | 0.00 | (0.5) | 4.17 | (0.3) |
| Geriatric Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Physical Medicine and Rehabilitation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Public Health & Preventative Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Respirology | 1.00 | (0.1) | 0.12 | 0.02 | 0.09 | 0.11 | 0.00 | 1.00 | 0.20 | 0.04 | 1.24 | | | 0.00 | 0.00 | 1.24 | 0.24 |
| Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Medical Total** | **5.49** | **(0.6)** | **2.56** | **0.32** | **0.46** | **2.76** | **(0.7)** | **4.75** | **0.94** | **0.18** | **5.87** | **0.00** | **(0.5)** | **0.00** | **(0.5)** | **5.40** | **(0.1)** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology & Infertilit | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 2.53 | (0.3) | 2.12 | 0.27 | 0.21 | 2.28 | 0.31 | 2.84 | 0.56 | 0.11 | 3.51 | | 0.04 | 0.00 | 0.04 | 3.55 | 1.02 |
| **Obstetrics and Gynecology Total** | **2.53** | **(0.3)** | **2.12** | **0.27** | **0.21** | **2.28** | **0.31** | **2.84** | **0.56** | **0.11** | **3.51** | **0.00** | **0.04** | **0.00** | **0.04** | **3.55** | **1.02** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |

PRINCE COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 4.33 | (0.5) | 1.46 | 0.23 | 0.38 | 1.54 | 2.32 | 6.65 | 1.31 | 0.25 | 8.21 | | (0.8) | 0.00 | (0.8) | 7.39 | 3.06 |
| **Psychiatry Total** | **4.33** | **(0.5)** | **1.46** | **0.23** | **0.38** | **1.54** | **2.32** | **6.65** | **1.31** | **0.25** | **8.21** | **0.00** | **(0.8)** | **0.00** | **(0.8)** | **7.39** | **3.06** |
| Anesthesiology | 4.66 | (0.3) | 5.16 | 0.63 | 0.36 | 5.86 | 0.17 | 4.84 | 0.95 | 0.19 | 5.98 | | 1.21 | 0.00 | 1.21 | 7.19 | 2.52 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Surgery | 4.43 | (0.4) | 2.84 | 0.33 | 0.34 | 3.09 | (0.7) | 3.69 | 0.73 | 0.14 | 4.56 | | 0.05 | 0.00 | 0.05 | 4.61 | 0.18 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.81 | 1.81 | 0.36 | 0.07 | 2.24 | | | 0.00 | 0.00 | 2.24 | 2.24 |
| Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.56 | 2.56 | 0.51 | 0.10 | 3.17 | | | 0.00 | 0.00 | 3.17 | 3.17 |
| Otolaryngology - Head and Neck Surgery | 1.00 | (0.1) | 0.32 | 0.07 | 0.10 | 0.38 | 0.19 | 1.19 | 0.23 | 0.05 | 1.47 | | | 0.00 | 0.00 | 1.47 | 0.47 |
| Plastic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Vascular Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Surgical Total** | **10.10** | **(0.8)** | **8.32** | **1.03** | **0.79** | **9.33** | **3.99** | **14.09** | **2.78** | **0.54** | **17.41** | **0.00** | **1.26** | **0.00** | **1.26** | **18.67** | **8.57** |
| Occupational Therapist | 16.00 | (1.7) | 3.42 | 0.27 | 1.26 | 3.30 | 3.29 | 19.29 | 3.06 | 0.74 | 23.09 | | | | 0.00 | 23.09 | 7.09 |
| Physiotherapist | 12.40 | (1.2) | 3.07 | 0.26 | 1.01 | 3.10 | 4.22 | 16.62 | 2.64 | 0.64 | 19.90 | | | | 0.00 | 19.90 | 7.50 |
| Respiratory Therapist | 5.80 | (0.6) | 2.57 | 0.26 | 0.42 | 2.67 | 5.67 | 11.47 | 1.82 | 0.44 | 13.73 | | | | 0.00 | 13.73 | 7.93 |
| Speech Language Pathologist | 4.20 | (0.5) | 2.15 | 0.20 | 0.36 | 2.25 | 4.92 | 9.12 | 1.45 | 0.35 | 10.91 | | | | 0.00 | 10.91 | 6.71 |
| Regulated Nurses - LPN | 118.00 | (10.3) | 40.88 | 2.85 | 9.15 | 42.63 | 2.90 | 120.90 | 19.20 | 4.63 | 144.73 | | | | 0.00 | 144.73 | 26.73 |
| Regulated Nurses - NP | 19.00 | (2.2) | 2.06 | 0.24 | 1.58 | 1.72 | (6.6) | 12.37 | 1.96 | 0.47 | 14.80 | 10.00 | | | 10.00 | 24.80 | 5.80 |
| Regulated Nurses - RN | 332.00 | (31.8) | 121.46 | 8.52 | 25.79 | 123.92 | 10.17 | 342.17 | 54.33 | 13.09 | 409.59 | 0.00 | | | 0.00 | 409.59 | 77.59 |
| Epidemiologist | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Emergency Prep./Communicable Diseases | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Environmental Health Officer | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Health Promoter | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Registered Nurse | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Home Support Worker | 28.00 | (2.6) | 14.61 | 0.86 | 2.31 | 15.14 | 0.00 | 28.00 | 4.45 | 1.07 | 33.52 | | | | 0.00 | 33.52 | 5.52 |
| Patient Care Worker | 28.40 | (2.3) | 12.34 | 0.89 | 2.31 | 13.25 | 0.00 | 28.40 | 4.51 | 1.09 | 34.00 | | | | 0.00 | 34.00 | 5.60 |
| Resident Care Worker | 164.60 | (14.1) | 57.78 | 4.20 | 13.33 | 61.22 | (37.3) | 127.27 | 20.21 | 4.87 | 152.34 | | | | 0.00 | 152.34 | (12.3) |
| Dietitian | 8.00 | (0.9) | 2.51 | 0.16 | 0.63 | 2.39 | 2.10 | 10.10 | 1.60 | 0.39 | 12.10 | 2.98 | | | 2.98 | 15.08 | 7.08 |
| Medical Laboratory Technologist | 14.20 | (1.5) | 3.11 | 0.25 | 1.08 | 2.96 | 8.72 | 22.92 | 3.64 | 0.88 | 27.43 | | | | 0.00 | 27.43 | 13.23 |
| Pharmacist | 5.80 | (0.5) | 2.59 | 0.21 | 0.50 | 2.81 | 8.58 | 14.38 | 2.28 | 0.55 | 17.22 | 2.98 | | | 2.98 | 20.20 | 14.40 |
| Pharmacy Technician | 9.60 | (0.9) | 2.05 | 0.11 | 0.74 | 1.97 | 3.76 | 13.36 | 2.12 | 0.51 | 15.99 | | | | 0.00 | 15.99 | 6.39 |
| Psychologist | 1.00 | (0.1) | 0.23 | 0.04 | 0.09 | 0.24 | 4.90 | 5.90 | 0.94 | 0.23 | 7.07 | 2.98 | | | 2.98 | 10.05 | 9.05 |
| Radiology Technologist | 12.00 | (1.2) | 3.01 | 0.26 | 0.98 | 3.01 | 7.96 | 19.96 | 3.17 | 0.76 | 23.89 | | | | 0.00 | 23.89 | 11.89 |
| Social Worker | 30.40 | (3.2) | 8.74 | 0.68 | 2.33 | 8.57 | (2.7) | 27.73 | 4.40 | 1.06 | 33.19 | 1.49 | | | 1.49 | 34.69 | 4.29 |
| **Allied Health Professions-Total** | **809.40** | **(75.5)** | **282.58** | **20.25** | **63.87** | **291.16** | **20.56** | **829.96** | **131.78** | **31.75** | **993.50** | **20.44** | **0.00** | **0.00** | **20.44** | **1,013.93** | **204.53** |
| **TOTAL** | **886.73** | **(84.1)** | **333.15** | **27.00** | **70.19** | **346.24** | **40.74** | **927.47** | **150.51** | **35.48** | **1,113.46** | **3.31** | **1.48** | **0.00** | **4.78** | **1,118.24** | **231.51** |
| **% Change per Annum** | | | | | | **3.90%** | **0.46%** | | **1.70%** | **0.40%** | | **0.0%** | **0.02%** | **0.00%** | **0.05%** | | **2.61%** |

## 19.4 BASE CASE FORECAST SCENARIOS BY COUNTY - Kings County

### Exhibit 19-07
### Kings County Base Case Scenario 2022-2023 (F1) to 2031-2031 (F10)

KINGS COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

**BASE CASE SCENARIO**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Anatomical Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Diagnostic Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 1.81 | | 1.81 | 1.81 | 1.81 |
| Forensic Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Hematological Pathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Interventional Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Biochemistry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Medical Microbiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Neuropathology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Neuroradiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Nuclear Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Radiation Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Transfusion Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Diagnostic/Therapeutic Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.81** | **0.00** | **1.81** | **1.81** | **1.81** |
| Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (EM) | 1.85 | (0.2) | 0.14 | 0.02 | 0.16 | 0.12 | 0.00 | 1.85 | 0.26 | 0.09 | 2.20 | | | | 0.00 | 2.20 | 0.35 |
| General Practice (EM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Emergency Medicine Total** | **1.85** | **(0.2)** | **0.14** | **0.02** | **0.16** | **0.12** | **0.00** | **1.85** | **0.26** | **0.09** | **2.20** | **0.00** | **0.00** | **0.00** | **0.00** | **2.20** | **0.35** |
| Family Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| General Practice | 15.12 | (1.8) | 8.04 | 1.06 | 1.32 | 8.58 | 2.72 | 17.84 | 3.34 | 0.85 | 22.04 | 5.28 | | | 5.28 | 27.32 | 12.20 |
| Family Medicine (CAC)-Addiction Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Child and Adolescent Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Cancer Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Critical Care Associate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Enhanced Skills Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Family Practice Anesthesia | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Family Practice Cancer Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Global Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Health Care of the Elderly | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Hospital Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Obstetrical Surgical Skills | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Mental Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Palliative Care | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Prison Health | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (SI)-Respiratory Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Family Medicine (CAC)-Sport and Exercise Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| **Family Practice Total** | **15.12** | **(1.8)** | **8.04** | **1.06** | **1.32** | **8.58** | **2.72** | **17.84** | **3.34** | **0.85** | **22.04** | **5.28** | **0.00** | **0.00** | **5.28** | **27.32** | **12.20** |

KINGS COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPW & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Cardiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Clinical Pharmacology and Toxicology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Dermatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| General Internal Medicine (GIM) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 1.63 | 0.00 | 1.63 | 1.63 | 1.63 |
| Geriatric Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Hematology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Internal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Occupational Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pain Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Physical Medicine and Rehabilitation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Public Health & Preventative Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Medical Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.63** | **0.00** | **1.63** | **1.63** | **1.63** |
| Gynecologic Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Gynecologic Reproductive Endocrinology & Infertilit | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Maternal-Fetal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neonatal-Perinatal Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Obstetrics and Gynecology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 1.39 | 0.00 | 1.39 | 1.39 | 1.39 |
| **Obstetrics and Gynecology Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.39** | **0.00** | **1.39** | **1.39** | **1.39** |
| Adolescent Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Developmental Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Medical Genetics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Cardiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Clinical Immunology and Allergy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Critical Care Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Emergency Medicine | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Endocrinology and Metabolism | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Gastroenterology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Hematology/Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Infectious Diseases | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Nephrology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Neurology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Radiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Respirology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Rheumatology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatric Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Pediatrics | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 1.51 | 0.00 | 1.51 | 1.51 | 1.51 |
| **Pediatric Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.51** | **0.00** | **1.51** | **1.51** | **1.51** |

KINGS COUNTY - FORECAST — Base Year 2021/22, Forecast Years 2022/23 (F1) - 2031/32 (F10)

## BASE CASE SCENARIO

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WORKFORCE RESOURCE VARIABLES | | | | HEALTH SYSTEM PLANNING RELATED VARIABLES | | | | | | | | | | | |
| Specialty | BASE YEAR FTE - 2021/22 | +/(-) NIPM & RFA | +/(-) Aging Adjustment | +/(-) Death Rate Adjustment | +/(-) Gender Adjustment | SUBTOTAL: Replacement Needs | +/(-) Benchmark | ADJUSTED FTE April 1, 2022 (Col 1+Col 7) | +/(-) Change in Population | +/(-) Relative Burden of Illness | PRE-MOC FTE (Col's 8+9+10) | MOC - Primary Health Care | MOC - Specialty Core Services | MOC - Provincial Programs | SUBTOTAL: MOC's | TOTAL FTE - 2031/32 (Col 11+15) | CHANGE IN FTE 2021/22 to 2031/32 (Col 16 (-) Col 1) |
| Child and Adolescent Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Forensic Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Geriatric Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Psychiatry | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 2.90 | 0.00 | 2.90 | 2.90 | 2.90 |
| **Psychiatry Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | 0.00 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **2.90** | **0.00** | **2.90** | **2.90** | **2.90** |
| Anesthesiology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 2.82 | 0.00 | 2.82 | 2.82 | 2.82 |
| Cardiac Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Colorectal Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| General Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 1.81 | 0.00 | 1.81 | 1.81 | 1.81 |
| General Surgical Oncology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Neurosurgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Ophthalmology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Orthopedic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Otolaryngology - Head and Neck Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Plastic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Thoracic Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Urology | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Vascular Surgery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Surgical Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | 0.00 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **4.62** | **0.00** | **4.62** | **4.62** | **4.62** |
| Occupational Therapist | 5.60 | (0.6) | 2.07 | 0.12 | 0.45 | 2.02 | 1.96 | 7.56 | 1.05 | 0.36 | 8.98 | | | | 0.00 | 8.98 | 3.38 |
| Physiotherapist | 2.80 | (0.3) | 0.61 | 0.04 | 0.21 | 0.58 | 3.72 | 6.52 | 0.91 | 0.31 | 7.74 | | | | 0.00 | 7.74 | 4.94 |
| Respiratory Therapist | 0.60 | (0.0) | 0.09 | 0.02 | 0.05 | 0.12 | 3.90 | 4.50 | 0.63 | 0.22 | 5.34 | | | | 0.00 | 5.34 | 4.74 |
| Speech Language Pathologist | 1.60 | (0.2) | 1.60 | 0.07 | 0.14 | 1.65 | 1.97 | 3.57 | 0.50 | 0.17 | 4.24 | | | | 0.00 | 4.24 | 2.64 |
| Regulated Nurses - LPN | 46.20 | (3.7) | 30.62 | 1.88 | 3.79 | 32.61 | 1.19 | 47.39 | 6.61 | 2.27 | 56.28 | | | | 0.00 | 56.28 | 10.08 |
| Regulated Nurses - NP | 3.60 | (0.4) | 0.46 | 0.06 | 0.31 | 0.45 | 1.25 | 4.85 | 0.68 | 0.23 | 5.76 | 5.00 | | | 5.00 | 10.76 | 7.16 |
| Regulated Nurses - RN | 87.60 | (7.6) | 43.65 | 3.09 | 7.01 | 46.14 | 46.53 | 134.13 | 18.71 | 6.43 | 159.27 | 0.00 | | | 0.00 | 159.27 | 71.67 |
| Epidemiologist | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Emergency Prep./Communicable Diseases | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Environmental Health Officer | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Health Promoter | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Registered Nurse | 0.00 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Home Support Worker | 23.40 | (2.0) | 21.54 | 1.56 | 1.83 | 22.95 | 0.00 | 23.40 | 3.26 | 1.12 | 27.78 | | | | 0.00 | 27.78 | 4.38 |
| Patient Care Worker | 10.40 | (0.8) | 5.21 | 0.33 | 0.83 | 5.52 | 0.00 | 10.40 | 1.45 | 0.50 | 12.35 | | | | 0.00 | 12.35 | 1.95 |
| Resident Care Worker | 56.80 | (4.3) | 25.39 | 1.88 | 4.36 | 27.34 | (6.9) | 49.89 | 6.96 | 2.39 | 59.24 | | | | 0.00 | 59.24 | 2.44 |
| Dietitian | 4.20 | (0.4) | 2.06 | 0.12 | 0.36 | 2.12 | (0.2) | 3.96 | 0.55 | 0.19 | 4.70 | 1.49 | | | 1.49 | 6.19 | 1.99 |
| Medical Laboratory Technologist | | | | | | 0.00 | 8.98 | 8.98 | 1.25 | 0.43 | 10.67 | | | | 0.00 | 10.67 | 10.67 |
| Pharmacist | 2.20 | (0.2) | 1.61 | 0.08 | 0.20 | 1.66 | 3.44 | 5.64 | 0.79 | 0.27 | 6.69 | 1.49 | | | 1.49 | 8.19 | 5.99 |
| Pharmacy Technician | 0.60 | (0.0) | 0.07 | 0.01 | 0.05 | 0.09 | 4.64 | 5.24 | 0.73 | 0.25 | 6.22 | | | | 0.00 | 6.22 | 5.62 |
| Psychologist | | | | | | 0.00 | 2.31 | 2.31 | 0.32 | 0.11 | 2.75 | 1.49 | | | 1.49 | 4.24 | 4.24 |
| Radiology Technologist | 6.40 | (0.7) | 0.61 | 0.08 | 0.51 | 0.55 | 1.42 | 7.82 | 1.09 | 0.37 | 9.29 | | | | 0.00 | 9.29 | 2.89 |
| Social Worker | 14.00 | (1.5) | 4.62 | 0.26 | 0.86 | 4.22 | (3.1) | 10.87 | 1.52 | 0.52 | 12.91 | 0.75 | | | 0.75 | 13.65 | (0.3) |
| **Allied Health Professions-Total** | **266.00** | **(22.7)** | **140.20** | **9.60** | **20.95** | **148.02** | **71.04** | **337.04** | **47.01** | **16.14** | **400.19** | **10.22** | **0.00** | **0.00** | **10.22** | **410.41** | **144.41** |
| **TOTAL** | **282.97** | **(24.8)** | **148.38** | **10.68** | **22.43** | **156.72** | **73.76** | **356.73** | **50.61** | **17.09** | **424.43** | **15.50** | **13.87** | **0.00** | **29.37** | **453.81** | **170.83** |
| **% Change per Annum** | | | | | | **5.54%** | **2.61%** | | **1.79%** | **0.60%** | | **0.5%** | **0.49%** | **0.00%** | **1.04%** | | **6.04%** |

# 20 Recommendations

The 55 recommendations are organized using the following sections:

**A** Transition to Implementation

**B** Ongoing Health Workforce Planning

**C** Core Services

**D** Maintaining the Health Workforce Planning Model

**E** Influencing and Managing the Future Supply of Health Professionals

**F** Clinical Governance

| A | Transition to Implementation |
|---|---|
| | It is recommended that: |
| A-01 | After approval of the final report by the Project Advisory Committee, the Deputy Minister of Health and Wellness, and the Chief Executive Officer of Health PEI, an Implementation Committee be established. |
| A-02 | Membership on the Implementation Committee be determined by the Deputy Minister of Health and Wellness and the Chief Executive Officer of Health PEI and reflect senior representation from both organizations, with the understanding that the Implementation Committee will undertake all appropriate provincial consultations. |
| A-03 | Work and coordination of activities of the Implementation Committee be undertaken with the assistance of an independent facilitator, including bi-weekly virtual updates and monthly in-person meetings, including template reporting. |
| A-04 | Initiation of the work and activities of the Implementation Committee will require the development of and agreement on:<br>• A committee mandate<br>• A committee charter<br>• Development of principles of implementation<br>• A work plan for the committee that is high-level initially and granular for each upcoming undertaking |
| A-05 | The preliminary and ongoing responsibilities of the Implementation Committee will include:<br>• Prioritization of recommendations by category<br>• Prioritization of recommendations within each category<br>• Development of assumptions, when required<br>• Comprehensive record-keeping and reporting files<br>• Cost-benefit analyses of implementation decisions<br>• Refreshed schedules of activities and decisions<br>• Approval processes at both the Department of Health and Wellness and Health PEI<br>• Responsiveness to external meeting requests and to requests from the Department of Health and Wellness |
| A-06 | The Implementation Committee establish an Analytic Subcommittee with responsibilities that include assistance with necessary data acquisition and related analyses. |
| A-07 | "Health in all policies" be encouraged across government departments and be led by public health experts. |

| B | Ongoing Health Workforce Planning |
|---|---|
| | It is recommended that: |
| B-01 | The principles that underpin clinical and preventive services planning as listed in the Environmental Scan continue to underpin clinical and preventive services planning in Prince Edward Island. |
| B-02 | The base case scenarios and forecasts be the strategic direction and framework of the clinical and preventive services plan for Prince Edward Island to 2032. |
| B-03 | The high case and low case scenarios and forecasts represent the upper and lower navigational planning boundaries for the specified health resources to 2032 The lower boundary is particularly applicable to the allied health professions where a substantial private sector exists for some health disciplines. |
| B-04 | The Implementation Committee be accountable to the Department of Health and Wellness and to Health PEI for all health workforce planning in Prince Edward Island. |
| B-05 | Data inputs are monitored to ascertain any requirement to shift to low case scenarios or high case scenarios. |
| B06 | The basic tenets of clinical and preventive services planning in Prince Edward islan are role optimization of providers and the provision of patient-centred care. |
| B-07 | The allied health professions assume progressive roles in healthcare services in Prince Edward Island and that these roles be coordinated by the provincial clinical leads. |
| B-08 | Activities related to the recruitment and retention of healthcare professionals be led by Health PEI and include representation from the Department of Health and Wellness and the Medical Society of Prince Edward Island |
| B-09 | Provincial program oversight be adopted for each major clinical stream and include a program lead. This approach includes, but is not limited to, core services, diagnostic services, medical services, surgical services, mental health and addiction services, paediatric services, allied health professions, and primary care. |
| B-10 | The Medical Home be renamed the Primary Care Collaborative Centre with a provincial strategy that recognizes the potential contributing health professions and the need for local variation. |
| B-11 | The funding model for Primary Care Collaborative Centres will include consideration of a hybrid model for physicians with a base salary and a modified fee-for-service schedule, and a salary model for other healthcare professionals. |
| B-12 | Achieving at least 50% province-wide population enrolment/rostering in Primary Care Collaborative Centres. |
| B-13 | The Department of Health and Wellness and Health PEI update the workforce resource planning ten-year forecasts bi-annually and compare each update to actual results. |
| B-14 | The Adjusted Population Needs-Based (APNM) approach and methodology for workforce and services planning be formalized as policy of the Department of Health and Wellness. |

| B | Ongoing Health Workforce Planning |
|---|---|
| | It is recommended that: |
| B-15 | The APNM workforce and services methodology for resource allocation in Prince Edward Island be based on population need rather than demand-based planning based on extant utilization data. |
| B-16 | There be careful attention to the planning of the proposed medical school in order to mitigate the impact on clinical FTEs in the services plan. |
| B-17 | The Department of Health and Wellness update the health workforce planning model according to academic FTEs that are linked to named physicians with notation of percentage time allocations to clinical, educational, research, and administrative responsibilities. |
| B-18 | The investment in public health and mental health and addictions is critical funding and provides the optimal return on investment in healthcare in Prince Edward Island. |
| B-19 | A generalist scope of practice be maximized in Prince Edward Island. |
| B-20 | Provincial Program Networks and Designated Sub-Specialized Centres, as defined in the report, be the cornerstones of health workforce planning and service provision on Prince Edward Island. |

| C | Core Services |
|---|---|
| | It is recommended that: |
| C-01 | The core services include comprehensive and collaborative primary care, emergency medicine, general internal medicine, general paediatrics, general psychiatry, obstetrics and gynaecology, general surgery, anaesthesiology, diagnostic imaging, and general laboratory medicine (including specimen collection, and transportation). |
| C-02 | The core services be sited at Queen Elizabeth Hospital and Prince County Hospital. |
| C-03 | The geographic distribution and mix of physician core services be adjusted across Prince Edward Island based on population need. |
| C-04 | Where possible, the on-call schedule for core service physicians not exceed 1-in-three. |

| D | Maintaining the Health Workforce Planning Model |
|---|---|
| | It is recommended that: |
| D-01 | The Department of Health and Wellness assign responsibility and mandate for the use, maintenance, and enhancement of the workforce resource planning model to an appropriately skilled and resourced unit. |
| D-02 | A robustly engineered database be developed to include, but not be limited to, licensed and functional specialties, clinical FTE, academic FTE, and administrative FTE, non-fee-for-service payment data, address of primary practice location, and academic rank or status, and other elements as identified. |
| D-03 | Workforce Resource Variables and data management be maintained, as follows:<br>• Family medicine special interest (SI) profiles identified through data analysis and non-fee-for-service contract categories<br>• Net inter-provincial migration and returned from abroad statistics<br>• Aging adjustment<br>• Death rate adjustment<br>• Gender adjustment<br>• Benchmark FTE adjustment that alters the planning model using base case, low case, and high case boundaries<br>• Relative burden of illness adjustments<br>• Annual computation of Ambulatory Care Sensitive Condition (ACSC) rates for all hospitals on the island<br>• Model of care core services<br>• Model of care diagnostic services using target benchmarks and continuing centralization of laboratory medicine services<br>• Model of care emergency services adjusted for service volumes and standardized Canadian Triage Acuity Scale (CTAS)<br>• Model of care paediatric services according to updated workforce targets<br>• Model of care primary healthcare services based on collaborative centres and teams<br>• Model of care provincial programs updated annually<br>• Model of care public health services based on workforce targets and public health services initiatives<br>• Model of care surgical services based on workforce targets and surgical services initiatives |

| E | Influencing and Managing the Future Supply of Health Professionals |
|---|---|
| | It is recommended that: |
| E-01 | The Department of Health and Wellness take the lead role in advocating at provincial/territorial and pan-Canadian levels for an initial and ongoing review and monitoring of the national supply of physicians relative to population needs, in particular, the ratio of family physicians-to-specialists, ratio of generalists-to-subspecialists, supply relative to population need by specialty, foreign physician recruitment, and international medical graduate pathway to practice. |
| E-02 | The Department of Health and Wellness and the Department of Education and Training meet with Memorial University and Dalhousie University to jointly review the size of the undergraduate programs and size and mix of postgraduate health discipline programs in consideration of this workforce model. |
| E-03 | The Department of Health and the University of Prince Edward Island revise the specialty allocation of postgraduate residency positions to align with the needs of the physician resource planning model and in the context of the changing national health discipline supply. |
| E-04 | Foreign physician recruitment and policy be reviewed in the context of a rapidly expanding national physician supply, and the program size and priorities be realigned to the needs of the this workforce model. |

| F | Clinical Governance |
|---|---|
| | It is recommended that: |
| F-01 | Clinical governance be developed provincially and be aligned with the review of clinical governance described in the Environmental Scan and be centralized at the Department of Medical Affairs at Health PEI in support of the delivery of health services and measurement of their outcomes. |
| F-02 | A work plan and strategy be drafted for clinical governance as a priority of implementing the clinical and preventive services plan. |
| F-03 | The draft work plan, strategy, and role descriptions require approval by the Deputy Minister of Health, Seniors, and Active Living. |

# Appendices

A

## A.1 Index of Exhibits

Exhibit A-01
Index of Exhibits

## A.2 Acronyms and Initialisms

| | |
|---|---|
| AA | Anaesthesia Assistant |
| AAFP | American Academy of Family Practice |
| ABI | Acquired brain injury |
| ACSC | Ambulatory Care Sensitive Conditions |
| ACP | Advanced Care Paramedic |
| ADS | Alcohol and Drug Services |
| AFMC | Association of Faculties of Medicine of Canada |
| AHSC | Academic Health Sciences Centre |
| AFP | Alternative Funding Plan |
| ALC | Alternate Level of Care |
| ALOS | Average length of stay |
| APP | Alternative Payment Plan |
| AR | Autoregressive |
| ARIMA | Autoregressive Integrated Moving Average |
| ASIR | Age-Standardized Incidence Rate |
| ASR | Age-Standardized Rate |
| CA | Clinical Assistant |
| CAHSPR | Canadian Association of Health Services and Policy Research |
| CAPER | Canadian Post-MD Education Registry |
| CaRMS | Canadian Residency Matching System |
| CBT | Cognitive Behavioural Therapy |
| CCHS | Canadian Community Health Survey |
| CDM | Chronic Disease Management |

| | |
|---|---|
| CEC | Collaborative Emergency Centre |
| CFPC | College of Family Physicians of Canada |
| CHA | Community Health Assessment |
| CHC | Community Health Centre |
| CHNA | Community Health Needs Assessment |
| CI | Confidence Interval |
| CIHI | Canadian Institute for Health Information |
| CMG | Case Mix Group |
| CNA | Canadian Nurses Association |
| CNPI | Canadian Nurse Practitioner Initiative |
| CNS | Clinical Nurse Specialist |
| COGME | Council on Graduate Medical Education (US) |
| CPI | Consumer Price Index |
| CPSPEI | College of Physicians and Surgeons of Prince Edward Island |
| CRG | Clinical Risk Groups |
| CSA | Canadians Studying Abroad |
| CSD | Census Subdivisions |
| CPSP | Clinical and Preventive Services Plan |
| CTAS | Canadian Triage and Acuity Scale |
| CVH | Canadian Virtual Hospice |
| DAD | Discharge Abstract Data (CIHI) |
| DALY | Disability-Adjusted Life Years |
| DBT | Dialectical Behavioural Therapy |
| DOTS | Directly Observed Treatment Short-Course |
| DR | Dependency Ratio |
| EHS | Emergency Health Services |

| | |
|---|---|
| ELOS | Estimated Length of Stay |
| EMS | Emergency Medical Services |
| ESRD | End-Stage Renal Disease |
| FASD | Fetal Alcohol Spectrum Disorder |
| FFS | Fee-for-Service |
| FSA | Forward Sortation Area |
| FTE | Full-time Equivalent |
| FY | Fiscal year |
| HRH | Human Resources for Health |
| ICDPC | International Centre for Dignity and Palliative Care |
| IMG | International Medical Graduate |
| IOG | Institute on Governance |
| LGBTQ | Lesbian, gay, bisexual, transgender, queer, or questioning |
| LPN | Licensed Practical Nurse |
| MAID | Medical Assistance in Dying |
| NACRS | National Ambulatory Care Reporting System |
| NIPM | Net Interprovincial Migration |
| NP | Nurse Practitioner |
| OAG | Office of the Auditor General |
| PA | Physician Assistant |
| PAC | Project Advisory Committee |
| PCH | Personal Care Home |
| PG | Postgraduate |
| PGME | Postgraduate Medical Education |
| PHC | Primary Healthcare |
| PHN | Public Health Nurse |

| | |
|---|---|
| PMG | Project Management Group |
| PRAG | Population Risk-Adjusted Grouper |
| PRP | Physician Resource Planning |
| PWP | Physician Workforce Planning |
| PYLL | Potential Years Lost Life |
| RIW | Resource Intensity Weight |
| RCPSC | Royal College of Physicians and Surgeons of Canada |
| TWG | Technical Working Group |
| UG | Undergraduate |
| UGME | Undergraduate Medical Education |
| YTD | Year-to-date |

## A.3 Terminology and Descriptors

Exhibit A-02
Terminology and Descriptors

| Term | Description |
|---|---|
| Academic | Is an umbrella term referring to provider-delivered services in education (didactic), teaching (preceptor and training), research (basic, applied, translational) and associated leadership and administrative activities |
| Burden of disease | Disease burden is the impact of a health problem on an area measured by financial cost, mortality, morbidity, or other indicators; it is often quantified in terms of a statistical measure indicating loss of years of healthy life through disabling disease in a specified population, as measured in DALYs (disability-adjusted life years) |
| Disability-adjusted life years (DALY) | Is a time-based measure combining years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health (WHO 1990); a more detailed description is "…a time-based metric that measures both premature mortality (years of life lost because of premature mortality or YLL) and disability (years of healthy life lost as a result of disability or YLD, weighted by the severity of the disability); the sum of the two components, namely, DALYs, provides a measure of the future stream of healthy life (years expected to be lived in full health) lost as a result of the incidence of specific diseases and injuries |
| Discipline | Refers to any and all disciplines proving healthcare to the residents of Prince Edward Island; if medical, discipline refers to family medicine and to each specialty (28) and subspecialty (36) recognized by the Royal College of Physicians and Surgeons of Canada (RCPSC); excludes special interest or focus, foundational, and special programs. |

| Term | Description |
|---|---|
| End users | Means staff of DHW and HPEI with specific responsibility for supporting decisions or decision-making with respect to clinical services and resource planning and management, including health human resources, planning, technical, and clinical affairs staff. |
| Consultancy | Means Health Intelligence Inc. and associates, namely, David Peachey and Robin Carels, Social Sector Metrics Inc. (Nicholas Tait), and HealthStats Inc. (William Croson) |
| Simulation | Is a technique for modeling processes that will occur repeatedly; for example, simulation has been used in hospital operating room planning where similar processes might occur each day, week, or month; however, in health workforce forecasting, the next 10 years will pass exactly once; the confidence intervals obtained from a simulation only serve as error bounds for the average projection, assuming the next 10 years can be repeated over and over; confidence intervals for one sample path would actually be much wider, such that simulation intervals will paint a picture of model error that is too low |
| Years of life lost due to disability (YLD) | Is a measure the equivalent years of healthy life lost through time spent in states of less than full health |

## A.4 Data Challenges and Limitations

Each research data source comes with limitations. Mitigation strategies include the application of a number of research techniques, including the use of corroborating evidence, standardized interview questionnaires, and iterative data refinement to improve accuracy and quality, and to conduct testing, revision, and validation of preliminary analytic results.

Analyzed data include three-year and up to five-year periods. This time frame is long enough to permit trend identification and analyses. Key limitations are, as follows:

### Access to services

Indicators of access to services is one of a number of important indicators of population need. The quality of data on access to services varies, typically, by service, location, and specialty.

### Active disciplines

Achievement of an accurate provincial roster of active disciplines is very important as a baseline data input to the model. Roster accuracy is difficult to achieve and maintain due to factors such as constant coming/going and changes in work status, practice scope, and location. The consultancy will continue to work with the Department and Health PEI and stakeholders to develop this roster.

### Certified Specialty

Readily available data on specialty of certification by individual is not assured. Working from HPEI data, the consultancy will recommend changes where necessary, such as from a general adult or paediatric specialty (general internal medicine or paediatrics) to a subspecialty (such as, cardiology or paediatric nephrology).

### Full-time Equivalency

- Current or baseline starting roster of providers by discipline in the province – full-time equivalency (FTE) is an essential but contentious concept, filled with competing interpretations and definitions. The consultancy will use the data provided by HPEI which itemizes all payment sources and amounts. HPEI, on request, has been able to identify subspecialization (such as, within internal medicine). The consultancy uses the CIHI FTE methodology.

- Change in FTE over the forecast period – the forecast model adjusts for turnover (gender, age, death, migration) over time, as well as adjusting for models of care.

### Functional Specialty

Functional specialty (such as a Cardiologist who spends 50% of professional time doing "general internal medicine") is a complex, time-intensive construct to define, refine, and maintain. For example, an individual may change functional status in response to changes in local physician supply (recruitment of a general internal medicine specialist enabling a cardiologist to revert to full-time cardiology, which, in turn, decreases cardiology referrals to another region). A second complication is blurring of the definitional line between licensed and functional specialty, such as practising cardiology being linked to a requirement to practise general internal medicine. In the case of physicians, the model uses licensed discipline or specialty.

### Timing

Changes in physician counts and FTE occurring after the effective date of source data will not be reflected in the baseline of the forecast projections.

### Model Uncertainty

Workforce supply and needs modeling occurs under conditions of uncertainty. As such, it is necessary to make note of the key areas of uncertainty.

### Independent variables are not mutually independent

- The central problem in forecasting is that cases (that is, the source data by time period) used to make forecasts do not represent the future time periods about which predictions are made.
- A second problem that arises in forecasting is the nature of variable interdependency. For example, to what extent does supply influence demand? To what degree does demand for services represent need for services (a source of constant challenge for practitioners necessitating case-by-case judgment decisions)?

### Impact of single events

The possible effects of overlooked events can be substantial as can over- or under-estimating of known future events. For example, the launch of a new cancer screening program may be known, but the percentage uptake by the population may be highly uncertain and the impact on service need is proportionately uncertain.

## Causal patterns

Correlation does not imply causation. For example, specialty supply may have less to do with the volume of physician residents entering the workforce than the relative inter-provincial and intra-provincial job prospects. A more extreme example might be a strong statistical correlation between the incidence of left knee arthritis and cardiology service utilization, namely, correlation without causation. Expert paneling can mitigate this source of uncertainty.

A second problem is that correlation with causation in one time period may not hold true in a subsequent time period(s). For example, the demand for renal services and changes in the incidence of diabetes mellitus may have a strong historical and short-term future statistical relationship, but introduction in forecast year five of a program (single event) that transfers the bulk of secondary level care to other providers can substantially alter the statistical relationship. Controlling, statistically, for co-variates can be accomplished to a certain degree.

## Availability

An important limiting factor of the needs-based approach is the unavailability of extensive epidemiological data, leading some designers to use an alternative approach based on utilization data.

The modeling approach recommended for this study is an "adjusted needs-based approach" which incorporates demand utilization data, where appropriate.

## Managing Expectations

Workforce supply and service planning is an inexact science due to varying degrees of uncertainty in each variable, the nature of their inter-relationship, and variables not modeled. Models do not deliver certainty. A well designed, maintained, and enhanced model will significantly reduce uncertainty, thereby adding value to decision-making.

## A.5 Project Governance and Committees

Exhibit A-03
Project Advisory Committee

| PROJECT ADVISORY COMMITTEE | |
|---|---|
| Name | Position or Organization |
| Deborah Bradley | Assistant Deputy Minister, Health and Wellness |
| Barbara Brookins | President, Prince Edward Island Nurses Union |
| Lori Ellis (Co-Chair) | Director, Health Workforce Planning and Pharmacy, Health and Wellness |
| Rebecca Gill | Director, Health Recruitment and Retention, Health and Wellness |
| Karen Jackson | President, Prince Edward Island Union of Public Sector Employees |
| Brad Ledgerwood | Health Human Resource Advisor, Health and Wellness |
| Nadine MacLean | Manager, Health Workforce Planning, Health and Wellness |
| Karen McCaffrey | Executive Director, Performance and Innovation, Health PEI |
| Kathie McNally | Chief Medical Officer, Health PEI |
| Megan Miller | Chief Physician Recruiter, Medical Society of Prince Edward Island |
| Heather Morrison | Chief Public Health Officer, Health and Wellness |
| Corinne Roswell | Chief Operating Officer, Health PEI |
| Lisa Thibeau | Deputy Minister, Health and Wellness |
| Lauren Kelly Weyman | Director, Medical Affairs, Health PEI |
| Tracy Wolbaum (Co-Chair) | Executive Director, Human Resources, Health PEI |
| David Peachey | Project Lead, Health Intelligence and associates - Ex officio |
| Nicholas Tait | Technical Lead, Health Intelligence and associates- Ex officio |
| William Croson | Statistical Lead, Health Intelligence and associates - Ex officio |
| Robin Carels | Director of Operations, Health Intelligence and associates - Ex officio |

Exhibit A-04
Project Advisory Committee

| PROJECT MANAGEMENT GROUP | |
|---|---|
| Name | Position or Organization |
| Lori Ellis | Director, Health Workforce Planning and Pharmacy, Health and Wellness |
| Brad Ledgerwood | Health Human Resource Advisor, Health and Wellness |
| Nadine MacLean | Manager, Health Workforce Planning, Health and Wellness |
| Karen McCaffery | Executive Director, Performance and Innovation, Health PEI |
| Tracy Wolbaum (Chair) | Executive Director, Human Resources, Health PEI |
| David Peachey | Project Lead, Health Intelligence and associates - Ex officio |
| Nicholas Tait | Technical Lead, Health Intelligence and associates- Ex officio |
| William Croson | Statistical Lead, Health Intelligence and associates - Ex officio |
| Robin Carels | Director of Operations, Health Intelligence and associates - Ex officio |

Exhibit A-05
Project Advisory Committee

| Technical Working Group | |
|---|---|
| Name | Position or Organization |
| Tim Burnley | Acting Director of Health Analytics |
| Kari Barnes | Director HR Analytics, Systems, Learning, and Development |
| Katie Adams | HR Analyst (alternate for Kari Barnes) |
| Julie Coles | Physician Services Manager, Specialists |
| Steven Crozier | Fiscal Analyst / Auditor |
| Jonathan Fitzpatrick | Manager, Provincial Patient Flow |
| Regin Altinnock | IT Consultant |
| Karen Phillips | Provincial Epidemiologist |
| Nicholas Tait | Technical Lead, Health Intelligence and associates- Ex officio |
| William Croson | Statistical Lead, Health Intelligence and associates - Ex officio |

## A.6 Data Compendium

The Data Compendium is a companion document to the Environmental Scan. It collates validated data that are referenced in the scan and help to inform forecasting and projections that are central to the final report. Further, it is one functional unit for the ongoing requirement of data refreshing that underpins the updating and maintenance of the Clinical and Preventive Services Plan for Prince Edward Island.

The Data Compendium is constructed as a PowerPoint file with 223 slides; the Appendix to the Data Compendium is constructed as a PowerPoint file with 42 slides.